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The Concept and Determinants of Return on Investment from Quality Improvement in Mental Health Organizations

Thusini, S'Thembile

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Doctoral Thesis

The Concept and Determinants of Return on Investment from Quality Improvement in Mental Health Organisations

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30 September 2023

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TABLE 1. DEFINITIONS OF TERMS USED IN THE THESIS

Ambiguity	The simultaneous presence of equally plausible but mutually contradictory explanations of an event or concept (Mukherjee et al., 1998).
Concept	An abstract frame that helps generate knowledge about the world by organising, naming and giving meaning to its features (Berenskoetter, 2016).
Conceptual framework	A network of interlinked dimensions of concepts that together provide a comprehensive understanding of a phenomenon (Berenskoetter, 2016).
Construct	Broad concepts which are measured through the things they summarise (indicators) (Cronbach & Meehl, 1955)
Determinant (in this thesis)	In this thesis, determinants are a combination of cognitive, psychological, social, and technical factors that influence the conceptualisation of return-on-investment from QI programmes.
Discourse	A set of interrelated texts, their dissemination, and consumption, that dictates acceptable, legitimate and intelligible ways a phenomenon can be discussed (Grant & Marshak, 2011).
Dimension (concept)	Different major aspects of a concept that correlate with smaller attributes or indicators (Berenskoetter, 2016).
Domain/subdomain (concept)	A domain is a subset of key aspects of a concept. Sub-domains are further delineations of the key aspects of a concept. Domains and subdomains act as ‘containers of a concept’ (Boers et al., 2014).
Economic evaluation	The comparative analysis of alternative courses of action in relation to both their costs and consequences (Drummond et al., 2015).
Economic returns	Literal financial returns that a certain project or organisation creates (e.g., the revenues produced through selling products on a market) (Krlev et al., 2013).
Financial proxy	A financial value estimate of a benefit that has no market (financial) value that reflects the value that a stakeholder experiencing a change places on an outcome (Nicholls, 2012)
Indicator (concept)	A measurable variable that is deemed to represent the presence or absence of a concept. Good indicators ensure that conclusions about the targeted construct based on measurement results are valid (Schang et al., 2021).
Indicator (quality)	Measurement tools used as guides to monitor, evaluate, and improve the quality of patient care, clinical services and processes of care, as well as organisational functions that affect patient outcomes (Mainz, 2003).
Indicator (performance)	Measurement tools used as guides to monitor, evaluate, and improve organisational structures, functions, processes, and outcomes that affect the quality of patient outcomes (Baars et al., 2010)
Institution	A collection of multifaceted, durable social structures, made up of symbolic elements, social activities and material resources that drive taken for granted behaviours and meanings in a context (Delbridge & Edwards, 2007).
Institutional logic	Socially constructed sets of assumptions, values, and beliefs that are used to ascribe meaning, as well as frame reasoning and legitimise choices (Thornton et al., 2012).
Intangible benefit	Benefits that are neither measurable, monetisable, and or attributable (Botchkarev & Andru, 2011, Solid, 2020)
Healthcare organisation(UK)	A unique framework of authority within which a person or persons act towards some purpose as a direct provider of healthcare services (Department of Health and Social Care, 2013)
Legitimisation	A cognitive process through which an entity becomes embedded in taken-for-granted assumptions (Zucker, 1977).
Market value	A price at which something could be sold in a given market (or context within which goods are traded) (Nicholls, 2012)
Monetisation	Assigning money value to QI benefits using valuation methods (see also market value and valuation) (Nicholls, 2012)
Organisational sustainability	A sustainable organisation remains permanently capable of meeting the needs of its stakeholders, by achieving short-term goals without compromising long-term performance (Rostkowski et al., 2020).
Organisational performance	A measure of how well an organisation is performing against internally or externally set targets (Baars et al., 2010).
Quality (in this thesis)	An aspiration for excellence (high quality) and harm-free care, through effective and efficient use of available resources relevant to each context as negotiated by those most relevant in each instance of care.

QI Intervention	A single project with a set of actions used to alter the outcome of a situation (NICE), 2011).
QI project	Small projects with specific often geared towards short-term localised effects (Rivard et al., 2013).
QI programme	Programmes also combine clinical, strategic, workforce and organisational elements into coherent quality and safety improvement processes to achieve systemic and long-term effect (Benn et al., 2009; Øvretveit & Gustafson, 2002).
Sustainability; implementation	The extent to which a newly implemented treatment is maintained within a service setting's ongoing, stable operations (Proctor et al., 2011).
Socio-economic returns	Savings of the state (society) realised through avoidance of public transfers (e.g. to jobless people) as well as the associated increase in personal income and tax revenues through consumption (Krlev et al., 2013).
Social returns	Less tangible effects such as an increased sense of self-esteem and personal independence as well as the enhancement of knowledge and skill levels (Krlev et al., 2013).
Tangible benefit	Measurable, monetisable, and attributable benefits (Botchkarev & Andre, 2011, Solid, 2020)
Uncertainty	An inability to make decisions or confirm findings due to lacking, insufficient, or inconclusive data (Tallacchini, 2005; Rutz et al., 2013).
Valuation	Placing a financial value on a benefit based on perceived financial gain or loss from having or not having a perceived benefit (e.g., through ascertaining how much one is willing to pay or forgo for a benefit) (Nicholls, 2012).

TABLE 2 ABBREVIATIONS USED IN THE THESIS

Acronym	Term	Brief definition/description
ROI	Return on Investment	A ratio of cost vs benefits for programmes from a managerial perspective
QI	Quality Improvement	A methodology used to improve the quality of services
QI-ROI	Return on Investment from QI	Return on Investment from QI programmes
DISS	Development, Improvement, Savings, Sustainability	The acronym for the four main constructs of the QI-ROI concept derived from this project
CEA	Cost Effectiveness Analysis	Attaining the same benefit for the same cost, or more benefit for the same cost.
CUA	Cost Utility Analysis	Same as above but for multiple programmes and benefits
ICER	Incremental cost effectiveness ratio	The ratio of cost effectiveness
SROI	Societal Return on Investment	The ratio of costs vs benefits that includes societal and environmental benefits
CBA	Cost Benefit Analysis	The analysis of costs vs benefits from a societal perspective
CBR	Cost benefit ratio	The ratio of costs vs benefits from a societal perspective
BCR	Benefit cost ratio	Same as above
CCA	Cost Consequence Analysis	The illustration of unweighted costs and consequences of an intervention
VfM	Value for money	The optimal balance between outputs and inputs resulting in efficiency, economy, and effectiveness.
VBHC	Value Based Healthcare	Healthcare based outcomes that matter to patients.
VOI	Value on investment	Illustration of broad value against and investment
MCDA	Multi-Criteria Decision Analysis	A statistical analysis and weighing of benefits using methods such as CEA
PCR	Pragmatism and Critical Realism	A research philosophy that combines Pragmatism and Critical Realism
PDSA	Plan-Do-Study-Act	A specific QI methodology used to improve care systematically and iteratively.

PUBLICATIONS

Thusini, S., Milenova, M., Nahabedian, N., Grey, B., Soukup, T., & Henderson, C. The development of the concept of return-on-investment from large-scale quality improvement programmes in healthcare: an integrative systematic literature review. *BMC Health Serv Res* **22**, 1492 (2022). <https://doi.org/10.1186/s12913-022-08832-3>

Thusini, S., Milenova, M., Nahabedian, N., Grey, B., Soukup, T., Chua, K-C., & Henderson, C. Identifying and understanding benefits associated with return-on-investment from large-scale healthcare Quality Improvement programmes: an integrative systematic literature review. *BMC Health Serv Res* **22**, 1083 (2022). <https://doi.org/10.1186/s12913-022-08171-3>

Thusini, S., Soukup, T., Chua, K-C., & Henderson, C. How is Return on Investment from Quality Improvement programmes conceptualised by mental healthcare leaders and Why: A Qualitative Study. *BMC Health Serv Res*, 23(1) <https://doi.org/10.1186/s12913-023-09911-9>.

It always seems impossible,
until it's done.

Nelson Mandela

STATEMENT OF AUTHORSHIP

I S'thembile Thusini confirm that the work submitted in this PhD thesis incorporating publications is my own. The studies presented in Chapters 4, 5, and 6 are based on data collected, analysed and written by me. This work is conducted under the guidance of my supervisors: Professor Claire Henderson, Dr Kia-Chong Chua, and Dr Tayana Soukup. The articles for the systematic review in Chapter 4 were selected with Maria Milenova, a PhD student at King's College London. As part of rigorous systematic review research, Maria selected 5% of the articles. My contribution and that of other authors to each publication has been explicitly stated in each paper. Appropriate credit has been given within the thesis and published work where references to the work of others were made. This thesis copy is a copyright material and that no quotation may be published without proper acknowledgement.

ACKNOWLEDGEMENTS

Throughout this journey, I have encountered so many wonderful selfless people, some of which may not mentioned here by name. Nonetheless, my timeless gratitude to each one. I would like to especially pass my sincere gratitude to my esteemed supervisors, Professor Claire Henderson, Dr Kia-Chong Chua, and Dr Tayana Soukup. Your patience, guidance and support was most inspiring. I learnt so much through your eyes, knowledge and expertise. I would also like to pass my gratitude to Dr Barbara Grey and Noushig Nahabedian of South London and Maudsley NHS Foundation Trust for their unrelenting support for the duration of my study. My gratitude also goes to Andy Healy, King's College London for availing himself for that added support whenever I needed it. I would also like to thank the participants in all my studies for their keen interest, selfless support and encouragement that went beyond my expectations. Phoebe Averill and Maria Milenova, thank you so much for being there throughout this journey. To my friends and family, for your enduring support, for the countless times you lent your ears and time to me during my highest and lowest points, I will be forever grateful.

ABSTRACT

Background: There is an increasing expectation to evaluate the value of healthcare Quality Improvement (QI) programmes using Return-on-Investment (ROI). ROI is an accounting method used to assess the profitability of financial investments. How the ROI concept is being translated in mental healthcare QI programmes is yet unclear. The aim of this PhD project was to develop a QI-ROI conceptual framework in the context of mental healthcare organisations. I also explored the potential determinants for why QI-ROI was conceptualised that way.

Methods: The project took a largely qualitative mixed-methods (QUAL-quant) approach. There were three phases of four studies: studies 1 & 2 were based on one integrative systematic literature review (N=68). For the review, I purposefully sampled literature on benefits of QI programmes across seven global regions. Phase two involved qualitative interviews with leaders (N=16) from a single UK mental healthcare Trust. Phase three was a Delphi study with healthcare leaders (N=23) from NHS Trusts. Phase two & three participants were purposefully sampled to include a mix of leaders; board members (N=24) as QI investors, QI leads and other directors (N=15). I performed inductive-deductive data analysis, each part of the project built on previous knowledge, as well as explored new insights. I also used theories to explain my findings. I then integrated the results to note potential determinants of the discovered QI-ROI conceptualisation, as well as developed the QI-ROI concept and its conceptual framework.

Results: The concept of ROI from QI in mental health programmes is conceptualised as any valued monetary and non-monetary benefit that contributes to organisations' strategic visions. Predominantly, improvement in patient and organisational development outcomes were seen as most relevant to QI-ROI. For most leaders, financial outcomes were secondary, with cost-saving and financial sustainability seen as more relevant than outcomes like revenue and profit. Monetisation of QI outcomes was largely viewed with apprehension. Incentives like status and competitive advantage were not seen as relevant. Sustainability of good practice and positive outcomes, as well as sustainability of the organisation itself was seen as very important. Thus, the four main constructs of the QI-ROI concept deduced were Development, Improvement,

Savings, and Sustainability, or DISS. Organisations may vary in the exact benefits sought within the main QI-ROI domains depending on their needs and developmental stage. Further, in some unique instances, certain organisations may value novel benefits such as profit.

Conclusion: ROI from mental healthcare QI programmes is conceptualised differently than ROI in commercial industries that may solely focus on financial outcomes. Organisations value several benefits for their internal and external stakeholders. Most valued benefits are not amenable to monetisation and may not be captured through the traditional ROI methodology. There were some ambiguities and uncertainties associated with this conceptualisation, with implications for the stability of the QI-ROI concept. Nonetheless, the views expressed in this project may be shared by disciplines similar to mental healthcare. Thus, a QI-ROI evaluation tool must acknowledge the inherent challenges that come with diverse goals and philosophies.

1 Introduction

1.1 Introduction

Return on Investment (ROI) is increasingly employed in healthcare organisations to assess the monetary benefits of Quality Improvement (QI) programmes (Solid, 2020). Unlike small projects, QI programmes aim to improve the quality of healthcare at an organisational level or health system scale (Benn et al., 2016). Currently, leaders lack a suitable tool with which to assess QI benefits (Chua et al., 2021). The World Health Organisation (WHO) recommended ROI as a tool to assess the value of mental healthcare programmes (WHO, 2019). ROI is assessed from investors' perspectives. In healthcare, leaders act as investors and overseers of efficient allocation and use of resources. Thus, ROI may help ascertain where best to allocate limited healthcare resources by estimating whether a programme's benefits exceed its costs.

ROI in healthcare is relatively new. As such, it is currently unclear what constitutes a 'return-on-investment' from QI (QI-ROI), from a healthcare organisation's perspective. The aim of this PhD project was to develop an appropriate QI-ROI conceptual framework in the context of the United Kingdom National Health Service (NHS) mental healthcare Trusts and similar organisations. NHS mental healthcare Trusts provide health and social care services for persons with acute and chronic mental health disorders. Mental healthcare is where the question about QI-ROI arose, and thus became the setting for my research project. In this thesis, I refer to ROI from QI programmes as 'return(s)-on-investment' or QI-ROI to signify my study of ROI as a concept. My research involved analysing and developing the QI-ROI concept, exploring the determinants for its conceptualisation, and then developing a QI-ROI conceptual framework.

1.1 Project originality

Firstly, I have defined QI-ROI as a concept inclusive of both monetary and non-monetary benefits that contribute to an organisation's strategic goals. This QI-ROI concept is made up of four main domains: development, improvement, savings, and sustainability. I gave these the acronym 'DISS'. Each is further operationalised to include sub-domains and indicators that can be used to assess a programme's value at micro, meso, and macro levels. Secondly, my thesis

highlights the inherent ambiguities and uncertainties that determine the QI-ROI concept. These hint to the potential challenges that may arise for any method used to assess the value of QI programmes. The findings from this project may apply to other healthcare disciplines.

1.2 Thesis layout

This thesis is laid out as follows; Chapters 2 and 3 prepared for my exploration of the QI-ROI concept and its determinants in subsequent studies. Chapter 2 describes my research paradigm, project aims, concept analysis approach, and my level of analysis ‘the healthcare organisation’. The latter highlighted healthcare leaders’ duties that may impact QI-ROI. In Chapter 3, I outline the backgrounds of QI and ROI. The literature on ROI comes from in and outside healthcare. This provided an understanding of the historical aspects of ROI, and thus insights on the assumptions about the relationship between ROI and QI. Exploring the background literature also helped prepare for the systematic review of the specific literature on QI benefits.

Chapter 4 reports on two studies from the systematic literature review. These studies were the first step in my analysis and development of the QI-ROI concept and its framework. As there were limited articles about ROI from QI programmes in mental healthcare, the review included literatures from across healthcare globally. Similarly, as the literature on the actual evaluation of ROI from QI programmes was limited, I integrated literatures that either evaluated or discussed QI goals and outcomes. Through this, I explored the terms and concepts often used to denote QI benefits. I then used my findings to develop the QI-ROI concept and framework.

Chapter 5 reports on the results of the qualitative study, the second phase in the development of the QI-ROI concept and its framework. This involved qualitative interviews with mental healthcare leaders from a single UK Trust. As such, this study served to refocus my research back to mental healthcare. Here, I assessed whether the views from the literature review were shared by mental healthcare leaders. Chapter 6 reports the results of the Delphi study, the last phase of my project. Here, I engaged mental healthcare leaders from across NHS England in a consensus assessment exercise. I assessed nature of the consensus on the perceived legitimacy,

relevance, and priority of QI benefits as QI-ROI. Participants in the qualitative and Delphi studies were largely board members as organisational level QI investors. In Chapters 5 and 6, I also paid closer attention to the determinants that influence the conceptualisation of QI-ROI.

In Chapter 7, I synthesised data on the determinants of the QI-ROI concept. I categorised these as internal and external forces that influence the QI-ROI concept. In Chapter 8, I synthesised and discussed my findings to affirm the final QI-ROI conceptual framework. I also summarised the projects contributions, stated my thesis, and outlined my project's strengths and limitations. I end this chapter with recommendations from my project. Figure 1-1 outlines my thesis layout.

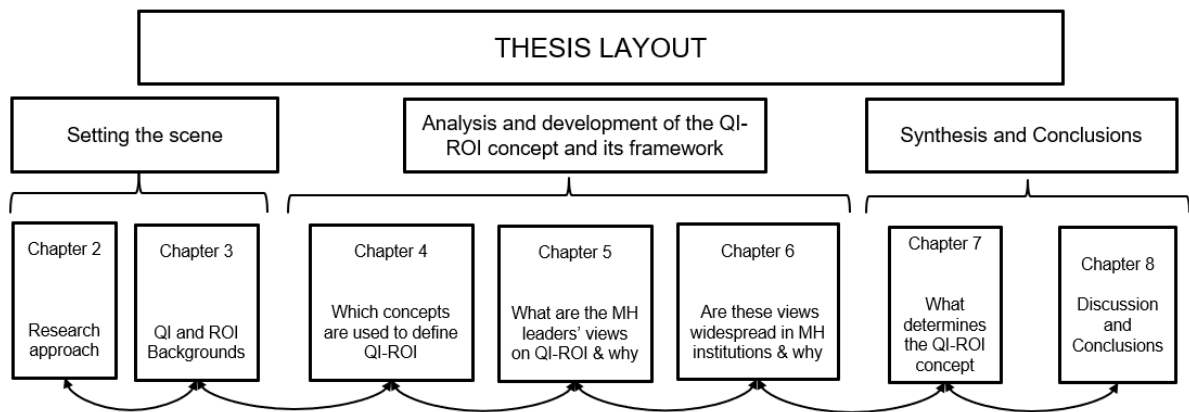


Figure 1-1 Thesis layout (*MH = mental health)

2 Project aims and research paradigm

2.1 Introduction

In this chapter, I outline my research approach. I start with my aims, objectives, and specific approach to the analysis and development of the concept of Return on Investment (ROI) from Quality Improvement (QI). I also describe my level of analysis, a healthcare organisation. As part of this, I introduce the organisational theories I used to explain my findings. Finally, I outline my philosophical stance, Pragmatism and Critical Realism. This paradigm advocates for mixed-methods study I used to analyse and develop the QI-ROI concept and its framework.

2.2 Project Aims and Objectives

The aim of this PhD project was to develop a QI-ROI conceptual framework in the context of the United Kingdom National Health Service (NHS) mental healthcare Trusts. I operationalised this aim through the following objectives:

1. Develop an understanding of the pertinent history of QI and ROI
2. Summarise literature on QI benefits from healthcare QI programmes
3. Analyse and develop the QI-ROI concept and its framework
4. Gain mental healthcare leaders' views on QI-ROI
5. Measure consensus on the QI-ROI conceptual framework
6. Explore and identify the potential determinants of the QI-ROI concept
7. Identify the main domains of the QI-ROI conceptual framework

2.2.1 Project Rationale

It is often a challenge for leaders to articulate the value of QI at an organisational level due to a lack of suitable tools (Chua et al., 2021). Although ROI has been offered to assist with value articulation (World Health Organisation, 2019), it is yet unknown what ROI from healthcare QI programmes at an organisational level means. Lack of conceptual clarity leads to poor

communication and application in research and practice (Morse et al., 1996; Svoboda, 2011). Thus, to advance the subject of ROI, its analysis and development as a concept is needed.

2.1 Conceptual Research

2.1.1 Concepts

Concepts are described as an abstract frame that helps generate knowledge about the world by organising, naming, and giving meaning to its features (Berenskoetter, 2016; Morse et al., 1996). As such, a researcher's effort to study meaning is also a process of conceptualisation. Human understanding of concepts is hermeneutic as it is derived from our interpretation of our experiences (Kinsella, 2006). Complex concepts contain a collection of related concepts that form a conceptual framework. This framework is a network of interlinked dimensions that individually reflect own subject matter, but together provide a comprehensive understanding of a phenomenon (Berenskoetter, 2016; Jabareen, 2009; Schang et al., 2021).

Within a conceptual framework are core concepts that hold core meaning as well as supporting concepts that are integral to the meaning (Sartori, 1970). In a social setting, concepts represent consensus on the meanings, or at least of the core ideas about a phenomenon (Morse et al., 1996). Jabareen (2009) argued that a conceptual frameworks are not causal or deterministic, they are an interpretative approach to social reality. Conceptual frameworks provide understanding of "soft interpretation of intentions". Conceptual frameworks analysis generates theories from multidisciplinary bodies of knowledge to provide new interpretations of a phenomenon for which there is a consensus within a particular field of study.

2.1.2 Studying concepts

Concept development is regarded as the first part of theory development (Hupcey & Penrod, 2005). Social and political science scholars have long studied forms and consequences of

concepts (Berenskoetter, 2016; Collier & Gerring, 2009; Sartori, 1970). Some conceptual research stems from nursing scholars who study psychosocial concepts (Hupcey et al., 1996; Morse et al., 1996; Penrod & Hupcey, 2005; Risjord, 2009). Both works are relevant here as ROI is a concept of beliefs about benefits, with potential political and social implications. Concept can be studied through literature reviews, qualitative, quantitative, or mixed-methods depending on a study's goals (Berenskoetter, 2016; Penrod & Hupcey, 2005).

Three perspectives of a concept can be studied; historical, theoretical, and scientific (Sartori, 1970). A historical perspective seeks to understand how a concept has formed over time and space. A theoretical perspective places a concept in a broader organisational ontology, and a scientific perspective is about concept operationalisation. In this context, I focused on the historical and theoretical perspectives to gain insights on the qualitative attributes of the QI-ROI concept. The Sartori description may be taken to imply that the historical and theoretical perspectives are not scientific. However, modern science acknowledges different ontological and epistemological stances towards science (Elder-Vass, 2022; Kuhn, 1970).

Scholars have highlighted the differences between qualitative and quantitative concept study (Berenskoetter, 2016; Goertz & Mahoney, 2012). Qualitative researchers study the intrinsic semantic meanings of the attributes of a concept. The attributes are purely definitional, they may or may not be amenable to measurement. Quantitative researchers see concepts as latent variables and seek to identify acceptable indicators for measurement (Schang et al., 2021). The relationship between indicators and latent variables may be purely causal, and not definitional (Berenskoetter, 2016; Goertz & Mahoney, 2012). This can eliminate attributes considered crucial by qualitative researchers. Thus, a mixed-method study may lead to robust scientific conclusions, and help connect theory and practice (Berenskoetter, 2016). The main focus in this project was the qualitative attributes of QI-ROI, and a 'bridge' towards operationalisation.

2.2 Level of Analysis: The Healthcare Organisation

The description of a healthcare organisation gives clues as to the central stakeholders and duties of healthcare organisations, with potential implications for QI-ROI. The UK National Health Service (NHS) described a healthcare organisation as a framework of authority within which a person or persons act as direct providers of healthcare services. Providers operate on one or more sites within and outside hospitals. These organisations exist to promote, improve, monitor, and maintain individual and population health. Services include, preventative, curative, rehabilitative, or palliative (Department of Health and Social Care, 2013). Further descriptions hint to more varied and conflicting expectations from healthcare organisations.

Social scientists may view healthcare organisations as socially constructed institutions with shared values, norms, and customs (Suddaby, 2010). Social Science seeks to reveal meanings, behaviours and their consequences (Rosenberg, 2011). Alternatively, economists may view healthcare organisations as economies whose duty is to efficiently manage resources (Selznick, 1948). Economics, originally a social science, argued for rational distribution of scarce resources during uncertainty (Backhouse & Medema, 2009). Therefore, whilst economists may focus on performance and productivity, sociologists raise questions about who benefits (or suffers) as a result (Selznick, 1948). Thus, to explain the conceptualisation of QI-ROI, it is crucial to learn how and why organisations' decision-makers legitimise and sustain meaning.

2.2.1 Organisational meaning-making

Decision-makers seek to make meaningful decisions. Decision-making is a political process, driven by social identities, ideologies, and obligations that guide accepted meaning (Alvesson, 1993; Foucault, 1971; Zucker, 1977). Incentives or pressures also influence meaning and decision-making (Davies, 2005). As there is no standard QI governance tool (Chua et al., 2021), how QI-ROI is viewed may vary. Perceptions about QI-ROI may be explained by theories. Different theories overlap to explain organisational meaning-making. It was not within the scope of this project to perform an in-depth study of organisational theories as applied in QI or ROI practice. However, the theories' in-depth understanding of organisational behaviour

was useful in enriching the insights brought by my findings. In particular, I saw the Institutional Theory as most the relevant for explaining organisational meaning-making and behaviour.

2.2.1.1 Institutional Theory

QI exists within Implementation and Improvement Sciences. Institutional Theory is a very relevant theory for these sciences as it encompasses understanding of change, development, adoption, spread, institutionalisation, and sustainability of innovations. Specifically for this thesis, this theory brings light to organisational meaning-making. Institutional Theory is an umbrella of theories that seek to highlight that organisations attain value and social meaning through rules, myths, and beliefs (Scott, 2004). This is relevant as concepts are highly influenced by an underlying value ontology and epistemology in a context (Bevir & Kedar, 2008). That ontology may be shared across organisations and fields within an institution. This has implications for why and how QI-ROI may be conceived and perceived in healthcare.

Institutional scholars argued that organisational reality follows normative and not economic rationality (DiMaggio & Powell, 1983; Scott, 2004). DiMaggio & Powell (1983) envisioned that institutions are influenced by three broad social forces. These forces are evident in how quality, QI, and now ROI are promoted and adopted across healthcare. The forces described are regulative (laws and contracts that dictate what must happen), normative (assumptions and expectations about what should happen) and cultural-cognitive (taken-for-granted scripts and mental models about what generally happens). As such, institutional change may be coercive (e.g., through regulation), normative (by altering the expectations of what is reasonable and right) or through mimicry (when following a model of best practice) (Macfarlane et al., 2013).

Institutions create and coordinate multiple sources of knowledge and meaning. This can be complex. To reduce complexity, individuals may adopt certain Institutional Logics. These are socially constructed sets of assumptions, values, and beliefs that are used to ascribe meaning,

frame reasoning and legitimise choices (Thornton et al., 2012). Logics are distinct, at times conflicting organising principles that shape ways of viewing and interpreting the world and guide action (Thornton et al., 2012). Different logics can exist at micro, meso and macro levels simultaneously, with disparate impacts (Thornton & Ocasio, 2008). Plural logics may compete for legitimacy, evolve, or co-exist in an uneasy tension (Thornton et al., 2012). A fate of a logic depends on its compatibility with central logics in a context (Besharov & Smith, 2014).

Adaptable institutions may combine elements of logics (Besharov & Smith, 2014), e.g., clinical, social welfare and market logics. This is in-line with institutional theory's acknowledgement of multiple ontologies and social construction of reality (Scott, 2004). However, Suddaby & Greenwood (2005) argued that harmony amongst competing logics is unsustainable due to the complexity of institutions. Over time, healthcare has followed healthcare and commercial logics, from professionalism, to manager-led and market-driven decision-making (Macfarlane et al., 2013). Throughout, policies have invariably promoted efficiency, cost-effectiveness and accountability through quality improvement. As will be seen in Chapter 3, multiple logics led to multiple quality discourses with implications for QI-ROI.

Institutional logics have been described as the discourse that encodes the criteria of legitimacy by which organisational roles, behaviours, and relationships are constructed and sustained (Suddaby & Greenwood, 2005). In-fact, discourse, rhetoric, and logics are said to compete as tools to assess institutional truth (Dunn & Jones, 2010). A discourse is a way of organising and communicating knowledge such that it is perceived a certain way (Grant & Marshak, 2011). This dictates acceptable, legitimate, and intelligible ways a to discuss a phenomenon (Scott, 2004). Thus, a discourse creates an institutionalised logic. Discourse highlights how power through language constructs organisational reality (Foucault, 1971). Through 'institutional work', 'entrepreneurs' influence prevailing logics (Suddaby, 2010), sometimes using rhetoric.

Rhetorical Theory highlights the deliberate use of emotive, persuasive, and sometimes manipulative language to legitimate or delegitimise agendas (Suddaby & Greenwood, 2005). Rhetoric can allow ideological claims to influence allocation of societal resources (Suddaby, 2010). However, rhetoric can also help organisations manage ambiguity as it makes it possible to choose between alternatives. Often, dominant logics emerge from rhetorical contests (Suddaby & Greenwood, 2005). Here, rhetoric and myth become surrogates for knowledge and rationality, such that social knowledge becomes objective reality (Alvesson, 1993; Zucker, 1977). This pre-requisite understanding is crucial in the study of the development of concepts.

Institutional research

Institutional research is very instructive in how organisational behaviour and meaning-making are to be understood. This knowledge is crucial for theoretical insights on QI-ROI. Institutional researchers are implored to explain why and how subjective constructions of meaning diffuse via both quantitative and qualitative research methods (Aksom & Tymchenko, 2020; Suddaby, 2010). Institutional Theory is said to have historically taken a structural approach through culture studies (meso level), often focused inside single organisations (e.g., norms and values) and patterns at the field level (macro level) (Hollingsworth, 2000). In this project, I saw healthcare leaders as central to all levels as they have a duty to enact multiple obligations. As such, organisational behaviour can also be explained by economic and managerial theories.

2.2.1.2 Economic and Organisational Theories

Often, economic and management theories are seen as rational models for decision-making (Wallin, 2013). Rationality assumes that a decision-maker has all the information required, can process multiple alternatives, and then make a logical decision (Lunenburg, 2010). However, this may not always be the case. A relevant theory here include Principal-Agent Theory. Later, theorists suggested that rationality must pertain what is rational in a given context (Wallin, 2013). Organisations are said to demonstrate their rationality by attributing meaning, using artefacts and myths to give significance to some things and not others (Suddaby, 2010). Further,

organisational behaviour is bounded or contingent to context. This aligns with pragmatism and rejection of homo economicus (individualism) as central in societies (Elder-Vass, 2022).

P-A and Stewardship Theories

What leaders appear to value may be explained by economic theories such as the Principal-Agent (P-A) and Stewardship Theories. The P-A Theory is based on ensuring that the principal (delegator) obtain value through acts of an agent (delegate) (Ludwig et al., 2010). External incentives (positive or negative) are used to ensure agents act in the interest of the principal. Thus, the expectations of a 'principal' has the power to influence the 'agent's' definition of QI-ROI. In the context of QI-ROI, P-A relationships may be between a fund-holder (e.g., a commissioner) and the next level agent (e.g., CEO) or a CEO and a QI programme Lead.

Alternatively, Stewardship Theory views leaders as intrinsically motivated (Donaldson & Davis, 1991). These leaders work for the benefit of an organisation in a collaborative manner (Schillemans & Bjurstrøm, 2020). Stewardship theorists argued that effective decision-making requires supportive governance structures, ownership and autonomy (Schillemans & Bjurstrøm, 2020). This was assumed to improve organisational performance and lead to positive returns (Donaldson & Davis, 1991). This theory opened up possibilities to escape the confines of principal defined value concepts, thereby affording autonomous meaning-making. However, 'autonomous decision-making' may not exist as there may always be contingencies.

Bounded rationality and contingency theories

Bounded Rationality purports that leaders are bounded by several intrinsic and extrinsic constraints in a given context (Lunenburg, 2010). These include resources, politics, norms, and psycho-cognitive factors. Similarly, Contingency Theory argues that management decisions are constrained by contexts from which they gain resources (Tarter & Hoy, 1998). Resource Dependence Theory agrees, arguing that organisations adapt to their environments to gain and maintain resources (Pfeffer & Salancik, 2003). These dependencies create power differentials

that may require political solutions (Scott, 2004). In complex contexts, this may mean that institutions solve some problems, but create new ones (Schneiberg & Clemens, 2006). This challenge will be highlighted below through the introduction of broader organisational theories.

2.2.1.3 Organisational theories

Amongst the existing organisational theories, Complexity, Systems, and Stakeholder theories have several links with Institutional Theory. This includes acknowledgement of the complexity of interdependent systems and stakeholders, that together create and legitimise meaning. Within organisational complexity, some leaders may be able to make discretionary decisions based on their own meaning-making devices (Donaldson & Davis, 1991; Schillemans & Bjurstrøm, 2020; Selznick, 1948). As such, Fulop & Ramsay (2019), advocated for application of multiple ontologies that acknowledge social construction of complex contexts. The existence of complexity, bounds and contingencies are indicative of the challenges within which QI programmes and ROI are applied. This has implications for how QI-ROI is conceptualised.

Complexity Theory

As can be seen above, healthcare is a complex environment. This is likely to determine the conceptualisation of QI-ROI. Further, QI programmes are complex interventions, with varied emergent and unpredictable outcomes for various stakeholders (Braithwaite et al., 2018). Complexity Theory encompasses a group of theories from different disciplines that highlight the interdependent, interconnected, and interrelated nature of components of a system (Braithwaite et al., 2018). As such, QI-ROI may be contingent or context-bound to other systemic factors. One of the sources of this complexity, is multiplicity.

Systems and Stakeholder Theories

Large QI programmes may impact systems. Systems Theory denotes that organisations are made of multiple internal components that must respond to internal but also a wider ecological system (Friedman & Allen, 2011). Thus, healthcare engages internal and external stakeholders for high quality, safe, and efficient care. Stakeholders in this context are individuals or groups that affect and are affected by healthcare (Laplume et al., 2008). These stakeholders have many multiple conflicting objectives and values (Besharov & Smith, 2014). Stakeholder Theory highlights the importance of co-producing value in a way that co-benefits various individuals, whilst keeping patients at the centre (Laplume et al., 2008). This is no mean feat, as multiplicity may add to dilemmas to conceptualising value for the many. This has implications for QI-ROI. As such, open-mindedness was needed to guide my study of this potentially complex concept.

2.3 Project's Research Paradigm

2.3.1 Ontological and Epistemological position

This research is supported by Pragmatism and Critical Realism. This position supports both my main underpinning theory, Institutional Theory and concept analysis approach. Ontology is the theory of the nature of reality, Epistemology is the theory of the nature of knowledge (Baghramian, 2004; Schlick & Rynin, 1948). Ontology dictates an epistemology, which guides the questions asked in a study, tools used, and how results are reported (Baghramian, 2004). Traditionally, there were two opposing dimensions of Ontology: subjectivism and objectivism.

Objectivism argues that reality is independent of human cognition and interpretation (Schlick & Rynin, 1948). Associated theories are Realism and Positivism where only what can be observed and measured is real. Alternatively, Subjectivism views reality as relative to human cognition and experience (Baghramian, 2004). Under this branch is Relativism which argues that reality is constructed by people through interaction and language as they make sense of their world (Baghramian, 2004). This relates to Hermeneutics, which states that reality is as interpreted by humans (Kinsella, 2006). However, Pragmatism and Critical Realism reject the traditional philosophical stances and provide a “third way” of understanding reality (Elder-Vass, 2022).

2.3.2 Pragmatism

Elder-Vass (2022) stated that pragmatists do not reject scientific knowledge, only beliefs about truth and knowledge. Pragmatists share common themes (Bernstein, 2013; Elder-Vass, 2022). The five main themes that reflect a pragmatic philosophy are (1) rejection of fixed authoritative foundations of knowledge, (2) the acceptance that knowledge is fallible and uncertain, (3) the rejection of individualism (homo-economicus) in favour of the social, (4) the suggestion that human action is context-bound, and (5) the argument that social worlds are inescapably plural, and thus multiple views are legitimate. Some of these views are shared by Critical Realists.

2.3.3 Critical Realism

Traditional Realists assert that humans are at the mercy of their world; they can learn about it and understand it but they cannot manipulate it or form new relationships with it (Wong & Fui, 2012). Similar to Pragmatism, Critical Realism rejects this and affords humans agency. Bhaskar, a seminal critical realist, argued that humans manifest unobservable things in the real world, rather than the 'real' world things (in Heeks et al., 2019). Thus, not all is knowable, and knowledge is never absolute, a notion similar to pragmatism's fallibilism (Elder-Vass, 2022).

2.3.1 Pragmatic-Critical Realism (PCR)

The combined use of Pragmatism and Critical Realism (PCR) already exists implicitly and explicitly in modern scholarly publications (Heeks et al., 2019). Heeks et al. (2019) defined PCR as a paradigm based on socially constructed experience of an external independent reality (p. 5). Heeks et al. divided PCR into three levels: (1) the objective domain of observable events, (2) the actual domain enacted in a given context, and (3) the empirical domain which combines context-based human experience and observation. Thus, through PCR, various realities can be legitimised. PCR argues that the separation of realities creates asymmetry between theory and practice (Heeks et al., 2019). To this effect, PCR provides emancipatory solutions to research problems. Some of these solutions were applicable to my research project.

2.3.1.1 PCR epistemological and methodological implications

Support for theory and practice

PCR accepts that concepts are crucial for understanding the world, but this understanding is limited by context (Heeks et al., 2019; Wong & Fui, 2012). These limitations impact the validity of the explanations and application of concepts. However, through corrective feedback between humans and their lived reality, knowledge can be improved and thus, the explanations and application of concepts (Heeks et al., 2019; Wong & Fui, 2012). This is crucial in the development of an operationisable QI-ROI concept. Although my project did not have a practical element, I had assumed and anticipated that a lived experience for those who have applied ROI may determine how they conceptualise ROI in relation to QI. This knowledge can then be used to develop an operationisable tool for evaluating the ROI of QI programmes.

Supports stakeholder involvement

Participants were essential in the development of the QI-ROI concept. PCR rejects ‘spectator theory of knowledge’ and deems humans capable of critically engaging with their context (Bernstein, 2013). Here, science is seen as a democratic activity where people debate, intervene and manipulate ‘reality’ (Bernstein, 2013). Philosophy is seen as a servant not the master, and serves to illuminate the contextual ontological and epistemological conditions that give meaning to phenomena (Wong & Fui, 2012). To this effect, leaders were given an opportunity to influence my project outputs such that they may be more relatable to healthcare contexts.

Supports multiple levels of study

The study of value in the social sciences is often pragmatic (Elder-Vass, 2022). Pragmatists distrust power and tend to focus on the micro level, whilst realists embrace micro and macro levels (Elder-Vass, 2022; Heeks et al., 2019). As stated, I took leaders (meso level) to be at the optimal level to provide a meaning of QI-ROI that reflects multiple healthcare levels. Leaders drew on own knowledge, truth, and reality based on their role. Some represented service-users

(e.g., non-executives), some staff (e.g., chief nurse), some finances (e.g., financial officers). Together, they provided a collective view of how healthcare as an institution conceptualise QI-ROI. Thus, PCR helped me accommodate different views on QI-ROI, as well as highlight different levels of QI-ROI. Allowing plurality and subjectivity can lead to conflict of ideas. Pragmatism supports conflict resolution (Denzin, 1996). This can be done through consensus-building exercises to locate inter-subjective meanings as I later attempted in Chapter 6.

Supports different forms of evidence

PCR asserts that the causality of organisational behaviour cannot be directly observed, but can be theoretically inferred through examination of relationships (Wong & Fui, 2012). Claims made must be tested in practice and reveal causal generative mechanism in a process (Wong & Fui, 2012). This process acknowledges the interconnectedness of outcomes, in-line with Complexity Theory where not all 'evidence' may be visible and inferences must be made. In the context of this project, this was reflected in my research approach which combined different sources (material and human), with disparate ontological beliefs about QI and its value. As part of my analysis, I illustrated the interconnectedness of QI outcomes that are seen as QI-ROI.

Supports the evolution of knowledge and truth

QI-ROI is a new and developing concept. As such, the truth and knowledge about it is bound to evolve over time. As Wong & Fui (2012) stated, science is an ongoing process of persistent concept improvement. The ongoing development must promote equity amongst the perspective (s) leaders may observe as they conceptualise QI-ROI (Heeks et al., 2019). When faced with choices, PCR allows for judgment and agency, but judgement is fallible (Elder-Vass, 2022). Elder-Vass (2022) explains this phenomenon; fallibilism forces one to separate knowledge from the truth; the truth depends on our current knowledge; knowledge is a claim held for a good reason that may or may not be true. Fallibility allows knowledge to transform and develop through questioning of beliefs, such that all knowledge is rational if self-correcting. Through this philosophy, I anticipated that views may change or evolve from each phase of my research.

My position

As an interdisciplinary student of philosophy, I must take the position that multiple views must be heard and reconciled in an exercise of democratic science across the lay-science interface (Pereira et al., 2017). I must resist scientific fragmentation and use all available knowledge to strengthen and balance my conclusions (Bernstein, 2013). PCR encourages epistemic reflexivity to avoid epistemic privilege (Wong & Fui, 2012). Thus, in choosing PCR, my main assumptions are as follows: there are multiple plausible realities; all can be valid depending on perspective taken by subjects to answer the question of QI value. Further, I acknowledge my role as part of the ‘social construction’ of QI-ROI through my research instruments. This called for a methodology that can explore multiple perspectives and minimise suppression of views.

2.3.2 Methodology

My PhD project took a sequential confirmatory-exploratory-explanatory mixed-methods design (Fig. 2-1). I employed a Qual-quant approach, a predominantly qualitative approach, with some quantitative elements to help capture the complexity of the QI-ROI (Teddlie & Tashakkori, 2006). The Delphi was the only component with quantitative data. Mixed-methods may seek convergence of results, be complementary, or identify contradictions and perspectives (Fetters et al., 2013; Teddlie & Tashakkori, 2006). All these principles guided my exploration of the QI-ROI concept. Each study served to confirm previous knowledge, as well as explore and explain new insights through a process called ‘building’ (Fetters et al., 2013). I supported this process by applying deductive-inductive analysis, and purposeful sampling.

Proudfoot (2023) argued that pure induction, where all pre-conceptions and/or prior knowledge are entirely excluded is not possible. Similarly, pure deduction where entirely objective logical inference is made is also not feasible. Thus, the four logics of; induction, deduction, abduction and retroduction where new discoveries are made and added to new knowledge. Proudfoot recommended inductive-deductive approach. This supports my philosophical stance in PCR.

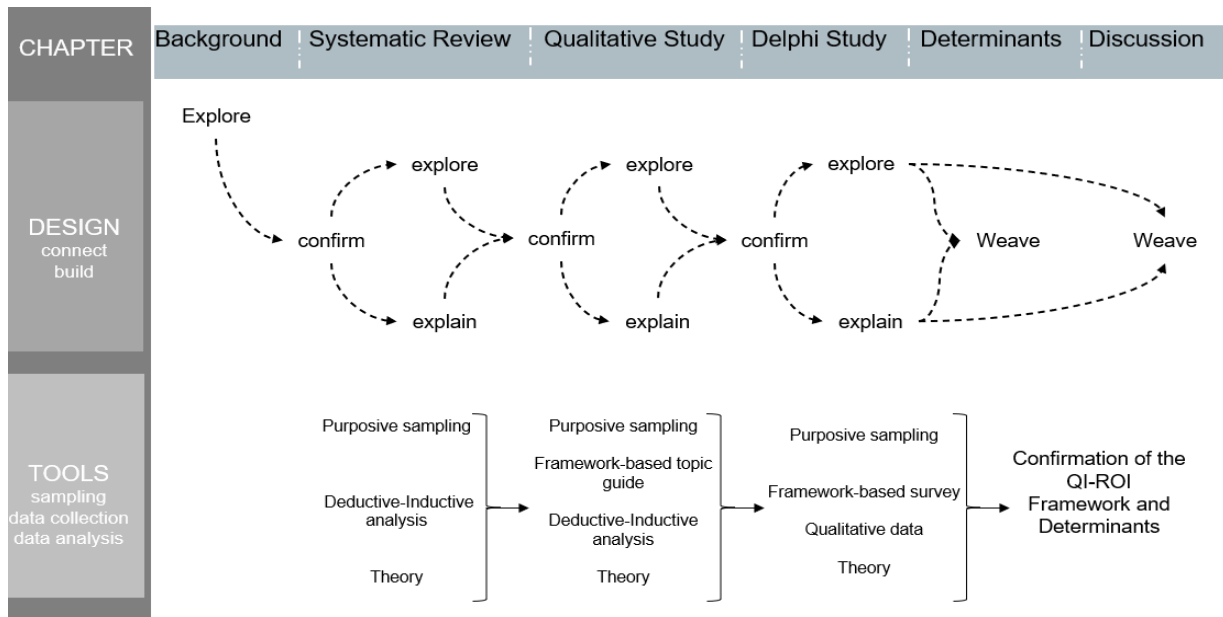


Figure 2-1 Mixed methods integration framework

2.4 Conclusion

In this chapter, I outlined the aims, rationale, and assumptions that guided my project. I believe that my chosen ontological position is one of the optimal ways to reach more rounded and least biased conclusions about the QI-ROI concept. My chosen ontological position guided my research designs and questions posed in the next chapters. My concept analysis and development approach guided my search for the qualitative attributes of the QI-ROI concept, to make way for concept operationalisation. Further, the description of healthcare organisations and use of organisational theories helped me anticipate and explain some of my findings regarding the QI-ROI concept. In the next chapter, I explore the backgrounds of QI and ROI as part of developing a baseline for their history and relationship. This exploration of the background literature also set the scene for the systematic literature review of QI benefits.

3 Background

3.1 Introduction

In this chapter, I summarise some of the pertinent literature on Quality Improvement (QI) and Return on Investment (ROI). The backgrounds of QI and ROI are essential in understanding both the history and theoretical aspects of QI-ROI as part of concept analysis and development (Sartori, 1970). My assumption here is that the QI-ROI concept is likely to reflect elements of what quality is perceived to be, what QI programmes ought to improve, and what the ROI methodology measures. This may illuminate the assumptions, goals, and expectations from QI. In this context, the alignment in the relationship between QI and ROI assumptions is crucial.

In the first section of this chapter, I summarise the literature on quality and QI in healthcare. In terms of quality goals, physical and mental healthcare are largely similar. This includes QI practice, implementation and evaluation. These aspects hint to the assumptions about what QI programmes are, their goals and thus desired intervention and implementation outcomes, and how these are evaluated. These factors likely determine what may be seen by as a benefit from QI programmes, thus ROI. Exploration of the associations between QI and other organisational goals is also part of this understanding (Sartori, 1970). I end this section by introducing the economic aspects of QI: cost of QI, economic evaluation, and QI business case development.

The next section is dedicated to ROI, its origin, theory, challenges, and developments so far. The literature on ROI contains contributions by authors across commercial, healthcare, and other public service disciplines. This helped highlight the evolution in assumptions about ROI through time and space, from accounting to healthcare. As stated in Chapter 2, concepts are influenced by prior experience. Thus, the experience of the practice of ROI is crucial for the understanding of how and why certain perceptions about ROI may have been formed. This includes experiences of the advantages and challenges of the ROI methodology. As such, the developments made in the ROI methodology are informative about its fit with the assumptions of those who apply it. First, I discuss some of the main aspects of the healthcare quality concept.

3.2 Quality

As will be seen below, quality is a conceptual minefield of value-laden ideas with ethical, legal, social, political, and economic implications. These disparate perspectives are used as both complementary and conflicting levers to pull on any given quality definition. The concept of quality has enjoyed significant attention in literature over decades; no agreement on its definition amongst the varied healthcare disciplines and levels exist. Hence, it is important to first explore how quality is perceived and why, what the main quality issues are and how quality is improved and evaluated before exploring the relationship between QI and ROI.

There are compilations of hundreds of definitions of quality (Brocklehurst & Walshe, 1999; Goldenberg, 2012; Maxwell, 1984; Mosadeghrad, 2012). These are often catalogued to form models or frameworks made of different quality attributes or dimensions. Examples include structural quality, technical or clinical quality, and interpersonal quality (Allen-Duck et al., 2017; Cooperberg et al., 2009; Donabedian, 1988; Parasuraman et al., 1991). Quality definitions are often prescriptions of who, what, how, for whom, by whom, and why. For example, the United States Institute Of Medicine (IOM) and Lohr (1990), stated that quality is the degree to which healthcare services increase the likelihood of desired healthcare outcomes for individuals and populations, consistent with the current professional knowledge.

Major national and international definitions often reflect seminal definitions. The IOM's description for example reflects Maxwell (1984) definition. This describes six domains of high quality care as *safe* (avoiding harm), *effective* (based on scientific knowledge, avoiding underuse and misuse), *patient-centred* (respectful of and responsive to individual patient preferences, needs, and values), *timely* (reducing harmful delays), *efficient* (avoiding waste), and *equitable* (avoiding unwarranted variation). To these domains Cooperberg et al. (2009) added *appropriateness* (supported by best evidence and practice), a domain similar to effectiveness. The current United Kingdom National Health Service (NHS) definition was also influenced by Lord Darzi's 'High quality care for all'. Here, quality was defined as one that is safe, effective, and efficient as well as engender positive patient experience (NHS, 2008).

Some quality definitions hint to where quality lies, and hence where to focus improvements. Quality is a property of a system. It includes every healthcare structure and process from policy to frontline. As such, the World Health Organisation (WHO) included quality as one of four mediators (along with access, coverage, and safety) that connect a health system's building blocks to its outputs (WHO, 2006). Within a system, individual organisations differ in their services and expectations. Several definitions of quality may even exist within one organisation (Goldenberg, 2012). Cooperberg et al. (2009) argued that quality definitions may always be ambiguous. Wettstein (2005), referred to healthcare 'qualities.' Donabedian (1988), applied this to his Structures-Processes-Outcomes (SPO) framework for quality evaluation. However, quality issues were not initially and may often still not be perceived from a systems perspective.

3.2.1 Quality issues in healthcare

Although quality definitions are influenced by commercial industries (Parasuraman et al., 1991), healthcare workers have historically engaged in quality improvement. Examples include UK nurse Florence Nightingale, British-Jamaican nurse Mary Seacole, and US surgeon Dr Amory Codman. Historically, patient safety and clinical outcomes were the leading motivators for defining and seeking healthcare quality (Brocklehurst & Walshe, 1999; Goldenberg, 2012; Maxwell, 1984; Mosadeghrad, 2012). Later, the focus moved to cost-saving as health systems grappled with rising costs. At that point, cost, value, and quality became intertwined (Schuster et al., 1998). For example, the US Institute for Healthcare Improvement triple aim (care, health, cost) was expected to help save costs whilst improving performance (Berwick et al., 2008). Healthcare quality concerns thus have four main overlapping foci: quality, care, safety, and costs. Care and safety are often seen as subsumed under quality, interchangeable with or a dimension of quality (Beattie et al., 2013). Care is often the least examined component.

3.2.1.1 Care

According to Tomes & Ng (1995), quality is the manner of caring. Care involves interactions between frontline staff and patients, and thus impact patient and staff experience. Donabedian

(1988), describes this as interpersonal quality, and relates it to the process of care in his SPO framework. Cooperberg et al. (2009) suggested that care is about how services are organised, delivered, and accounted for. This means caring for and about the entire system, including the care-takers (staff, families and other carers) (Tronto, 2010). To Emmerich et al. (2015) quality is a second order idea of the two components, meaning care is superior to quality. Caring is contrasted with curing through clinical interventions. However, both are essential for high quality and safe care as well as positive patient experience (Brandrud et al., 2017; NHS, 2008).

3.2.1.2 Safety

Patient safety is mainly viewed as avoiding, preventing and ameliorating adverse outcomes from processes of care (Vincent, 2011). There are several well-known examples of poor quality care through safety failings (Francis, 2013; Kennedy, 2001). These continue to date (Campbell, 2022). Although often seen as technical faults, the manner in which care is provided can also cause harm. Safety issues present in three ways: overuse (too much care), underuse (too little care), and misuse (wrong care) (Gandjour & Lauterbach, 2003; Schuster et al., 1998). Addressing overuse and misuse improves patient safety and experience, care effectiveness, and reduce costs (Dyer, 2016; Schuster et al., 1998). Care underuse can lead to later needing costly and complex care (Alderwick et al., 2017). According to Braithwaite et al. (2020), healthcare is faced with the “60-30-10 challenge”; only 60% of staff follow guidelines, 30% of care is waste, duplication, or of low value, and 10% of patients globally still face harm.

3.2.1.3 Cost

As seen above, patient safety is intricately linked to cost of care. Improving the manner of caring can be both efficient and costly depending on whether new processes are needed or old ones must be improved. With this recognition, some wondered if quality has limits (Gandjour & Lauterbach, 2003). They argued that not all increased quality is worth extra costs (Donabedian, 1988). This brought to the fore the philosophical questions of Maximalist and Optimalists approaches (Piligrimienė & Bučiūnienė, 2008; Williams, 1993). Maximalists

ignore cost in favour of the highest quality. Alternatively, optimalists would limit care to where the ratio of cost exceeds improvements produced. Practitioners are likely to be maximalist, whilst managers and payers may be optimalists (Donabedian, 1988). Therefore, quality concerns are influenced by many issues including economics, social, and political discourses.

3.2.1.4 Quality as a discourse

Financial, social, professional, and political challenges often mean that healthcare quality is subjected to public and political scrutiny (Cooperberg et al., 2009). This leads to various quality discourses. Discourses are ways of communicating agendas. These can lead to overlapping, at times differing priorities. Political, and commercial discourses often clash with healthcare professional discourses (Williams, 1993). Professional discourses tend to emphasise aspects of providing and coordinating care (Beattie et al., 2013). Commercial discourses often promote consumerism e.g., customer satisfaction (Parasuraman et al., 1991). Healthcare professionals often reject such quality definitions (Tronto, 2010). However, the two discourses often reconcile under the banner of patient-centred care (Dyer et al., 2016; NHS, 2008).

Patient experience and safety often trigger (re)actions, with the media playing a significant role in policy responses (Millenson, 2002). Threats to reputational damage, via the media motivates for political will to improve healthcare services (Whiteford et al., 2013; Woodier, 2015). Media driven quality foci produce aspirational quality definitions that may divert energies away from core QI and organisational agendas (Whiteford et al., 2013). As such, Goldenberg (2012) argued that quality definitions are merely persuasive devices. However, Emmerich et al. (2015) argued that the usefulness of the concept of quality of care is not because of the detail it provides, but due to its motivating, emotive, evaluative, or rhetorical content (p. 3). Emmerich et al. (2015) remarked that the quality of care governance mitigates for political forms of accountability, thus protecting politicians from scrutiny. Thus, quality discourses may render quality evaluation precarious, uncertain and ambiguous. This may impact the QI-ROI concept.

In summary, healthcare quality can be described as an aspiration for excellent and harm-free care, through effective and efficient use of available resources. It is appropriate and relevant to each context as negotiated by those most relevant in each instance of care. The quality aspired to is driven by values, perceptions, and expectations of various stakeholders. Thus, high quality care is sought to maximise benefits primarily for service users, but also for other stakeholders. Quality is situated within structures, processes, as well as interactions thereof. As such, the evidence of quality resides in different parts of a healthcare systems, not just in end outcomes.

3.3 Quality Improvement (QI)

Definitions of QI may differ in focus, but they share guiding principles about how to improve quality. A choice of four QI definitions illustrates this. The commonly quoted definition states that “Quality Improvement is the combined and unceasing efforts of everyone; healthcare professionals, patients and their families, researchers, payers, planners, and educators, to make the changes that will lead to better patient outcomes, better system performance and better professional development” (Batalden & Davidoff, 2007 p.2). Similarly, Mery et al. (2017) stated that “QI is a systematic approach to making changes that improve patient outcomes and professional development as well as, strengthen systems...” (p.1). Storkholm et al. (2019), described QI as “the systematic application of methods and strategies to change provider behaviour and the organization to improve quality and thereby reduce costs” (p. 2). Lastly, the US Agency for Healthcare Research and Quality (AHRQ, 2023) stated that QI is the framework to systematically improve patient care by measuring, analysing, and controlling processes.

From these definitions, a few ideas stand out about QI: 1) the *multiple goals* to improve patient outcomes, development, capacity and capability building, system improvement, effectiveness, efficiency, reduce variations, and save costs; 2) using *specific methods* in a systematic way; 3) to *improve processes* through (re)design, continuous monitoring and controlling; 4) as a *collective endeavour* of healthcare stakeholders; 5) through *behavioural and cultural change*; and 6) guided by a philosophy of *continuous learning and improvement*. Notably, QI

definitions go beyond those of quality by explicitly incorporating perspectives of patients, staff, and organisations, as well as health systems in the idea of quality care.

3.3.1.1 QI and associated agendas

QI is seen as one of four Quality Management (QM) pillars; planning, assurance, control, and improvement (Shah, 2020). QM is understood as the process of managing the actions and interactions that promote healthcare quality and performance (Komashie et al., 2007). QM was initially promoted under the banner of Total Quality Management (TQM), later known as Continuous Quality Improvement. TQM became less popular as top-down programmes became perceived as failing. TQM was replaced with bottom-up approaches such as QI, seen as more appropriate in healthcare contexts (Mosadeghrad, 2014). QI also has a close relationship with Change Management. Change Management is about continually renewing an organisation's direction, structures, and capabilities to serve the evolving needs of external and internal stakeholders (Moran & Brightman, 2001). A specific definition of change depends on its rate, source, purpose, and duration (By, 2005). In QI, 'change' must result in improvement.

QI is also associated with value-based healthcare (VBHC) and performance measurement and management (PPM). VBHC promotes the seeking of value that matters to patients (Teisberg et al., 2020). VBHC aims to systematically improve value and care across whole range of services or organisations, to link cost to outcomes, and emphasise the importance of both competition and collaboration (Teisberg et al., 2020). PPM includes strategies, resources and capabilities for systematically measuring and improving the performance of a healthcare system to maximise outcomes for patients, workers, and populations (Baars et al., 2010; Elg et al., 2013). VBHC and PPM identify areas for improvement which may require the use of QI methods (Beitsch et al., 2015). In the UK, the Care Quality Commission (CQC) is one of the bodies that evaluate and rate organisational performance and quality (CQC, 2018).

3.3.2 Large-scale QI Programmes

QI interventions include small projects and large-scale programmes. An intervention is a single project with a set of actions used to alter the outcome of a situation (The National Institute for Health and Social Care (NICE, 2011). QI programmes cover a range of interventions more complex than small projects. They combine clinical, strategic, workforce and organisational elements into coherent quality improvement and safety management processes, to ensure a safe, reliable, high quality care delivery (Benn et al., 2009). Programmes seek to improve care but also to improve cultures, capacities, and capacities that enables continuous and sustainable improvements (Mery et al., 2017; Øvretveit & Gustafson, 2002). QI programmes involve collaborations with partners within and or outside organisation (Øvretveit & Gustafson, 2002)

Øvretveit & Gustafson (2002) listed ten rationales for large-scale QI. These are: 1) improve quality and patient safety, 2) strengthen management, 3) quality management and assurance, 4) improve clinical pathways, 5) empower patients, 6) benchmarking, 7) risk management and safety, 8) quality assessment and accreditation, 7) continuous quality improvement, 9) bring together teams, and 10) provide comparative data across organisations. Popular programmes include ‘Right-Care’, seen as a critical part of NHS England’s approach to driving allocative efficiency as inspired by the World Economic Forum (Dropkin, 2018). Programmes can create conditions that help but also hinder smaller quality projects (Øvretveit & Gustafson, 2002). For example, programmes may help improve culture, thus aiding adoption of smaller projects. Nonetheless, the methods used in both small and large QI interventions are largely similar.

3.3.3 QI methods

There are several methods used in QI, most from commercial sectors (The Healthcare Quality Improvement Partnership, 2015). Some are used for monitoring e.g., Audit and Feedback; or understanding processes e.g., Statistical Process Control. Others are for process improvement e.g., Plan-Do-Act-Study (PDSA), Lean, Six-Sigma; some diagnose problems e.g., Root Cause Analysis; others help improve decision making e.g., decision trees, or explore cause-effect e.g.,

Fishbone Diagrams. The effectiveness of various QI methods has been questioned for decades (Appleby, 2005; Clay-Williams et al., 2014; Dixon-Woods & Martin, 2016; Øvretveit, 2009; Taylor et al., 2014). Most failures are linked to contextual challenges and poor application. Nonetheless, the perception of QI effectiveness may also impact the perception of ROI.

3.3.3.1 Improvement Science and Implementation Science

QI programmes' strategies are sometimes applied in tandem with strategies to gain and deploy scientific knowledge (Proctor et al., 2013). This has implications for the types of benefits that may be anticipated from QI programmes. Whilst QI tends to produce results suitable for local use, Improvement Science aims to produce generalisable knowledge (Portela et al., 2016). The use of local knowledge creates context-based theoretical and methodological frameworks. This can then be used to design, implement, sustain, evaluate, disseminate quality improvement (Portela et al., 2015). Although no two contexts are the same, the hope is that at the minimum, the theories can be shared amongst different improvers. To further support QI, an understanding of implementation is sought through Implementation Science.

Implementation Science promotes the systematic uptake of research and other evidence into routine practice, thereby improving the quality and effectiveness of healthcare services (Eccles & Mittman, 2006). However, due to context complexities, many healthcare interventions lack credible evidence (Barkham & Mellor-Clark, 2003; Green, 2008). This led to a call for practice-based evidence, where evidence is developed in-situ (Barkham & Mellor-Clark, 2003; Green, 2008). Implementation Science is also increasingly concerned with de-implementation of inappropriate interventions to make room for progress (Laan et al., 2017). Several strategies are used to guide implementation of QI programmes (Proctor et al., 2015). The outcomes of these strategies are measured as implementation outcomes (Proctor et al., 2011). As such, the outcomes of implementation strategies may be meaningful for the concept of QI-ROI. Figure 2-1 summarises quality definitions and their links to QI, and Implementation Science.

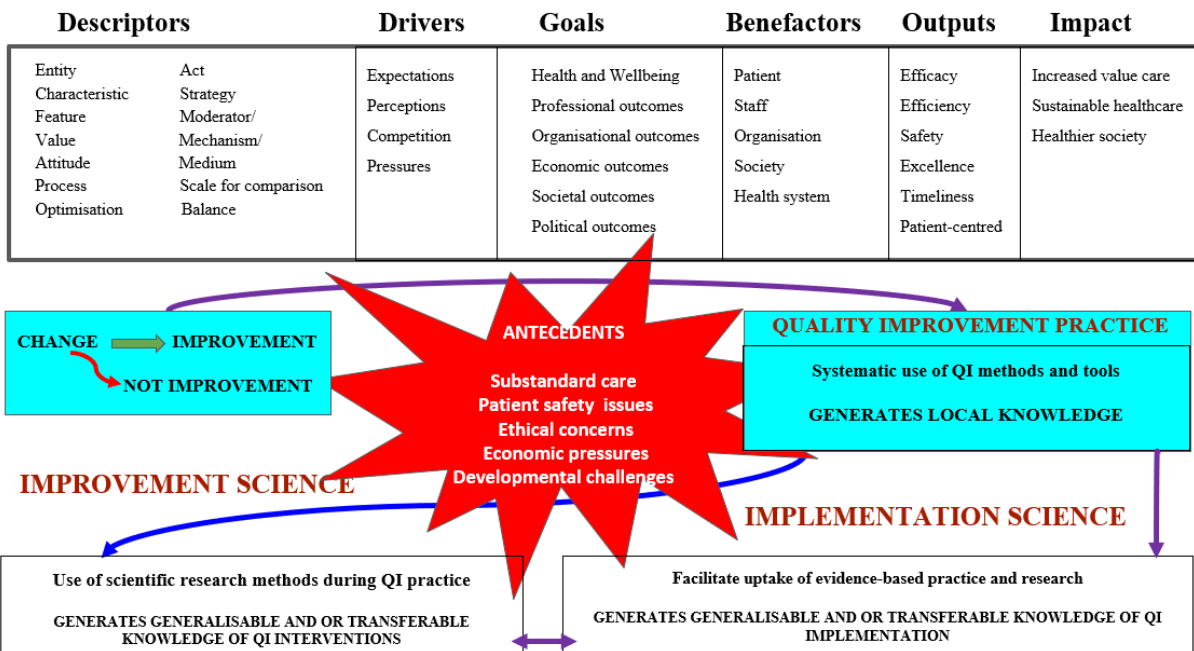


Figure 3-1 Quality definitions and QI unpacked

In the figure above, the different elements that are used to describe quality are categorised as the descriptor terms, the drivers, the goals, outputs/outcomes and beneficiaries. These are summarised from popular quality definitions and linked to large scale QI definitions. The red star signifies the quality and safety issues that often lead to QI implementation. Altogether, these attributes highlight the potential ambiguity associated with both quality and QI. QI, Improvement and Implementation sciences co-exist to design, implement, and evaluate QI programmes to generate both local and transferable and or generalisable knowledge.

3.3.4 Mental health and QI

Mental healthcare was a pioneer in many aspects of QI as evidenced by its relationship with Implementation, Improvement, and Behavioural Sciences (Proctor et al., 2013). This includes use of QI strategies like multi-sector engagement, patient engagement, patient and staff safety initiatives. In terms of need, objectives and methods, QI in mental health is largely similar to that in physical health (Boland, 2020; Ross & Naylor, 2017). Mental healthcare service outcomes impacts across larger spheres of care and society (e.g., justice systems) (Senior et al., 2020). For example, presenteeism (being at work unwell and unproductive) and absenteeism

from physical or mental ill-health affects labour markets (Prater & Smith, 2011). As such, mental health outcomes include patient social functioning and economy participation (Badu et al., 2019; Kilbourne et al., 2018). Further, mental healthcare manages psychological states whose outcomes can be challenging to quantify e.g., stigma (Henderson et al., 2013).

The chronic poor investment in mental healthcare means providers must increase the quantity, quality, and access to their services simultaneously (Knapp & Wong, 2020; McDaid et al., 2019). This is more so given the expected increase in mental need and rising costs (Knapp & Wong, 2020). Previous cuts in mental healthcare expenditure in England led to significant decommissioning of essential services (Thornicroft, 2020). This may have reduced access to care and slowed QI activities. To this effect, researchers have raised concerns that quality improvement in mental health is under-researched and under serviced (Dewa et al., 2018; Thibaut et al., 2019). This may mean some unique mental health QI goals for patients, staff, and organisational leaders. The combination of these goals may impact QI-ROI. In the UK and other countries, mental healthcare budgets are being increased (Docherty & Thornicroft, 2015; The HFMA & Thornton, 2021). Some of this funding may be invested in QI programmes.

3.3.5 Cost of QI

Some QI strategies can influence outcomes through non-financial mechanisms e.g., removing an unnecessary step in a process (Dopp et al., 2020). Others cost money to implement and maintain, ranging from modest, to substantial sums (Hussey et al., 2013). However, it is unclear how much organisations spend on QI programmes. In some industries, the cost of quality and safety is considered part of the ‘cost of doing business’ (Blanchfield et al., 2018). In healthcare, QI may be considered an ‘add-on’ (Blanchfield et al., 2018). Where only direct costs are monitored, access to cost knowledge is straightforward. This is not so for indirect costs e.g., developmental and research costs. Indirect costs are often dispersed and incremental, such that forensic accounting methods may be needed to isolate them (Blanchfield et al., 2018).

Researchers have developed tools to isolate and measure the cost of implementation e.g., the Stages of Implementation Completion (Saldana et al., 2014). Nuckols et al. (2013) developed the Quality-Cost Framework which identifies aspects of quality that influence health status and relevant costs. Similarly, Berte & Nevalainen (1997) developed the Cost of Quality which identifies four types of quality costs: prevention costs, appraisal costs, internal failure costs (e.g., long waits), external failure costs (e.g., complaints). Reporting implementation costs is therefore encouraged as part of the evidence of an intervention's resource needs (Pinnock et al., 2017). These reports on costs can then support QI economic evaluation.

3.3.6 QI evaluation and measurement

QI measurement is geared toward gaining quantitative data on whether or not desired goals are (being) achieved. Traditional sciences assess an intervention's empirical performance for the purpose of generalisability (Walshe, 2007). QI measurement is the practice of monitoring the progress of an intervention with the aim of controlling and adjusting improvement strategies as they happen (Portela et al., 2017). As stated, QI does not seek to generalise. However, in a form of Implementation and Improvement Science, QI reveals why and how interventions work, to generalise theories and scientific knowledge (Nilsen, 2015; Portela et al., 2015). Thus, QI evaluation includes measurement as well as qualitative data obtained at different points of a programme to provide crucial information about QI outcomes (Reed et al., 2014).

3.3.6.1 Criticism of QI measurement and evaluation

The philosophical beliefs about QI measurement and evaluation may influence how QI-ROI is conceived. In this regard, QI measurement is seen to not have evolved sufficiently (Cribb et al., 2020). Specifically, QI is seen to have failed to institute and legitimise suitable evaluation methods that reflect healthcare values and multiple perspectives of relevant stakeholders (Pflueger, 2015). The measurement philosophy can be seen to promote quantitative managerial ways of knowing at the expense of staff and patients' views. This philosophy is said to promote commodification and dehumanising agendas (Ndiaye, 2021). Pflueger (2015), argued that this

promotes false security, and runs the risk of organised uncertainty and ambiguity. As such, this philosophy may both add and subtract from the idea of healthcare quality (Cribb et al., 2020).

Adopting a narrow definition of quality in this way is counterproductive (Mery et al., 2017), and leads to ‘hitting the target but missing the point’ (Bevan & Hood, 2006). The concerns are that this implies that there is one right measure of every aspect of quality (Pflueger, 2015; Swinglehurst et al., 2015), and thus what is not measurable does not count (Emmerich et al., 2015). This may lead to mismanagement and negligence (Swinglehurst et al., 2015). Emmerich et al. (2015) blamed this on the ‘struggle over methodology’ where the method does not discover and depict realities, but rather participates in the enactment of lived realities. This is crucial as the quantitative discourse is integral to QI practice and economic evaluation.

Economic evaluation

Economic evaluations of QI are performed as part of other evaluations or as stand-alone. An economic evaluation is a process of comparing two or more equivalent technologies, services, or programmes in terms of their costs and outcomes (Drummond et al., 2015). Methods include Cost-Effectiveness analysis (CEA), which assesses how much more incremental benefit a certain (often new) technology offers compared to an alternative. For multiple comparisons, a Cost-Utility analysis (CUA) is used. CEA and CUA are reported in quality of life or health related units with an Incremental Cost Effectiveness Ratio (ICER). Alternatively, societal economic benefits are reported in monetary terms using a Cost-Benefit Analysis (CBA).

As costs of care rise, the demands for justifying investments have also increased. Investing in a QI programme may redirect money from other essential healthcare initiatives. This represents an “opportunity cost”, roughly meaning a lost opportunity for alternative investment (Danzon et al., 2018). It is therefore not unreasonable that healthcare investments require justification. In performing resource allocation decisions, a balance between efficiency and equity is

recommended (NICE, 2011; Klein, 2010). Various cases can be made for investing in a programme or policy. These are, an economic case, a business case, and a societal case (Leatherman et al., 2003). However, in QI, a business case is increasingly favoured.

3.3.6.2 The QI Business case

At a societal level, investment decisions are supported through Health Technology Assessment (HTA). HTA is a framework that generates evidence of the value of new interventions (Ungar et al., 2013). HTA helps choose options with the greatest benefit compared to alternatives. This aids allocative efficiency i.e., to maximise the health benefits relative to the resources available (Ungar et al., 2013). In the UK, the National Institute for Health and Care Excellence (NICE) performs HTA duties, guided by the UK Treasury. This is called making an economic case, done through CEA, CUA, CBA. As seen above, these are also performed for QI programmes.

Increasingly, a business case is a preferred condition for investment. According to Leatherman et al. (2003), a QI business case exists if a financial return (profit, cost-reduction or cost-avoidance), is realised by an investor over a reasonable time frame, using a reasonable discounting (inflation) rate p. 18). This does not factor-in equitable distribution, an important condition in healthcare. However, in a fixed budget, trade-offs between allocative efficiency and fair distribution occur (Bridges, 2006). Ethics may be considered in a societal case, which considers broader programme societal benefits (Leatherman et al., 2003; Littlejohns et al., 2012). However, unless a business case can be made for a programme or technology e.g., a QI intervention, it is unlikely that leaders would look at it favourably (Leatherman et al., 2003).

In practice, QI implementers tend to develop business cases that focus on solving specific local quality concerns e.g., (Abrahamson et al., 2016; Eubank et al., 2019; Golding & Nicola, 2019). In economic terms, a business case means forecasting ROI (Leatherman et al., 2003). Below, I introduce ROI. This includes its history, philosophy, and challenges. My aim here is to outline

the pertinent ROI historical and theoretical perspectives. The perspectives may hold significant explanatory power about the evolution of ROI conceptualisation from its origins in accounting, to health economics, and now healthcare QI. This is crucial for how and why ROI has come to be perceived in healthcare. Specifically, this formed the fulfilment of my first objective to explore history of ROI as part of my analysis and development of QI-ROI concept.

3.4 Return on Investment

The term ROI is said to have been first coined by Donaldson Brown, a DuPont accounting firm salesman in 1912 (Phillips 2015). ROI, profit, and investment efficiency are different measures of an organisation's financial health, but ROI on its own does reflect an investment's efficiency and profitability (Burkhardt & Wheeler, 2013). Traditionally, ROI measures the performance of financial investments by forecasting their financial returns over time (Burkhardt & Wheeler, 2013). This can help minimise investment risks (Boyd et al., 2015). ROI fulfils a similar purpose in business cases. Alternatively, evaluative ROI measures known benefits and costs post implementation to assess their monetised value (Astrella, 2017; De Meuse et al., 2009).

ROI is referred to as a ROI methodology, ROI analysis, or ROI method (Botchkarev & Andru, 2011; Phillips, 1998). A methodology encompasses a set of rules and procedures that follow a certain logic, as guided by a particular philosophy. An ROI analysis includes a comprehensive list of other metrics. An ROI method or approach uses certain models to perform analyses used to estimate ROI. ROI is reported as a ratio, number, or percentage e.g., an ROI of 1:1 means that for every £1 spent, another £1 is gained, equal to 100% ROI. Some institutions set an expected ROI for interventions based on anecdotal or empirical evidence (Hong, 2017).

3.4.1 Related metrics

As stated, ROI is one of a number of metrics derived from of an analysis. These are beyond the scope of this thesis and will not be discussed here in detail. However, their mention is important as some do use these metrics as an alternative to ROI. These other metrics are essentially different financial perspectives of an investment's impact (Andru & Botchkarev, 2011). The depth of an ROI analysis report may depend on its purpose; for a chief financial officer, a whole list of metrics may be required (Doxtator, 2000). However, a limited list is an ROI black-box as each metric may lead to different decisions and outcomes (Andru & Botchkarev, 2011). Popular metrics include the internal rate of return (IRR), net present value (NPV), and payback.

Simply put, NPV and RIR depict ROI at certain time points and factor-in inflation incurred over that period (NICE, 2011). The NPV has been previously recommended by the UK Treasury for assessment of an intervention's ROI (NICE, 2011). The NPV is calculated as the current value (at the time of an assessment) of projected savings less programme costs based on cashflow (Dorfman, 1981). The IRR is equivalent to ROI of a long-term investment at year one. Compared to the NPV, the IRR may be more meaningful if wishing to re-invest into a programme (Dorfman, 1981). The Payback period or break-even analysis determines a theoretical time needed to allow benefits to offset costs (Nicholls, 2012).

In healthcare, evaluators sometimes include measures such as the net monetary benefit (NMB). The NMB is based on a health benefit measured in quality of life years (QALYs) (Glover et al., 2014). This represents the value of an intervention in monetary terms when a willingness to pay threshold for benefit (QALY) is known. The NMB scales and compares health outcomes and resources to costs without using ratios (Glover et al., 2014). Incremental NMB of comparable interventions can also be calculated (York Health Economics Consortium, 2016).

To add to the many metrics viewed as ROI, the UK NICE views ROI as any economic method that assesses value-for-money (VfM) of healthcare technologies and services (NICE, 2011).

NICE describes VfM as the optimal balance between outputs and inputs. VfM indicates efficiency (the ratio of an activity to the inputs), economy (the purchase of goods or services at lowest cost), and effectiveness (the extent to which objectives are achieved) (NICE, 2011). An ICER, is thus seen as a form of ROI. VfM can also be assessed through Cost-Consequences Analysis (CCA). CCA compares costs and multiple patient outcomes of alternative programmes. CCA was recommended for public health interventions (NICE, 2011).

Finally, like CBA, ROI compares costs and benefits and present them as a monetary ratio. ROI focuses on an investors perspective, whilst CBA focuses on a societal perspective. Thus, CBA is seen as a complete ROI (Doxtator, 2000). A CBA output is called a cost-benefit ratio (CBR) or benefit-cost ratio (BCR). CBR/BCR are benefits divided by costs, whilst ROI is the net benefit minus the cost expressed as a proportion of the cost (or $CBR-1$) (Masters et al., 2017). There are other ways used to calculate ROI, for example net benefits divided by total costs. The costs/investments are not the focus here as the aim to develop the concept of returns.

3.4.2 ROI Models

Typical ROI models only include direct investments and outputs (NICE, 2011). Some account for incremental, proximal and distal costs and benefits (Grazier et al., 2013; Khowaja et al., 2021). Data may come from various sources e.g., routine records and literature. Some practitioners use spreadsheets, simple balance-sheet, or more sophisticated models. In models many technical aspects are factored in to improve the accuracy of an ROI analysis, e.g., sensitivity analysis to assess ROI under different scenarios, and discounting which accounts for inflation in long-term investments (Botchkarev & Andru, 2011). For ROI adaptations, additional steps are taken to improve accuracy, e.g., deadweight, (what would have happened without a programme, and drop off (rate of benefit reduction over time) (Nicholls, 2012).

3.4.2.1 Adaptations of traditional ROI

The traditional methodology of forecasting ROI is often not fit for purpose in service industries like healthcare (Dearden, 1969; Masters et al., 2017), and so it is often adapted. Some practitioners create ad hoc ROI models and hence many unpublished variations may exist (Ashton et al., 2020; Rush, 2012). Some fields attempt to harmonise ROI models by creating standard tools that can be modified via user interfaces. These models typically contain inputs known to be standard in that field, as an indication of how ROI is conceptualised in that field. Of interest in healthcare, is the Phillips methodology, originally designed to assess ROI as part of evaluating staff training programmes (Phillips, 2012). The methodology incorporates intangible benefits (difficult or impossible to measure and monetise benefits). Its model is popular in many fields, including healthcare (Bukhari et al., 2017; Mery et al., 2017).

The UK NICE has various ROI tools that can be manipulated for bespoke analysis (NICE, 2011). NICE also developed a ROI model for smoking cessation called EQUIPT (Pokhrel et al., 2014). Another popular methodology is Social Return on investment (SROI). SROI emerged from social accounting in commercial industries (Krlev et al., 2013), but is also used in healthcare, particularly public health e.g., (Ashton et al., 2020). SROI has been described as an extension of the CBA (Banke-Thomas et al., 2015), as it assesses similar benefits as CBA, but includes environmental impacts (Nicholls, 2012). SROI focuses on social value to promote social justice and equity, whilst CBA focuses on social welfare (Nicholls, 2012). SROI goes beyond ROI, to include internal and external perspectives of a programmes costs and benefits. Ultimately, all ROI adaptations observe some core principles, chiefly benefit monetisation.

3.4.2.2 How ROI analysis is performed

The following is not exhaustive as ROI analysis maybe complex or simplified depending on contexts. ROI models follow sets of steps to identify costs and benefits. Once identified, benefits and costs must be converted to money (monetised) (Nicholls, 2012). To monetise, a market value of an outcome must be determined. If no direct market value exists, a proxy must

be found (Nicholls, 2012). A financial proxy reflects the value that a stakeholder experiencing a change places on an outcome (Krlev et al., 2013). Valuation methods (placing market value) are used to determine financial proxies e.g., valuing health improvement against an individual's future earnings (Bontis & Fitz-enz, 2002), asking people to rate or rank benefits (UK Treasury, 2022), or state their willingness to pay or forego a benefit (Cunningham, 2000). By following certain steps, ROI adaptations can be manipulated to enhance their utility towards local goals.

3.4.3 ROI advantages and challenges

The ROI methodology offers attractive advantages for organisational leaders. However, ROI may also present some challenges when applied in service industries such as healthcare as indicated by the development of several adaptations. Together, the perceptions of advantages and challenges may determine how those who have ROI practical experience perceive QI-ROI.

3.4.3.1 Advantages of ROI

ROI is increasingly popular, considered to be a versatile way of assessing an investment's performance (Berdot et al., 2019; Phillips & Phillips, 2008). There is a wide belief that ROI is affordable, straightforward, simple and transparent (Bonnabry & François, 2020; Davison et al., 2020; De Meuse et al., 2009; Pokhrel, 2015; Solid, 2020). As a single ratio, ROI compares programmes on an even basis (Davison et al., 2020; De Meuse et al., 2009). Further, ROI may have some advantages for organisations as an active instrument, not just as a passive ratio.

ROI is said to improve organisational learning by enhancing understanding of processes that support service improvement (Millar & Hall, 2013; Rush, 2012). As such, ROI can improve organisational efficiency and effectiveness (Millar & Hall, 2013; Rush, 2012). Through business cases, ROI can clarify scientific and economic investment rationale (Boyd et al., 2015), thereby improve relations and communication about investments (Millar & Hall, 2013; Rush, 2012). This way, ROI may play an advocacy role by introducing economic information

into a political debate, influence public opinion and safeguard funding for health programmes (Brousselle et al., 2016). According to Brousselle et al. (2016), ROI may turn the healthcare expenditure discourse from an expense to an investment with potential for profit (p. 136). It is therefore not surprising that QI business cases are increasingly expected to incorporate ROI.

ROI adaptations offer additional advantages. SROI and the Phillips methodology increase the relevance of stakeholders, broader and intangible benefits (Krlev et al., 2013; Phillips, 2012). Stakeholder engagement may minimise subjectivity, duplication, and misattribution of benefits (Krlev et al., 2013). SROI is said to offer better understanding of how social impact is created as it aggregates effects to the organisational level (Krlev et al., 2013; Millar & Hall, 2013). These perceived advantages have enabled the diffusion of ROI across fields. However, like most methods, both original and adapted ROI forms also present some challenges.

3.4.3.2 ROI challenges

The application of ROI can present challenges. Some challenges are indicators of perceived complexities of ROI, QI and context. This is compounded by the fact that ROI methods do not capture relevant indirect costs and benefits (Ashton et al., 2020; Boyd et al., 2015). This leads to fears that ROI does not reflect true the value of programmes. As such, practitioners may fail to formulate compelling ROI analysis (Goetzel et al., 2005). Thus, instead of easing worries about disinvestment, some fear ROI as a threat to investment (Brousselle et al., 2016; Masters et al., 2017). Challenges may also explain the lack of published ROI studies. When published, ROI reports often contain several caveats e.g., (Glover et al., 2014), signifying technical issues.

Technical challenges

As seen above, ROI was introduced to healthcare as a simple objective measure of efficiency and effectiveness. In practice, ROI may neither be simple nor objective as it requires acquiring subjective data, making judgements and estimations (Bontis & Fitz-enz, 2002; Boyd et al.,

2015; Phillips, 2012). ROI computations depend on several factors, such as the chosen model, discounting rate, inputs, and perspective (Baxter et al., 2014). To improve accuracy, more sophisticated and inaccessible techniques may be needed (Boyd et al., 2015; Crawley-Stout et al., 2016; Krlev et al., 2013). As stated, several techniques can improve ROI's accuracy, e.g., error and sensitivity analysis. Regardless, technical challenges are said to persist (Botchkarev, 2015; Krlev et al., 2013). Even low-level errors are said to cause significant inaccuracies (Botchkarev, 2015; Pathak & Dattani, 2014). Thus, to novices, ROI may be complex.

For researchers, study rigour may be linked to over or under-estimated ROIs, e.g., randomised controlled trials (RCTs) often yield lower ROIs (Baxter et al., 2014; Hong, 2017). Issues include confounding factors and healthcare complexity that make it difficult to detect ROI between study and control groups or isolate an effect sizes (Masters et al., 2017; hong, 2017). This causes issues with ROI attribution (Millar & Hall, 2013). Dearden (1969) had long raised concerns about the limitations of ROI in non-traditional investments. Contrary to expectations, traditional ROI may not factor-in system effectiveness or guide organisations on how to maximise benefits (Dearden, 1969; Andru & Botchkarev, 2011). Botchkarev & Andru (2011), blamed ROI adaptations for systemic errors as they fail to observe the core principles of the ROI methodology e.g., subjectivity in adaptations versus economic modelling. The implications are that ROI (and RCT's) ignore desired qualitative benefits (Boyd et al., 2015; Dukhovny et al., 2016; O'Donnell, 2015). This raised philosophical questions about ROI.

Philosophical challenges

ROI in healthcare is used to make investment allocation decisions with ethical, moral, political and equity implications (Masters et al., 2017). For some practitioners, such decisions consider intangible and broader benefits as aspired to by ROI adaptations. Nonetheless, ROI is primarily a measure of quantified and monetised value from an investor's perspective (Phillips, 2012; Solid, 2020). Notably, QI founders (e.g., Shewhart) evaluated quality quantitatively. However, qualitative outcomes are seen as vital and legitimate in healthcare (Bukhari et al., 2017). Thus, the main philosophical issues relate to the ethics of commodification (Krlev et al., 2013).

This concern is so significant such that some organisational authors in and outside healthcare, have implicitly or explicitly opted for the abandonment of ROI. Often, ROI is not used for its original purposes. Although ROI is meant to reduce investment risk, it may be used only symbolically to highlight value when developing business cases (Botchkarev & Andru, 2011; Russ-Eft & Preskill, 2005). A positive ROI may be only used to validate an ongoing programme, but not as a primary measure of its success (NICE, 2011). Some suggest that ROI analysis should be used purely to understand cost impacts (Athanasopoulou & Dopson, 2018). At times, leaders may not even use or need ROI as a basis for decision-making.

Russ-Eft & Preskill (2005) reported that in their experience, only one in four service leaders actually needed an ROI evaluation. Others needed to understand processes and align interventions with their organisation's mission. Others agree. As such, leaders are encouraged to avoid 'knee-jerk' ROI evaluations and instead align evaluations with their objectives (Boyd et al., 2015; De Meuse et al., 2009; Dearden, 1969; Russ-Eft & Preskill, 2005). The fears that ROI may divert organisations from their goals prompted calls for a "return to value" (Fischer & Duncan, 2020) and a "return to care" (Leggat, 2007). That is, to re-embrace a patient and society focused idea of quality care (Leggat, 2007). Recognising the fears over ROI, Phillips & Phillips (2008) sought to reassure leaders of its benefits, citing misconceptions as the issue. Similarly, Brousselle et al. (2016) wrote about the risks and benefits of ROI, to help practitioners minimise the risks associated with using ROI in defending health interventions.

One of the risks of using ROI in healthcare programmes entail ethics of equity. The concept of equity is highly debated (Espinoza, 2007). Equity involves others in populations catered for by organisations. This invokes social justice in distributive efficiency (Espinoza, 2007). In the healthcare context, equity of access to care and health improvement may be the ideal sought. Public policy advocate for equity in health programme evaluations (NICE), 2011). However, the ROI methodology cannot account for equity (Brousselle et al., 2016). In-fact, some argue that maximising benefits in a fixed budget is impossible (Bridges, 2006). SROI sought to

improve on this ROI limitation. However, some SROI authors have raised concerns about the politicisation of investments and exclusion of less empowered stakeholders (Gosselin et al., 2020). Thus, even within ROI adaptations, challenges remain. To gain more insight to these issues, it is prudent to explore ROI philosophical bases that guide its methodology and practice.

3.4.4 ROI theoretical bases

An ROI specific theory was not found, however as stated above, ROI is a CBA descendant. CBA and CEA are supported by Welfarist and Extra-welfarist theories respectively (Bridges, 2005; Garrison et al., 2017). Based on these theories, when resources are scarce, valuation methods can be used to estimate perceived value and by proxy, a willingness to pay (WTP) or forego a benefit (Sen, 1973). Related theories include the Utility Theory which is concerned with maximising societal and health benefits, Egalitarian Theory (concerned with equity), the Rawlsian Theory which prioritises benefits to the most disadvantaged in a society (Cunningham, 2000). Crucially, ROI is geared towards assessing value on behalf of an investor. In the UK, the funders are the public who employ healthcare leaders and politicians to obtain value-for money on their behalf. Thus, value theory is a significant theory for the ROI concept.

3.4.4.1 Value theory

Value and quality are closely related, good quality is seen as of good value. In healthcare, value is conceptualised as a relationship between the efficiency of resource use and a health outcome (Dukhovny et al., 2016). Value equations applied in value-based care (health outcomes divided by costs), and QI (quality divided by or minus cost) (Solid, 2020) mimic ROI and CEA. In 'value-for-money', value reflects efficiency, effectiveness, and economy (NICE, 2011). Value can be tangible or intangible, direct or indirect. Thus, some authors advocate for inclusion of subjective of value in CEA, e.g., 'value of hope' (Garrison et al., 2017). Ideas about value have implications for my study. Crucially, value is not always seen as a single monetised ratio.

Value is an ambiguous concept. Some authors argue that this is a result of the application of economic concepts by non-economists (Suddaby, 2010; Svoboda, 2011). However, even in economic theory, value is ambiguous. It could mean the price of a product or service, or a priceless intrinsic value of an object (Theory of Intrinsic value) where things are viewed as being of value in and of themselves (Stigler, 1950). This stance is related to perceived goodness and degrees of goodness of things (Axiology). Axiology concerns whether the objects of value are subjective psychological states, or objective states of the world (Schroder, 2013).

Around the late 19th century, ontological and epistemological questions about value were raised, e.g., whether value existed through human action (praxeological) or independent of human action (Grassl, 2017; Svoboda, 2011). Then, Austrian philosophers and economists are said to have shared ideas about value, although economists focused on value-in-exchange as determined by markets or value-in-use as demonstrated by utility, and philosophers mostly focused on objective versus subjective value, intrinsic versus instrumental (extrinsic) value (Eggert et al., 2018; Grassl et al., 2017). Thus, the multitudes of views on the concept of value are not new (Eabrasu, 2011; Grassl, 2017; Stigler, 1950; Svoboda, 2011; Wieser, 1891). It was later that, economists cemented value in quantitative, objective, monetary terms (Grassl, 2017).

Wieser (1891), argued that utility is not wholly convertible into value, and thus cannot be concentrated in one term. For earlier philosophers, valuation was not directly connected to willingness to pay as this was not seen to represent all things valued (Grassl, 2017). WTP can present challenges as willingness and ability can be conflated (Bridges et al., 2010). According to Grassl (2017), orthodox economists saw broad value as exogenous variables that inhabit the margins between the rational and the irrational, thereby upsetting neatly ordered preferences (Grassl, 2017). Philosophers relegated values to ethics and aesthetics, while sociologists and anthropologists saw value as specific and exclusive to societies and cultures (Grassl, 2017). These views support Wieser (1891) argument that value cannot be concentrated in one term.

Value contains subjective attributes. There are claims that ROI emerged in early theoretical research for accounting and management professionals to provide a qualitative approach to decision making (Chalutz Ben-Gal, 2019). Riegl, a philosopher (in Eggert et al., 2018), applied subjective value in his analysis of cultural value. Austrian economists incorporated this as the theory of subjective value used to interpret the exchange ratios of goods (Grassl, 2017). They saw value as based on individual egoistic feelings. However, value can and does accrue to others (Svoboda, 2011), with implications for collective fairness and justice (Grassl, 2017).

Value claims can thus represent socially authorised beliefs about worth, based on the objective features of the item valued (Elder-Vass, 2022). As such, Wieser (1891), argued that ROI results from efforts of many. Hence the importance of equity. In his analysis, Grassl (2017), concluded that no discipline had produced a consistent theory of value beyond its context. Nonetheless, there are some attributes that some agree on. This includes a notion that intrinsic value is not merely a sum of its parts; it is hierarchical, value can be positive or negative as discovered through its presence or absence, and that value can be measured (Grassl, 2017). This highlights that valuation has a structure, with an objective and a subjective component (Grassl, 2017).

In the context of this thesis, matters of buying preferences or pricing of goods and services are not relevant. However, utility is interesting as how healthcare perceives QI-ROI may be based on the utility of QI. Further, QI-ROI may reflect a socially constructed perception of value, thereby reflect intersubjective meaning of value based on certain agreed upon attributes. Eabrasu (2011), argued that subjective value can only be freely operationalised in the absence of external interventions (e.g., politics), as these can divert resources from goals originally sought. Such is perhaps demonstrated by the arguments on ‘market failure’ and ‘public value’.

Public value

Viewing healthcare as a market, economists coined the phrase ‘market failure’, meaning inefficient allocation of services in a market (O’Flynn, 2007). In economic theory, competition is essential for efficiency and better quality (Hegarty, 2012). Public sector managers can be deemed inefficient and financially irresponsible due to lack of bankruptcy constraints (Walshe & Smith, 2011). These concerns have led to economic and political interventions to ‘manage’ public services. In the UK, these include the introduction of public ‘quasi markets’ (Garattini & Padula, 2019). This thinking replaced professionalism with market logics (Casalino, 2003).

Bozeman & Su (2015) argued that public value is often mischaracterised as market failure because of the difficulty in framing arguments from healthcare perspectives. They saw healthcare scholars as lacking conceptual tools for analysing economic aspects of public policy against powerful, well-articulated economic arguments. To this effect, Bozeman & Su coined the ‘Public Failure’ model as a device for facilitating deliberation and diagnosing potential lapses in public values brought on by public management approaches. They conceded that the model will not lead to complete agreement about a course of action but may expand the public dialogue about policy issues. This was a tool for recognising public value as a way of thinking about healthcare investments that is not driven by competition (Bozeman & Su, 2015).

Public value is important for healthcare contexts that seek to improve health of the populations. Some see health itself as a resource invested by individuals and societies to achieve positive returns (Williamson & Carr, 2009). This makes quality a critical priority aligned with the best interests of patients (Swensen et al., 2013). Such arguments are pertinent, given our awareness of the effects of mental ill-health on societies, the labour force and economy. Further, they are crucial for the insights about potential conceptualisation ROI in health-care versus health economics. These insights may explain some of the ROI challenges and predict factors that may determine the conceptualisation of ROI from healthcare QI programmes. For some scholars, the ROI challenges discussed led them to devise alternative ways to assess value.

3.4.5 Alternatives to ROI

The challenges of the ROI methodology, particularly the inability to incorporate intangible benefits led to more alternative ways to capture the value of programmes. Multiple-criteria decision analysis (MCDA) is used for this purpose in healthcare, and was recommended by the UK Treasury (UK Treasury, 2022). The MCDA is a set of techniques and formulations that formally represent options to simplify multi-objective decision (Phelps & Madhavan, 2017). Its models create a decision matrix through a risk-benefit hierarchy of alternative interventions. These can be weighed and or scaled to enable value judgments. Methods may incorporate CBA, ROI, CEA/CUA (Phelps & Madhavan, 2017). MCDA is said to be transparent, reliable, and credible (Phelps & Madhavan, 2017), however, it can be technically challenging (Jit, 2018).

Similar to MCDA are value-based financial performance measures used largely in commercial industries, e.g., Value-on-Investment (VOI). These measures express broader organisational value that may not be readability monetised (Ozminkowski et al., 2016). VOI includes a company's intangible assets such as resilience, competitive advantage, effective staff training, knowledge, and collaboration (Ozminkowski et al., 2016). In VOI, estimated program impacts are transformed into scores, and then ordered per perception of their importance in relation to comparable variables (Ozminkowski et al., 2016). Similar to VOI is the US Federal Chief Information Officer Council method called Value Measuring Methodology (VMM) (Council., 2002). This includes various comparable metrics e.g., ROI, a value score, and a risk score.

Researchers have proposed integrated methodologies for estimating ROI (Beitsch et al., 2015; Bukhari et al., 2017; Coelho & Vilares, 2010). The Bukhari et al. (2017) framework for example builds from three models: the VMM, the Phillips model, and qualitative data. The Balanced Score Card (BSC) was also an integration of value tool, driven by the need to improve on the narrow financial focus of ROI (Kaplan, 2009). The BSC has four foci; financial (e.g., ROI), customer satisfaction, business processes (e.g., efficiency), innovation and learning (how well information is captured and converted to competitive advantage). The BSC has been described by some as a QI tool as it can highlight areas needing improvement (Kaplan, 2009).

In summary, various methods that focus on programme benefits have been found here. These reflect the different ways in which the concept of ROI may be viewed in both for-profit and non-profit industry contexts. In effect, ROI adaptations and other methods of assessing ‘value-for-money’ convey a message of a broader conceptualisation of value outside accounting and economics theory and practice. This indicates a significant evolution of ROI from a metric to a tool for broader organisational goals and objectives. This may have implications for my study.

3.1 Conclusion

In this chapter, I outlined the histories of both QI and ROI. From this background, it is clear that various conflicting discourses have influenced the practice of QI over time. One of these discourses is the economic discourse, responsible for the introduction of ROI for healthcare QI programmes. However, ROI appears to have been conceptualised differently from its origins in accounting and economics. Many advantages and challenges to its application in service industries such as healthcare exist. As such, many within and outside healthcare have sought to adapt, alter, or replace ROI to suit local needs. This indicates that ROI as a concept is well received, but its methodology may not be. This awareness may influence how healthcare leaders conceptualise QI-ROI. The concept of ROI from QI may also be influenced by the definitions and assumptions about quality and its improvement. Further, the philosophical beliefs about healthcare QI likely play a significant role in what is viewed as ROI. How QI-ROI is conceptualised in healthcare QI programmes is the focus of the next chapter.

4 The analysis and development of the QI-ROI concept, a systematic literature review

4.1 Introduction

This chapter is the first step in the analysis and development of the concept and framework of Return on Investment (ROI) for healthcare Quality Improvement (QI) programmes. ROI is a metric that represents the difference between costs and benefits. In this regard, investments are perceived as synonymous with costs. Although the concept ‘investment’ is also ambiguous, only returns will be the focus of this thesis as a perception of returns has significant implications for initial and sustained QI funding. The higher the returns, the more favourable a QI business case (Leatherman et al., 2003). This is important as the history of ROI has revealed that outside the field of accounting, ROI is more than a metric. It embodies a value ontology in a context.

Several related terms are used to define or describe ROI in healthcare. These can even be found within one source, e.g., UK National Institute for Health and Social Care Excellence refers to all evaluation of value-for-money as ROI (NICE, 2011). This includes cost-effectiveness, cost-benefit, and cost-consequence analysis. Further terms associated or sometimes synonymously with ROI include value, financial returns, cost-saving, cost-reduction, cost-avoidance, profit, effectiveness, productivity, and efficiency (De Meuse et al., 2009; Gargani, 2017; Leatherman et al., 2003; Solid, 2020). The many terms associated with ROI indicate that it is also seen as a concept rather than a metric. This takes ROI beyond its original intended use in accounting and economics as conceptual meanings can differ. Thus, for effective study or application of ROI, clarity on its meaning as a concept of ‘returns’ from QI programmes is imperative.

4.1.1 Theoretical underpinning

As discussed in Chapter 2, the overall underpinning theory of this project is the Institutional Theory. In this chapter, I assessed which institutional logic my findings reflect (Thornton & Ocasio, 2008). That is, whether my findings reflect a medical, economic, social or other way

of perceiving ROI. Secondly, I saw Complexity Theory as a significant theory for this phase of study as it explains the interconnected nature of outcomes (Braithwaite et al., 2018). This is crucial for my study as it may reveal the interconnected nature of the QI-ROI attributes.

4.1.2 Aim

The aim of this systematic literature review was to develop ROI as a concept of returns from large QI programmes in healthcare.

4.2 Methods

4.2.1 Design: Integrative Review

Literature reviews are one of the recognised methods used to analyse and develop concepts. Through literature reviews, a researcher can clarify concepts, develop frameworks and enhance their operationalisation (Hupcey et al., 1996). Studying concepts is a complex entangled process (Hupcey & Penrod, 2005; Risjord, 2009). As a result, the analysis and development of a concept and its framework may be difficult to isolate as singular steps. However, I have divided this review into two studies as an attempt to delineate these three processes: concept analysis, concept development, and conceptual framework development. In Study 1, I analysed and developed the QI-ROI concept, as well as commenced the development of its framework. In Study 2, I further developed the framework by including benefits associated with QI-ROI.

The current section details the methods applied to both studies of the review. Specific data extraction and analysis methods are detailed at the start of each study report. The review in its entirety follows the guidance by Whittemore & Knafl (2005). This helped navigate the search and integration of disparate literature on large QI programme benefit evaluation. To incorporate concept development, the broad structure of this review also includes steps for concept analysis

and development by Hupcey & Penrod (2005) and Jabareen (2009). Together, the guidance from these sources led to 8 review stages as follows: Stage 1; clarifying research question involved background reading. Stages 2-3 involved searching and selecting literature. In stage 4, I assessed the quality only of research studies, stages 5-8 are reported later under the synthesis, analysis, and results for each study. Figure 4-1 illustrates these stages.

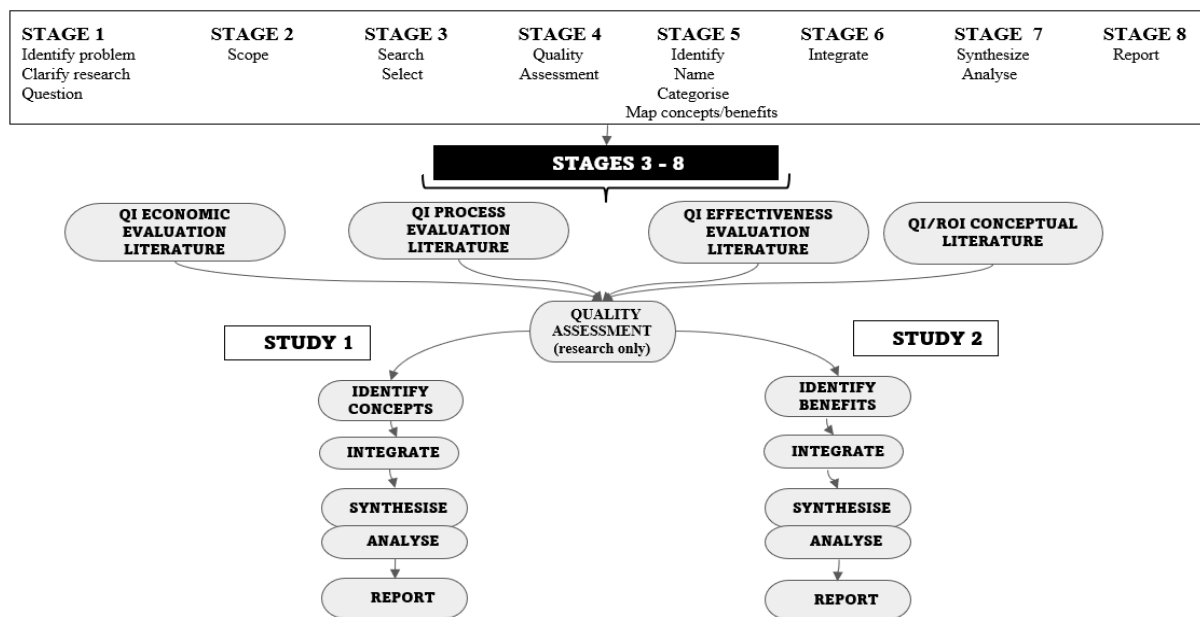


Figure 4-1 Stages of the integrative systematic literature review (presented with the permission of Thusini et al. 2022a & b)

As part of stage 3, I developed a framework to help me with article selection. During my initial search, many articles identified themselves as large-scale QI programmes. However, some of these only impacted a small part of an organisation and were therefore equivalent to small projects. In the absence of a framework to guide article selection, I developed one based on various needs and obligations of healthcare organisations as described by the UK government and organisational authors (Department of Health and Social Care, 2013; Gartner & Lemaire, 2022; Kruk et al., 2018). I also considered the definition QI programmes as interventions that tackle systemic quality issues (Benn et al., 2009). I assumed these healthcare and QI goals to signal desired benefits. Further, I included implementation outcomes as they are increasingly considered important outcomes (Proctor et al. 2013). As such, they may contribute to QI-ROI.

Based on these assumptions, I deduced four main outcomes that matter to both organisations and QI programmes: 1) organisational performance, 2) organisational capacity and capability, 3) external relations (e.g., accreditation, population benefits). As part of crucial QI programmes outcomes, I added 4) additional outcomes e.g., implementation outcomes and unintended consequences (positive and negative). I included negative outcomes as potential indicators of the lack of ROI or positive returns. Organisational performance reflects how well organisations performs at delivering value for its stakeholders (Elg et al., 2013). This may include external outcomes e.g., for populations. However, I isolated external outcomes to deduce any specific or unique benefits towards external stakeholders. This then informed article eligibility criteria

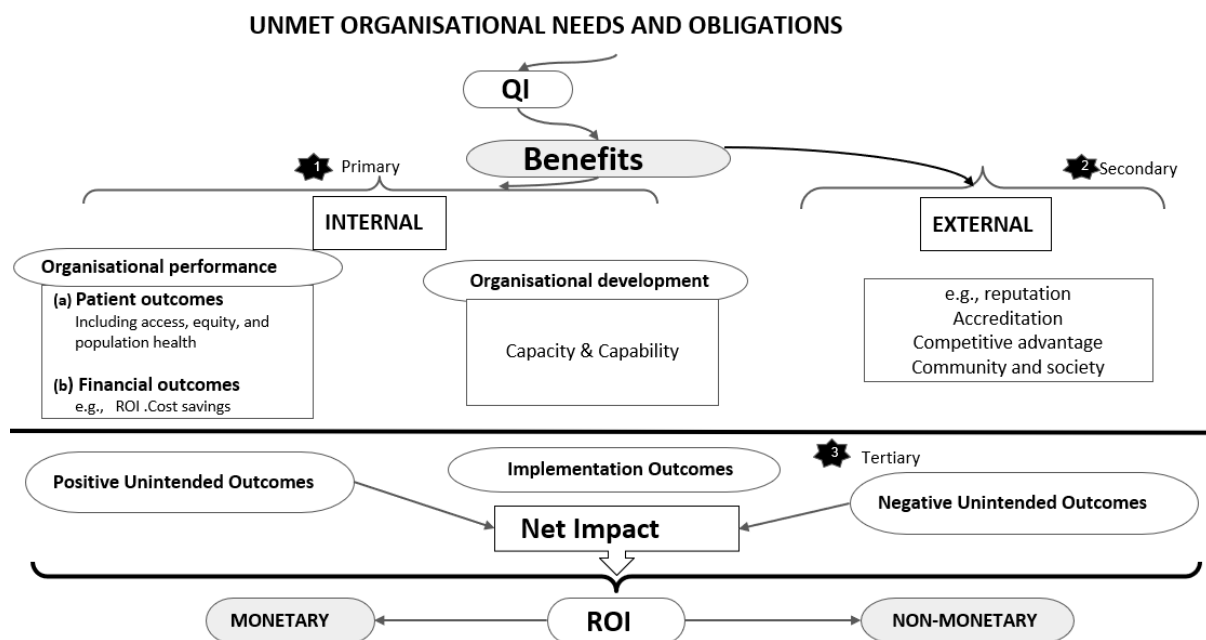


Figure 4-2 Preliminary framework of QI returns-on-investment (presented with the permission of Thusini et al. 2022a & b)

4.2.1.1 Search strategy

The identification of suitable search terms was an iterative processes involving adding and removing terms based on their ability to retrieve relevant literature. To compile a list of ROI-like terms, I referred to the NICE ROI guide (NICE, 2011). The list included value-for-money,

cost-benefit analysis (CBA), cost-effectiveness analysis (CEA), and cost consequence analysis (CCA). Search terms were also derived from background literature as seen above. The final search list had three categories (Table 4-1): (i) context, (ii) QI methods, and (iii) QI outcomes terms. Category 2 terms were the most frequently mentioned QI methods in literature. Category 3 terms denote a form of outcome (return, benefit) derived from some input (investment).

Table 4-1 Search terms (presented with the permission of Thusini et al. 2022a & b)

CONTEXT		QI METHODS		QI OUTCOMES
Health	AND	Quality improvement OR QI OR statistical process control OR Lean OR Six sigma OR Lean Six-sigma OR Audit and feedback OR Model for improvement OR Root cause analysis OR Process mapping OR Define Measure Analyse Improve Control OR DMAIC OR Plan do study act OR PDSA OR PDCA OR Driver diagram OR Theory of change OR Logic model OR SPC OR statistical quality control OR SQC	AND	Return on investment OR Rate of return OR Payback OR Business case OR Benefit cost OR Risk benefit OR Cost benefit OR Cost consequence OR Cost reduction OR Cost containment OR Cost control OR Cost avoidance OR Cost saving OR cost outcome OR Value on investment OR Value care OR Value for money OR Value improvement OR Improvement outcome OR Resource outcome OR Resource benefit.

I searched Medline, Embase, Global health, PsycInfo, EconLit, NHS EED, Web of Science, Google Scholar, organisational journals, and hand-searched citations. I reviewed three first Google Scholar pages. I also searched google for any official documents pertaining ROI from QI programmes. No date or language limits were set to enable me to note any changes in QI-ROI conceptualisation over time globally. The search ran from 01 November 2020 until 30 January 2021. An example of the search strategy for Web of Science has been provided as Appendix 9-i. A link to search strategies can be found in Appendix 9-ii. The search terms are defined in Table 4-2.

Table 4-2 Definitions of terms (presented with the permission of Thusini et al. 2022a & b)

Terms	Description
CEA	Cost-effectiveness analysis: Achieving more of the outcome for the same cost or achieving the same outcome for less cost, expressed in incremental benefits on Quality Adjusted Life Years (QALY), or incremental cost-effectiveness ratio (ICER).
CUA	Cost-utility analysis: Similar to CEA but for multiple outcome measures in quality-of-life units (QoL)
CBA	Cost-benefit analysis: Financial expression of costs and benefits from a programme in a cost-benefit ratio (CBR) CBA is the basis for ROI and SROI; CBA and SROI are societal perspectives, ROI is managerial/investor focused
ROI	Return on Investment: Expression of costs and benefits from a programme expressed in an ROI metric
SROI	Social Return on Investment: Expression of costs and benefits from a programme expressed in a ROI metric Includes benefits for society, environment, and others. Engages various stakeholders in the calculation process
CCA	Cost consequence analysis: comparing alternative interventions or programs in which the components of incremental costs and consequences without aggregating these results. Economic terms sources: ((NICE), 2011; Berdot et al., 2019; Drummond et al., 2015; Mason et al., 2001; Pokhrel, 2015)
Value	Any outcome seen to be of importance, utility, or usefulness (Viner, 1925)
Value for money	Obtaining the most useful (utility), most effective, and less wasteful (efficient) from your service or purchase ((NICE), 2011).
Benefit	Any outcome that produces useful, helpful, or advantageous outcomes (Dictionary, 2022)
Outcome	A result or consequence of an action or process (Webster, 2022)
QI methods	Methods used to improve organisational processes and behaviours e.g., PDSA, Lean, Six-Sigma, Lean-Six Sigma, Audit & Feedback (Partnership, 2015).
Healthcare organisation (UK)	A unique framework of authority within which a person or persons act or are designated to act towards some purpose as a direct provider of healthcare services (preventative, curative, rehabilitative, or palliative). Includes Local Authorities with Social care working in cooperation with the NHS (Care, 2013)

4.2.1.2 Eligibility

As there were a small number of articles on ROI from mental healthcare QI programmes, I included literature from various healthcare disciplines globally. To target articles that discussed or evaluated a number of QI benefits, I used a three-dimensional criteria based on the shared QI and healthcare goals as discussed above. To reflect QI programme assumptions, I developed a criteria to denote the depth, breath, and complexity of programmes per organisation. To be selected, the literature had to mention at least three QI organisational goals or benefits, two of which had to be patient or financial outcomes. Through this, I sought to isolate articles that discussed a range of QI outcomes, with patient and financial outcomes as baseline benefits. Further, articles had to mention use of at least one QI method, and involvement of various stakeholders, in at least two organisational units. Table 4-3 has included and excluded articles.

Table 4-3 Eligibility criteria and selected article types (presented with the permission Thusini et al. 2022a/b)

Eligibility	Outcomes	ROI concepts	Level of analysis
	QI Effectiveness or process outcomes QI economic outcomes e.g., savings Clinical outcomes e.g., symptoms Organisational outcomes e.g., development Short-term, long-term, and impacts	Cost-effectiveness Cost-benefit Value, Benefits ROI, SROI Outcomes/Consequences	Healthcare organisation Type of literature Empirical and non-empirical reports Conceptual and Grey literature
Included	At least one QI method used At least three organisational outcomes At least two organisational departments engaged		
Excluded	Articles where one department was engaged, two or less organisational outcomes were reported, and pre-prints		

4.2.1.3 Screening and selection of articles

Data were managed using Endnote citation manager (The EndNote Team, 2013) and Rayyan systematic review app (Ouzzani et al., 2016). Screening and selection were done by me and a co-reviewer. A small percentage can be assigned to a co-reviewer to minimise selection bias (McDonagh et al., 2013). However, no exact criteria for reviewer versus co-reviewer workload was found. The selection criteria was discussed with my academic supervisors. Due to time limits, I reviewed 100%, whilst my co-reviewer reviewed 5%. To refine the selection criteria,

we first selected and discussed five articles each to clarify uncertainties. We then completed the screening and selection of the allocated articles independently. Overall agreement on the jointly screened articles between my co-reviewer and I was over 90%. Disagreements were settled through over three discussions between my co-reviewer and I, and with my supervisors.

4.2.1.4 Quality assessment

There is a view that the quality of studies has little or no bearing on concept development (Jabareen, 2009; Whitemore & Knafl, 2005). As such, for researchers of integrative reviews and concept development quality assessment is deemed optional. As there was no intention to exclude articles based on their quality, I assessed all empirical studies only to understand the scientific context in which QI benefits are discussed. I used associated quality assessment and reporting tools for each. For reviews, I used Critical Appraisal Skills Programme (CASP, 2019), for mixed methods, the Mixed Methods Appraisal Tool (MMAT) (Hong et al., 2018).

For implementation studies; I applied the Standards for Reporting Implementation Studies (STaRI) (Pinnock et al., 2017). For economic evaluations, I applied the Consolidated Health Economic Evaluation Reporting Standards (CHEERS) (Husereau et al., 2013), and for QI, I applied the Standards for QQuality Improvement Reporting Excellence (SQUIRE) (Ogrinc et al., 2008). As these are different tools, there was no single criterion to judge collective quality. Instead, I assessed the proportion of appropriate items reported or addressed as per respective tool as a proxy for quality. I assigned good if 80-100% items were addressed, moderate for 50-79% items addressed, and poor if less than 50%.

4.3 Search Results

A total of 10 428 articles were retrieved, 10 326 were excluded for various reasons as were not healthcare QI. One hundred and two (102) articles were eligible for full text screening, 34 of

which were excluded. Sixty eight were included. Included articles were conceptual n=24, quantitative n=19, including three economic evaluations (CEA n=1, economic impact n=1, ROI n=1), qualitative n=3, mixed-methods n= 8, systematic reviews n= 8 (2 economic; 1 SROI), literature reviews n=2, brief report n=4. Thirty three of the excluded articles engaged a single department or discussed two or less QI outcomes. Thirteen of these were collaboratives, and one was a pre-print. A link to the excluded studies document is available on Appendix 9-iii.

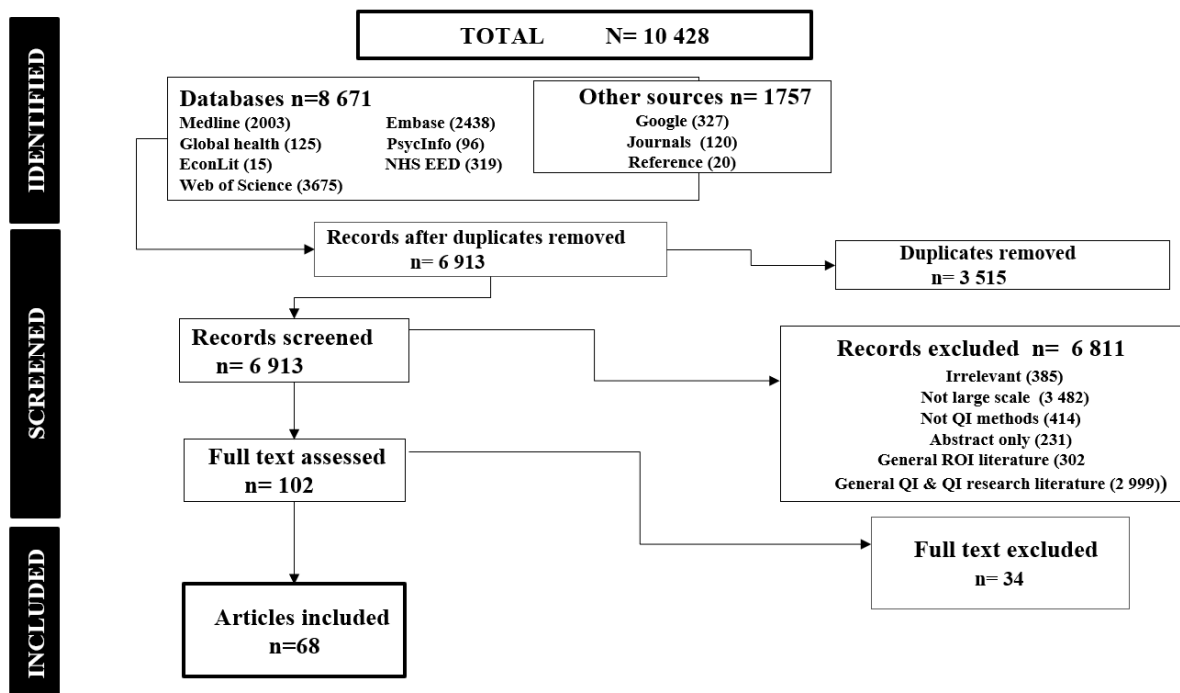


Figure 4-3 PRISMA Flow-chart (presented with the permission of Thusini et al. 2022a & b)

4.3.1 Article characteristics

Included articles covered different healthcare levels and disciplines globally. Primary care included public health, child and maternal health, and mental health. Secondary or tertiary care included mental health, medical and surgical care, critical care, accident and emergency and acute care, paediatrics and neonates, outpatients, pharmacy, and laboratories. An article covered both health and social care, and another about a charitable organisation. Global regions were Africa, Asia, Europe, Australia, and Canada, with the US and UK the most represented.

The summary of included studies can be found in Table 4-4. I tabulated articles according to the type of article, type of focus, country, setting, programme type, and outcomes discussed. The outcome category is coded with the coding found on the footer of the table

4.3.1 Quality of studies

From the 68 articles selected, 30 were not subject to quality assessment as they were conceptual articles, unsystematic literature reviews, and brief reports. Thirty eight articles were assessed. Within those were 19 quantitative studies, 3 qualitative studies, 8 mixed-methods studies, and 8 systematic reviews. Of the 38, 15 reported or addressed 80%-100% all items required, 16 reported on 50-79% the data required, and 7 reported below 50% of items by their respective reporting tool. Thirty of 38 papers were primary studies. Within these, there were three main areas of poor reporting and or poor rigour: ethics (29%), statistical analysis methods (75%), discussion of study limitations and their management (42%), integration of quantitative and qualitative data unclear (29%). Reporting of funding and affiliations missing on three studies. Therefore, I summed up the quality of the collective studies as moderate as seen in Table 4-5.

Table 4-4 Table Quality Assessment (presented with the permission of Thusini et al. 2022a/b)

HIGH 80-100% n=15 (39%)		MODERATE 50-79% n=16 (43%)		POOR <50% n=7 (18%)
Banke-Thomas (CASP)	Hunter (MMAT)	Botros (STaRI)	Strauss (MMAT-Quantitative)	Neri (SQUIRE)
Benning (MMAT)	Masso (MMAT-Qualitative)	Heitmeiler (SQUIRE)	Thursky (STaRI),	Comtois (CHEERS)
Crema (CASP)	Robert (MMAT)	Honda (CASP)	Williams (MMAT)	Crawley-Stout (CHEERS),
de la Perrelle (CASP)	Schouten (CHEERS)	McGrath (SQUIRE)	Morrow ?(MMAT)	de Miranda (STaRI)
Goodridge (MMAT)	Wood (SQUIRE)	Power (SQUIRE)	Weiner (MMAT)?	Lavoie-Tremblay (MMAT)
Fortney (STaRI)	Yamamoto (SQUIRE)	Sibthorpe (CASP)	Kanamori et al. 2015 (MMAT-Qualitative)	Mery (CASP)
Wells (CASP)	Staines (MMAT-Qualitative)	Pearson (SQUIRE)	Beers (SQUIRE)	Furukawa et al. 2016 (MMAT)
Moraros et al. 2016 (CASP)		Bosse (SQUIRE)	Brink (SQUIRE)	

SQUIRE 39 Items; 12 categories. STaRI 27 Items; 7 categories. CHEERS 24 Items; 6 categories. CASP 10 items. MMAT 5 items each

Table 4-5 Included studies (presented with the permission of Thusini et al., 2022 a& b)

Author	Country	Setting	Type of article	Programme Type	Outcomes category
1. Bailit and Dyer 2004	US	-----	Conceptual	QI Business Case Guideline development	1(a, b, & c), 2,
2. Banke-Thomas et al. 2015	UK	Public Health	Systematic Review: Economic; SROI	Social Return on Investment (SROI) in Public Health	1a, 2, 3a+
3. Beers et al. 2017	US	Paediatric primary care: 19 practices; 8 health centers	Quantitative (Longitudinal)	Improve screening practices in primary care: Plan-Do-Study-Act (PDSA)	1(a & b), 2, 3a-, 3b
4. Benning et al. 2011	UK	22 NHS hospitals; 4 interventions, 18 control.	Mixed methods: (Surveys, interviews, document analysis)	Safer Patients Initiative: PDSA	1(a & c), 2, 3b
5. Bevan et al. 2011	UK	-----	Conceptual	QI Guide to improvement/transformation	1 (a & c), 3b
6. Botros and Dunn 2019	UK	Hospital; 5 specialty surgical	Quantitative (longitudinal)	Medicine's reconciliation: PDSA	1 (a, b, & c), 2, 3a+. 3a-, 3b
7. Bielaszka-DuVernay 2011	US	Hospital; Two acute care units	Brief Report	Collaborative: Redesigning Acute Care Processes in Wisconsin: Lean	1 (a, b, & c), 3a+, 3a-
8. Bosse et al. 2015	Tanzania	Three hospital, surgical depts	Quantitative (Pre & Post)	Improving pre and post op care using checklist: PDSA	1a & c ,3b
9. Bridges 2006	US	-----	Conceptual	General QI Discussion	1 (a, b, & c), 3a
10. Brink et al. 2017	South Africa	34 hospitals; 8+ specialties	Quantitative (Pre & Post)	Reducing Surgical Site Infections (SSIs) Audit & Feedback	1 (a & c), 3a
11. Chow-Chua and Goh 2002	Singapore	-----	Conceptual	QI Evaluation Framework Development	1 (a, b, & c), 2

Outcome categories 1a=patient outcomes 1b=financial outcomes/efficiency/productivity 1c= organisational development 2=external outcomes
3=unintended (3a+= positive 3a- negative) 3b=implementation outcomes

*Brief Report = brief summary of original research * Conceptual article= synthesises varied knowledge on QI to guide or advise

12. Ciarniene et al. 2019	Lithuania	-----	Conceptual (Literature review, Qualitative study, Document analysis)	QI evaluation Conceptual framework development	1 (a, b, & c), 2
13. Collins and Fenney 2019	UK	-----	Conceptual	Collaboratives Reflective Review and Discussion	1 (a, b, & c), 2, 3a+, 3a-
14. Comtois et al. 2013	Canada	Hospital	Economic evaluation: Economic Impact (Observation and document review)	Hospital-wide QI impact review 2006-2011: Kaizen	1 (a, b, & c), 3 a+
15. Care Quality Commission 2018	UK	-----	Conceptual	CQC Grading Progress Report	1 (a & c), 2, 3a+, 3a-, 3b
16. Crawley-Stout et al. 2016	US	Public health	Economic evaluation: ROI	QI Experiential Learning (QI 101) programme: Lean	1 (a, b, & c), 2, 3a+
17. Crema and Verbano 2017	Italy	-----	Systematic Review	Lean Management to support Choosing Wisely	1 (a, b, & c), 2, 3a+, 3b
18. De Miranda et al. 2020	Brazil	Hospitals (state, municipal and national)	Quantitative (Pre & Post)	Healthcare Associated Infections (HCAIs) programme PDSA	1 (a, b, & c), 2, 3a+, 3a- 3b
19. de la Perrelle	Australia	-----	Systematic Review: Economic	General QI	1 (a, b, & c), 2, 3b
20. DelliFraine et al. 2010	Multinational	-----	Literature Review	Lean Six-Sigma Review	1 (a, b, & c), 3a-
21. Fischer and Duncan 2020	US	-----	Conceptual	General QI Discussion	1 (a, b, & c), 2
22. Fortney et al. 2012	US	Outpatient clinics: Different specialties	Mixed Methods (routine data, surveys, interviews)	Collaborative: telemedicine based program to improve depression care: PDSA	1 (a, & c), 3b
23. Furukawa et al. 2016	Brazil	Hospital: Pharmacy and a medical-surgical clinic	Quantitative (Pre & Post)	Environmentally sustainable medication process: Lean	1 (a, & c), 2, 3a+
24. Gandjour & Lauterbach 2002	Germany	-----	Conceptual	General QI Discussion	1 (a & b), 2

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25. Goodridge et al. 2008	Canada	Province-wide	Quantitative (Survey)	The implementation processes associated with Lean	1 (a, & c), 2, 3a-
26. Hatcher 2002	US	Hospital	Brief Report	Needle-stick injury: PDSA	1 (a, b, & c)
27. Heitmiller et al. 2010	US	Anesthesiology & Critical Care Medicine	Quantitative (Pre & Post)	Reducing blood product wastage: Lean Six Sigma	1 (a, b, & c), 3a+
28. Honda et al. 2018	Brazil	-----	Systematic Review	Lean Six-Sigma	1 (a, b, & c)
29. Hunter et al. 2015	UK	14 sites; primary care trusts, and ambulance services.	Mixed methods (Qualitative, document analysis, Interrupted time series (ITS))	North-East Transformation System (NETS)	1 (a, b, & c), 3a+, 3a-, 3b
30. Jones et al. 2019	UK	-----	Conceptual	Large-scale QI Discussion and guideline	1 (a, b, & c), 2
31. Kanamari et al. 2015	Senegal	Health Centre: 9 departments	Qualitative	5S Pilot: Lean	1 (a, b, & c)
32. Lavoie-Tremblay et al. 2017	Canada	Multi-hospital: 8 units	Quantitative (Pre & Post, time-series)	Transforming Care at the Bedside Program: PDSA	1 (a, & c)
33. Leatherman et al. 2003	US	-----	Conceptual (Literature review, Interviews; Expert opinion, Document analysis)	General QI business case knowledge synthesis	1 (a, b, & c), 2
34. Masso et al. 2010	Australia	New South Wales healthcare: 10 hospitals	Qualitative (Interviews)	Clinical Services Redesign Program (CSRP). Lean Six-Sigma	1 (a, b, & c), 2, 3a+, 3a- 3b
35. McGrath et al. 2017	UK	4 Hospitals: ICU & ENT	Quantitative (longitudinal)	Global Tracheostomy Collaborative: PDSA	1 (a, b, & c), 2, 3a+ 3a-
36. MacVane et al. 2019	Multi-country	-----	Conceptual (Review of 6 articles from the Int. Journal of Health Governance)	Lean healthcare governance: Lessons from Lean application	1 (a, b, & c), 3a+, 3b
37. McLees et al. 2015	US	Public health: Different specialties	Conceptual (Expert opinion, Literature review, award data)	QI outcomes framework development	1 (a, b, & c)

38. Mery et al. 2015, 2017	Canada	-----	Systematic Review:	QI capacity building ROI framework development	1 (a, b, & c), 2, 3 a+, 3b
39. Morganti et al. 2012	US	30 healthcare organisations	Conceptual (Survey, routine data, interview)	Comparing self-reported and externally rated QI success.	1 (a, & c), 2, 3b
40. Moraros et al. 2016	Canada	-----	Systematic Review	Lean effectiveness: Lessons from Lean application	1 (a, b, & c)
41. Morrow et al. 2012	UK	Hospitals: 96 organisations, 5 case studies	Mixed methods (Interviews & survey)	The Productive Ward: Releasing Time to Care: Lean	1 (a, b, & c), 2, 3 a+ 3a- 3 b
42. Moody et al. 2015	Netherlands US		Conceptual	SROI Lessons from the Netherlands and US	1 (a, b, & c), 2
43. Neri et al. 2008	US	Virtual Health: Multi-hospital	Quantitative (longitudinal)	Blood product utilization: Six-sigma	1 (a, b, & c), 2, 3a+, 3b
44. Niemeijer et al. 2015	Netherlands	Hospital	Conceptual	5 Year impact of Lean Six Sigma: Service Review Report	1 (a, b, & c), 2, 3 a+
45. O’Sullivan et al. 2020	UK	Hospital	Conceptual	General QI: Service Review Report	1 (a, b, & c), 3a+, 3-, 3b
46. Pearson et al. 2017	UK	Regional health & social care	Quantitative (Interrupted Time Series)	Hospital at home: PDSA	1 (a & c), 2, 3 a+
47. Perencevich et al. 2007	US	-----	Conceptual	Hospital Acquired infections business case guidelines.	1 (a, b, & c), 2
48. Power et al. 2016	UK	133 Hospitals; 10 regions	Mixed methods (interview, observations, survey, documents)	Harm Free Care: Four harms; PDSA	1 (a, b, & c), 2, 3a+ 3a- 3b
49. Robert et al. 2020	UK	8 Hospitals	Mixed-methods interviews, survey, questionnaires, observations	10-year review of the Productive ward collaborative programme: PDSA & Lean	1 (a & c), 2, 3b
50. Rogers et al. 2009	Australia	-----	Conceptual	Methodology for a qualitative cost-benefit evaluation	1 (a, b, & c)
51. Roney et al. 2016	US	Hospital: 11 units	Brief Report	Implementation of a MEWS-Sepsis screening tool: PDSA	1 (a & c), 3b

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3=unintended (3a+= positive 3a- negative) 3b=implementation outcomes

*Brief Report = brief summary of original research * Conceptual article= synthesises varied knowledge on QI to guide or advise

52. Schouten et al. 2010	Netherlands	Hospital outpatients and family medicine	Economic evaluation: Cost effectiveness	Diabetes management: Collaborative: PDSA	1 (a, b, & c), 2
53. Shah and Course 2018	UK	Hospital	Conceptual	QI ROI Framework development	1 (a, b, &c), 2
54. Sibthorpe et al. 2018	Australia	Public health	Systematic Review	Primary care Aboriginal community: PDSA	1 (a, b, & c), 2, 3b
55. Sermersheim et al. 2020	US	Hospital: AICU, PICU, ED	Brief Report	Improving Patient Throughput with an Electronic Nursing Handoff Process: FOCUS-PDSA	1 (a & c), 2, 3a+ 3a- 3b
56. Staines et al. 2015	Sweden	Jönköping County Council health departments	Qualitative (multimethod)	20 Year review of QI	1 (a, b, &c), 2, 3a+ 3a- 3b
57. Stephens et al. 2018	UK	93 Hospitals: surgery, anaesthesia, critical care	Mixed-Methods (routine data, ethnography, survey)	The Enhanced Peri-Operative Care for High-risk patients (EPOCH) trial: PDSA	1 (a & c), 2, 3a- 3b
58. Strauss et al. 2019	Canada	Hospital	Quantitative (Pre & Post)	Choosing wisely: Reductions in unnecessary aspartate aminotransferase, blood urea nitrogen tests: Audit & Feed	1 (b, & c), 3b
59. Swensen et al. 2013	US	-----	Conceptual	QI ROI Framework development	1 (a, b, & c), 2
60. The Health Foundation 2011	UK	NHS Hospitals; 4+ specialties	Conceptual	Lessons from Safer Patients Initiative: PDSA/Lean/SPC	1 (a & c), 2, 3a+ & 3b
61. Thursky et al. 2018	Australia	Hospital	Mixed methods (routine data, focus groups)	Sepsis management: Process Mapping	1 (a, b, & c), 3a+
62. Van den Heuvel et al. 2006	Netherlands	Hospital	Conceptual	General QI Guideline: Six Sigma	1 (a, b, & c), 2, 3 a+
63. Wells et al. 2017	UK	-----	Systematic Review:	Breakthrough Collaboratives, Keystone Collaboratives	1 (a, b, & c), 2, 3a+ & 3b
64. White et al. 2014	UK	Hospital	Literature Review	Productive Ward-Releasing Time to Care: Lean	1 (a, b, & c), 3a+ 3a- 3b

Outcome categories 1a=patient outcomes 1b=financial outcomes/efficiency/productivity 1c= organisational development 2=external outcomes
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65. Williams et al. 2020	UK	Hospital	Quantitative (naturalistic stepped-wedge)	Productive Ward-Releasing Time to Care: PDSA	1 (a, & c), 2, 3a+ 3a- 3b
66. Wood et al. 2019	UK	Hospital and community, and ambulance service.	Quantitative (survey)	Quality Improvement Collaborative (QIC) Reducing pressure ulcers: PDSA	1 (a, b, & c), 2, 3b
67. Worrall et al. 2008	UK	4 Mental Health Organisations	Conceptual	Mental Health Improvement Partnerships programme: Comprehensive programme report	1 (a, b, & c), 2, 3a+ 3a- 3b
68. Yamamoto et al. 2010	US	Hospital: 5 specialties and pharmacy manufacturers	Quantitative (Pre & Post)	Improving Insulin Distribution and Administration Safety Lean Six Sigma	1 (a, b, & c)

Outcome categories 1a=patient outcomes 1b=financial outcomes/efficiency/productivity 1c= organisational development 2=external outcomes
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4.4 STUDY 1: The analysis and development of the QI-ROI concept

The first step in studying concepts is concept analysis. This step explores a concept's internal structure, use, representativeness, as well as its relations to other concepts (Hupcey & Penrod, 2005). This leads to concept development, delineation, comparison, clarification, correction, identification, refinement, and validation (Hupcey & Penrod, 2005; Morse et al., 1996; Risjord, 2009). This is then used to lay a 'bridge' to its measurement (Goertz & Mahoney, 2012).

4.4.1 Objective

The main objective of this part of the review was to analyse and develop ROI as a concept of returns from large QI programmes in healthcare. The secondary objective was to begin the development of the QI-ROI conceptual framework.

4.4.2 Data collection

For this study, I performed data extraction using the words and phrases in the reviews search terms list (Table 4-1). The data collection tool can be found in Appendix 9-iv. I searched for data from all parts of an entire article where QI benefits, outcomes, and goals may be discussed.

4.4.3 Data synthesis and analysis

The synthesis and analysis section form stages 5-8 of the integrative review process (integrate, synthesise, analyse). These steps were performed iteratively and discussed with my academic supervisors. I used the principle-based analysis method (Hupcey & Penrod, 2005), to assess the maturity of the QI-ROI concept in healthcare literature. This involved asking four principle-based questions: 1) epistemological principle (is the concept clearly defined and well differentiated from other concepts) 2) pragmatic principle (i.e., is the concept applicable and

useful within the scientific realm of inquiry, has it been operationalised), 3) linguistic principle (is the concept used consistently and appropriately within context), 4) logical principle (does the concept hold its boundaries through theoretical integration with other concepts).

Next, I followed Jabareen (2009) conceptual framework development process. This involved identifying, naming and describing each concept within the framework. I then categorised related concepts as per their ontological, epistemological, or methodological role. This was followed by synthesising, sense-making, and integration of similar concepts into one new concept, the QI-ROI. I also contextualised the ROI concept by highlighting how the concept is defined in the healthcare context, the alternative explanations afforded by the new concept which are not enabled by similar concepts, and the patterns in which the QI-ROI concept appear in the healthcare context (Risjord, 2009). As part of this, I defined the institutional logic of the newly developed concept. The following reports on this analysis, starting with literature used.

4.4.3.1 QI Economically-focused literature

Economically-focused literature were those articles whose specific focus was on either studying or discussing QI economic benefits. This made up 15 of the 68 articles. Amongst these were four conceptual literature, four QI evaluation frameworks, two systematic reviews of economic evaluations, two economic evaluations, one article discussed cost-benefit analysis of QI programmes, one discussed the experience of evaluating programmes, and one discussed QI cost-savings. ROI was a specific subject of only four articles (Banke-Thomas et al., 2015; Crawley-Stout et al., 2016; Mery et al., 2017; Moody et al., 2015). The literature will be described in more detail below under the categories provided in this section.

Business case conceptual literature

Conceptual literature discussed QI business case development (Fischer & Duncan, 2020; Leatherman et al., 2003; Moody et al., 2015; Perencevich et al., 2007). Their views were based

on literature reviews, expert opinions, case studies, or all three. This literature were mostly sources of information for how to develop business cases that justify QI programmes from a financial benefit perspective. However, they also highlighted multiple QI objectives and stakeholders. Here, there was a recognition of a requirement to present QI outcomes as a monetised ratio, and use of ROI as a performance measurement method (Moody et al., 2015).

Literature on ROI Frameworks

These authors advanced on the conceptual literature by developing business case frameworks that incorporate monetary and non-monetary benefits (Bailit & Dyer, 2004; Mery et al., 2017; Rogers et al., 2009; Shah & Course, 2018; Swensen et al., 2013). These articles shared a lot of views. For example, QI was seen to serve various organisational interests, for various internal and external stakeholders. Internal outcomes included capacity building, whilst external outcomes included market share (Bailit & Dyer, 2004; Shah & Course, 2018; Swensen et al., 2013). These authors also discussed cost-avoidance e.g., legal costs (Swensen et al., 2013). Some authors had distinct outcomes of focus in their frameworks as will be seen below.

Swensen et al. (2013) focused on four organisational interests: patient's needs, reputation, pride, and financial returns. In this article, there was also an interest in organisational productivity and efficiency. Bailit & Dyer (2004), described 10 business case arguments that combine financial and other strategic organisational objectives such as ROI and reputation. Shah & Course (2018) had a six category framework naming three as financial measures (revenue, cost-reduction, cost-avoidance), one measure for patients, family and carers experience, one for staff experience, and one for productivity and efficiency. Rogers et al. (2009), suggested a qualitative framework as part of traditional CBA. Their methodology was focused on families and communities and included non-monetary and negative outcomes.

QI economic evaluation literature

There were three articles on economic evaluations (Crawley-Stout et al., 2016; Gandjour & Lauterbach, 2002; Schouten et al., 2010), and two systemic reviews of QI economic evaluations (Banke-Thomas et al., 2015; de la Perrelle et al., 2020). By the virtue of their study foci, their measure of ROI was monetary. These authors saw cost-savings as an important QI benefit, alongside a wide range of QI benefits. For example, Crawley-Stout et al. (2016) considered internal outcomes (e.g., cost-reduction, productivity and time savings) and external benefits (e.g., patient costs and carer time). Crawley-stout et al. described ROI as a performance measure used to evaluate investment efficiency in financial terms.

de la Perrele et al.(2020) reported a lack of QI economic evaluations in their systematic review. They concluded that QI collaboratives are potentially cost-saving. However, they found that studies used various methods to assess cost and effectiveness, and that studies did not report negative findings. They recommended that future research should include societal perspectives of costs and savings. In their review, Banke-Thomas et al. concluded that SROI can be used across healthcare. However, there were challenges with inadequate skills for ROI evaluation, lack of credible financial proxies, a lack of consensus on who to include as beneficiaries, how to account for counterfactual and appropriate study-time horizon (Banke-Thomas et al., 2015).

4.4.3.2 QI non-economically focused literature

These made up 53 of the selected 68 articles (see Table 4.4. above). These articles included QI effectiveness, process, and impact evaluations, and discussions of QI achievements over time e.g., (Care Quality Commision (CQC), 2018; Health Foundation, 2011; Hunter et al., 2014; Insitute, 2011; O'Sullivan Owen et al., 2020; Stephens et al., 2018). Authors discussed improving QI effectiveness determinants such as staff and culture development. Some studies assessed their implementation costs (Fortney et al., 2012; Thursky et al., 2018; Wood et al., 2019), as part of their study reporting guidelines (Ogrinc et al., 2016; Pinnock et al., 2017). Authors mentioned financial value or benefit, financial returns, cost savings, cost-reduction,

cost-containment, economic impact, productivity, efficiency, value, and benefits. Of these, cost-saving was the most frequently used term. ROI was considered one of many organisational outcomes (Chow-Chua & Goh, 2002; O'Sullivan Owen et al., 2020; Sermersheim et al., 2020).

There were three QI evaluation frameworks (Chow-Chua & Goh, 2002; Ciarniene et al., 2017; McLees et al., 2015). These frameworks also considered various elements of organisational benefits. Chow-Chua & Goh (2002) combined existing organisational performance tools; the Singapore Quality Award (SQA) model (modelled after Baldrige Award) and the Balanced Score Card (BSC) to develop a performance and quality improvement evaluation framework for hospitals. Four components were seen as crucial: the drivers of QI (e.g., leadership), internal performance, knowledge management, and QI outcomes. Similarly, Ciarniene et al. (2017) also focused on broad QI value. McLees et al. (2015) framework for QI in public health was described as a performance management tool, focused on efficiency and effectiveness.

4.4.3.3 Integrated synthesis of the overall literature

Authors commented on funding structures, national frameworks, measurement philosophies, and an organisation's developmental stage as determinants of how QI-ROI was conceptualised. Morganti et al. (2012) remarked about a lack of an agreed concept of QI success. This was seen in how authors gave priority to some outcomes, e.g., van den Heuvel et al. (2006) referred to quality improvement as business improvement, viewed ROI quantitatively, and viewed quality improvement as a valuable "side effect" of value improvement (often a euphemism financial improvement). Alternatively, Shah & Course (2018) proclaimed to value patient safety and quality first, and saw financial matters as *the* valuable "side-effect" of QI. Hunter et al. (2014) considered "cost savings or increased efficiency helpful by-products" (p. 129).

Swensen et al. (2013) QI business case discussion stated that their QI investment decisions were not based purely on positive ROIs but on broader qualitative considerations. A similar

view was held by O'Sullivan et al. (2020) and Shah & Course (2020). Bailit & Dyer (2004), advocated for broad business cases that embrace different rationales for QI investment. Fischer & Duncan (2020) stated that some interventions are purely designed to produce health outcomes. They called for a broader view that acknowledges the utility and value of differing projects and stakeholders. My findings also indicated that useful insights are gained even when intended goals were not achieved (CQC, 2018; Health Foundation, 2011; Hunter et al., 2014; NHS Institute, 2011; O'Sullivan Owen et al., 2020; Stephens et al., 2018; Worrall et al., 2008).

Overall, financial outcomes were not the primary goal or outcome sought. However, it was seen as directly or indirectly significant by the majority of the authors. Swensen et al. (2013) viewed the perception that QI is an expense used for revenue generation to be faulty. Some authors suggested that profit-seeking through QI first emerged as an optional strategy to increase revenue and market-shares by for-profit healthcare organisations (Bailit & Dyer, 2004; Leatherman et al., 2003; Swensen et al., 2013). However, grey areas on views existed and views appear to have shifted towards integrating or emphasising non-monetary benefits over time. The literature also agreed that QI does not always save cost, and financial outcomes are not the only organisational objectives (Bailit & Dyer, 2004; Fischer & Duncan, 2020; Gandjour & Lauterbach, 2002; Leatherman et al., 2003; Perencevich et al., 2007; Rogers et al., 2009). These literatures portrayed ROI as any value or benefit from QI for various stakeholders.

The reviewed literature illustrated five main ROI uses in relation to QI: ROI as 1) a strategic business case development tool, 2) an investment performance measure, 3) a comparative evaluation tool, 4) a cost management tool, and 5) a performance management tool. ROI was also used create fiscal awareness (Moody et al., 2015). Both economic and non-economic focused literature used almost identical concepts to denote an investment and a return as seen in Figure 4-3. These concepts were used in relation to changes and improvements in various organisational outcomes including patients and financial outcomes, as well as development. Profit, revenue, and market share were only found in the few economic focused literature. This indicates that although different logics were applied in the conceptualisation of healthcare QI-ROI, the dominant logic was that of health and social care and not economics or markets logic.

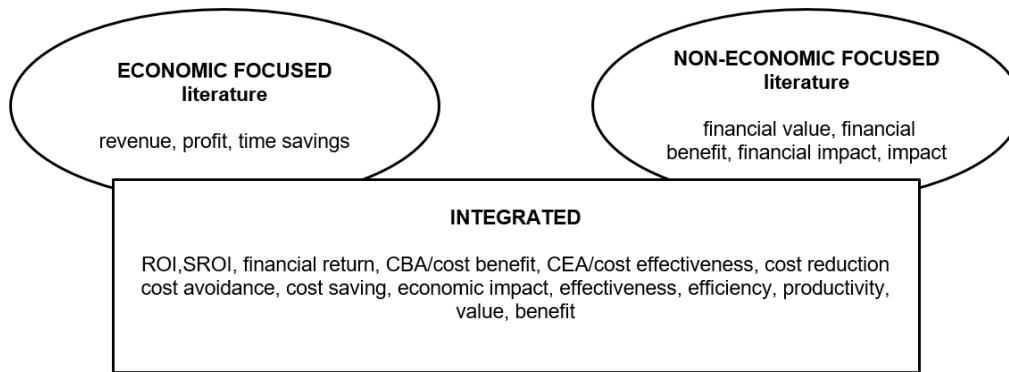


Figure 4-4 ROI-like concepts (presented with the permission of Thusini et al. 2022a)

At face value, there were two broad QI-ROI philosophies: the economic and the healthcare ROI philosophies. Through markets logic, the economic perspective views outcomes in terms of their tangible, quantitative, or financial offerings. The economic philosophy is related to managerial logics as managers are required to monitor organisational financial performance. Alternatively, the healthcare perspective suggested a more dulled but increasing financial focus. Health and social care logics tended to view ROI qualitatively, primarily from a patient and staff but also wider internal and external stakeholders perspectives. The literature indicated that healthcare also values financial perspectives. Thus, there appear to be a merging of the meaning of ROI from different schools of thought. Table 4-6 illustrates this finding.

Table 4-6 ROI concept perspectives (presented with the permission of Thusini et al. 2022a)

Type of QI outcome: ROI-like concepts	Stakeholder perspective	Dominant logic	Philosophical perspective
Organisational outcomes: Improvement, efficiency, productivity, effectiveness, profit, financial return, ROI, SROI, CBA, CEA, economic impact, cost saving, cost avoidance, cost reduction, market share, reputation, organisational development, performance (organisational), management (cost)	Managerial	Markets/ Economic	Realism
Patients, family, carer, and societal outcomes: improvements, value, benefits, impacts (SROI, CBA)	Managerial Patients Society	Medical Societal	Relativism/ Interpretivism
Staff outcomes: improvements, value, benefits, impacts	Managerial Staff	Medical Societal	Relativism/ Interpretivism

4.5 Discussion

Although concept analysis, concept development, and conceptual framework development are traditionally separate steps (Hupcey & Penrod, 2005), they have been performed concurrently in this review. Firstly, I sought to understand the nature of the ROI concept in healthcare QI. Using the Hupcey & Penrod (2005) principle-based concept analysis method, I found that the QI-ROI concept is not clearly defined or developed (principle 1), the ROI application method is unclear (principle 2), its appropriate use is unestablished (principle 3), and thus conceptual boundaries are unclear (principle 4). These determinations attended to the first part of my objective, analysing the nature of the ROI concept. I then sought to attend to the second part of my research objective, defining the QI-ROI concept and its relationship with similar concepts.

For the second part of this study's objectives, I followed the concept development and conceptual framework development guide described earlier by Hupcey & Penrod (2005), and Jabareen (2009). This involved identifying the concepts used to denote QI outcomes, goals, and benefits. Some of these concepts (e.g., CEA, CBA, value) were identified in Chapter 3, the thesis background. I used these as the review's search terms and defined them in Table 4-2 (p.52). These concepts, including the differences between costs, investments, and revenue are discussed in more details in economic literature (e.g., Drummond et al., 2015; Hollingsworth, 2008; Linna et al., 2010; Palmer & Torgerson, 1999) and will not be discussed at length here. I will now proceed to develop the concept of QI-ROI using some of these concepts and terms.

4.5.1 QI-ROI concept development

To develop the QI-ROI concept, I first eliminated similar concepts by differentiating them from each-other and what appears to represent QI-ROI. Firstly, financial or economic returns are alternative ways of saying ROI. Other terms used to a lesser extent in the review were economic impact, which denotes the cost of illness (Byford et al., 2000), and cost-management which is a process of managing and controlling costs of a programme to fit desired criteria, e.g., to reduce costs (Goldberg & Fleming, 2010). Finally, ROI reflects profit from an investment.

In a strict sense, ROI, profit, and investment efficiency are different measures of financial health (Burkhardt & Wheeler, 2013). However, ROI does reflect an investment's efficiency and profitability (Burkhardt & Wheeler, 2013). Operating profit (total income after costs) is made up of profit margin (income minus costs) and cash-flow (money in and out) (Burkhardt & Wheeler, 2013). The applicability of this in QI programmes is unknown. However, the current literature review did not indicate that profit or revenue were associated with ROI from QI programmes. Henceforth, the remaining concepts seen as the most similar to ROI were SROI, cost-benefit, cost-effectiveness, productivity, efficiency, savings, value, and benefit.

4.5.1.1 QI-ROI vs economic evaluation methods

The economic evaluation methods were introduced in Chapter 3. CEA and CBA aim to ensure that either a fixed allocated quantity of healthcare resources result in the most improvement in health (CEA) or maximum social advantage (CBA) (Drummond et al., 2015). Although different, CEA and CBA can be conflated in practice (Bridges, 2005; Evans & Pagani, 2014). Comparative ROI mimics CEA, but ROI reports an aggregated cost-benefit metric similar to a cost-benefit ratio (CBR). Alternatively, CEA reports an incremental cost-effectiveness ratio (ICER) per health outcomes. Incremental benefits using ROI of new QI programmes have been compared by some researchers (Chisholm et al., 2016; Rost et al., 2004). However, given the multiple healthcare objectives, these metrics represent only a fraction of programme benefits or consequences (Bukhari et al., 2017). This is supported by my findings from this review.

CBA is the basis of ROI and SROI. SROI and CBA monetise broad programme societal costs and benefits. SROI extends CBA by including environmental and other stakeholder benefits (Nicholls, 2012). Alternatively, ROI generally focuses on programme specific costs and benefits from a managerial perspective (Leatherman et al., 2003). As returns-on-investments evaluation methods, CEA, CBA, SROI, and traditional ROI are too narrowly focused as they all ultimately only emphasise a monetary focus. According to Bridges (2006), CBA, does not account for how care is produced, and thus excludes many crucial organisational benefits. As such, Bridges suggested a systematic assessment approach to value evaluation.

4.5.1.2 QI-ROI vs input-output based measures

CEA, CBA, productivity, and efficiency are similar as they emphasise using resources without waste. However, they are all a single outcome focus. CEA/CBA are an input vs goal measures, efficiency and productivity are input vs output measures. Productivity and efficiency are more ROI-like as they denote a return (output) of an investment (input) (Sheiner & Malinovskaya, 2016). Inputs and outputs may be monetary and non-monetary. Productivity is the quantity of outputs per investment/input. Efficiency is achieving those outputs with least or no waste (e.g., in time, money, effort). Thus, unlike CBA and CEA, efficiency and productivity are related to how care is produced. For example, increasing productivity by increasing patients seen (output) per clinician (input), whilst providing quality care without wasting resources (efficiency).

Efficiency is divided into allocative, productive, and technical efficiency (Drummond et al., 2015). Simply put, allocative efficiency refers to allocation of healthcare resources such that the most benefits are delivered (Palmer & Torgerson, 1999). Productive efficiency is increasing output per given resource/input/investment (e.g., seeing more patients by same staff member). If this is done such that more is obtained from the same resource, or less resource is required for the same output, it is technically efficient (Palmer & Torgerson, 1999). This description also fits CEA, with outputs being effectiveness. It also mimics the concept of value-for-money (VfM), used to describe the optimal balance between efficiency, economy (lowest cost), and effectiveness ((NICE), 2011). Efficiency and productivity are crucial in healthcare as profit-based ROI is deemed improbable (Russ-Eft & Preskill, 2005). Efficiency can translate to both monetary ROI (e.g., savings), and non-monetary benefits (e.g., improved staff experience).

Productivity and efficiency are often used to measure performance of healthcare organisations (Linna et al., 2010; Sheiner & Malinovskaya, 2016). Productivity may enable allocative efficiency of funds or better time allocation for tasks by staff. Productivity can be an efficiency measure (input/output) (Sheiner & Malinovskaya, 2016). It can also be a combined effectiveness and efficiency measure (goal/input/output), or all that makes an organisation function better (Linna et al., 2010). The latter is what the reviewed literature indicated QI-ROI

to be. Effectiveness through attainment of goals alone is therefore also insufficient to describe QI-ROI. Goals may be achieved, but inefficiently. In a balanced productivity-efficiency-effectiveness relationship (Hjeltnes & Hansson, 2005), all three contribute to overall QI-ROI. Together they enable avoiding, reducing, and containing costs, and eventually saving costs.

4.5.1.3 QI-ROI vs cost saving

Cost-saving is also a more likely outcome than hard-cash profit in healthcare QI (Phillips, 2012). Cost-saving was a particularly prevalent term in the reviewed literature. ROI in healthcare has in-fact been called savings (Price et al., 2020). The current desire to save cost is thought to have driven the change in focus from cost-effectiveness studies to ROI (Edwards et al., 2013). Cost-saving means saving money that would have otherwise been spent. Savings (time/money) often result from effectiveness, efficiency and productivity. Cost-saving and similar terms such as cost-containment, cost-management, cost-minimisation, cost-avoidance, cost-reduction are also not seen here as complete representations of QI-ROI. Here, these terms are seen as representing processes, outputs, initial or intermediate outcomes that lead to savings. Together, these terms are seen here as mechanisms (processes that enable an outcome) (Lewis et al., 2018) through which long-term financial ROI may be achieved. Alternatively, some may see these initial outcomes as benefits themselves if they were the valued benefit.

4.5.1.4 QI-ROI and Value

In their analysis, Fredriksson et al. (2015), concluded that the concept of value was not well understood in healthcare. In economic logic, ROI is described as value, often meaning financial returns. In value-based healthcare, value is the efficiency in relation to health outcomes that matter to patients and their costs (i.e., health outcomes versus costs). In this context, subjective value is monetised (Dukhovny et al., 2016), or ranked (Baggaley, 2020). Value in QI is viewed as quality versus cost (Solid, 2020). In both cases, value equations often resemble CEA, but also ROI. In contrast, von Thiele Schwarz et al. (2019), proposed a broad value equation that includes effects of a programme on patient, provider, organisation, and system.

Solid (2020), also described value as a wide spectrum of benefits and utility for a variety of stakeholders, of which ROI is one part. In his guide for evaluating ROI from QI, Solid stated that “ a responsible and thorough ROI analysis [is to] interpret the results for not only financial return but for overall value of the quality improvement activities” (p. 3). Garrison et al. (2017), also advocated for a broader framework of value when used in cost-effectiveness studies. He recommended inclusion of the variables like value of knowing, hope, and reducing uncertainty. Such views are in-line with my findings that monetary ROI is small part of QI-ROI. Having made these differentiations, I now proceed to develop the QI-ROI concept and its framework.

4.5.2 QI-ROI conceptual framework development

For some organisations or instances, initial outputs and intermediate outcomes may be the intended outcomes and therefore may represent a form of ROI. In Phillips (2012) for example, productivity and efficiency were viewed as final intended outcomes of improvements. In other instances, cost-effectiveness may be the intended goal. Often in healthcare QI, programmes the ultimate objective is to achieve higher goals, like financial stability. Here, implementing QI leads to change, and possibly improvement in desired outcomes. Improvement may result in improved productivity and efficiency. This in turn improves abilities to better avoid, reduce, or manage costs, leading to savings, and potentially monetary ROI. All of this is a benefit in and of itself. Monetary ROI depends on each output, ability, or outcome, most of which is non-monetary. This complex conceptualisation of QI-ROI is illustrated in Figure 3 below.

The QI-ROI conceptualisation can be translated as follows: value is any outcome seen to be of importance, utility, or usefulness (Viner, 1925); attaining a return-on-investment or value-for-money whatever that/those are, is valued and therefore of benefit. A benefit is any outcome that produces useful, helpful, or advantageous outcomes (Merriam Webster Dictionary, 2021). Any benefit is of value in of itself. Based on this review, a full description of QI-ROI is suggested as follows: QI-ROI is any value or benefit (or any valued benefit) derived from or contributed to by QI programmes. This value or benefit maybe in a form of an improved output, process, ability, outcome, or overall impacts, depending on local values and objectives.

This definition is different than that which supports economic logics. For example Phillips (2012), and Solid (2020) discussed value *and* ROI as separate (presumed to mean non-monetary and monetary value). Here, only monetary value is seen as ROI. This assertion is based on viewing ROI as a purely quantitative monetised metric. Thus, the definition of ROI concept as any benefit may be deemed an abuse of ROI (Botchkarev & Andru, 2011). However, this definition was based on the review of numerous healthcare stakeholders' views. Further, Phillips (2012) and Solid (2020) also recognised subjective value as part of overall value.

The findings from this analysis support views that new constructive conversations about how to integrate economic and accounting concepts in healthcare are needed (Bozeman & Su, 2015; O'Flynn, 2007; Svoboda, 2011). After-all, value was not always seen as a ratio between perceived benefits and costs in economic theory and philosophy (Grassl, 2017). It was initially viewed as multi-dimensional by earlier scholars (Eabrasu, 2011; Grassl, 2017; Svoboda, 2011; Wieser, 1891). Therefore, other QI programme effects that are regarded as valuable must not only be considered (Drummond et al., 2015), but prioritised where appropriate.

The view of QI-ROI in healthcare as a broad and no-specific concept, encompassing both monetary and non-monetary outcomes, opens ROI to being a context-specific and dynamic concept. This is in-line with the moderate ontological expectations of modern concepts (Heeks et al., 2019; Hupcey & Penrod, 2005; Risjord, 2009). This suggests abilities to compromise and accommodate varied logics that govern healthcare (Macfarlane et al., 2013).

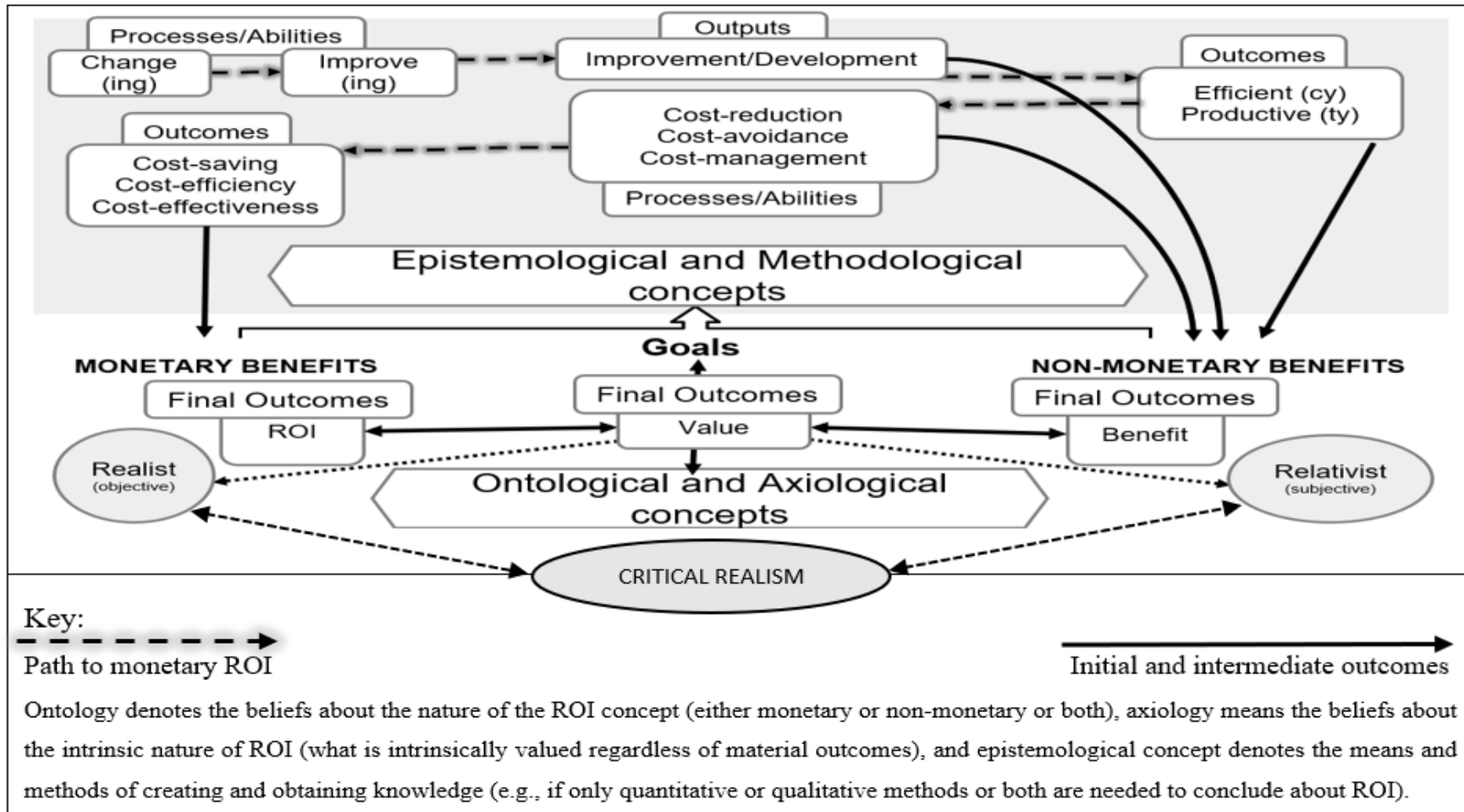


Figure 4-5 QI-ROI conceptual framework (presented with the permission of Thusini et al. 2022a). This figure shows the different concepts found to be associated with QI-ROI. These concepts are shown as outputs, processes, and initial outcomes that lead to final desired benefits.

The concepts of ROI, value, and benefit, denote the beliefs about what is a true return, value, or benefit (Ontology) as well as what seen a moral good (Axiology) in healthcare QI. As such, the QI-ROI can be seen as a 'values-based ROI'. Traditional ROI is a monetary measure (Realism), benefits in general tend to be described as non-monetary (Relativist), and value can denote either monetary or non-monetary (Critical Realism). These beliefs influence how evidence is created, viewed, and studied (Epistemology and Methodology) (Jabareen, 2009).

The lack of convincing vocabulary to argue against the logics of the markets in healthcare can be limiting (Bozeman, 2002). My findings support this view. In non-economic QI literature, financial outcomes mentions appeared to be in general informal language. Authors focused on non-monetary outcomes, but also aspired to raise fiscal awareness and encouraged financial focus on QI evaluations. This can be contrasted with economic focused literature where authors referred to ROI as a specific scientific quantitative measure. Traditional ROI is portrayed as a rational causality of objectively assessed inputs leading to objective outputs (Millar & Hall, 2013). This suggested that the scientific language of healthcare stakeholders for ROI is currently undeveloped. It reflects challenges of legitimising and aligning qualitative benefits with specific scientific measures that are seen as valid in ROI logic (Dunn & Jones, 2010).

Some authors argue that ROI is used purely as a persuasive device to gain programme support (Botchkarev & Andru, 2011; Solid, 2020). To be more convincing, healthcare leaders need credible recourse or language to articulate large-scale QI benefits (Bozeman, 2002; Shah & Course, 2018). If we accept that reality is socially constructed, then we can view various logics used to define QI-ROI as both coercive and emancipating (Thornton & Ocasio, 2008). That is, although political and market logics may constrain freedoms of local expressions, the mere tendency for humans to create own meanings has potential to liberate from such constraints. Logics 'in situ' provide systems and vocabularies for expression. Hence, the prevailing logic both shapes and is shaped by contexts. In this context, QI-ROI logic is healthcare focused.

Establishing ways of expressing QI-ROI from healthcare programmes is crucial to avoid missing opportunities for essential improvements (Anderson, 2010). Insisting on inflexible use of a (ROI) may lead to data manipulation in bids to increase credibility (Gao et al., 2021). The view of ROI as both monetary and non-monetary benefits reflects the multi-stakeholder healthcare context. The lean towards non-monetary benefits is influenced by persistent healthcare and societal logics (Brousselle et al., 2016; Masters et al., 2017). These logics emphasise relief of suffering and ethical principles such as beneficence (benefiting others) and non-maleficence (do no harm) (Woodbridge & Fulford, 2004). It is thus crucial to differentiate ROI concept from a metric. As a concept, ROI encapsulates mental abstractions about how it is perceived by those using it and influences the decisions that follow (Gelman & Kalish, 2007).

4.5.3 Strengths and Limitations

This study had some strengths and limitations, some already mentioned. As stated, concept analysis, concept development, and framework development are traditionally separate steps (Hupcey & Penrod, 2005). It is however accepted that these processes are intertwined (Hupcey & Penrod, 2005). To support my approach, I based my analysis on intensive background reading as well as a large review of different QI literature. This enabled me to gain some understanding of the current “state of the science” (Hupcey & Penrod, 2005) surrounding the ROI concept as used in healthcare QI. I then followed a well-recognised Hupcey & Penrod (2005) and Jabareen (2009) development process to develop the healthcare QI-ROI concept.

Secondly, productivity and efficiency proved to be crucial parts of the QI-ROI concept. These concepts were not included as search terms, however the large amount of literature retrieved means that it is unlikely that this made a significant difference in the review. Alternatively, it could be argued that my inclusion of specific ROI-like concepts in our search terms constitutes sampling bias. However, this strategy helped identify relevant literature for a more in-depth review. Lastly, a significant amount of the literature reviewed was non-empirical in nature. However, it was nonetheless very insightful in understanding the nature of the QI-ROI concept. Further, the goals of the study to analyse ROI as a concept did not rely on scientific evidence.

4.5.4 Implications for research and practice

Implementation and Improvement Sciences are faced with the challenge of developing the ROI concept that is theoretically sound, and scientifically valid. This means a QI-ROI framework must clearly isolate constructs that can and should be included in an evaluation tool. The development of the QI-ROI concept and its conceptual framework must also ensure it is fit for purpose by incorporating both monetary and non-monetary benefits. This means finding more innovative and accessible ways for evaluating the QI-ROI aspects that are hard to measure and or monetise. Developing the QI-ROI concept in this way will enable the field to progress and take ownership of QI fiscal matters, and help leaders justify QI investments. This is crucial as justification for investment is unavoidable and necessary in the current economic climate.

Another recommendation relates to QI study rigour. The review indicated that the use of reporting tools is having a positive effect on the quality of QI studies. However, there remains room for improvement. QI researchers have a responsibility to show more transparency on ethical aspects of their studies. Some QI studies may not require ethical permissions, and if so, it must be stated as such. Current QI reporting tools allow for this (Ogrinc et al., 2016; Pinnock et al., 2017). Another area of improvement is the integration of qualitative and quantitative data in their analysis. This is important in strengthening research findings. Further, the reporting of study limitations was lacking in some of the literature. The knowledge of QI implementation or research challenges can help arm other researchers and practitioners in their QI initiatives. This is crucial for developing an evidence-base for the QI-ROI concept. I now proceed to the second study under this literature review where I further develop the QI-ROI concept.

4.6 STUDY 2; QI-ROI conceptual framework development

In the current study, I sought to deepen my understanding of the QI-ROI concept. Gelman & Kalish (2007) stated that “concepts correspond to categories of things in the real world and are embedded in larger knowledge structures...the building blocks of ideas” (p. 298). Therefore, in this study, I sought to identify the building blocks of the QI-ROI concept. In other words, what QI authors and experts would deem or have deemed a return or a benefit or of value from QI programmes. This knowledge was then used to compile types of benefits that if achieved reflect ROI. I also explored the linkages of QI benefits to gain crucial insights into how the complexity of healthcare as well as QI as a complex intervention may impact ROI evaluation.

4.6.1 Objective

The objective was to further develop the QI-ROI conceptual framework by identifying and connecting the benefits that represent ROI from large-scale healthcare QI programmes.

4.6.2 Data collection

I collected data on QI goals, aims, benefits realised or sought from QI programmes. I identified data in different parts of articles from introduction, findings, discussions, limitations, recommendations to conclusions. The data collection tool can be found in Appendix 9-iv.

4.6.3 Synthesis and analysis

In this study, I followed guidance from three sets of scholars (1) Framework Analysis by Parkinson et al. (2016), (2) Thematic Analysis (Braun & Clarke, 2006), and deductive-inductive hybrid analysis by Fereday & Muir-Cochrane (2006). This enabled me to identify data from the initial QI-ROI conceptual framework as well as any emerging data. During the

synthesis I summarised findings from the integrated literature and compiled a table of themes, sub-themes, and related outcomes. As part of the analysis, I noted the relationships between themes. The result was an updated QI-ROI framework that outlines the ROI-like concepts from my first study (e.g., efficiency, productivity) and associated benefits from the current study.

4.6.3.1 Summary of perceived QI benefits

Authors either directly evaluated intended outcomes, actual QI outcomes, and or discussed QI goals, lessons, and missed opportunities. A number of papers reported financial savings or had savings as a goal. Gandjour & Lauterbach (2002) noted that cost-saving was more likely when improving an over-use or misuse problem. Financial benefits through QI were mostly internal to organisations, and a small number of authors discussed financial benefits to societies and healthcare funders. There was a shared view that quality and patient safety should be central to QI investment goals than financial outcomes. This view had not changed over time. Thus, QI goals were primarily improving patient outcomes through systems, structural, process, and behavioural changes. This improves staff efficiency and productivity, which later save costs.

Most authors highlighted that good quality and patient safety relied upon good staff outcomes and leadership. A few studies focused on some these specific areas, for example Mery et al. (2017) studied QI programmes as a capability and capacity development tool. Hatcher (2002) studied QI as a staff safety promotion tool, Lavoie-Tremblay et al. (2017) evaluated QI as a tool for team effectiveness. Furukawa et al. (2016) and Heitmiller et al. (2010) focused QI towards environment sustainability. MacVane Phipps (2019) saw QI as a governance tool. Williams et al. (2020) focused on both staff and patient outcomes. QI was also used to operationalise organisations' strategies (O'Sullivan Owen et al., 2020; Staines et al., 2015). Staines et al. (2015) found that a positive QI reputation enabled recruitment of a suitable CEO.

There was a general recognition that QI does not always achieve its intended goals; some QI strategies were more successful than others. This was reflected in the literature reviews and

empirical studies that reported variable, mixed, or inconclusive results. In their review, de la Perrelle et al. (2020) noted a lack of reporting of negative findings. They suspected this to be due to publication bias that promoted reporting of positive outcomes. Rationales for not achieving goals were given as implementation difficulties related to contextual challenges.

Some authors noted that overall benefits accrued over time during phases of a programme's implementation process. Morganti et al. (2012) noted that there were different measures of QI success but suggested that spread of a programme was a measure of lasting success. This was supported by some of authors who also indicated that successful QI built legacies through spreading, embedding, and sustaining improvements. This finding on QI impact was confirmed by impact studies, extensive programme evaluations and discussions. This literature elaborated on QI goals, failures, and successes, as well as the lessons learnt. Authors suggested that lessons and cultural changes as a result of QI were essential to meeting patient safety needs.

4.6.3.2 Themes

Table 4-7 below tabulates themes, associated outcomes, and exemplar quotes. Themes aligned with the framework I developed to support the article selection process in Figure 4-2. However, I adjusted it to reflect the findings. I relabelled organisational capacity and capability as organisational development to encompass broader organisational outcomes. This includes all the outcomes that support the development and improvement of organisations' abilities to fulfil their duties. Resilience and QI legacy were additional sub-themes under development. Developmental outcomes together contributed to the development of an organisational culture. I also relabelled external relations as external outcomes to reflect broad external outcomes. These include collaboration, societal and environmental outcomes, and incentives. Incentives include accreditation, competitive advantage, ranking, influence, power, and financial rewards.

Table 4-7 Themes and quotes (presented with the permission of Thusini et al. 2022b)

Table 5 Themes and associated outcomes			
ORGANISATIONAL PERFORMANCE			
Theme	Sub-themes and associated outcomes	Sources	Exemplar quotes
Patient outcomes	Clinical outcomes Patient safety Patient engagement Patient empowerment Patient experience Socio-economic benefits Service user recruitment	(CQC), 2018; Bailit & Dyer, 2004; Banke-Thomas et al., 2015; Beers et al., 2017; Benning et al., 2011; Bevan et al., 2011; Bielaszka-DuVernay, 2011; Bosse et al., 2015; Botros & Dunn, 2019; Bridges, 2006; Brink et al., 2017; Chow-Chua & Goh, 2002; Ciarniene et al., 2017; Collins & Fenney, 2019; Comtois et al., 2013; Crawley-Stout et al., 2016; Crema & Verbano, 2017; de la Perrelle et al., 2020; de Miranda Costa et al., 2020; DelliFraine et al., 2010; Fischer & Duncan, 2020; Fortney et al., 2012; Foundation, 2011; Furukawa et al., 2016; Gandjour & Lauterbach, 2002; Goodridge et al., 2018; Hatcher, 2002; Heitmiller et al., 2010; Honda et al., 2018; Hunter et al., 2014; Insitute, 2011; Jones et al., 2019; Kanamori et al., 2015; Lavoie-Tremblay et al., 2017; Leatherman et al., 2003; MacVane Phipps, 2019; Masso et al., 2010; McGrath et al., 2017; McLees et al., 2015; Mery et al., 2017; Moody et al., 2015; Moraros et al., 2016; Morganti et al., 2012; Morrow et al., 2012; Neri et al., 2008; Niemeijer et al., 2012; O'Sullivan Owen et al., 2020; Pearson et al., 2017; Perencevich et al., 2007; Power et al., 2016; Robert et al., 2020; Rogers et al., 2009; Roney et al., 2016; Schouten et al., 2010; Sermersheim et al., 2020; Shah & Course, 2018; Sibthorpe et al., 2018; Staines et al., 2015; Stephens et al., 2018; Strauss et al., 2019; Swensen et al., 2013; Thursky et al., 2018; van den Heuvel et al., 2006; Wells et al., 2018; White et al., 2014; Williams et al., 2020; Wood et al., 2019; Worrall et al., 2008; Yamamoto et al., 2010)	Clinical outcomes “The adverse event rate increased from 2.9 to 4.8 per 100 patients in control hospitals and declined from 6.2 to 3.7 among SPI1 hospitals”. Authors; Benning et al. (2011, p. 11) Patient experience “...improving process performance, including waiting time reduction and patient flow with the subsequent impact of increasing patient satisfaction”. Authors; Honda et al. (2018, p. 70) Social impacts “...the list of possible social returns ... became quite long, and each social impact (for example, less patient time spent in hospitals) could cascade into broader social impacts (for example, increased productivity, increased efficiency at hospitals, benefits of expenditures in other areas ...)”. Authors, Moody et al (2015, p. 30)
Financial outcomes	Cost saving Revenue generation Cost-management Cost reduction Cost avoidance Financial stability	(Bailit & Dyer, 2004; Banke-Thomas et al., 2015; Benning et al., 2011; Bosse et al., 2015; Collins & Fenney, 2019; Comtois et al., 2013; Crawley-Stout et al., 2016; DelliFraine et al., 2010; Fischer & Duncan, 2020; Fortney et al., 2012; Gandjour & Lauterbach, 2002; Leatherman et al., 2003; McGrath et al., 2017; Mery et al., 2017; Moody et al., 2015; Niemeijer et al., 2012; O'Sullivan Owen et al., 2020; Perencevich et al., 2007; Schouten et al., 2010; Shah & Course, 2018; Swensen et al., 2013; van den Heuvel et al., 2006; Worrall et al., 2008)	Legal costs reduction “In the last 6 years our professional liability exposure has decreased. It is possible that this resulted from higher quality care”. Authors; Swensen et al. (2013, p. 47) Cost reduction and revenue generation “The large-scale QI ...has the potential for ROI at multiple levels... opportunity to improve efficiency, remove waste, lower cost, and increase revenue.” Authors; O'Sullivan et al. (2020, p. 3)

ORGANISATIONAL DEVELOPMENT			
Strategic goals	<p>Achievement of organisational strategies</p> <p>Improved alignment with strategies: refinement and clarification</p> <p>Generation of organisational mission, objectives, and priorities</p> <p>Improvement in organisational ethical, moral, legal, and value obligations</p> <p>Creating new personal and meaningful operating models</p> <p>Patient-centredness</p> <p>Staff-centredness</p> <p>Decision-making and problem-solving improvement</p> <p>Overall organisational performance improvement</p>	<p>(Comtois et al., 2013; Crawley-Stout et al., 2016; de la Perrelle et al., 2020; Foundation, 2011; Goodridge et al., 2018; Hatcher, 2002; Insitute, 2011; Jones et al., 2019; Leatherman et al., 2003; Moraros et al., 2016; Morrow et al., 2012; Neri et al., 2008; Perencevich et al., 2007; Swensen et al., 2013; Wood et al., 2019; Yamamoto et al., 2010)</p>	<p>Increased market share</p> <p>“Significant improvements in waiting time and number of new patients were identified for two of the interventions”. Authors; de la Perrelle et al. (2020, p. 5)</p> <p>Strategy to engage service users</p> <p>“...to improve the total quality of every service user’s journey throughout the mental health system... by developing the capacity and skills of local care communities in order to make fundamental improvements in the way services are provided” Participant; Worrall et al. (2008; p.13)</p> <p>“At a policy level, patient safety is now articulated as a clear priority and has become more closely linked with the national drive to improve quality of care while increasing productivity and efficiency” Authors; The Health Foundation (2011. p. 27)</p>
Governance	<p>Improve organisational transparency, accountability</p> <p>Improving clinical effectiveness and patient safety</p> <p>Improving human resource effectiveness</p> <p>Risk management</p> <p>Compliance with performance criteria</p> <p>Performance management and measurement</p> <p>Beyond clinical governance to organisational governance</p>	<p>(Chow-Chua & Goh, 2002; Comtois et al., 2013; Foundation, 2011; Kanamori et al., 2015; McLees et al., 2015; Morganti et al., 2012)</p>	<p>“We are currently exploring, through early pilot projects, a range of board development interventions and improvement approaches, to enable better governance of patient safety within organisation”. Authors, The Health Foundation (2011, p. 26)</p> <p>“This flexibility and enabling grassroots practitioners to become the problem solvers is the key to changing over to a lean management or governance system”. Authors; MacVane (2019, p. 84)</p>
Human resource development	<p><u>Improved staff capabilities</u></p> <p>Raising awareness on QI methods, patient safety, inefficiencies, and costs,</p>	<p>(Beers et al., 2017; Benning et al., 2011; Bevan et al., 2011; Bridges, 2006; Comtois et al., 2013; de la Perrelle et al., 2020; Fortney et al., 2012; Furukawa et al., 2016; Goodridge et al., 2018; Honda et al., 2018; Hunter et al., 2014; Insitute, 2011; MacVane Phipps, 2019; Neri et al., 2008; Schouten et al., 2010;</p>	<p>Staff capabilities</p> <p>“Ninety-one per cent felt the Collaborative had empowered them to make a difference in reducing the number of pressure ulcers. Feedback given from one of the two people who did not answer this way stated that it was ‘already part of job role.’” Authors, Wood et al. (2014, p. 6)</p>

	<p>Increase staff ability to assess which problems were best suited to QI Improved personal and career development and job security Staff engagement, Staff empowered,</p> <p><u>Improved staff experience</u> Improved motivation, and enthusiasm,</p> <p><u>Improved staff capacity</u> Supporting recruitment and retention, Improved job security, and reduced staff sickness Develop new QI roles, Role clarification</p>	<p>Sibthorpe et al., 2018; Staines et al., 2015; Swensen et al., 2013; Williams et al., 2020)</p>	<p>“...staff reported benefits to the social and work environment, but perhaps most significantly working on the programme was described by some staff as a long awaited opportunity for personal or career development” Authors; Morrow et al. 2012. p. 248)</p> <p>Staff experience “Greater knowledge tended to produce greater enthusiasm” Authors, The Health Foundation (2011, p. 11) “As great as the financial impact of purchasing safety devices and of a needlestick injury may be, the nonfinancial impact can be even greater. We desire the work environment to be as safe as possible for our staff”. Authors; Hatcher (2002, p. 413) Staff capacity “The apparent improvement in staff sickness rates; or the recorded decrease in bed numbers apparently associated with the trust’s analyses showing reduced length of stay on the targeted wards”. Authors; Hunter et al. (2014, p. 64) “...the programme appeals to the intrinsic values of frontline (particularly nursing) staff and has had a positive impact (key themes were: equipping staff with new skills, more time for better care, improved patient experiences, cost savings, and higher staff satisfaction and retention”. Authors; NHS Institute (2011, p. 17)</p>
<p>Process, structural, and systems</p>	<p><u>Efficiency and productivity</u> Team efficiency Systems efficiency Processes efficiency</p> <p><u>Resource management</u> Optimisation, or leveraging of existing systems Facilitating effective resource allocation, Spreading of costs and benefits or off-setting other organisational benefits</p> <p><u>Structural changes</u> Guiding patient safety infrastructure development Reduction of incidences of violence</p>	<p>(Ciarniene et al., 2017; Comtois et al., 2013; de la Perrelle et al., 2020; DelliFraine et al., 2010; Fischer & Duncan, 2020; Kanamori et al., 2015; MacVane Phipps, 2019; Mery et al., 2017; Morrow et al., 2012; Niemeijer et al., 2012; Sermersheim et al., 2020; Shah & Course, 2018; Stephens et al., 2018; Swensen et al., 2013; Thursky et al., 2018; Worrall et al., 2008; Yamamoto et al., 2010)</p>	<p>Process improvement “Process mapping the care of patients with sepsis, presenting key issues visually and as a gap analysis were essential to identify the core elements of the clinical pathway, to introduce structural changes”. Authors; Thursky et al. (2018, p. 7)</p> <p>Resource management “...this made it possible to revise the procedure for filing and monitoring patient files by nurses, thus reducing the time allocated to this activity by one hour per week.” Authors; Comtois et al. (2013. p. 174) “The collaborative learning process during audit and feedback, to enable self-monitoring and provision of action plans, resulted in various institutional changes...” Authors; Brink et al. (2017, p. 1232)</p> <p>Structural improvements “Benefits included better organised working environments, fewer patient safety incidents, and cash savings in terms of returned excess stock”. Authors; Morrow et al. (2012, p. 246)</p>

<p>Culture and climate</p>	<p><u>Developing a QI safety culture</u> Culture aligned to people An organisational learning culture Change from performance and regulation to continuous improvement Change from project orientation to capacity and capability building Change from top-down to bottom-up development Culture of shared leadership models Culture of collaboration Flexible and inclusive culture Challenging of existing mental models</p> <p><u>Improved organisational climate</u></p>	<p>(Bevan et al., 2011; Fischer & Duncan, 2020; Foundation, 2011; Goodridge et al., 2018; Honda et al., 2018; Hunter et al., 2014; Jones et al., 2019; MacVane Phipps, 2019; Worrall et al., 2008)</p>	<p>Culture "... I don't think you can buy the attitude and mental approach that needed to happen. And I truly think money and resources wouldn't have helped. ...I think that is the level at which the intervention to change the system should have been, right at a deeper level. Not resource, not environment, but more the deep cultural partnership interpersonal level" (p. 103). Participant; Worrall et al. (2008, p. 103)</p> <p>"In those trusts we have rated as outstanding; we have found a culture of quality improvement embedded throughout the organisation.". Authors; CQC (2018, p. 2)</p> <p>Climate "There were also significant improvements in secondary outcomes: patients' overall rating of ward quality; nurses' positive affect and team climate". Authors; Williams et al., 2020, (p. 45)</p>
<p>Leadership development</p>	<p>Leadership development Leadership effectiveness</p>	<p>(Collins & Fenney, 2019; de Miranda Costa et al., 2020; Fortney et al., 2012; Foundation, 2011; Goodridge et al., 2018; Hunter et al., 2014; Masso et al., 2010; McGrath et al., 2017; McLees et al., 2015; Morrow et al., 2012; O'Sullivan Owen et al., 2020; Robert et al., 2020; Staines et al., 2015)</p>	<p>Leadership development "...relatively junior staff with limited practical experience are now running the collaboratives. Without the right leaders, there is a risk that collaboratives are pale imitations of effective programmes". Authors; Collins and Fenney (2019, p. 18)</p> <p>Leadership effectiveness "Having been involved in some major NHS improvement collaboratives, including one looking at adverse drug events, I initiated an internal collaborative on medication error". Participant; The Health Foundation article (2011, p. 20)</p>
<p>Internal collaboration</p>	<p>Intra-organisational learning networks Team-working Team cohesion Enhanced communication</p>	<p>(Botros & Dunn, 2019; Brink et al., 2017; Fischer & Duncan, 2020; Foundation, 2011; Heitmiller et al., 2010; Hunter et al., 2014; Lavoie-Tremblay et al., 2017; McGrath et al., 2017; Morrow et al., 2012)</p>	<p>Team-working "...the process successfully facilitated a welcome shift from a 'parent-child' relationship where the pharmacists are always seeking the junior doctors and pointing out mistakes that need to be amended to a more effective and efficient 'team work' approach where junior doctors and clinical pharmacists work together to generate a safe discharge..." Authors; Botros and Dunn (2019, p.8)</p>
<p>Research development</p>	<p>Increased awareness of QI evidence-base enhancement Stimulating ideas on innovative research methods development Evidence dissemination Increased focus on financial outcomes</p>	<p>(Heitmiller et al., 2010; Hunter et al., 2014; MacVane Phipps, 2019; McLees et al., 2015; Morrow et al., 2012; Sibthorpe et al., 2018; Worrall et al., 2008)</p>	<p>"The three strands of evaluation of the Safer Patients Initiative have surfaced some important reflections on research and evaluation of complex, organisational interventions". Authors, The Health Foundation (2011, p. 23) "A program called "Measurement for Management," offered by Qulturum with IHI input²⁸and open to teams from across Sweden, was created following the 2006 study, to help participants build system-level capacity for measurement, data collection, and interpretation". Authors; Staines et al. (2015, p. 26)</p>

<p>Innovation</p>	<p>Development of new ways of working Development of new tools and methods</p>	<p>(Foundation, 2011; Power et al., 2016; Robert et al., 2020; Roney et al., 2016; Sibthorpe et al., 2018; Strauss et al., 2019; Wood et al., 2019)</p>	<p>“NHS Safety Thermometer data collection tool was developed by the national programme team during the design period of phase I and refined iteratively thereafter”. Authors; Power et al. (2016, p. 9)</p>
<p>IT development & data management</p>	<p>Improved data management local ownership of data monitoring and reporting, Data transparency and sharing, Data used to guide improvements</p>	<p>(Fischer & Duncan, 2020; Foundation, 2011; Hunter et al., 2014; Masso et al., 2010; McGrath et al., 2017; McLees et al., 2015; Morrow et al., 2012; Robert et al., 2020; Sermersheim et al., 2020; Shah & Course, 2018; Staines et al., 2015; Swensen et al., 2013; Wells et al., 2018)</p>	<p>“. . . the data collection before and what we collected data on afterwards were different things really in a way. So they had to be retrospective to get some of the baseline stuff, because we didn’t know what was going to come out and the changes that were going to happen.” Participant; Hunter et al. (2014, p. 62)</p> <p>The QI activities often resulted in an improved understanding that measurement was an important part of any Method adopted. In addition, staff often also realised that suitable metrics were not available, or that the data were of poor quality”. Authors; Hunter et al. (2014, p. 81)</p> <p>“Ownership of our data and ownership, that’s one of the things that’s really improved the clinical team I think”. Authors; Worrall (2008, p. 120)</p>
<p>QI legacy</p>	<p>Sustainable benefits from previous programmes Created new standards and expectations of care Increased collective QI knowledge and skills Financial sustainability Performance sustainability Sustained organisational capabilities QI legacy through implementation outcomes spread or scale-up Built foundations for bigger more complex programmes Increased capacity to learn from challenges, failures and successes of self and others</p>	<p>(Benning et al., 2011; Botros & Dunn, 2019; Comtois et al., 2013; Fortney et al., 2012; Foundation, 2011; Insitute, 2011; Masso et al., 2010; Mery et al., 2017; Morganti et al., 2012; Morrow et al., 2012; O’Sullivan Owen et al., 2020; Robert et al., 2020; Roney et al., 2016; Staines et al., 2015; Stephens et al., 2018; Thursky et al., 2018; Wood et al., 2019; Worrall et al., 2008)</p>	<p>“Throughout five years since implementation of MEWS-Sepsis tool patient screening, the organization has realized a sustained decline in sepsis mortality of 24%” (p.3) Authors; Roney et al. (2016)</p> <p>They also provide the bedrock for future improvement in the quality, safety and efficiency of integrated hospital and community services, as well as between adult social care, mental and physical health care, and acute and long-term services.” Authors; Pearson et al. (2017, p. 5)</p> <p>“...we found that staff continued to apply these principles to their QI work even as organisational contexts changed over time”. Authors; Robert et al. (2020, p. 38)</p> <p>“I think that the legacy of MHIP and the restructuring has meant that we really have taken a much more defined systems approach, and I think much better clarity about roles and responsibilities and accountability in the system”. Participant; Worrall et al. (2008, p. 118)</p>
<p>Organisational resilience</p>	<p>Achievement of a high reliability, high performing, and self-sustaining organisation</p>	<p>(Foundation, 2011; Mery et al., 2017; O’Sullivan Owen et al., 2020; Robert et al., 2020)</p>	<p>“Projects can fail to show improvement or fail to sustain themselves. ELFT are interested in such cases too, and the considerable learning they can yield. This interest in failed projects, and difficult to improve areas, sends the message to staff that all is not lost if results are limited” Authors; O’Sullivan et al. (2020, p. 6)</p>

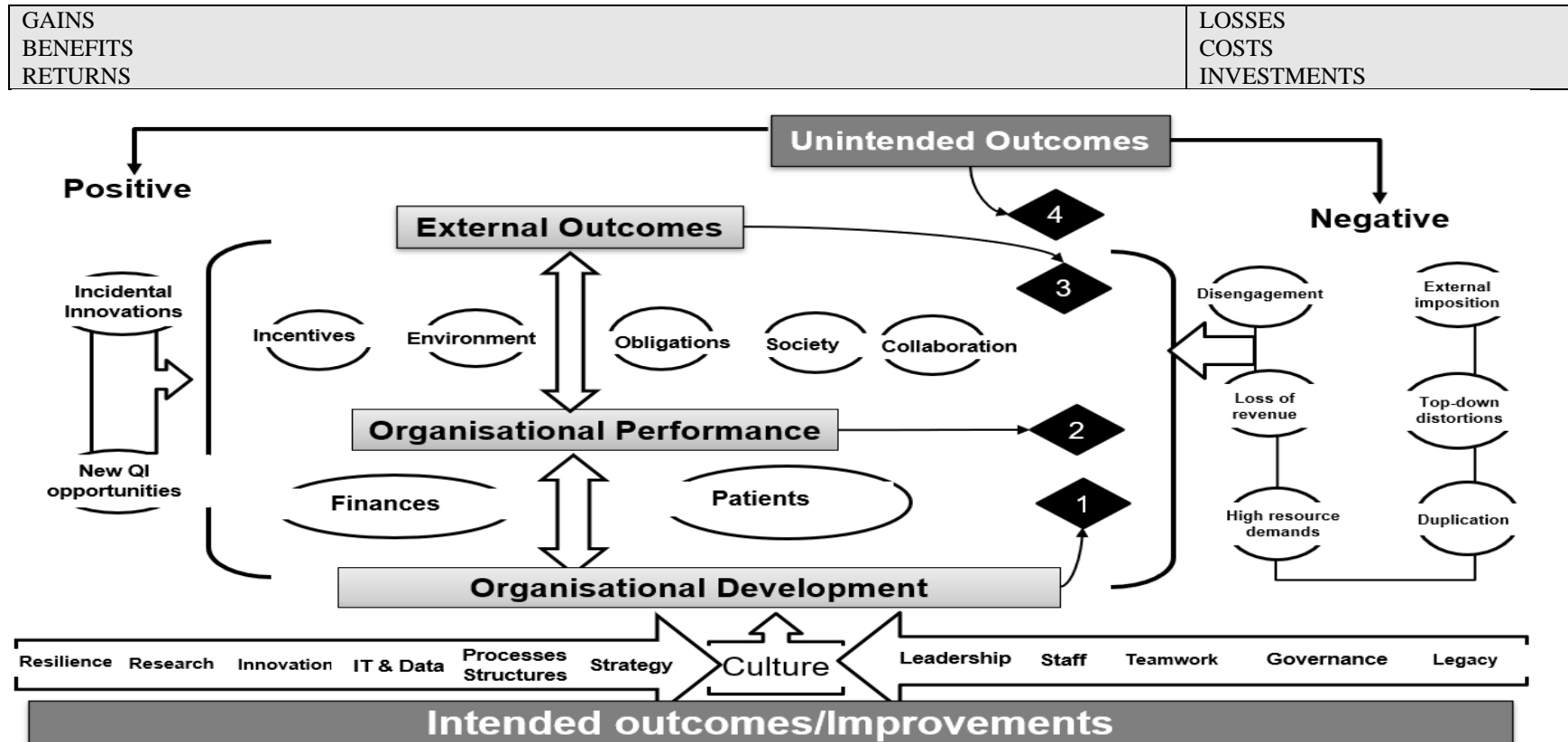
	Coping with changing and unstable contexts Organisational learning		
EXTERNAL OUTCOMES (MACRO)			
Incentives	Recognition as a leader and influencer Financial incentives, awards, accreditation, Improved competitiveness, Improved influence and power Positive reputation Pride for the organisation and staff Improved bargaining power, Accreditation Reduced regulation and oversight	((CQC), 2018; Ciarniene et al., 2017; Collins & Fenney, 2019; Fischer & Duncan, 2020; Hunter et al., 2014; Leatherman et al., 2003; Masso et al., 2010; McGrath et al., 2017; McLees et al., 2015; O'Sullivan Owen et al., 2020; Perencevich et al., 2007; Robert et al., 2020; Shah & Course, 2018; Staines et al., 2015; Strauss et al., 2019; Swensen et al., 2013)	Influence “Although the Safer Patients Initiative did not achieve the level of organisational impact hoped for within the timeframe of the programme, it did have a significant effect and influence on participating hospitals and their staff, on patient care and on the wider NHS system”. Authors; The Health Foundation (2011, p. 14) Awards “This RPIW was frequently mentioned by interviewees as an exemplar that demonstrated the positive benefits of the NETS programme. It received national recognition through the Health Service Journal awards”. Authors; Hunter et al., 2014
External obligations	Compliance with oversight, accreditation, regulation	((CQC), 2018; Fischer & Duncan, 2020; Hunter et al., 2014; Sermersheim et al., 2020; Wells et al., 2018)	“Holding providers accountable for blood product wastage contributed to the waste reduction and could be used as a component of the provider’s ongoing performance profile, which has recently become a Joint Commission requirement”. Authors; Heitmiller et al. (2010, p. 1895) “Most of the NHS trusts in England that have been given an outstanding CQC rating have implemented an organisation-wide improvement programme”. Authors; Jones et al. (2019, p. 6)
Community and society benefits	Community engagement Improved community resources Support for carers, children, and families Socio-economic benefits	(Banke-Thomas et al., 2015; Beers et al., 2017; Crawley-Stout et al., 2016; de Miranda Costa et al., 2020; Fischer & Duncan, 2020; Gandjour & Lauterbach, 2002; Moody et al., 2015; Moraros et al., 2016; O'Sullivan Owen et al., 2020; Perencevich et al., 2007; Schouten et al., 2010; Sibthorpe et al., 2018; Staines et al., 2015)	External benefits “The greatest benefit from these 6- to 9-month QI projects was internal, yet the communities also reaped significant external benefits”. Authors; Crawley-Stout et al. (2016, p. E35)
External collaboration	Data sharing, Shared governance, Multi-stakeholder engagement and alignment Foundations and maintenance of strategic relationships	(Crawley-Stout et al., 2016; Hunter et al., 2014; Lavoie-Tremblay et al., 2017; Masso et al., 2010; Niemeijer et al., 2012; O'Sullivan Owen et al., 2020; Pearson et al., 2017; Power et al., 2016; Robert et al., 2020; Rogers et al., 2009; Shah & Course, 2018; Staines et al., 2015; Wells et al., 2018; Worrall et al., 2008; Yamamoto et al., 2010)	Improved organisational relations “There was also a local history of difficult relations between hospital and community services. Service reconfigurations that maintain stability against such a backdrop and which lead to important signals of improvement are a success. They also provide the bedrock for future improvement in the quality, safety and efficiency of integrated” Authors; Pearson et al. (2017, p. 5)

	<p>Long-term learning networks Improved multi-organisational relations Development of deeper awareness of collective issues.</p>		<p>Shared Governance “Opportunities to train with other NHS NE organisations, to jointly redesign pathways and to speak the same language of improvement, were highly valued”. Authors; Hunter et al. (2014, p. 74)</p>
<p>UNINTENDED OUTCOMES ((MICRO, MESO)</p>			
<p>Positive unintended outcomes</p>	<p>Gaining new insights on related organisational needs Improvements in untargeted departments or patients Incidental innovations. Enabling communication Enabling targeted recruitment of QI staff and leaders Academic development through creation of patient safety or QI training Learning from failure and negative outcomes.</p>	<p>(Bosse et al., 2015; Botros & Dunn, 2019; Brink et al., 2017; Leatherman et al., 2003; McGrath et al., 2017; Moody et al., 2015; Perencevich et al., 2007; Staines et al., 2015; Strauss et al., 2019; Swensen et al., 2013)</p>	<p>Incidental innovations “A multidisciplinary team with existing expertise in tracheostomy care commenced detailed tracheostomy ward rounds, providing a different context to the other sites. Local MDT oversight teams were established at all sites...” Authors; McGrath et al. (2017, p. 7)</p> <p>Enabling communication “The attention paid to Patient Safety had been a door opener. Patient Safety made it possible for hospital CEOs to discuss accountability with physician”. Authors; Staines et al. (2015, p. 25)</p>

Negative unintended outcomes included any negative impact resulting from a QI programme. These were external imposition, top-down distortions, duplication, high resource demands, loss of revenue, and loss of buy-in. Authors reported that at times external or managerial agendas were superimposed over other QI goals (Collins & Fenney, 2019; Masso et al., 2010; Robert et al., 2020; Staines et al., 2015). At times this caused duplication of processes (e.g., data collection) and or increased demand on already stretched services. In addition, successful QI can cause loss of funding as related services become absolute (Staines et al., 2015). Eventually different negative outcomes may cause staff or leaders to disengage from current or future QI.

Positive unintended outcomes were difficult to delineate as often programmes were geared towards patient outcomes but impacted other parts of an organisation in the process. However, as improvement strategies involved changing systems and human behaviours, improvement of these aspects must be intended, though not stated. I therefore had this sub-theme only include new innovations and opportunities. I labelled the final overarching themes as 1) organisational performance (two sub-themes), 2) organisational development (12 sub-themes), 3) external outcomes (five sub-themes), 4) unintended outcomes (two sub-themes). Based on the themes, I updated the QI-ROI conceptual framework to map the overarching themes (Figure. 4-5).

In Figure 4-5, beneficial outcomes are presented under the headings “gains, benefits, returns”, whilst negative outcomes are presented as “losses, costs, investments”. These terms were found in literature to denote ROI. These concepts are technically different. Gains and losses may be ‘lay’ references to ROI, whilst cost and benefits are the operationalised version of ROI. They are used together here to illustrate their ROI-like status, their co-existence in QI literature, and their relationships. For example, loss of revenue is a potential investment loss, high resource demands require investments or incur costs, duplication is inefficient and costly, loss of buy-in is a costly setback. All will raise money spent or lost if not well managed or avoided. They may also affect organisational performance and development, as well as engagement in future programmes. This illustrates the co-dependency of monetary and non-monetary QI impacts.



Most QI goals and outcomes affect an organisation's culture. The four overarching themes are connected and influence one another e.g., improved performance enabled attainment of external incentives. An overlap exists amongst these themes, e.g., collaboration was improved both internally (organisational development, and externally as an external QI benefit).

Figure 4-6 Updated preliminary ROI Conceptual Framework (presented with the permission of Thusini et al. 2022b)

Authors also perceived investments in monetary and non-monetary forms that were equally essential for patient safety and quality. Some investments were part of ongoing organisational strategies, e.g., staff time, recruitment and retention costs, training costs, patient engagement costs (Banke-Thomas et al., 2015; Collins & Fenney, 2019; Crawley-Stout et al., 2016; de la Perrelle et al., 2020; Sibthorpe et al., 2018; Staines et al., 2015; Stephens et al., 2018; Wood et al., 2019). Some investments depended on the goodwill of the staff and patients and were seen as priceless (Worrall et al., 2008). Staines et al. (2015) referred to two types of investments: “hard” infrastructure e.g., technology and “soft” infrastructure e.g., awareness, commitment.

The literature also noted that the interlinked and interrelated nature of outcomes meant QI-ROI may not be readily observable. Deducing ROI may require studying “cause-and-effect chains” (Ciarniene et al., 2017) (p. 2). I saw this as a ROI chain that links a given investment to a given outcome. Sibthorpe et al. (2018) saw recognition of this link as important for understanding QI impacts and attracting investment. In QI programme theory, insights on links can be gained by tracking inputs, processes, outputs, and outcomes throughout a programme (e.g., using logic models). In the context of ROI, doing this can help assess the integrity of the ROI chain and identify areas where ROI is created, lost, or influenced. This may then help maximise QI-ROI. However, tracking ROI in complex contexts may be challenging as will be discussed next.

The QI-ROI chain

In complex systems, programme inputs, processes, outputs are not a once-only event, occurring only at initial implementation. Outcomes of earlier inputs, outputs, and processes become inputs in the next phase and so forth until the final impact is achieved (end-ROI). Further, the literature suggested that QI impacts are unpredictable and difficult to measure (Fischer & Duncan, 2020; Sibthorpe et al., 2018; Worrall et al., 2008). This is because, before a final impact is realised, a programme may act and interact with several variables. Due to this complexity, the linkages may resemble a web rather than a chain. It may therefore be helpful to recognise and celebrate earlier achievements (Fischer & Duncan, 2020; McLees et al., 2015).

QI inputs may or may not be converted into active QI ingredients that will affect organisational change and improvement (McGrath et al., 2017). For example, if one of the strategies is to train staff; do they actually learn what is needed? The answer would depend on several internal and external determining factors (de Miranda Costa et al., 2020; Fortney et al., 2012; Morrow et al., 2012; Stephens et al., 2018; Thursky et al., 2018). Such factors may force adaptations, influence fidelity, sustainability, and decisions to proceed, de-implement or disinvest in QI. Thus, several determinants are needed to support effective use of inputs, and certain mediators moderators and mechanisms affect processes such that desired and undesired outcomes ensue.

The ROI chain in Figure. 4-6 illustrates this complexity. It demonstrates that the overall QI-ROI result from changes in processes, structures, and systems. Value may be visible through behavioural (human and systems), and technological improvements, before final impact and monetary ROI can be detected. Two-tier order mechanisms are alluded to here; the first order mechanisms operationalise QI strategies and become part of non-monetary ROI, whilst the second order mechanisms convert QI efforts into monetary returns. A first order mechanisms may be for example increased staff proficiency leading to development, whilst a second order may be improved productivity due to development. Productivity may then help save costs.

In summary, different investments are made towards a programme and a change is propagated through changing and improving processes, behaviours, systems, and structures. Technical (e.g., skills) and social (e.g., culture) improvements may be achieved. These improvements can then lead to improved efficiency and productivity. Efficiency and productivity may improve cost-management. Better cost-management and control can may lead to cost-reduction, cost-minimisation, cost-avoidance, cost-containment, and cost-saving. All these are outputs, immediate and intermediate outcomes that become mechanisms through which monetary ROI is achieved. Before then, these present as non-monetary returns in a way of enabled abilities (e.g., cost-management, cost-minimisation, cost-reduction, cost-avoidance, cost-containment), outputs or intermediate outcomes (e.g., improved behaviour, productivity, efficiency).

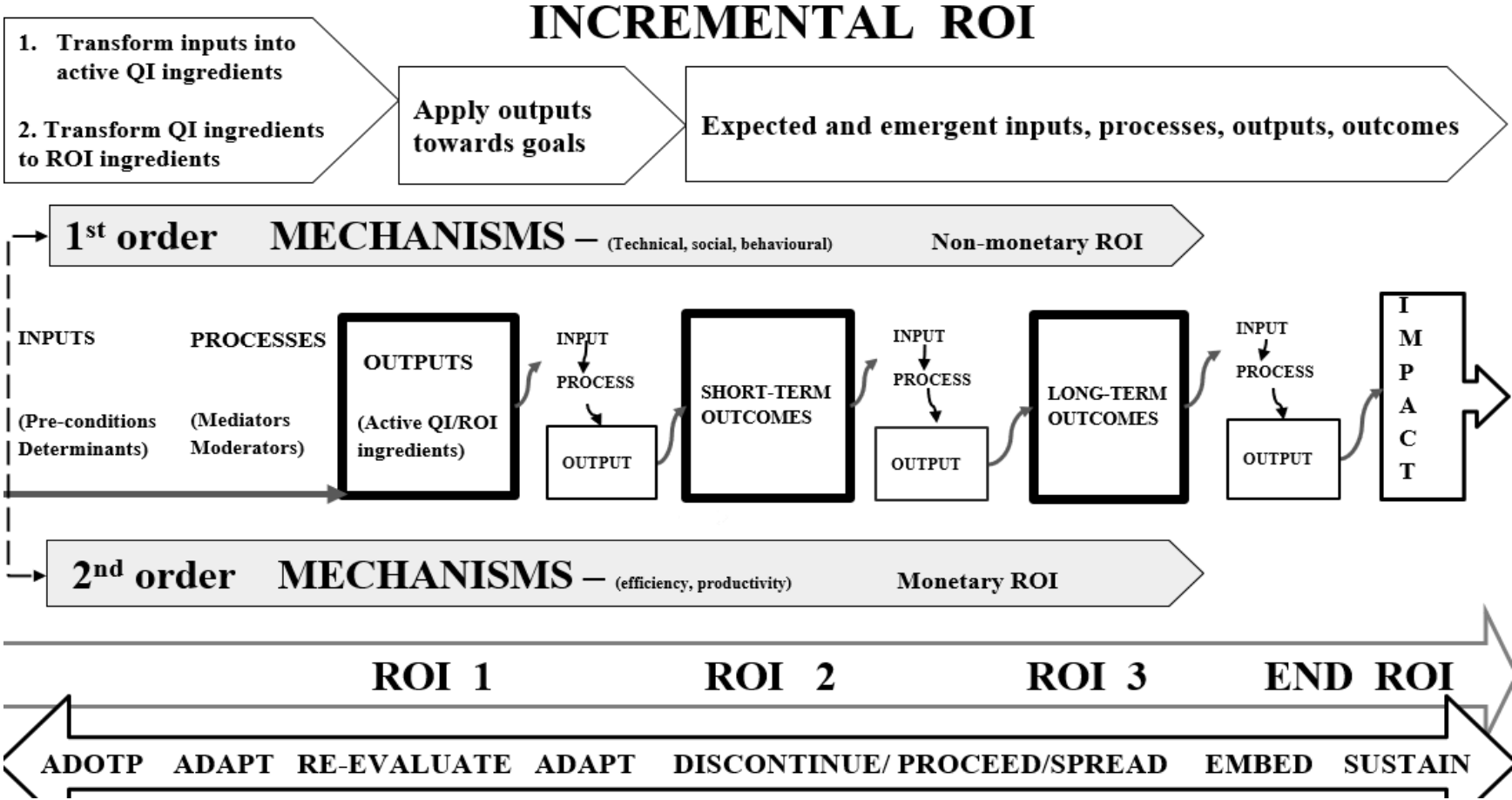


Figure 4-7 QI-ROI Chain (presented with the permission of Thusini et al. 2022b)

Non-monetary ROI can also be achieved through organisational development e.g., staff development and collaboration. Organisational development is the basis for safe healthcare systems and may lead to cost-saving, and hard cash ROI. Improvements in staff and process outcomes may improve culture, which may also improve patient and financial outcomes. Improvements in patient outcomes may lead to further benefits (e.g., incentives), and become an organisation's legacy (culture, capacity and capabilities). This can help an organisation become more resilient and sustainable. QI culture and QI legacies are the basis from which future organisational development as well as patient and financial outcomes can be achieved.

Altogether, the benefits contribute to higher goals such as organisational learning, financial stability, transformation, value-based healthcare, and high reliability (CQC), 2018; Bevan et al., 2011; Collins & Fenney, 2019; Insitute, 2011). Although intended goals and short-term outcomes may be achieved earlier, sustainable impacts depend on successful implementation, embedding a QI culture and developing legacies that support future improvement efforts. Whatever the end-outcome, lessons may be learnt, development in research or innovation may ensue, capacities and capabilities may improve. As Banke-Thomas et al. (2015) stated, “The application of (S)ROI ... could be used to inform policy and practice such that the most cost-beneficial interventions are implemented to solve existing (public health) challenges” (p.10).

Figure 4-7 illustrates the updated QI-ROI conceptual framework in a phased format. This figure represents the current conceptualisation of QI-ROI based on my analysis of the healthcare QI evaluation literature. The processes described here are more complex but have been simplified for clarity. The figure contains the ROI-like concepts from study 1 above (e.g., efficiency, productivity, effectiveness, cost saving). These concepts are seen here as building blocks of monetary ROI. However, some of these also form part of improvements in other organisational performance and developmental goals. Such improvements can be seen as non-monetary ROI which includes improved abilities, development, and overall improved outputs and outcomes. Together, these are the building blocks of the QI-ROI concept as indicated by the literature.

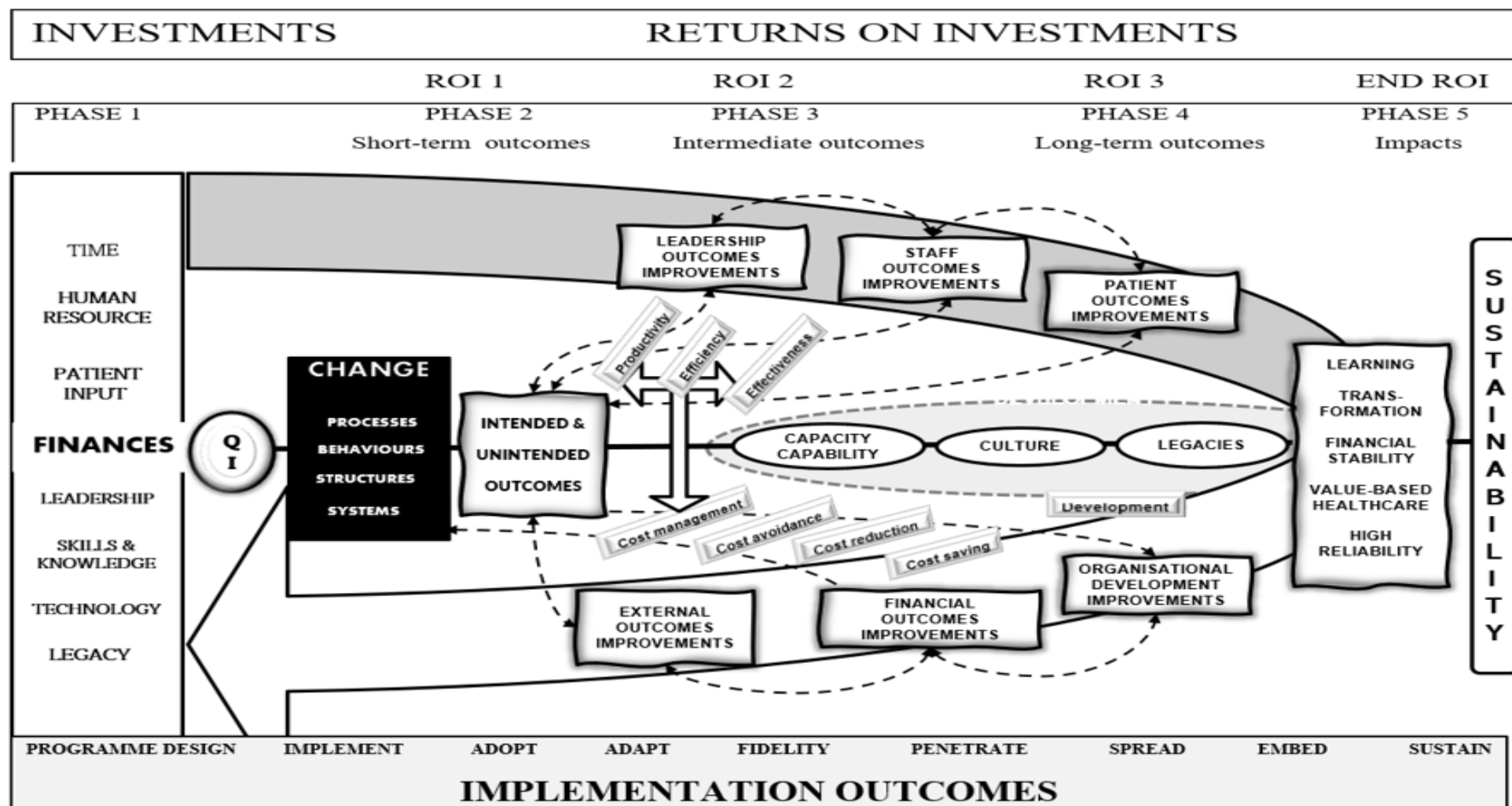


Figure 4-8 Updated QI-ROI Conceptual Framework (presented with permission by Thusini et al., 2022b). The concepts used in study 1 (e.g., efficiency and cost-saving) have been super-imposed over the dotted lines to indicate them as earlier benefits that lead to improvements. The middle denotes developmental benefits. The framework shows QI benefits over time and includes implementation outcomes along a QI journey.

4.7 Discussion

The objective of this study was to further develop the QI-ROI framework commenced above on Fig. 4-6 (p.75). I achieved this by reviewing varied QI literature on the goals and outcomes from QI. The goals embody aspirations or QI-ROI as imagined, whilst the reported outcomes and benefits represent QI-ROI as experienced. In Study 1, I defined QI-ROI as any benefit of value, an ontologically pragmatic position that combines objective and subjective value. In this study, I added valued benefits to qualify the initial QI-ROI framework. My assumptions were grounded on organisational needs, duties, and obligations as defined by their stakeholders. My assumption was that at a minimum, a QI programme that delivers on any of those, delivers a return-on-investment. I considered missed opportunities and negative outcomes to be part of this conceptualisation as they highlight perceptions of the absence of QI-ROI. This is reflected in value theory where absence of a valued object demonstrates its value (Grassl, 2017).

The reviewed literature revealed numerous QI goals, benefits, and outcomes. These included aspects of an organisation's performance and development, as well as external and unintended QI outcomes. Positive unintended outcomes yielded similar benefits as intended outcomes, albeit in new or untargeted areas of care quality. Through the Complexity Theory lens, I noted the different connections of these outcomes. This deepened my understanding of QI-ROI as interlinked QI benefits that occur incrementally throughout a programme's lifecycle. These benefits included processual and structural improvements. Central to these, were sustainable improved patient outcomes. This indicated that QI-ROI relies on a series of interlinked implicit and explicit improvements. Therefore, achievement of intended goals is only a part of QI-ROI.

Although QI effectiveness was not the focus of this review, it is related to QI-ROI. In-fact some may view ROI as an overall measure of QI effectiveness (De Meuse et al., 2009). As discussed in Chapter 3, a sizeable body of literature has questioned QI's effectiveness, including in large-scale programmes (Clay-Williams et al., 2014; Pettigrew et al., 2019). This literature also noted several factors that determine QI's effectiveness (Dixon-Woods, 2014; Clay-Williams et al.,

2014; Pettigrew et al., 2019). The collection of benefits referred to in this review as QI-ROI largely contribute towards these e.g., culture and leadership. Improvement in these aspects must be of value to organisations. Thus, achieving stated goals is not the end, but part of the journey. This is crucial as depending on resource needs, costs may increase, rendering QI value inversely related to its costs (Lighter, 2015; Rauh et al., 2011; van der Goes et al., 2019).

The insights into the building blocks of quality healthcare are not new. Inter-disciplinary health services research attest to this (Aunger et al., 2021; Pettigrew et al., 2019; Rich & Piercy, 2013). Health and Social Science organisational literature point to the importance of improving staff capacities, capabilities, and experience (Allen, 2016; Beaussier et al., 2016). A systematic review by Hall et al. (2016), found that poor staff wellbeing is frequently associated with poor patient outcomes. Although difficult to measure, therapeutic relationships between staff and patients are a crucial part of quality care (Greenhalgh & Heath, 2010). Latino (2015) argued that the intellectual capital of human beings is one of the greatest benefits not captured through financials. Implementation Science has highlighted the importance of the influence of contexts and human behaviour on QI programme success and sustainability (Pfadenhauer et al., 2017).

Effective leadership behaviour was deemed a consistent patient safety pre-requisite in the Mid-Staffordshire review (Francis, 2013). The Francis review also highlighted negative cultures and failure to learn as contributing factors to poor quality care. Negative QI outcomes and failed attempts must be avoided, but they are part of learning safety cultures and ROI (Davey et al., 2013). Patient engagement has also been found to be crucial in learning and safety cultures (Hara & Lawton, 2016). A safety culture, perceived as one that prioritises safe care, is thus deemed foundational to efforts to improve quality and safety (Braithwaite et al., 2017).

There are of-course other ways to improve healthcare, and organisations do invest in various programmes that specifically target some of the themes within the QI-ROI framework, e.g.,

leadership programmes (Parmelli et al., 2011). Determining whether QI or other investments and programmes led to specific improvement is challenging (Mayne, 2011; Reed et al., 2014). As a result, definitive proof of causality may not be found. However, through Complexity Theory, QI-ROI can be viewed in terms of contribution to organisational outcomes rather than direct attribution (Mayne, 2011). An understanding of QI contribution to organisational outcomes may be achieved through contribution analysis or the action-effect method (Mayne, 2011; Reed et al., 2014). These can help detect the type and level of QI contribution.

QI's key contributions to healthcare improvement are evident in the reviewed literature, and external bodies such as the UK Care Quality Commission (CQC) attest to this. In 2018, 80% of Trusts rated "Outstanding" by the CQC had organisational improvement programmes (CQC, 2018). As a result, QI was identified in the UK National Health Service (NHS) Long-term Plan as an approach for improving every aspect of how the NHS operates (NHS, 2019b). Further, organisations with mature improvement cultures claim to have benefited in several of the QI-ROI dimensions (Middleton et al., 2018; Taylor et al., 2015; Woodhouse et al., 2016).

Mature organisations indicate that, in addition to organisational development and performance, environmental and social impacts can be achieved through QI (Zhu et al., 2018). Further, an organisations reputation may improve, and organisations may become more resilient (Braithwaite et al., 2015; Greenfield et al., 2017). Once basic goals have been achieved, QI programmes may be used to engage with modern agendas like value-based healthcare and environmental sustainability (Teisberg et al., 2020; Zhu et al., 2018). In achieving such goals, QI programmes can be cost-effective without saving actual costs (Wu & Johansen, 1999).

However, QI-ROI is not a one-time event. ROI may be created or lost at different stages of a programme. It is thus crucial to take small wins with big wins (Kotter, 1995), by observing the QI-ROI chain. Therefore, not only is the traditional ROI approach unreliable as a forecasting

tool, as an evaluation tool, it is a distal and an incomplete marker of QI value. In complex contexts, QI-ROI is iterative and dynamic with many determinants, some outside the control of QI implementers. In addition, QI may affect various levels of stakeholders from frontline to societies, to policymakers differently (Pfadenhauer et al., 2017; Saldana et al., 2014). These levels interact and influence each other (Donabedian, 1988; Pfadenhauer et al., 2017).

Finally, large-scale programmes took many forms, some internal and some involving external collaborators. Collaborations have been recommended as a way to improve patient safety and experience, and save costs (Clay-Williams et al., 2014). However, unless formally integrated, organisations run internal budgets, and their performance is assessed within own governance structures (Ramsay et al., 2010). Notably, collaboratives are geared towards health system-wide benefits and indirectly address organisational-level needs (Clay-Williams et al., 2014). Thus, collaboratives may bring unique challenges as well as benefits. Organisations at different developmental levels may deduce different outcomes from the same programmes (Bevan et al., 2011). Research on collaboratives is ongoing, e.g., (Aunger et al., 2021). Nonetheless, this review reveals largely shared QI goals and outcomes regardless of the type of QI programme.

4.7.1 Strengths and Limitations

A strength of this review is that my theoretical assumptions were grounded on organisational needs, duties, and obligations as defined by organisations and external stakeholders. The current study sought to strengthen the first study's QI-ROI conceptual framework by connecting the QI-ROI concept with categories of QI benefits as seen by healthcare QI stakeholders. Additionally, the complexity theory insights gave me a glimpse of the processes through which these QI-ROI building blocks independently or in concert may influence ROI. As such, my framework provides clues to its challenges and enablers in its operationalisation.

This review was broad, spanning various disciplines in various countries, reporting on different types of programmes. My study was meant as a first exploration of ROI as a concept of returns-on-investment. Researchers may wish to explore QI-ROI in specific contexts, e.g., by studying particular “building blocks” of QI-ROI in a specific context or programme. Additionally, given that I did not apply time restriction to my search, it was apparent that some of the literature was dated (e.g., Leatherman et al., 2003). However, the aim was to track the evolution of the concept of QI-ROI over time. In that context, newer literature do suggest continuance of some trends and issues in QI-ROI and business case matters, i.e., the merging of healthcare and economic logics about ROI. Lastly, subjectivity in the synthesis and analysis cannot be ruled out. As Parkinson et al. (2016) put it “...findings are a consequence of intersubjective meaning-making through imagination, interpretation, and conceptual input...” (p15).

4.7.2 Implications for research and practice

Economic evaluation of large-scale programmes is a new phenomenon and research is needed to help identify the most suitable evaluation methods. This need is compounded by the fact that large-scale QI programmes come in many forms. It is important to assess QI’s contribution to organisational performance and development through suitable and innovative research methods rather than seek a definitive causal link which may be imperceptible in complex large QI programmes. Further, a study of collaboratives alone or in comparison to internal large QI programmes may help explore the best ways to approach large-scale QI programmes to maximise ROI. In addition, a deeper study of the relationships of the QI-ROI determinants as well as QI benefits may help to understand why and how QI benefits influence one another. Lastly, guidance on how to weigh different QI benefits, and how to develop a standardisable yet flexible QI-ROI tools will be crucial for future research and practical application.

4.7.3 Conclusion

ROI in healthcare is a highly debated topic. This review is but one contribution to this ongoing debate. ROI is an important tool with great potential to communicate QI benefits not covered by CEA and CBA. However, in its traditional form, ROI does not take advantage of this potential use. The review suggests that in healthcare, ROI must reflect value-based healthcare principles, like patient and organisational benefits. ROI is not a one-time event and may be created or lost at different stages of a programme. By defining the ROI concept in this manner, links to wider large-scale QI benefits to organisational strategic intents can be made. This may enable leaders to frame QI value, benefits and thus ROI in a useful way. If QI-ROI is developed this way, its legitimacy within healthcare stakeholders may be established and increased. This is crucial if organisations and systems are to continue investing in essential quality improvement. Ignoring challenges to traditional ROI use in healthcare may continue to keep ROI in the fringes of QI evaluation or cause conflict amongst stakeholders if enforced. In the next chapter, I explore the concept of QI-ROI with mental health leaders.

5 How is ROI conceptualised by mental health leaders and Why

5.1 Introduction

In the previous chapter, I analysed and developed ROI as a concept of returns-on-investments from Quality Improvement programmes (QI-ROI). My finding in that study was that in healthcare, QI-ROI is conceptualised as any valued benefit for an organisation's internal or external stakeholders. In the current study, I explored the extent to which this conceptualisation is shared by mental healthcare leaders. In the previous chapter, authors often referred to rationales for desired QI benefits. I assumed these to be potential determinants for their conceptualisation of QI-ROI. These included an organisation's development stage, funding frameworks, and national agendas. In this study, I sought to systematically capture QI-ROI determinants. Knowledge about a concept's determinants may bring insights about its stability and consistency, and contribute to its analysis, development, and maturity (Morse et al., 1996).

5.1.1 Research aims and objectives

The aim of this study was to develop the concept of ROI from QI programmes from a mental healthcare organisation's perspective. My objectives were as follows: (1) to explore how ROI from QI programmes is conceptualised by mental healthcare leaders, (2) to explore the factors that determine how QI-ROI is conceptualised, and (3) to explore how the conceptualisation and its determinants may impact QI disinvestment decisions as a measure of concept stability.

5.1.2 Study Rationale

The findings from the systematic review were interesting from the standpoint of healthcare in general. As stated in Chapter 1, mental health is where the question about ROI arose, and the genesis of my study. The current study sought to re-orient my research project back to mental

healthcare. In Chapter 3, I highlighted that in terms of QI, mental health services share many goals with other disciplines. However, some researchers and authors have alluded to unique challenges for mental healthcare that may mean they pursue unique QI goals (Dewa et al., 2018; Thibaut et al., 2019). For example, reduced access to care due to poor funding (Docherty & Thornicroft, 2015). This study sought to explore if this is reflected in the QI-ROI concept.

5.2 Methods

5.2.1 Underpinning Theories

Institutional Theory is the overarching theoretical base for this study, due to its explanatory power regarding organisational behaviour and reasoning (Aksom & Tymchenko, 2020). One of the main premises within this theory is that when faced with pressures, organisations either blindly follow norms, get coerced to complying, or mimic other organisations. This then promotes social legitimacy rather than economic efficiency (DiMaggio & Powell, 1983). However, some argued that organisational actors do influence organisational meaning-making. Through language in discourse or rhetoric, organisational actors (re) create, communicate and legitimise meanings (Grant & Marshak, 2011; Suddaby & Greenwood, 2005). Discourse and rhetoric are related to Institutional Logics. An institutional logic is a set of organising rules and norms that influence meaning-making and reasoning in a context (Thornton & Ocasio, 2008).

Related theories are Stakeholder (Laplume et al., 2008), and Stewardship theories (Donaldson & Davis, 1991). Stakeholder Theory purports that leaders strategically engage stakeholders to incorporate broad social values (Laplume et al., 2008). The Stewardship Theory states that autonomous leaders are likely to be intrinsically motivated, seek mutual gain, and collaboration (Donaldson & Davis, 1991). Both these theories acknowledge the institutional context within which meaning is socially constructed. Theories offer different perspectives from which to explain research findings. In this study, I assessed the extent to which these theories supported my findings. This deepened my theoretical understanding of QI-ROI and its determinants.

5.2.2 Study Design

As I sought to explore the prevailing QI-ROI conceptualisation amongst leaders of a mental health Trust, I chose an interpretive qualitative research approach. This approach provides insights into complex worlds where participants' reality is assumed to be socially constructed in search for meaning (Reiners, 2012). This allows multiple reflections in a stakeholder-centred methodological approach (Mottier, 2005). As such, the participants' responses represent their views, and those of a collective. Unlike descriptive phenomenology, interpretive research acknowledges that bracketing (isolating ones or other's influence on data) is not possible (Reiners, 2012). Thus, a researcher also becomes part of 'reality construction', for example, through the use of my topic guide. This invokes the concept of double hermeneutics where multiple reflections are said to result in collective meaning-making (Mottier, 2005). This study was approved by the Health Research Authority, IRAS project ID: 302749 (Appendix 9-vi).

5.2.3 Study Setting

All participants were employed by a single NHS Trust. This setting was chosen because it has been engaged in quality improvement using QI methods since 2016. As part of their QI strategy, the Trust has a dedicated QI team with in-house researchers and engages patients in QI. I thus assumed the Trust to have valuable QI investment and evaluation experience.

5.2.4 Participants

I employed purposive sampling to target board level and other high level leaders. This was to ensure that sample participants were suitable informants with knowledge and decision-making influence on QI investment. Eligible participants were the executive leadership as QI investors (e.g., Chief Medical Officer, Chief Financial Officer) and senior managers as influential leaders in QI (e.g., Clinical or Service Directors). To be included, participants had to be experienced in QI implementation, evaluation and or investment, and have internet access. Leaders not engaged in QI and thus not deemed (e.g., by role) to be influential in relation to the named QI

activities, were not eligible. Potential participants were identified and initially approached through their role with the help of the Trust's QI Director and my senior academic supervisor.

5.2.5 Procedures

After the initial approach and show of interest, I extended formal invitations and information sheets which detailed the study aims to potential participants (Appendices vii and ix). Potential participants were given two weeks to consider the study and ask questions. I obtained written consent (Appendix viii) from each participant before their interview. I performed individual interviews online via Microsoft Teams (Microsoft, 2021). The interview questions were semi-structured to explore the systematic review findings and emerging data (McIntosh & Morse, 2015). Sample questions are on Table 5-1 and the topic guide can be found in Appendix 9-v.

Table 5-1 Sample topic guide

1a: For what objectives/goals is QI used in your organisation?
1b: Why are these objectives important to the organisation?
1c: How important are these objectives to QI investment decisions?
2a: Do you think QI lives up to that/those objectives?
2b: How do you know QI has worked to meet those objectives?
3a: What other if any benefits do you think your organisations gets from having used QI methods?
3b: How important are these other benefits of QI to your organisation?
4a: Are there any non-beneficial or less beneficial outcomes of QI?
4b: What do you think are the consequences of poor outcomes of QI? immediate vs longer term
5: How much of a priority do you think investing in QI is under normal and challenging times?
6a: What do you consider as investments that your organisation makes towards QI?
6b: What do you think influences attainment of QI benefits?
7: What does the phrase Return-on-Investment mean to you, and how does this apply to QI?
8: Do you think this view is shared within your organisation?
9: What advice would you give to NHS organisations who invested a lot in QI, and those who have not invested in QI?

These questions were based on the review findings and were used to ascertain in more depth how and why ROI is conceptualised a certain way by leaders as part of their organisation. Further, the questions were designed to explore how that may affect leaders' decision-making toward QI investment or disinvestment. The interviews took place between December 2021 and January 2022 and lasted about an hour each. Interviews were recorded and transcribed using the Microsoft Teams. During transcription, personal details were deleted for anonymity. Data were moved to NVivo Release 1.6 (2020) and managed in an encrypted and pass-word protected King's College London computer. Data on Microsoft were permanently deleted.

5.3 Data Analysis

I analysed the data using Framework Analysis and Thematic Analysis. Framework Analysis is a deductive approach that uses an existing framework to deduct specific data from a dataset (Srivastava & Thomson, 2009). As such, I used the existing QI-ROI framework and themes from the systematic review to deduct previous data and induct new data through Thematic Analysis (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). The analysis had two phases: Phase I steps (the deductive phase); (1) developing a codebook based on the conceptual framework, and (2) testing the codebook against the existing framework and literature and adjusting codes as needed. Phase II (the inductive phase) entailed step (3) re-familiarising with interview data, (4) generating initial codes, (5) applying the codebook and identifying any additional codes, (6) connecting codes, (7) identifying themes, (8) re-checking themes against the interview data and the existing QI-ROI conceptual framework, and (9) reporting study findings. The data analysis framework can be found in Appendix 9-x.

5.4 Results

Sixteen participants took part in the study. Included were 9 board members and 7 non-board directors. I arranged the themes according to the three objectives: (1) ROI conceptualisation (2) Influencing factors, and (3) Disinvestment potential. ROI conceptualisation are leaders' mental abstractions of QI-ROI as represented by how they defined, described, and discussed

ROI. Influencing factors are derived from the rationales given as to why certain benefits are deemed QI-ROI. Disinvestment potential relates to how the conceptualisation of QI-ROI affects QI investment decisions. This indirectly reflects the consistency of the QI-ROI concept as investment decisions may be based on the individual or prevailing ROI conceptualisation by participants. Appendix 9-xi contains additional exemplar quotes along with the codebook.

5.4.1 ROI conceptualisation

The findings indicated that mental healthcare leaders predominantly described ROI as any valued benefit that directly or indirectly contributes to the fulfilment of their organisational strategy. Here, ROI was associated with quality where the improvement in quality as demonstrated by desired outcomes was seen as ROI. Valued QI benefits included patient outcomes, staff outcomes, financial outcomes, organisational development, and external outcomes for healthcare systems and societies. Financial benefits were seen as secondary to other outcomes. To this effect, a participant expressed that,

“[we are] not looking at the money but actually we're driving the money from the quality of the service...high quality, ultimately costing us less and, giving us more scope for investment and innovation”. Participant 7

Some participants also associated ROI with cost of care. In this description, the leaders focused more on costs (and investment) and less on the benefits or returns. This suggested that ROI was sometimes conceptualised more as a cost-saving or cost-management tool. For example, most leaders discussed using QI as a strategic future planning tool to prevent high-cost care. As an example, a participant referred to the use of ‘ROI’ programmes in certain parts of healthcare. Such programmes involved various strategies focused on cost-saving. Cost-saving in this context also entailed improving staff outcomes with the hope of reducing turnover costs as demonstrated by the following quote.

“If you start to reduce the amount of turnover, you are getting people staying longer because they feel it's a good organisation to work. There is always a cost when someone leaves then you gotta replace them. There's a cost to that, so there are some of the examples for me on return on investment”. Participant 1

5.4.2 Influencing factors

The theme ‘influencing factors’ had five subthemes: perceived mandates, values, expectations, ambiguity, and uncertainty. Different values, obligations, and expectations from QI provided a framework for how ROI from QI was conceptualised. QI was primarily expected to improve quality but also help manage scarce resources. Both internal and externalised benefits were valued. There appeared to be tension and a mutual dependency between these two expectations; finances and other resources helped improve quality, and improved quality helped manage scarce resources. Altogether, these factors amounted to organisational-level ambiguity and uncertainty over QI-ROI. In the next section, I will describe these factors in more detail.

5.4.2.1 Healthcare QI mandates

All participants suggested that their conceptualisation of ROI was anchored in what they saw as their mandates as mental healthcare leaders. Mandates were often external in their nature, for example through national quality frameworks or fiscal targets. The main QI mandate was seen as improving the quality of services. In spite of fiscal constraints, leaders did not see saving costs as their primary mandate. However, indirectly, participants saw managing scarce resources as an important QI mandate that can eventually lead to saving costs. In addition to mandates, were perceived obligations towards patients, staff, societies, the organisation, and system partners. Further, leaders expressed internal aspirations such being the best service provider and a great place to work as stated by participant 1 above. Others expressed that money is seen as tool to facilitate better care as seen below.

“[it is] about the quality of the service we provide, so I'm 100% behind that, and that is what is the test for me all the time. Is the money facilitating better outcomes, better experience or better safety? Participant 7

*“I would like to see reduction in terms of money, but I think the quality aspects of supporting people in their lives and their recovery journey is a really valid way to show that that investment's been worthwhile.
Participant 10*

A few leaders referenced the organisation's overall strategy on environmental sustainability. However, the sustainability of QI programmes and outcomes was the main concern expressed by most participants. Sustainability was seen to be related to supporting and embedding new practices. Some participants were concerned about the organisation's ability to cater for future patients. This was in recognition of the need to improve quality using limited resources. Some participants felt that this required the organisation to be self-sufficient and sustainable. As such, managing scarce resources and improving quality was expected to help with the organisational strategy towards sustainability objectives. In this regard, QI was used to improve organisational efficiency and productivity rather than generate profits. This was expected to help free-up and redeploy resources where most needed within the organisation and or healthcare system.

“...when I talk about financial benefits, I talk about how do we then reinvest that to make us a more sustainable service for the future, knowing that we've got increased demands often in decreasing capacity or capacity that's unsustainable ...”. Participant 2

Managing scarce resources, improving quality, and sustainability also entailed seeking cultural transformation. Through QI, internal and external cohesions or collaborations were

encouraged. Internally, this entailed improving team-working, whilst external cohesions and collaborations entailed improving relationships with external system partners and patients. Cohesion and collaboration were sought through co-production, enhanced communication using a shared language, and shared leadership. There was a desire to disseminate insights both internally and external to the organisation. The assumptions were that through collaborative activities, QI benefits could be spread more quickly, sustaining, and maximising benefits. As such, QI collaboration was seen to improve efficiency by not “reinventing the wheel”.

“...the benefits of that for the Trust of doing it this way, that where improvements are made in a pilot, they can then be rolled out ... so that we're not reinventing the wheel, which is resource heavy”. Participant 9

“...we've got limited resources to do that, so we want to make sure we're using them to the best effect, so actually, there is no waste in the system..., and I don't just mean money, all the resource we have, intellectual property, staff's, time, everything. All the clinical expertise we have has to be used to best effect straight away.” Participant 12

Leaders often made links between different outcomes. Particularly, improved staff skills were seen as central to achieving patient and financial outcomes, as well as system-wide outcomes. Therefore, some QI investment was also keenly directed towards staff outcomes as exemplified by the views below.

“It [QI team] captures the methodology and puts in place some of the people with the skills needed to deliver that. So, data and informatics and a way of assessing and developing driver diagrams and communicating that and filling them out, breaking down the problems. It has created a set of people with the skills.” Participant 11

“...QI is key, [it] should be part of a key kind of workforce investment that you've got to equip your staff with the ability to look at problems and apply different ways to address them, and the idea of not equipping them with those skills is kind of ridiculous and inefficient”. Participant 16

5.4.2.2 Values

Mandates determined QI's main goals and objectives and provided rationales for pursuing QI. These mandates were often explicitly and implicitly expressed through values. Some values were extrinsic, for example, QI was a means to manage economic pressures from rising service costs and demands. However, leaders predominantly expressed intrinsic motivation to improve service outcomes. Participants primarily viewed ROI through personal, professional, and organisational values. Extrinsic values were applied within the framework of intrinsic values. To this effect, a participant expressed that,

“I think when you see things like quality adjusted life years and monetised outcomes that can be used within health, I think that makes the hairs on lot of clinician's backs go up. ...I think people can feel very uncomfortable with those monetised outcomes”. Participant 11

Health and social care perspectives drove the predominant intrinsic values. Such values prioritised clinical and social agendas such as upholding human rights and justice. This included value-based healthcare where any outcome that matters to patients is favoured. Important outcomes included helping individuals improve their personal, social, and work lives. This indicated a rejection of economic values or perhaps an emphasis that economic values were not seen as core organisational values. Financial focus was seen as contradictory to healthcare leaders' values. There was recognition that the traditional ROI is meant to encourage fiscal responsibility in view of scarce resources. However, leaders collectively rejected the notion that only monetisable benefits should count as ROI in mental healthcare.

Even though some named benefits were monetisable, most leaders' ROI concept was focused on the benefit itself, and not the monetised version. For example, some asserted that:

“...we could get an ROI actually to pick it apart and get what the cost is, and cost saving is. It's not really worth it for the investment...It doesn't matter what we're getting in return [on investment]. The important thing is the, the actual outcome”. Participant 8

“By reducing restrictive practices, we're respecting people's human rights. We are improving their wellbeing. We are increasing the chances of their recovery. There's a very human quality there that you can't monetise”.

Participant 9

For some, their role meant conceiving ROI as primarily measurable outcomes. This meant treading a fine line between a broad values-based ROI and the econometric traditional ROI. In essence, these leaders maintained the QI-ROI concept of any valued benefit but emphasised measurable outcomes. This modification indicated a lean towards financial ROI (which can be measured) and or a tension between economic and healthcare values. Framing messages 'correctly' was seen as important in managing this tension in service of both improving quality and managing scarce resources. Thus, fiscal obligations appeared to have a variable influence on the QI-ROI concept. These conclusions are reflected in the selected quotes below.

“...that's where it's tricky about taking people with you, 'cause absolutely if you talk in the wrong way, you get the wrong narrative with people about them, you know teams on the ground saying that it's just about money and taking money out...” Participant 7

“We're running health care delivery organisation using the best of business practice and principles. It's a very different way of describing it. And it's a fundamental tension when you have a board where people talk about ROI and cash releasing, savings and flow...I mean, it's blindingly obvious if our patients don't end up in deep poverty, they are not going to relapse as much”. Participant 2

There was a desire to avoid financial focus at the expense of desired end goals like staff and patient outcomes. Therefore, the econometric ROI was rejected, seen as limited in its view and application. For many, a balanced ROI approach that combines both financial and non-financial outcomes was seen as crucial. This compromise indicated a modification of values to accommodate economic values and vice versa in view of quality and scarcity management mandates. This is demonstrated by the following exemplar quotes:

“I would say that's half the picture and I think we risk an over-focus on financial metrics at the cost of others. So, I think you have to think about experience. We have to think about outcomes. We have to think about other softer [outcomes]”. Participant 4

“CQC [Care Quality Commission] will rate on the quality of services. But if their finances were in a mess, they wouldn't be able to be an outstanding [organisation]. It is about making sure that you're getting a good return on investment, both in terms of being financially sustainable but delivering first class services”. Participant 5

5.4.2.3 Expectations

Expectations were often driven by mandates, perceived obligations, and values. The QI outcomes described as ROI aligned with what QI was expected to do or enable. Overall, these expectations provided a framework for how ROI from QI was then conceptualised. All participants described QI as a systematic way to improve the quality of healthcare. Notably, none described QI as a cost-saving tool. QI was seen as a mechanism for diagnosing problems, understanding systems, identifying, and testing out best solutions. The aim was to then embed, roll-out, and sustain improvements. In both instances (failure or success), lessons were taken forward and shared with other teams within the organisation or health system. The ultimate objectives were sustained improvement of desired outcomes. As such, some expressed that:

“We pursue quality improvement programs to embed in the organisation, approaches which deliver better quality care”. Participant 3

“...sustaining, scaling up, changing organisational policies, using what we need to do in order to get those changes bedded in”. Participant 16

5.4.2.4 Ambiguity

Expectations varied amongst participants, depending on their QI function knowledge, experience and or buy-in, as well as influence of others. These factors may indicate individual differences in perceptions and approaches towards QI as a methodology. At an organisational level, these factors gave a sense of organisation-level ambiguity as will be explained below.

QI function knowledge and buy-in

QI function knowledge was strongly related to a leader's role, QI training, experience, and or proximity to QI programmes. The closer in proximity to QI programmes, the more QI training and experience, the broader the view of the QI-ROI concept. Personal experience with QI enabled more nuanced understanding of QI benefits that went beyond achieving programme goals. QI experience enabled clearer expression of both immediate and long-term QI outcomes. More experience with QI allowed understanding of what QI is most suited for, thus influencing ROI conceptualisation as broad organisational and system-wide outcomes. This was accentuated in those who were 'bought-in' into the QI methodology. However, those not fully bought-in were sceptical about function, outcomes, and causality. Some were concerned about assumptions by others that QI can solve any problem as seen in the exemplar quotes below:

"I think some people, especially in a healthcare setting, would see quality as patient care, for an individual patient. Some might see as your ability to treat your population, so that's more of a performance element of quality, and I would include how you utilise your resources sustainably to maximise quality" Participant 1

"I think the problem is, a zeal, that it solves and delivers on every problem that they're sort of that slightly religiouso aspect of it, that if you only did everything with QI, it would be brilliant." Participant 11

QI Success vs QI failure

Ambiguities over expectations appeared to lead to ambiguity over QI success and failure. Some saw QI effectiveness as encompassing outputs e.g., diagnosing process issues, or hard outcomes e.g., achieve set goals. Including softer benefits broadened the view of QI-ROI. Perceiving QI as a continuous incremental methodology also broadened the QI-ROI concept. Here, different benefits were perceived throughout what was seen as a 'QI journey'. Some viewed this journey to be made up of a sum of smaller projects within a programme. The

assumption was that QI projects can be aggregated to unlock organisation level outcomes that improve overall performance. This is demonstrated by the following exemplar quotes:

“If you do it on a lot of little things that still builds to a big saving at some point”. Participant 15

“... it does enable us to track improvement overtime when we look at aggregate measures”. Participant 4

A few participants discussed what they called ‘QI trial-and-error’ philosophy. This philosophy appeared to enable conflicting meanings of success. Participants stated that QI is used flexibly to test hypothesis. By this virtue, QI can either be effective or ineffective in achieving intended goals, either outcome is valued. They saw this as a principle that enables teams to avoid excessive waste by abandoning failing attempts early. Thus, trial-and-error was seen a tool for efficiency rather than waste in failed attempts as illustrated as these exemplar quotes:

“One of the central tenants is fail quickly and move on”. Participant 14

“Rather than spend a year setting something up and then failing, can we set up in a week and fail quickly so that we know, what's not working quickly. But in doing so, not discounting it, giving the chance to properly fail”. Participant 15

Intervention vs implementation failure

QI-ROI was seen to be related to intervention and implementation failures. Intervention outcomes for some programmes were perceived to have been mostly positive, i.e., intended goals were achieved. However, some indicated that poor initial implementation, processes, and outcomes such as rolling out, scaling up, spread, dissemination, embedding and sustaining were most frequently associated with failure to obtain QI-ROI. Thus, failure and success at project or unit level were linked to goals achievement (intervention effectiveness), whilst success and failure at programme or organisational level were portrayed as failure to spread, embed, and sustain (implementation failure). Deciphering which failure has occurred was sometimes challenging. To some, this pointed to a need for better QI governance, as can be seen below.

“One of my frustrations would be that I think it's hard to see, the return on investment from QI at the moment. ...there are promising elements of what we have been trying to do, ...It looks like it works..., but never rolled out. So, is that a success of QI, or is that a failure of QI? Hard to say. I mean I it's either a failure of the tool or it's or it's a failure of the organisation to use the tool. Participant 1

Perceived past failures influenced what can be realistically expected or what was viewed as missed opportunities. Most participants indicated that negative consequences from both intervention and implementation failure narrowed a future conceptualisation of QI-ROI. As above, implementation failure at different stages appeared to affect expectations significantly. Some associated failure with poorly supported QI interventions. Those aware of this effect of perceived QI failure feared that others end up with faulty assumptions about what QI can do. This is demonstrated by the following exemplar quotes:

“I think QI has the potential to drive massive cultural change in organisations as well as actually deliver outcomes. If you set about it the right way”. Participant 2

“I think that people often say QI and don't know what they mean... and therefore not implement it properly and then not like it because they think it doesn't work”. Participant 12

“I've seen some things where people don't implement it right. They don't provide the support and training for staff to do it..., you know you can implement it really badly. Just make it a process that people feel like they're going through. They don't feel any benefits for themselves....And you know you'll fail on it...” Participant 6

QI evaluation: how, what, and when to measure

Some desired outcomes were deemed neither measurable nor monetisable. This then created a dilemma of how QI-ROI is or should be measured. Participants stated that a compromise was sometimes reached through using proxies and adding narratives to detail qualitative benefits. QI and thus ROI measurability was deemed crucial but not practical due to either lack of skill and or infrastructure. The source of measurement challenges also included the ROI methodology itself. These concerns co-existed within a participant as can be seen below.

“I think we're fairly unsophisticated when it comes to thinking through the stuff that's harder [to measure], partly because we probably strapped for resource, and we don't have the people who have the time to think through bit more of the sophisticated proxy measures that we might like to use”.

Participant 4

I think that social impact is really important, and I don't believe that financial only ROI is sophisticated enough”. Participant 4

“We chart numbers and returns which are really quite abstract and you know the extent to which they're real, is a real question to me”. Participant

7

“We haven't yet measured [ROI] ..., partly because you can only get the data on the cost of an incident from the literature and the literature is quite old. ... It would take more than the cost of the incident, probably”.

Participant 8

There was ambiguity over when to measure QI outcomes. Although there was a desire for immediate results, most participants asserted that QI benefits do not show themselves in the immediate period. QI outcomes were said to be apparent in phases. Some outcomes such as problem identification and diagnosis may be immediate, others such as patient outcomes may be intermediate, whilst sustainability and cost-saving were seen as long-term outcomes. Some felt there was a misalignment between expectations of immediate results and the ability of organisational and QI processes to deliver immediate results. As such, some participants stated:

“I think they want results, and they want things changed quickly. But I think ... the changes they want is an instant change, and it doesn't happen...I think there's a bit of lack of understanding”. Participant 15

“If QI really is working, then then those outcomes should be being delivered. So, year on year, you should be able to see improvements in outcomes, but you should be also seeing that there's less variation across the system, but I think if QI was really working to be able to identify the next problem much more easily too”. Participant 8

As seen above, for some, QI was expected to be continuous and incremental and then aggregate to transformational change. Some participants did not see QI as a tool for transformation. They felt QI can contribute to transformation, but top-down measures were needed for organisational transformation. This disagreement co-existed within some participants as can be seen below.

“...it's a way of being able to know what it is we want to strategically delivering a the medium to long term and then use our methodology to start to make incremental changes that we know will aggregate up to that big change.” Participant 12

“...all you do is just make those incremental changes, but never changed the system for the future. So, you've already failed before you started, because yes, you can improve processes to a particular percent or degree actually without really changing the whole value chain...you won't make systemic longstanding change”. Participant 12

Influence of others

Some scepticism was related to the influence of others within and outside the organisation, Therefore, expectations and thus the QI-ROI concept were also influenced by others. This was apparent when leaders supported their QI-ROI concept views by quoting others. Internally, trusted colleagues' negative perception of QI or QI effectiveness and limited perceived benefits narrowed others' concept of QI-ROI. As seen above, there were also concerns regarding what was seen as faulty assumptions by others regarding what to expect from QI.

External influential sources included literature, health economists, and politics. Lack of evidence of QI effectiveness in literature limited expectations and created scepticism. Awareness of ROI as monetised benefits from health economics literature was taken into

consideration. However, it did not appear to fundamentally change how leaders conceptualised ROI. Political and economic expectations caused some to frame their views of ROI as monetisable benefits, also without fundamentally changing their conceptualisation of ROI as any valued benefit. This caused QI-ROI concept to be modified depending on context (e.g., healthcare, economic, political contexts). This is demonstrated in the quotes below:

“I’m conscious that often we in in the political context, we talk about the return on investment by talking about, you know, the amount you save by the investment that you make in a new service”. Participant 3

“We know that happy staff ... directly translates into improved patient outcomes, but it's just really hard to kind of measure it and count it. So, I would say if I was talking to an economist who believed in intangible assets, which I think many of them do, then I would kind of take that position. But I think someone who purely wants to look at ROI where there would be something that stacks up that I can count, then I probably [would] deviate a little bit from that position”. Participant 16

“I think if I was a chief exec, if I'm honest, I'd rather go look how much money is it saving up, and how much more improved and how much more efficient are we. But I think that's at its most simplistic form, and I think if you could say one of the benefits is that improves system working or it reduces the contact or patient had with the police and therefore there's benefits...” Participant 16

QI theory and practice

To some extent, ambiguities appeared to be a symptom of what seemed to be an ambiguous nature of the overall QI philosophy itself. There appeared to be various interpretations of the

same QI concepts, for example the QI trial-and-error principle and QI effectiveness above. However, some indicated that the issue was less of ambiguity, but more of a dissociation between QI theory and QI practice, by self and others. As such, a participant asserted that:

“There's a difference between the concept, which is absolutely remains fundamental and the mechanism for delivery. You have to hold them separately, I think because one is the principle of QI, which remains important and the other one is the delivery of QI”. Participant 1

The apparent contradictions appeared to have the effect of QI working against itself, producing results that are contrary to the philosophy and principles being promoted. For example, although QI is by principle a bottom-up approach, some as experienced QI as a top-down approach. Others found that QI could create silos rather promote collaboration. Others found that a shared language and communication about QI and ROI was not as desired. Structuring of QI was seen by some as a potential threat by some to innovative and creative thinking. Others saw structuring as counterintuitive to the need for flexibility and adaptability. This is demonstrated by the following exemplar quotes:

“I've observed in the organisation, for example, as we've been running kind of three-monthly improvement cycles and testing interventions, and it's become sort of almost psychotic with no real thinking as to what's the big overall issue”. Participant 16

“How effective that is depends on how you've structured it and how adaptable it is ... in a world of constant change you want it to be more and more adaptable...”. Participant 1

5.4.2.5 Uncertainty

Lack of ROI evaluation tool

There were uncertainties and scepticisms regarding whether QI does live up to expectations. There was no direct tool to measure ROI of QI programmes. At the board level, QI-ROI was expected to be demonstrated by improvement in key performance measures contained with the organisation's integrated quality framework. Depending on role, some leaders provided specific data on ROI links to integrated quality framework. For example, some leaders named staff and patient surveys as part of understanding the QI-ROI from collective QI programmes. For others, the 'sense' of QI-ROI was either through intuition, first-hand knowledge of a programme, or through dissemination. The quotes below illustrate these views.

“I can only know it's working from the individual projects I've been involved in, or whether that information is disseminated or whether things have changed in the long term as a result of an implementation of a particular new way of working”. Participant 10

“How can we measure the improvement compared with the investment that it's taken, and we have seen significant moves forward in some areas, I think we've reduced variation, unwarranted variation across the organisation has reduced, but it's still prevalent and still an issue in some places...”. Participant 7

There was recognition that the ideal of perfect information was impossible to realise. What leaders sought, was enough information to decide about QI value and investment. Sometimes that meant accepting the reality of the inability to provide definitive proof. Some information was seen as better than none. These views are demonstrated by the following exemplar quotes:

“Just because I think you should measure something, it doesn't mean I think you have to have perfect information, so just have to have enough good information to make a decision. ... So, it's not about you, having, you know the causal link. I'm happy for the causal link between change and improvement to be looser...”. Participant 1

“...some things you know we have to accept; we just can't measure”.
Participant 5

Some saw the uncertainty over converting outcomes to ROI as a matter for board governance, supported by QI governance. This indicated that measuring QI-ROI was expected to be a shared but also role-dependent effort, with implementers applying QI and measuring outcomes, and the higher leadership converting those outcomes to ROI. As such, a participant argued that:

“...there're other people that often think about how do I then translate that into a return on investment or a financial projection for organisation? And that's often what the board job is-I think to the hold that uncertainty and try to bring that level of clarity without putting that burden on staff that, may not be at that level of experience or understanding”. Participant 12

Uncertainty due to poor communication

Some saw ambiguities and dilemmas as opportunities to engage in communication over QI-ROI. However, some felt that the extent to which communication about QI-ROI occurred was unclear. Some participants commented on the poor communication within the organisation regarding what QI has or has not achieved. This appeared to worsen overall uncertainty over QI outcomes and therefore QI-ROI. For example, some participants expressed the following:

“...it's allowing you to have those rounded discussions, particularly for things that are difficult...to measure, so you're always looking for different ways of getting information in about the impact of”. Participant 5

“...we know we're certainly seeing benefits of the things that we've done through QI. I'm not sure we're very good at advertising it”. Participant 9

“do we have the space to talk about what has really gone on and what's driven that failure, or you know? Or the data going in the wrong direction because it's not. You know we wanna call it a failure... I don't think we do at the moment.” Participant 4

Uncertainty over causality

Most participants indicated that organisational complexity challenged what can be realistically expected of or causally linked to QI programmes, and thus ROI. Further, participants expressed that in a complex system such as mental healthcare, costs and benefits may be shared with external partners, making ROI harder to detect or measure. As such, some participants found ROI an uncomfortable concept and practice to deal with as can be seen below.

“...the challenge is we are really bad on return-on-investment articulation and measurement, and I think we are deliberately bad on it. And the reason we are deliberately on it is that it's an uncomfortable place to be. [A practitioner] very rarely wants to sign up to it, because then they actually have to deliver on the aspirations. Participant 12

“...we're now much more, you know, doing much more collaborative work with our partners and...so, there's kind of bleaching of where the money is,

who does what is a lot less clear, so you know in terms of being able to assess what our what our role was and financially say, that this is a bit we did is much more tricky to do". Participant 10

"...the cost might not be borne immediately, because if you reduce the stress of people, we know that stress means people don't live as long. So, there's probably, short term return, medium term, and much longer term which might not be borne by the organisation, but someone picks up that cost". Participant 15

"I think with anything, you can never 100% stand there and say this is directly attributable to X, but you might be able to conclude to the best of your working knowledge..." Participant 14

Some felt that as the QI investment is fixed, and as such, QI-ROI should be based on actual outcomes of QI evaluations (e.g., improved safety), rather than monetised outcomes (ROI). The effect seemed to be an abandonment of traditional econometric ROI, in favour of a QI-ROI that focuses on broad outcomes as demonstrated by these exemplar quotes:

"We don't think it's worth us going away and working that part out...that's not quite the way we think about it, so we wouldn't do the financial or economic analysis on and every program. Absolutely not. We're much more focused on the program outcomes for each piece of work [because] we have a fixed investment into QI". Participant 8

I think 'cause it's an investment that's seen as having been made, and there's nothing we can do about that about it now. Participant 4

Similarly, a few participants indicated it would be difficult to detect ROI because QI and its investments were already embedded and part of everyday business such as investments in IT and other organisational investments. This can be seen in how some discussed the role of QI:

“I think the narrative has changed over the last few years because the question previously was how has QI delivered a return on investment? ... I think probably now we don't think of it so much like that because it's actually embedded in the organisation. It's not an add on, it's business as usual. It's what we do. It's part of us”. Participant 9

“...we introduced QI in the organisation quite some time ago, so it has. I think there's a maturity with it now, ...I know that it's infused within the organisation”. Participant 10

However, participants appeared unable to disentangle QI principles or philosophy from every day or other ways of innovative working. It appeared difficult to tell when QI is embedded, or when QI was not a factor in how things are done or thought of. This uncertainty can be seen in the following exemplar quotes:

*“I don't think I once thought about QI in that time or anybody did, we did use data quite a lot and most organisations now use run charts so that I wouldn't say that's particularly QI it was a QI-centric decision”.
Participant 14*

“...where we have seen QI work it at least gets people together to think about a problem, so I don't think it's actually been the methodology that's helped. I think its people saying or where we've got an issue”. Participant

16

This was also apparent when discussing QI's performance during the COVID-19 pandemic. There were differences in opinions as to how QI performed during the pandemic. Some participants explained this to be a result of QI being already embedded within the organisation. Some thought that an indication of this embedding could be the speed of implementation or problem diagnosis. Others felt that this was achieved during this pandemic as seen below.

“...our QI team, when COVID hit were absolutely phenomenal... they've never done this before either. They were using PDSA to make things happen. And boy, did they make it happen! You know, it's incredibly impressive what they did, and it did happen quickly, so you know, that's the point”. Participant 9

5.4.3 Disinvestment potential

The influencing factors above also affected attitudes towards QI investment and disinvestment. Attitudes towards QI disinvestment particularly in the face of uncertainty helped provide insight into the stability of QI-ROI as any valued benefit. The view by most participants was that QI methodology is known to be effective, as demonstrated by other industries or other mental health organisations. Therefore, in theory, QI was believed to have potential for a good QI-ROI. As such, QI as a methodology was generally supported. In the face of ambiguities, dilemmas, and uncertainties; patience, compromise, and tolerance were exercised. Although some questioned the QI methodology, all participants saw investment into improving quality as a necessity and obligation in any healthcare organisation.

A participant asserted that:

“I think most people recognize directly or through the fact that they are told to do it. By some higher power, some regulator to do it, and that they need to invest in continuous improvement, you need and a mechanism for making things better than they are now. And that is not going to come inherently from the teams that you have to do day-to-day business.”

Participant 1

This indicated that it is a matter for QI leads and board members working together; QI leads demonstrating and maximising QI value to help guide spending on QI, and the board supporting QI to maximise its benefits. QI investment was also seen as a fundamental philosophical organisational position. Beliefs in the idea of improving healthcare was a significant driver in QI investment. On this, participants reflected back to the perceived mandates to improve the quality of their service. Therefore, previous investment decisions had been tailored to expectations and values. In this regard, some participants raised the following arguments:

“...sometimes you make decisions based on the fact that you won't get any of this. You know you won't get any financial returns. Sometimes you make it based on the fact that actually you'll save”. Participant 4

“This is also about a mindset and a philosophy and a changing culture where you want people to innovate and make progress and improve”.

Participant 1

“...we are committed to QI, certainly for the moment”. Participant 5

For some participants, financial pressures meant that some form of proof was essential to continue QI investment and support. The concern was that failure to provide this proof creates reluctance towards future QI investment. Some were concerned that this potentially creates a vicious cycle where uncertainty over ROI may lead to disinvestment, and resource disinvestment may lead to more failure and or uncertainty. Some raised the following concerns:

“...its quite resource intensive to start with and so your returns come over longer periods of time. As I say, they're not cash releasing. As the pressure on the money increase, you start reducing the investment or not investing more when you need to or and not in particular areas and the pressure in the service as a whole means people are just so hard pressed that it falls to the bottom of the list of immediate priorities”. Participant 6

Due to uncertainties, QI was viewed as a risky investment by some. Some were concerned may cause unwarranted continued investment into QI and result in a ‘locked-in’ state. This indicated that some scepticism over continued investments and or concerns about the ability to change course if no ROI was perceived. The following quote is an example of such concern:

“I think there's sometimes there is a risk in not doing that that you get locked into something that feels right, and for the general good...”Participant 7

Despite uncertainties, leaders appeared unwilling to disinvest from QI. Instead, they preferred re-examination and redesigning of improvement efforts using different tools or approaches within the QI methodology. Most participants expressed that QI failure was strongly linked to teams and organisations failing to implement and support QI. There was an awareness that organisational-level challenges such as board governance, QI resources, as well as QI team

governance determined QI success. As such, QI was seen as everybody's business, with everyone's investment in it. This is demonstrated by the following exemplar quotes:

"It depends if they made it about the investment... it may be if their team isn't performing or they've achieved everything they wanted to, or they feel that it has become business as usual, but I would struggle to think in an ever-changing NHS that anyone has got it so completely nailed that they don't need that support anymore". Participant 9

"I think it fails 'cause we don't spend enough time with our staff to get them invested personally in improvements in the same services." Participant 15

"It requires some risk and investment, and it requires some, some real recognition that you can't just load this onto people's day jobs without understanding what the consequences might be and then expect them to do it as well and build enthusiasm for it as well..." Participant 7

"...if you're saying, well, why did they invest loads of money, and it works really well over there? Why do these guys? Invest a similar amount of money, but it doesn't work here. And that's because they have invested in the concept. Not necessarily what they need to do". Participant 1

As shown in Figure 5-1, although some concerns were raised about some benefits and evidence, the QI-ROI concept was maintained as valued monetary and non-monetary benefits, and the QI investment was also set to continue. Within this, some benefits would be included, excluded, or not even considered. The inability to measure and or monetise some valued benefits constituted lack of QI-ROI objective proof. For some, this caused a rejection of non-monetary benefits as legitimate parts of ROI, although seen as legitimate QI benefits. Alternatively,

uncertainty due to the inability to measure and or monetise valued benefits emerged as a strong factor in rejecting traditional ROI. For some, it is inconceivable to exclude certain benefits due to their non-monetisability. This indicated a conflict of values. Crucially, leaders were more concerned about measurability and ‘attributability’ of benefits than their monetisability.

The perceived mandates and values played a significant role in defining the QI-ROI concept as any benefit. Particularly, the focus on quality had a strong positive influence on maintaining a comprehensive QI-ROI concept. Concerns about scarce resources caused modifications to include financial benefits and the view of ROI as a cost-saving tool. Altogether, the mandates, values, and expectations created ambiguity. Uncertainty was tolerated. Thus, none of these influencing factors led to a desire to disinvest from QI. Rather, there was recognition of the complexity of QI, its evaluation, and the mental healthcare context.

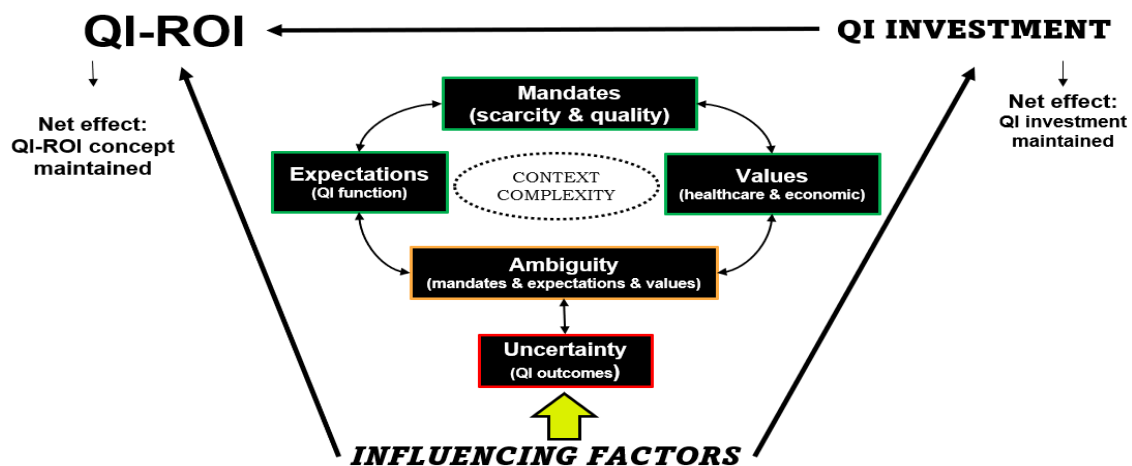


Figure 5-1. The factors determining the concept of ROI from QI programmes (presented with permission by(Thusini et al., 2023)

5.5 Discussion

The aim this study was to further develop the QI-ROI conceptual framework. The main objective was to explore the extent to which the conceptualisation of QI-ROI indicated in

Chapter 4 was shared by mental healthcare leaders. The secondary objective was to explore the determinants of the QI-ROI concept. Thirdly, I assessed the potential impact of the QI-ROI conceptualisation and its determinants on the desire to invest or disinvest from QI. This helped test the stability of the concept. The current study indicated that in mental healthcare, QI-ROI is also conceptualised as any monetary or non-monetary benefit. The QI-ROI concept was chiefly perceived as improved quality in some internal and external aspects of an organisation.

My findings also supported views about valuing of hard to measure and externalised benefits, and apprehension over benefit monetisation. There was a stronger sense of QI-ROI ambiguities and uncertainties in this study. The fact that these issues did not deter QI investment supports the accepted broad nature of the QI-ROI concept. Further, participants clarified that a benefit must contribute to the fulfilment of their organisational strategy to be valued. Below, I will discuss these issues. First, I will update and discuss the QI-ROI conceptual framework.

5.5.1 QI-ROI conceptual framework

Only minor changes were made to the QI-ROI conceptual framework (Figure 5-2). In addition to improvement, development, and financial outcomes, QI contribution to other strategies e.g., value-based healthcare (VBHC), transformation, and resilience was also found to be important here. A potentially significant finding was the interest in organisational sustainability. Further, the speed with which practitioners identify problems and solutions emerged as an important benefit, and QI mandates as a crucial investment driver. Additions to the framework are the QI mandates as a starting point, and organisational sustainability and speed as valued outcomes. The revised framework thus illustrates three versions of the QI-ROI framework; versions I and II from Chapter 4, and the updated version (version III) which includes findings from this study.

Version III illustrates the following: at initial implementation, change ensues, and development occurs (e.g., staff). Collaboration with internal or external partners may also occur. This could

improve productivity, effectiveness, and efficiency. Improvements must then be embedded, spread, and or disseminated. In the process, QI may contribute to other strategies such as VBHC. Eventually, organisations may save costs, become financially stable, resilient, and sustainable. Positive and negative outcomes create QI legacies (sustained capacities and capabilities) that may benefit future programmes. This may improve the speed of engaging with new challenges and maximise returns. Decision-analysis, value judgements, and contextualisation may be needed to manage ambiguity and uncertainty around QI-ROI.

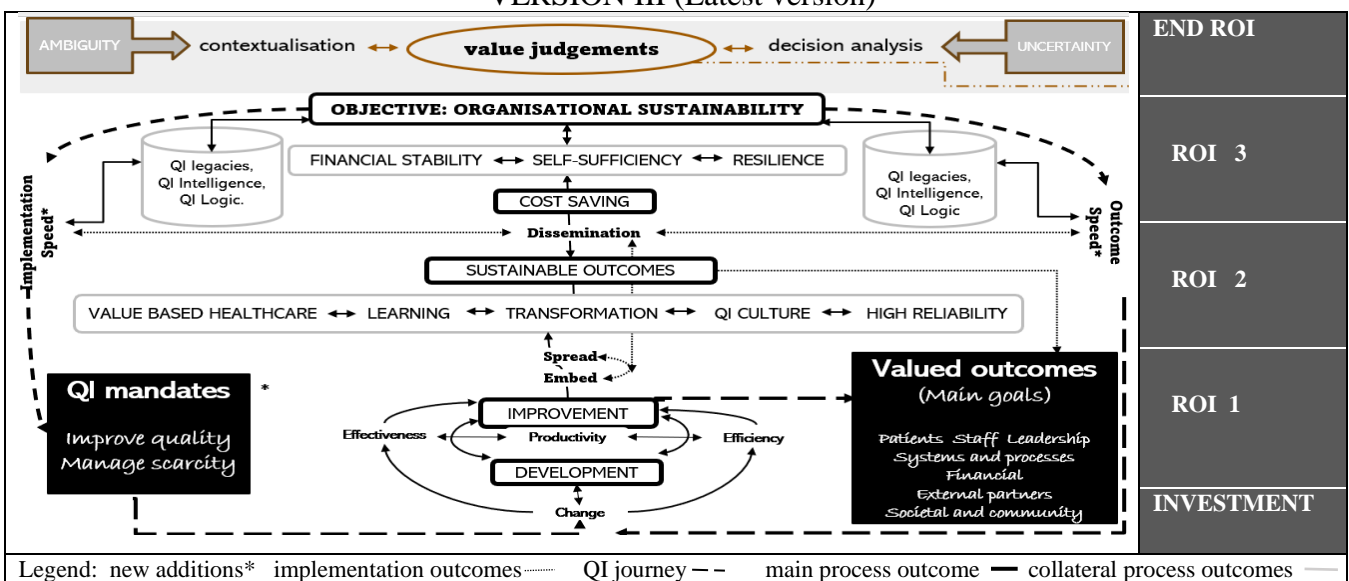
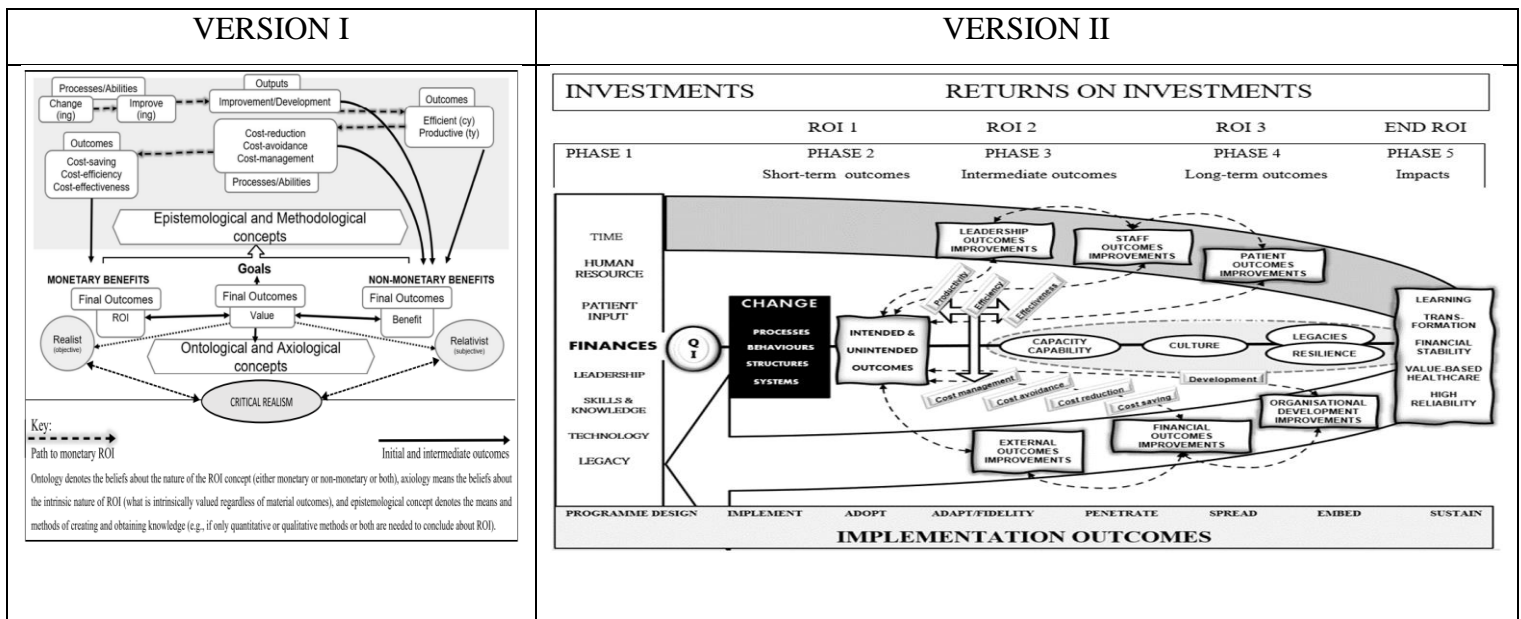


Figure 5-2 Updated QI-ROI Conceptual Framework (presented with permission by (Thusini et al., 2023))

The process of attaining QI-ROI occurs through phases. Initial investment occurs in phase 1, immediate outcomes may be gained in phase 2 (ROI 1), intermediate outcomes in phase 3 (ROI 2), longer-term outcomes in phase 4 (ROI 3), and some outcomes may be sustained (end ROI or ROI 4). These phases correspond with four main QI-ROI components: development and improvement (ROI 1-2), cost-saving and sustainability (ROI 3-4). Savings are a late benefit that occur after development and improvement. I considered sustainability an end ROI or ultimate outcome. However, other benefits may continue beyond this point through QI legacies.

As mentioned, surrounding QI-ROI were ambiguities and uncertainties. At best these indicate vagueness (indistinctness), at worst, there could be paradoxes (self-contradiction). Ambiguity and uncertainty appeared intricately linked in a self-reinforcing cycle; different ambiguities led to uncertainty, and uncertainty caused ambiguity. This posed a threat to the stability of the QI-ROI concept. However, positive attitudes towards QI investment in the face of uncertainty cemented QI-ROI as any valued benefit. Thus, the discussion highlights that ambiguity and uncertainty about QI-ROI are tolerated. I also discuss the challenges of external outcomes and of monetisation. These issues may impact the continued development of the QI-ROI concept and its application. In what follows, I will discuss these issues within QI and broader literature. Specifically, I focus on the sources of ambiguity within QI philosophy and practice.

5.5.2 QI Ambiguity and uncertainty

5.5.2.1 QI ambiguity and QI-ROI

In the current study, a significant amount of ambiguity appeared to be directly linked to the QI philosophy and methodology itself. One of the frequently discussed QI ambiguities is the concept of quality (Goldenberg, 2012). Quality accounted for most of the QI-ROI concept in this study. Quality is a multidimensional concept which is seen as a property of an entire

healthcare system. Organisations may differ in their expectations and may even have several definitions of quality within a single organisation (Cooperberg et al., 2009; Wettstein, 2005). This explains the comprehensive QI outcomes associated with the QI-ROI. Thus, ambiguity in healthcare and QI influences and causes ambiguity in QI-ROI conceptualisation.

Ambiguity is the simultaneous presence of equally plausible but mutually contradictory explanations of an event or concept (Mukherjee et al., 1998). For example, it may be equally plausible to say that ROI is value to an investor, as well as to say that ROI should be value to a service user as viewed in value-based healthcare (Teisberg et al., 2020). It is a matter of perspective. ROI was designed to assess value from the perspective of the leaders in-charge of investments (Solid, 2020). Trying to hold many views equally may be challenging and may eventually force trade-offs. This scenario applies in the institutional context where multiple stakeholders tend to have multiple views and objectives. Institutional theorists posit that ambiguity is a feature of complex organisations (Giroux, 2006; Hobbs et al., 2002). Thus, some argue for a pragmatic approach to ambiguity to benefit all stakeholders (Miller et al., 2000).

Ambiguity initially served to introduce the QI methodology into healthcare (Giroux, 2006; Mukherjee et al., 1998). Vakkuri (2010) stated that this can create a “hybrid system of theory and practice” (p.3). This system can contain complicated vocabularies of rationality that result in ambiguity, incoherence, and messiness (Vakkuri, 2010). Well managed, ambiguity enables alignment of values across fields. Otherwise, it can present challenges. Chiefly, ambiguity may enable simplistic and unrealistic assumptions about the practice and benefits of QI methods such as Lean and Six-Sigma (Fulop & Mark, 2013; Gadolin, 2019). This may then lead to attempts to get value-for-money through quick fixes at the expense of quality (Williams, 1993). Therefore, the introduction of ROI to healthcare entered the realms of the already conceptually troubled quality and QI. This emphasises the need to develop and clarify the QI-ROI concept. This is crucial as it also relates to how QI effectiveness is viewed, and by extension ROI.

5.5.2.2 QI effectiveness

In this study, there was notable ambiguity and uncertainty over QI effectiveness. As stated in Chapter 1, QI effectiveness is questioned. However, QI effectiveness is viewed differently. Some view it as overall performance, programme fidelity, goal achievement or sustainability (Dücker et al., 2011; James et al., 2021; Lennox et al., 2018). In the current study, some described QI-ROI as effectiveness, most described it as a measure of impact. Impact implies a comprehensive measure of value over time, incorporating benefits from intervention and implementation success. As such, Lennox et al. (2018) advised a broad assessment of success. In their systematic review on large-scale QI effectiveness, Clay-Williams et al. (2014) included culture, staff morale, and leadership. More recently, Pettigrew et al. (2019) raised concerns that large-scale QI has risks and benefits that may mean negative outcomes and failure to achieve intended clinical outcomes and costs savings. Thus, QI is often a trial-and-error process.

QI trial and error philosophy

Participants discussed trial-and-error as a crucial philosophy in QI. This mentality is related to the commercial fail-fast strategy, linked to progress and innovation. In healthcare programmes Lange et al. (2021), advocated for this flexible fail-fast mentality rather than push for success. This mentality fosters a learning environment where even negative results are seen as valuable (Hobbs et al., 2002). As part of this, the speed of problem diagnosis and solution emerged as important in this study. Speed of action and success follows continual learning (Curry et al., 2011), that support sustained organisational change (Coiera & Hovenga, 2007). Evolution in QI is through trial-and-error. This makes stability illusive. It also implies a paradox where failure must be seen as success. However, trial-and-error can be an effective strategy where uncertainty about problems and solutions exist (Hobbs et al., 2002; Lange et al., 2021). Speed is part of well-designed and implemented programmes (Ovretveit et al., 2017). Crucially, trial-and-error was seen by participants as part of QI efficiency, rather than a sign of waste.

5.5.2.3 Sustainability

Sustainability is an indication of QI effectiveness, impact, and ROI. Thus, failure to sustain has negative ROI implications. Perceived success also impacts sustainability; a programme can be neglected because of its perceived success (Kotter, 1995; Martin et al., 2012), or threatened because of perceived failure, or when costs are perceived to exceed benefits (Buchanan et al., 2005). In Chapter 4, sustainability emerged as important, and linked to adoption, dissemination, and spread of improved practices as well as QI legacies. The current study also indicated that sustainability is an important objective for both improving quality and managing scarce resources. Although financial and environmental sustainability were mentioned by a few participants, they were not major themes. Two main interests in sustainability were apparent: QI programme sustainability (practice and outcomes) and organisational sustainability.

Sustainability of a programme and its effects

The concept of sustainability can be ambiguous. It can be seen as static, or a continuous and unpredictable process (James et al., 2021; Lennox et al., 2018). As sustainability embraces contemporary foci, conflicting concepts are placed side-by-side, e.g., dynamism and stability (Buchanan et al., 2005; NHS Improvement, 2007). Lack of fidelity to programmes could be viewed as failure, or as part of learning (Lange et al., 2021). Adaptation and fidelity are actually both acceptable outcomes that support learning and contextualisation (von Thiele Schwarz et al., 2019). Thus, sustainability is best described as holding current gains whilst continuing to evolve (James et al., 2021). Some aspects must remain stable e.g., positive outcomes, semi-stable e.g., cultures, or dynamic e.g., capacities. A reasonable period to define sustainability is thus needed (Martin et al., 2012) to avoid constant change and fatigue (Camilleri et al., 2019).

Sustainability builds a 'QI legacy' (retained relationships, capacities, and capabilities), 'QI intelligence' (accumulated QI knowledge) that promote QI 'logics' (a way of thinking about quality issues). The current study indicated that QI philosophy can be infused in how all organisational improvements are done, i.e., an institutional logic (Thornton, 2012). A QI logic

could be a way of thinking about all manner of improvement challenges, for example response to COVID-19. Such a logic would have developed over time through quality and safety culture cultivation. Some principles behind the QI philosophy may be intuitive for some staff (Allen, 2016; Farr & Cressey, 2015). Nonetheless, QI may influence a prevailing improvement logic. Thus, QI legacies, QI intelligence, and QI logic are part of QI-ROI as sustainability benefits.

Organisational sustainability

In 2007, Coiera & Hovenga (2007) predicted that the healthcare system will fail if it did not transform substantially by 2020. This concern was shared by participants in this study. Such concerns drove a focus on sustainable healthcare, through efficiency (Braithwaite et al., 2020). A sustainable organisation is one able to continually balance delivery of short and long-term goals (Rostkowski et al., 2020). However, this may depend on many factors, some outside the scope of QI implementers (Coiera & Hovenga, 2007). Organisations must first cultivate the skills needed to sustain them. Thus, developmental benefits are part of QI-ROI. To this effect, Murdoch et al. (2007), stated that an ROI framework should include capacity building.

In an economic context, financial sustainability reflects organisational sustainability. Evidence has shown that financially stable hospitals better sustain quality (Akinleye et al., 2019). Thus, monetisation is key. However, a predominantly economic logic is accused of taking a narrow and ahistorical view that fails to acknowledge long-term financial neglect such as that in mental healthcare (Adcroft & Willis, 2005). Financial outcomes do matter, however, increasingly non-monetary benefits are also linked to organisational sustainability (Ali et al., 2010).

5.5.2.4 Monetisation of QI benefits

In this study, there were signs of apprehension over monetisation of QI benefits. There were doubts over whether monetisation through traditional ROI is appropriate for assessing valued QI benefits. Public services' leaders do object to commodification (Bridges, 2005; Krelv et al.,

2013). As such, some have accused healthcare of arguing ‘exceptionalism’ (Walshe & Smith, 2011). Healthcare organisations do measure overall financial health based on composite financial performance indicators e.g., profit, loss, cash flow, capital, ROI etc. (Akinleye et al., 2019). These can then be matched against patient safety and quality indicators (Akinleye et al., 2019). However, like in QI, increasingly, healthcare investments are being treated as discrete and expected to produce their own ROI, e.g., ROI of IT (Czerwinski, 2008), research and development (Economics, 2014), and leadership programmes (Jeyaraman et al., 2018).

The leaders in this study did not mention use a specific ROI method. Instead, they relied on integrated quality frameworks and other performance measurement tools. Participants explained that part of the reason for this was the complexity of performing ROI, as well the perceived utility of ROI, given their views on monetisation. Skill and resource limitations are known to prohibit ROI evaluations (Millar & Hall, 2013; Pathak & Dattani, 2014). Public services leaders are known to prefer internal measurement systems and external performance rather than ROI (Millar & Hall, 2013). Nonetheless, leaders must improve costs and quality.

5.5.2.5 Cost and quality improvement

There are expectations that QI can simultaneously reduce costs and improve quality (Jabbal & Lewis, 2018; NHS, 2018). In some cases, QI is applied to ‘value improvement’ programmes where the main objective is to reduce costs (Moriates & Valencia, 2019). Opportunities to improve quality and reduce costs do exist, particularly in healthcare overuse (Alderwick et al., 2017). However, the relationship between quality and cost in healthcare is complex. The triple aim (experience, health, cost) and iron triangle (time, cost, quality) attest to this (Pollack et al., 2018; Storkholm et al., 2017). Nonetheless, healthcare is expected make efficiency savings (NHS, 2018). Thus, a strong de-emphasis of monetisation in QI-ROI is problematic. Healthcare is also increasingly linked to collaboration and integration to support financial sustainability.

5.5.2.6 External outcomes

As a standard, mental healthcare frequently engages with external partners (NHS, 2019b). With or without collaboration, the distribution of resources within a system affects outcomes of one or more system partners (Pathak & Dattani, 2014; Solomon et al., 2013). QI programmes may also have synergistic effects that help unlock benefits of related programmes (Pathak & Dattani, 2014). This is called externalisation or leakage, meaning an organisations costs and benefits may be offset elsewhere (Nicholls, 2012). Thus, organisations may claim positive impacts of others (Pathak & Dattani, 2014). As such, Solomon et al. (2013), suggested that the best place to measure outcomes may not be in the organisation that influences the results.

It is currently unclear if and how externalised benefits can become part of internal QI value evaluation. There are theories and methods that help clarify programme attributions, however they are rarely used (Cadilhac et al., 2018). It is also unclear as to the extent of an organisation's board role beyond their boundaries. Governance systems tend to be segregated (Ramsay et al., 2010), hence, tensions between external and internal needs (Anderson et al., 2019). In financial and political accounting, a societal perspective is often only justified in decisions about social welfare (NICE, 2011). However, support governance tools to support integrated healthcare systems are being developed, for example in the UK National Health Service (NHS, 2022).

If healthcare leaders are put in conflicting stewardship positions with little guidance on how to manage their role conflict, competition between priorities over quality and performance may ensue (Schillemans & Bjurstrøm, 2020). In the UK, models to support system benefits are being developed (NHS Improvement, 2021), and the Health and Social Care Act of 2012 is being updated to support integrated partnerships. This supports linking of data across organisations and systems. In the future, the success of NHS trusts will be judged against their contribution to integrated care systems, as well as their internal performance (NHS, 2022).

5.5.2.7 Measurable and Immeasurable benefits

One of the main ambiguities in study appeared to result from the expectation that QI outcomes are measurable. This expectation is based on statistical tools within the QI methodology that prospectively track QI's progress (QI measurement). As discussed in Chapter 3, although this use of QI measurement tools is legitimate, the appropriateness of quantitative approaches for judging QI effectiveness has been questioned. This led to a call for research designs that can also evaluate qualitative outcomes such as patient experience (Cribb et al., 2020). However, objectivity remains seen as more intelligible, legitimate, and effective in motivating and sustaining change, as well as promoting moral integrity (Davies, 2005; Kuhn, 1970). Thus, criticism of the QI's measurement philosophy for failing to adequately prioritise qualitative aspects continues (Cribb et al., 2020; Pflueger, 2015). Cribb et al. (2020), argued that a balance must be struck between quality as a measurable property and an evaluative judgement.

5.5.2.1 Uncertainty and QI-ROI

Uncertainty can present in different ways depending on its specific source. However, all uncertainty result from a lack of adequate information needed to make decisions or form conclusions (Broekhuizen et al., 2015; Rutz et al., 2013; Tallacchini, 2005). Uncertainty impacts perceptions about what QI is or can be beneficial for. A lack of knowledge about QI benefits, causes lack data and scientific evidence about QI-ROI. This may be compounded by differing values and assumptions about the existence, the nature or extent of QI benefits. Although some uncertainty can be reduced e.g., through additional information, healthcare complexity limits abilities to reduce uncertainty (Gurses et al., 2008). There may always be unknown unknowns or unknowable unknowns (Kuhn, 1970; Stigler, 1950; Tallacchini, 2005). This often requires additional interpretation and value judgement (Hobbs et al., 2002). As such, Douglas (2004) argued that in uncertainty, even 'objectivity is a matter of judgement'.

5.5.2.2 Impact of QI-ROI conceptualisation on investment decision-making

ROI is based on classic rational decision-making theories that assume rational inputs-outputs causality and objectivity (Kuhn, 1970). In classical economic theory, rationality maximises efficiency, productivity, and profits (Covaleski et al., 1996). However, the appropriateness of classical rational decision theories is continually challenged. Authors argue that ethical and subjective decision-making is not necessarily irrational (Covaleski et al., 1996; Tallacchini, 2005; Walshe & Smith, 2011). There is now an understanding that sensemaking is an ongoing social process, driven by plausibility rather than accuracy (Walshe & Smith, 2011). Further, managing ambiguity and uncertainty is seen as part of flexible effective leadership (Hagen & Park, 2013). As such, a lack of full scientific certainty is not deemed an acceptable reason to not invest in cost-effective interventions (Khan et al., 2018; Tallacchini, 2005).

Nonetheless, some participants were concerned about continued unjustified QI investments. Healthcare organisations are obliged to improve quality one way or another. However, some organisations may get trapped into path dependency due to the high costs of changing course (Drummond, 2011). Therefore, beliefs about what ROI represents in mental healthcare may not be the only reason for continued QI investment. As such, efficient resource allocation requires effective decision-making that support contextual needs. An appropriate QI-ROI evaluation tool would be an invaluable tool to assist leaders with this challenging obligation. According to Hobbs et al. (2002), any advisory system must align with a user's epistemology to succeed in a context. That epistemology is likely to influence a prevailing logic in a context.

5.5.2.3 QI-ROI Institutional logic

Although my findings appear to support the institutional theory's assertion that organisations are driven by norms and values at the expense of economic benefit (DiMaggio & Powell et al., 1983), this is only part of the picture here. Participants saw themselves as stewards for multiple obligations. Financial outcomes were seen as important, but secondary to patients and staff benefits. Participants questioned the legitimacy of the traditional ROI in their context. These

concerns are shared by others (Chalutz Ben-Gal, 2019; Masters et al., 2017; Ozminkowski et al., 2016). The overriding logic appeared to be driven by health and social benefits for internal and external stakeholders. This was evident in the language used to support health and social care discourses over economics. Thus, my findings support a view that a logic misaligned with central internal values will be challenged in a context (Besharov & Smith, 2014).

5.5.3 Reflexivity

My engagement with this study and participants was preceded by prior exploration of the subject of ROI in healthcare and other industries through various literatures. This fact guided my choice of study design and methods as laid out in my methods section (Chapter 2). As such, my aim is not to add to the rationales for my study design, but only to highlight my experience and concerns during the interviews (Lynch, 2000). Although I had done background reading, I had no real life experience of what I was to discuss with my participants. As such, I deliberately chose a ‘curiosity-led and conversational’ approach due to my student status and ignorance about their lived experiences on the subject. To my knowledge, none of the participants knew my background profession (apart from one who enquired during the interview). My intention was not to merely ‘extract information’ but to learn from participants experiences and insights.

However, my prior knowledge did at times come through as one participant remarked “...you seem to know a fair amount about ROI already”. This remark was made at the end our interview as I thanked her for what I had learnt. This remark made me a bit self-conscious as I got concerned that I may be biasing the data I was obtaining. From that point, I made more efforts to not appear ‘knowing’ in any way. This exercise was stressful as I tried to watch my words and questions more closely. I then became concerned that my guardedness would or was affecting the flow of the conversations. I ultimately returned to being less guarded and allowed the conversations to flow. My approach was if asked (by a participant), answer honestly, for example, when asked about my background or ‘how others out there’ define ROI. In the end I felt I had to trust that my piloted and iteratively developed topic guide was fit for purpose. That

is, it will help maintain the balance between 'knowing and ignorance' enough to permit an easy conversational flow as well as honest data gathering. That seemed to restore my confidence.

5.5.4 Limitations

Semi-structured questions can limit the freedom of in-depth interviewing. There is a possibility of confirmatory bias resulting from phrasing of questions as means to get specific information from participants (McIntosh et al., 2015). However, my research design acknowledges that knowledge is socially constructed. Therefore, by this virtue, I cannot rule out my influence in the data obtained. Similarly, the use of framework analysis may have limited the focus on the emergent nature of qualitative data. I used the deductive-inductive approach to minimise this effect. Braun & Clarke (2006) discourage the use of research question or objectives themes as they can limit the ability of the data to reveal the prevailing themes. However, I used my objectives as themes here to help focus the data on my existing data in an inductive-deductive approach. This was essential to help me integrate and build on my findings.

The sample was identified and recruited by my supervisor and the Trust's QI director. This purposeful sampling method can result in sampling bias. However, the main target sample was the finite number of top-level decision-makers, which were all approached. All who agreed to partake were interviewed. Finally, the participants were from same Trust, which limits the diversity of views. Although views from different Trusts would provide more depth on the QI-ROI concept, the views from these participants were sufficient at this exploratory phase.

5.5.5 Remaining Gaps

Further clarity is needed before a conclusion can be drawn on the QI-ROI concept as it stands currently. Some of the challenges discussed above are a matter of ongoing research in respective fields for example, clarifying the concepts of sustainability, transformation etc. (e.g.,

(Lennox et al., 2018). Other areas of ongoing research include finding innovative ways to reduce scientific uncertainty (e.g., (Broekhuizen et al., 2015)). Within the development of the QI-ROI concept and its framework, more data are needed on the collective view of monetisation of QI outcomes, immeasurability of valued QI benefits, the inclusion of external QI benefits, and what QI effectiveness at organisational level means. These questions may be best posed to a wider participant group of mental healthcare decision-makers to help assess the prevalence and strength of these views. As such, in the next chapter I took this step, and explored the QI-ROI concept with a wider group of mental healthcare leaders through a Delphi.

5.5.6 Conclusion

The current study supported my findings from the systematic literature review in Chapter 4. Mental healthcare leaders primarily conceptualise ROI as any valued benefit. Some also conceptualised ROI as a cost-saving tool. All saw improvement in patient outcomes as the main benefit sought. This combination was influenced by the need to manage both the improving quality and managing scarce resources. Overall, leaders sought to compromise so as find a more comfortable medium to service various obligations. The strong health and social care values, as well as flexible expectations were the strong drivers of the QI-ROI concept. This seems likely to ensure or at least demand QI investment, regardless of ambiguities and uncertainties. The next chapter will explore these ambiguities and uncertainties further, to bring more clarity and precision on the QI-ROI concept as it stands currently.

6 Consensus measurement on the QI-ROI concept, a Delphi study

6.1 Introduction

Return in Investment (ROI) is deemed a legitimate and feasible tool to assess the value of healthcare programmes (The World Health Organisation (WHO), 2019). This may include Quality Improvement (QI) programmes. However, some within and outside healthcare have concerns about ROI. Authors have questioned both the utility and appropriateness of ROI to assess service provision (Brousselle et al., 2016; Dearden, 1969; Gosselin et al., 2020; Masters et al., 2017; Ozminkowski et al., 2016). My findings in the project so far have concurred. My findings have indicated that unlike in the traditional use of ROI, QI-ROI is conceptualised as monetary and non-monetary benefits that contribute to strategic goals. My findings also suggest an uneasiness with benefit monetisation, as well as multiple ambiguities about QI benefits.

My previous findings, particularly the qualitative study are interesting for three main reasons. Firstly, ambiguity may mean compromises must be made to satisfy different obligations. This may be complicated by the difficulty in capturing and quantifying some valued benefits. Secondly, healthcare leaders have an obligation to financial governance, which drives an expectation to monetise benefits as credible evidence of efficiency savings (HFMA, 2022). Thirdly, uncertainty and ambiguity are likely to potentially encourage value judgements over both benefits and their evidence. It was therefore crucial to explore the prevalence of the views expressed in the United Kingdom (UK) mental healthcare institution through a Delphi study.

6.2 Objectives and Research Questions

6.2.1 Objectives

The main objective of this study was to explore benefit legitimacy, eligibility and priority in the QI-ROI conceptual framework for QI programmes in mental healthcare. I also explored the factors determining the QI-ROI concept, to assess whether they may threaten concept stability.

6.2.2 Research questions

1. Which organisational outcomes are perceived to represent QI-ROI the most?
2. Which of those benefits are perceived to take priority in the conceptual framework?
3. What determines these perceptions about the QI-ROI concept?

6.2.3 Study Rationale

Given the findings regarding QI-ROI in the previous chapters, clarity is needed to bring the QI-ROI concept towards maturity. A mature concept “should be well defined, with ... attributes identified, boundaries demarcated, preconditions specified, and outcomes described” (Morse et al., 1996 p. 255). Ambiguities and uncertainties threaten the coherence and stability of the QI-ROI concept. Thus, clarifying ambiguities and uncertainties may focus the QI-ROI concept. In-order to frame the QI-ROI concept for mental healthcare organisations, its understanding at an institutional level is essential. In this study, I took leaders as surrogates for organisational and institutional meaning. An institution is a collection of stable rules, roles, meanings, and interpretations used by a legitimised social group (Czarniawska, 2008). Institutions limit human agency by creating legal, moral and cultural boundaries (Delbridge & Edwards, 2007). This study may thus help frame QI-ROI as an institutional concept, thereby clarify ambiguities.

6.3 Methods

6.3.1 Study’s underpinning theory

To better understand the conceptualisation of QI-ROI, I reflected on my findings through the lens of Institutional Theory (DiMaggio & Powell, 1983). The introduction of ROI in healthcare is perceived by some as exerting pressure to comply to political-economic demands (Masters et al., 2017). The findings from the previous study indicated some support for these concerns. As such, a theoretical understanding of how institutional behaviours may be influencing the conceptualisation of QI-ROI is crucial. According to Institutional Theory, organisations tend to conform to societal obligations, rather than market forces (DiMaggio & Powell, 1983). They

habitually follow norms, and in the process, become encased in an ‘iron cage’ (DiMaggio & Powell, 1983). This then leads to path dependency, loss of autonomy and economic gain.

Oliver (1991) argued that organisations do not necessarily passively conform to pressures. Organisational actors may also avoid, compromise, even manipulate, or defy enforced change depending on the perceived incongruence of change to internal values, norms, or capacities. Oliver provided a criteria for when and why a certain response may be chosen. Whilst I did not specifically base my study on Oliver’s criteria, I did include some statements relating to the perceived legitimacy of traditional ROI as a QI evaluation tool in the Delphi. I assumed positive or negative views to be a potential determining or re-enforcing factor on the conceptualisation of QI-ROI. Through this, I sought to ascertain the coherence between perceptions on ROI and valued benefits as marker of stability of the QI-ROI concept as it stands currently. This also enabled me build on the insights on the potential determinants of QI-ROI conceptualisation.

6.3.2 Study Design

To address the research questions, I utilised a Delphi, an approach based on mixed research methods. This enabled me to triangulate quantitative surveys and qualitative comments in an exploratory-explanatory approach (Teddlie & Tashakkori, 2006). A convergence of findings between the two methods was then assessed to help me reach fuller conclusions. As a study, the Delphi was first used by the United States military where Rand Cooperation researchers developed a Delphi rule-book which still applies to date. These include maintaining anonymity, providing controlled feedback, and statistical group response to determine consensus (Dalkey, 1969). Techniques like the Nominal Group Technique and Concept Mapping where consensus building is performed face-face (Davies, 2011; McMillan et al., 2016) may also be suitable for this study. Given the busy roles of leaders, the feasibility of such exercises was deemed low.

6.3.2.1 Delphi philosophy

The current study was based on three complimentary philosophies: Kantian, Hegelian, and a Singerian (Turoff & Linstone, 2002). Turoff & Linstone (2002) stated that a Kantian analyst accepts that a ‘true expert’ may not exist, and that alternative propositions are possible. Hegelian thinking incorporates a systems view of problems and encourages creative synthesis of problems and solutions. Singerian thinking encourages broad views of a problem, in a bid to reconcile science and ethics. This is pertinent in this study as ROI pertains complex issues of investment allocation decisions with ethical implications. Specifically, this study took a policy Delphi approach. A policy Delphi allows participants an opportunity to react and assess differing viewpoints against their own (Innes & Booher, 1999). As such, this Delphi also aligns with my chosen philosophical stance of Pragmatism and Critical Realism (Bhaskar, 2020).

6.3.2.2 Delphi pros and cons

Mental healthcare is a complex institution with various obligations to populations. Further, the study participants occupied different roles in relation to QI investment, implementation, and evaluation. Thus, the Delphi was an opportunity for relevant stakeholders to engage with the complex issue of QI-ROI, whilst creating and negotiating its reality (Okoli & Pawlowski, 2004). Delphis do more than seek a majority view. Delphis can improve clarity where there is ambiguity and uncertainty (Innes & Booher, 1999), as they allow “informed individuals to contribute...to a problem area which is broader in scope than the knowledge of one...” (Turoff & Linstone, 2002 p. 26). Participants can learn about diverse interrelated aspects of QI-ROI, and build a shared meaning (Innes & Booher, 1999). This could help form a QI-ROI concept that is based on shared meaning or raise awareness about other meanings. This way, a QI-ROI concept may be seen as reasonable and relevant in leaders’ contexts (Turoff & Linstone, 2002).

Increasingly, the rigour of Delphis as a research method is questioned. Most Delphi criticism focus on it being a quantitative research method (Innes, 2004; Keeney et al., 2001; Landeta, 2006). Delphis occupy a grey area between qualitative and quantitative research. Sample sizes

are often too small to be representative (Innes, 2004; Landeta, 2006). Although statistical tests are used to determine consensus, this is often done qualitatively to reflect the purpose of a study (Bowles, 1999). Delphi outcomes rely on a participant’s level of engagement and authenticity with a subject (McDermott, 2011). Further, opinions may evolve as practice and reflection render new insights. Thus, Delphis are best judged on their trustworthiness based on a study’s materials and procedures, rather than reliability and validity (Hasson & Keeney, 2011).

6.3.2.3 The Delphi strategy

Most Delphis run an average of 3-4 rounds, with minimum of two rounds (Hasson & Keeney, 2011; Murphy et al., 1998). Where more than two rounds are run, the first round is used to explore potential items for discussion through literature reviews or with the participants. As the current study was preceded by an extensive literature review and a qualitative study, only two rounds were sought. The first round was based on the QI-ROI conceptual framework developed in Chapters 4 & 5. The framework contains four themes: organisational performance (patient and financial outcomes), organisational development (capabilities and capacities), external outcomes (e.g., collaborators and societies) and unintended consequences. I included ‘other’ on that list in the event of participants introducing new benefits as part of QI-ROI.

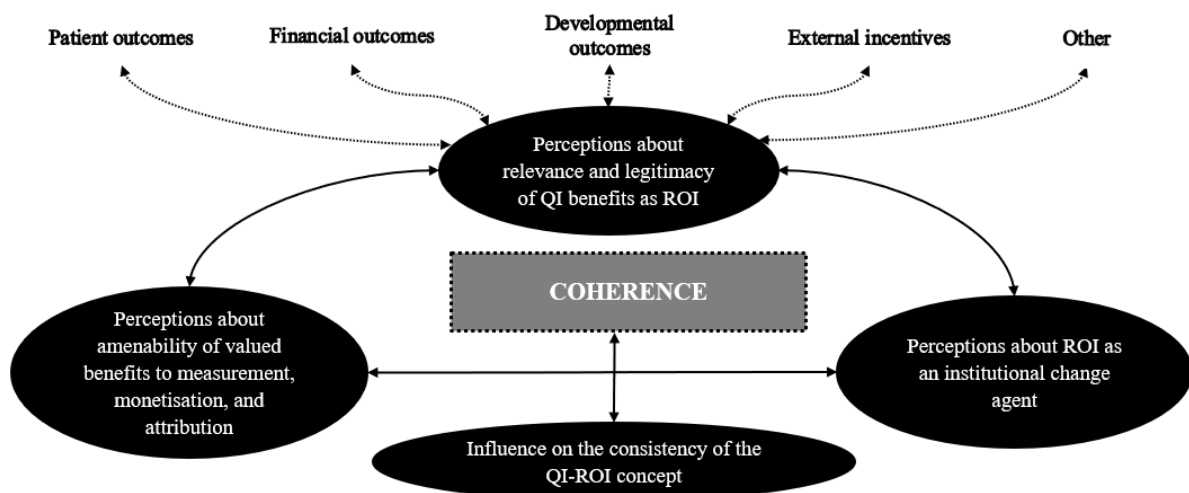


Figure 6-1 The Delphi strategy

Items that were deemed to have potential to enable comparison of relevance and importance of outcomes within and between domains were selected for testing. For example, to ascertain if QI-ROI is associated more with organisational performance or development, or if monetised benefits are seen as more legitimate than non-monetisable benefits. To explore uncertainty, I assessed views on measurability, monetisation, and attribution of valued outcomes. I also included statements to test the participants' views on ROI as a legitimate tool to assess QI value. These statements were to reflect the institutional response to ROI as described above. Figure 6-1 illustrates the relationship between the components of my Delphi strategy.

6.3.3 Study setting

All participants were employed by publicly funded England's NHS mental healthcare Trusts. The study was held online to enable engagement of wide-spread mental healthcare leaders as 'an institution'. The study was approved by King's College London research ethics committee, Health Faculties Sub-Committee, registration: MRSP-22/23-33873 (Appendix xii).

6.3.4 Participants

Eligible participants included the executive leadership team (e.g., Chief Officers), senior management (e.g., Directors), as well as QI leaders. Included participants were healthcare leaders, or QI evaluators within mental healthcare. Healthcare staff who are part of leadership or QI teams but not involved in QI investment or evaluation decisions were to be excluded.

6.3.4.1 Knowledge co-efficient

Questions often arise as to what 'makes an expert an expert'. Knowledge co-efficient is a new index used to assess participants' level of expertise (Mengual-Andrés et al., 2016; Sossa et al., 2017). Based on my findings in Chapter 4 and 5, ROI is new to healthcare QI. Therefore, I did not assess participant expertise in ROI. My Delphi statements related to value questions where

judgements about competing social goals may be required (Murphy et al., 1998). This is different from technical questions where knowledge and experience about the subject is of primary importance (Murphy et al., 1998). However, for reporting purposes, I requested participants to state their years of experience as leaders, and in ROI and economic evaluation.

6.3.4.2 Sampling and recruitment

The advice by the RAND Corporation is for 10-18 participants (Dalkey, 1969). In this study, I aimed to recruit 20- 40 study participants to allow varied viewpoints of mental health leaders. This was to help strengthen my understanding of the QI-ROI concept as viewed by the leaders involved in QI implementation, evaluation, and investment. Of interest were participants with QI knowledge, and an interest in QI-ROI as a subject. To achieve this, I employed purposive and snowballing sampling techniques. Participants from the preceding study (Chapter 5) were invited. I identified new eligible participants through the internet using organisations' websites. Potential participants were also identified with the help of those interested in partaking. This included advertising the study through social media (e.g., WhatsApp), and professional groups. I recruited potential participants via emails. Over 100 potential participants were approached in all four UK countries (England, Wales, Scotland, Ireland). All potential participants who showed and interest were sent an invitation letter (Invitation letter in Appendix 9-xiii).

6.3.4.3 Consent procedure

Once potential participants indicated interest, I furnished them with a participant information sheet (PIS) with details about the study (Appendix 9-xv). A description of the study and its objectives was given. The PIS included a summary of the findings from the qualitative study (Chapter 5) which highlighted the rationale that led to the research questions to be addressed in the Delphi. This was an effort to ensure that all participants had a similar understanding of the objectives. After receiving a PIS to read and consider the study, potential participants were given time to ask questions. Those partaking were sent a consent form (Appendix 9-xiv) prior

to receiving the personal link to the survey. Participants were also reminded of the study objectives and asked to confirm their consent at the start of Round 1 of the survey.

6.3.5 Measures

The survey was divided into two main sections (Table 6-1). Two measures were taken using Likert-type scales (Joshi et al., 2015). Whilst Likert scales produce continuous data for composite scores, Likert-type scales produce categorical data (Joshi et al., 2015). Larger scales are thought to be more reliable as they allow more choice of more suitable responses e.g., degrees of agreement/disagreement as well as a neutral score, thus limiting forced choice (Joshi et al., 2015). Evidence has found little statistical significance between 7, 9, and 10-point scales (Joshi et al., 2015). As such, I chose a 10 and 7-point scales as scales that offer the most utility for my measures in each section. The first section explored benefit relevance in the QI-ROI framework using a 10-point scale. This section contained benefits related to common QI goals e.g., patient outcomes. The next section was to ascertain if aspects of QI-ROI that may be considered novel were deemed eligible and legitimate. For this section, I chose a 7-point scale, where participants rated their level of agreement from 1; strongly disagree, to 7; strongly agree.

6.3.6 Data collection

Data collection was carried out via Qualtrics software (Qualtrics xm, 2020). To avoid missing data, participants were required to provide a response to all statements before progressing to the end of the survey. Two rounds of surveys were run. Each was expected to average 10-15 minutes. However, according to Qualtrics, some took longer or were not completed at once. Table 6-1 contains the statements used in the Delphi; Appendix 9 xvi contains the actual survey downloaded from the Qualtrics platform. These statements were piloted twice with three experts who were not part of the study, two were QI leaders, and one a health economist. The piloting helped refine the statements that were finally used in the survey.

Table 6-1 List of Delphi Statements

Section A items: Relevance	Section B items: Eligibility	
<p>1.Health outcomes 2.Population health 3.Cost-saving 4.Capability development 5.Capacity development 6.Financial sustainability 7.Reputation for quality care 8.Productivity 9.Efficiency 10.Revenue generation 11.Access to care 12.Staff outcomes e.g., staff experience 13.Internal collaboration 14.Quality and safety culture 15.Registration status e.g., being Foundation Trust 16.Oversight benefits e.g., improved CQC rating 17.Patient outcomes e.g., patient experience 18.Provider of choice 19.Research development 20.Innovation development 21.Organisational sustainability 22.Avoiding costly care 23.Profit generation 24.Competitiveness 25.External collaboration 26.Preventing patient mental health crises</p>	<p>Intervention outcomes 27.Only intended goals represent QI-ROI 28.Benefits beyond goals (e.g., unintended developments) 29.Lessons learnt (e.g., from failed QI) 30.QI legacy (e.g., raised safety awareness) 31.QI cannot fail as it trial and error 32.QI failed if not goals not achieved</p> <p>Implementation outcomes 33. QI failed if not programme not spread 34. QI failed if not new practice not embedded 35. QI failed if not programme/benefits not sustained 36.Problem solving/programme speed is a sign of QI embedment 37. Problem solving/programme speed is an indicator of QI-ROI</p> <p>Timing of ROI assessment 38.Short-term outcomes 39.Long-term outcomes 40.Both short and long-term outcomes are part of ROI</p> <p>External benefits 41.Service-user socio-economic benefits 42.Friends, families, carers' benefits 43.External partners benefits 44.Community and societal benefits</p> <p>Measurable benefits 45.Only measurable benefits are ROI 46.Immeasurable benefits are equally valid ROI</p>	<p>Measurable benefits (cont.) 47.Immeasurable benefits are more valid as ROI 48.Immeasurable benefits are sometimes more valid as ROI 52.Difficult to monetise benefits are sometimes more important</p> <p>Monetisable benefits 49.Only monetisable benefits are ROI 50.Difficult to monetise benefits are equally valid as ROI 51.Difficult to monetise benefits are more important</p> <p>Monetisation legitimacy 53.Monetisation is valid as it is the stipulated requirement 54.Monetisation is valid as it is the best practice 55.Monetisation is impractical, there should be an alternative 56.Monetisation is against professional values 57.Monetisation is against mental healthcare values</p> <p>Benefit attribution 58.Only benefits that be directly linked to a programme are ROI</p> <p>Benefit evidence 59.Valid indicators of hard to measure benefits are valid evidence 60.A narrative report of benefits is valid evidence for ROI 61.Subjective judgement of benefit measurement is acceptable 62.Subjective judgement is valid evidence of ROI if criteria agreed 63.Subjective criteria should be decided per Trust 64.Subjective criteria should apply across mental healthcare Trusts 65.Financial proxies are acceptable as ROI evidence 66.A narrative report of difficult to monetise benefits is acceptable 67.Subjective judgement about monetary benefit is valid evidence</p>

6.3.7 Data management

Confidentiality was provided by the secured personal links within the Qualtrics software. Survey responses were automatically anonymised by giving them an ID code in the Qualtrics software. Further, only the group median was given as feedback between and after the study. Survey responses were automatically saved in a database within Qualtrics. Once each round was completed, survey data was downloaded from the Qualtrics website and stored securely using King's College London password protected and encrypted computer and analysis software. Stored data were also fully anonymised and will be kept for 5 years for potential use future in related research. Should it be required for further use, participants will be notified to gain their further consent. Qualtrics data were deleted after the study.

6.4 Data Analysis

6.4.1 Potential Delphi outcomes

Consensus in Delphis is seen as one of many potential outcomes (Innes & Booher, 1999). For this Delphi, I anticipated potential outcomes as consensus, indecision, dissensus, and stability. Consensus is the extent to which participants agree with each other, whilst agreement measures the extent to which each participant agrees with a statement (Trevelyan & Robinson, 2015). Dissensus is the presence of extremely different views within a group (von der Gracht., 2012). Neutral scores may denote indecision or uncertainty. Stability indicates consistency of views over rounds (Dajani et al., 1979). Items where weak consensus, indecision and dissensus were indicated were re-rated to assess for stability. The potential outcomes determined how to proceed and report the results at the end. The associated criteria are explained in detail below.

6.4.1.1 Criteria for consensus

As Delphis produce categorical data, non-parametric tests are best suited for their analysis (Hasson & Keeney, 2011; Joshi et al., 2015; Murphy et al., 1998; von der Gracht, 2012).

Statistical procedures for determining consensus vary from descriptive to inferential statistics. In general, descriptive statistics are sufficient to define consensus, whilst inferential statistics are useful for studying subgroups (Murphy et al., 1998). The median and interquartile range (IQR) are recommended as they are robust against both symmetric and asymmetric data (Murphy et al., 1998). I used the IQR as a measure of spread to determine the strength of consensus, and the median as a measure of central tendency for the location of consensus. The IQR was first used by Tukey (1970) to help with visual inspection of data (McGill et al., 1978). The Tukey method has since been tested and found to be reliable (Reimann et al., 2005; Yang et al., 2019). In this method, data is divided into four sections of 25% each (quartiles). The IQR represents the distance between the first quartile (Q1) and the third quartile (Q3). The IQR is used to describe data distribution around the median (Q2). As the IQR covers an area between the 25th and 75th percentiles, it effectively represents 50% of a dataset.

There are no set rules for using IQR. Based on several sources, an IQR of ≤ 1 denotes consensus on any scale, $\text{IQR} \leq 2$ is acceptable on a 7-point scales, whilst $\text{IQR} \leq 3$ may be acceptable on a 10-point scale (Hasson et al., 2000; Murphy et al., 1998; von der Gracht, 2012). No rationales were found in literature for these thresholds. Therefore, I explored different IQRs on 7 and 10 point scales to assess their impact on different medians (example in Figure 6-2). As can be seen below, a wide IQR that crosses a neutral point houses both ‘agreers’ and ‘disagreers’, which by definition is not consensus. However, when the same range occupied the far ends of a scale, a level of consensus can be seen to exist. This is denoted by the dashed line in Figure 6-2a & b.

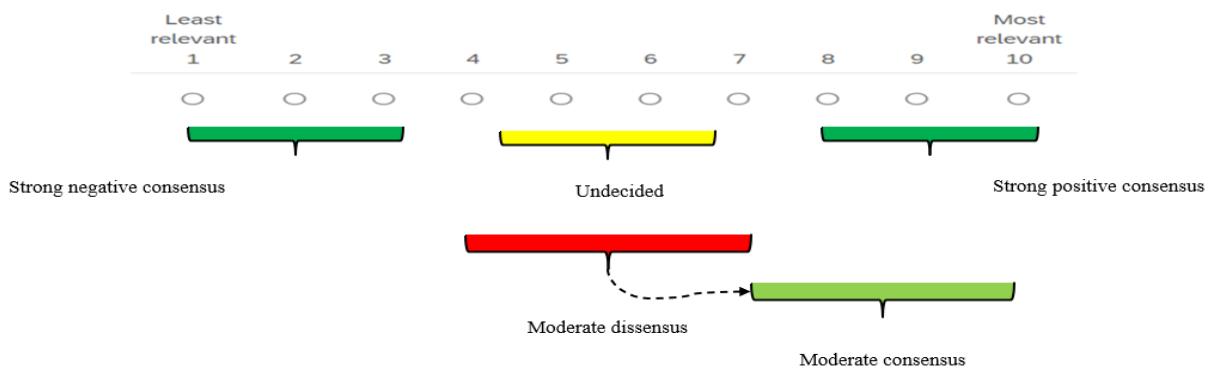


Figure 6-2a Effects of the position of the median on an IQR

Consensus and dissensus may have different levels, depending on where the IQR and median lie. Consensus can be positive (item acceptance) if the median lies on the positive side of a scale, or negative (rejection) if median is negative. Consensus can also be weak to strong depending on where the median lies within an IQR, e.g., median 10, $IQR \leq 1$ on a 10-point scale is very strong consensus. An IQR near midpoint may denote moderate consensus, indecision or dissensus depending on the size of a spread, e.g., IQR 2, medians 5- 6 on a 10-point scale OR median 4 and IQR 1 on a 7-point scale are neutral. Figure 6-2b illustrates this for a 10-point scale use to measure item relevance. The deeper the colour, the stronger the consensus or dissensus level. Noting this helped ascertain the nature of consensus and dissensus in depth and identify areas that need further exploration.

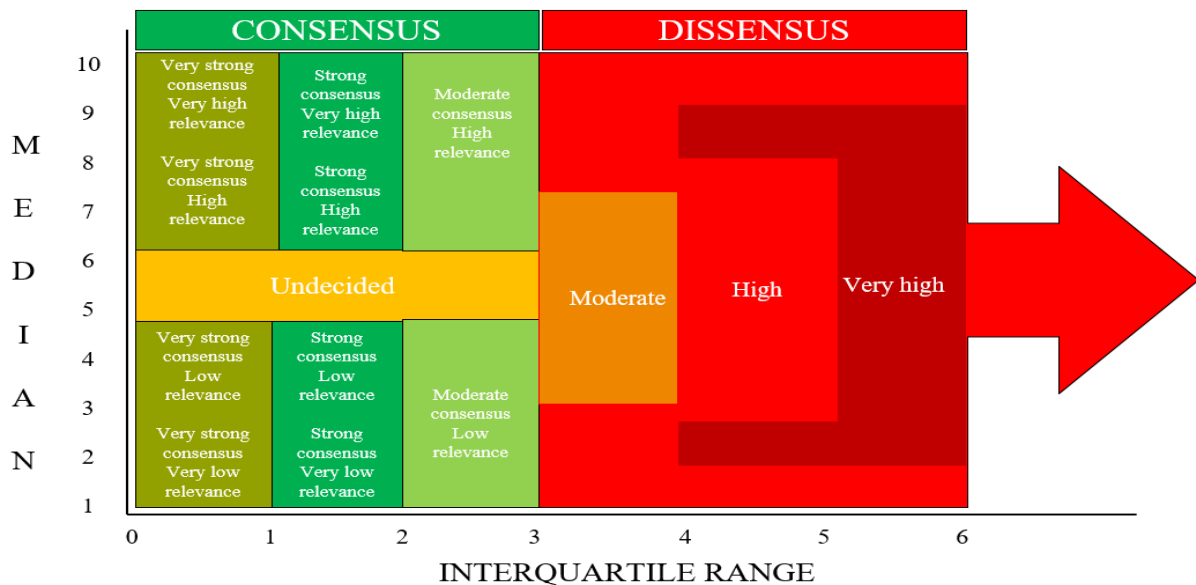


Figure 6-3b Effects of the position of the median on an IQR

6.4.1.2 Determining areas of consensus

Based on the above, in this study, an IQR of ≤ 2 denotes agreement on both 7 and 10-point scales, whilst an IQR of ≤ 3 may be acceptable on a 10 point scale if the IQR does not cross the mid-point. As consensus based on IQR 3 denotes a low level of variation of views, where it was accepted, it was deemed moderate. An IQR of ≤ 1 was considered very strong consensus, and an IQR of 1-2 was considered strong. An IQR at mid-scale was viewed as undecided. An IQR > 3 on a 7-point scale, and > 4 on any scale denotes significant variation, and thus dissensus.

6.4.1.3 Criteria for dissensus

Dissensus can be indicated by the presence of subgroups, clusters, wide IQRs, and outliers. Sub-groups and clusters can result in bipolarity (two distinct groups) or plurality (several groups or clusters of consensus (Warth et al., 2013). Subgroup consensus is consensus based on group affiliation (e.g., board members v QI leaders), whilst clusters refer to consensus on specific items regardless of group affiliation (Almeida et al., 2007; Minkman et al., 2009). However, cluster or group analysis was not performed in this study due to an unbalanced group mix. The whole sample was largely board members. A minimum of eight participants per group is thought to best enable subgroup analysis (Beiderbeck et al., 2021). Where the presence of outliers suggested clusters or subgroups, this was to be discussed for potential future research. Assessment of dissensus was focused on the presence of outliers and wide IQRs.

6.4.1.4 Determining outliers

Outliers are defined as observations that deviate markedly from others in a sample in which they occur (Ben-Gal, 2010). In keeping with my use of the IQR, I chose the Tukey boxplots (Barbato et al., 2011; Seo, 2006). A Tukey boxplot divides data into four parts with 5 lines: minimum score, Q1, Q2, Q3, and maximum score. The middle box contains the IQR. In this method, $1.5 \times \text{IQR} - \text{Q1}$ identifies a lower fence, and $1.5 \times \text{IQR} + \text{Q3}$ identifies a higher end fence. Fences represent the lowest and highest points at the tails of a dataset curve, whilst whiskers indicate the farthest observations inside a fence. In a boxplot, outliers are values beyond the whiskers. Once identified, determination must be made as to the relevance of outliers (Kannan et al., 2015; Reimann et al., 2005). The process involves inspecting data for extreme values, exploring boxplots, deciding if outliers are true, before finally deciding on their significance and management (Barbato et al., 2011; Kannan et al., 2015; Reimann et al., 2005; Seo, 2006).

Thus, the process of determining outliers was not straightforward. In this study, wider IQRs had fewer outliers. Wider IQRs however, already accommodate differing views, whose significance depend on where the median lies. Wide IQRs that combine opposing views

indicate dissensus, whilst IQRs that combine different views on the same side of a scale indicate variation of the same view. The latter indicates consensus on relevance of an item, but dissensus on its level of relevance. In this context, differing views were not seen as outliers (or extremely different). Similarly, narrow IQRs had a high potential for outliers close to a median e.g., IQR 0, median 6, outlier score 7. This made outliers also not true by definition. Where this occurred, I rejected these as outliers. I accepted outliers as true if they were >2 scores from a median.

6.4.1.5 Criteria for stability

Stability is defined as the results of two different Delphi rounds not being statistically different (Dajani et al., 1979; von der Gracht, 2012). Stability can be viewed as consistent consensus or dissensus over several Delphi iterations (Dajani et al., 1979). A change towards consensus can therefore also be considered an instability. Stability is seen as a more valid Delphi stopping criteria than consensus (Dajani et al., 1979). Various methods may be used to measure stability. (Dajani et al., 1979) recommended the chi-squared test (χ^2 test) of independence. Within the IQR method, is the relative interquartile range (RIR) variation. RIR is calculated as $RIR = \frac{Q3 - Q1}{\text{median}}$ (Felgueras Custodio et al., 2022) or $RIR = \frac{Q3 - Q1}{\text{mean}} \times 100$ (Landeta, 2006).

I measured the RIR variation as a percentage point difference in RIR between the two rounds. RIR variation cut-offs can range from 15%-50% (Felgueras Custodio et al., 2022; von der Gracht, 2012). In this study, the areas where clear consensus on any level of relevance was achieved were deemed unlikely to change. Thus, to minimise participant workload and attrition, I only measured stability on the re-rated items. That is, I measured the difference between RIRs of rounds 1 and 2. I deemed a variation of > 0.3 (30%) significant instability (Dajani et al., 1979). Less than 30% appeared too sensitive, likely to increase the number of unstable items and participant workload in re-rated items, potentially without benefit.

6.4.2 Quantitative data

Analysis was done through the IBM SPSS version 28 (SPSS, 2021). Consensus, indecision, and dissensus were of interest to help clarify ambiguities, and further the discussion within and beyond this project. Descriptive data included minimum and maximum score, Q1, median, Q3, and IQR. Boxplots were also downloaded to be examined for outliers. A table was developed to summarise results. In the results section, the median is also denoted by the acronym Me.

6.4.3 Qualitative data

Participants were encouraged to make comments and or add new variables (QI benefits) in the first round. In the second round, further comments were sought in response to the feedback from Round 1. Qualitative data were assessed for any additional information that can support, confirm, or refute quantitative data. Depending on the size of the data, the plan was to develop themes. However, there was not enough data about the same comments to develop themes. Thus, qualitative data was only used to explain the quantitative data where possible.

6.5 Results

The total number of participants on both rounds was 23. Only three participants were from the previous qualitative study in Chapter 5. The group consisted of board members, other directors and QI leadership, with an average of 5-10 years' experience in economic and ROI evaluation (Table 6-2). A reply from Northern Ireland suggested that as a physical-mental health integration, they were unable to join. No response was received from Scottish Trusts and organisations (e.g., NHS Improvement). Welsh leaders were recruited via NHS Improvement. Although interested, none were able to partake due to work pressures. A large interest was also generated within the English NHS. However, most were unable to partake. Overall, recruitment was potentially largely affected by the pressures at the time of the study, e.g., strikes. One potential participant was excluded because they were not a mental healthcare leader.

Table 6-2 Group Composition

<u>Leader Type N=23</u>				
Board executive	Board non-executive	Director other	QI director/ leader	Board and QI leader
n=9	n=3	n=2	n=6	n=3

<u>Number of years' experience (N=23)</u>				
	0-3	3-5	5-10	>10
Role	n=6	n=2	n=9	n=6
ROI evaluation	n=7	n=3	n=6	n=7
Economic evaluation	n=6	n=2	n=8	n=7

6.5.1 Round 1

In the first round, 92% (62 of 67 items) achieved an IQR of ≤ 3 . Although this indicated a high level of consensus as per IQR, 22 items had outliers. Dissensus presented in the form of wide IQRs (≥ 3). Removing items with outliers left 45 items where consensus was found. Of these, six items indicated indecision with consensus on medians 4-5 and IQRs of ≤ 2 . Once true outliers, dissensus, and indecision were determined, clear positive or negative consensus was deemed to have been achieved on 38 of 67 items. Thus, 29 items remained for re-rating. Items for re-rating were re-sent to participants with feedback in a form of graphs and summary statements. Participants were asked to agree/disagree with the feedback and provide comments. The qualitative data did not indicate any new items to be added to the Round 2 survey.

6.5.2 Round 2

In Round 2, there were missing data points from responses of three participants. This amounted to 10 missing data points in total. Qualtrics indicated that those surveys had not been completed before their assigned period but could not rule out technical interference by an automated 'bot'. Therefore, the missing data were deemed likely to be missing completely at random. As the pattern of missing data appeared unlikely to change the outcome of the study, I proceeded with the analysis without replacing those data points (El-Masri & Fox-Wasylyshyn, 2005).

Table 6-3 Summary results Rounds 1 and 2

SECTION A											
Item relevance 1-10	# RIR (relative interquartile range) >30% unstable				# IQR > 2 not accepted as consensus				# Outliers cancel IQR consensus		
Item	Min Score R1(R2)	Max Score R1(R2)	Median R R2		IQR R1 R2		RIR RI R2		RIR variation	Consensus Green-consensus Orange-undecided Red-dissensus	Stability
1.Health outcomes	5	10	10	-	2	-	-			Strong consensus	-
2.Population health	4	10	8	-	2	-	-			Strong consensus	-
3.Cost saving	2 (2)	10 (8)	6	6	3	2	0.5	0.3	0.2	Undecided	Stable
4.Capability development	5	10	8	-	3	-	-			Moderate consensus	-
5.Capacity development	3	10	7	-	3	-	-			Moderate consensus	-
6.Financial sustainability	4	10	8	-	3	-	-			Moderate consensus	-
7.Reputation	4	10	8	-	3	-	-			Moderate consensus	-

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8.Productivity	5	10	8	-	1.5		-				Strong consensus	-
9.Efficiency	4	9	8	-	2	-	-				Strong consensus	-
10.Revenue generation	1 (1)	9 (7)	5	4	3.5	3	0.7	0.75	0		Moderate dissensus	Stable
11.Care access	4 (5)	10 (10)	8	8	3	2	0.38	0.25	0.13		Strong consensus	Stable
12.Staff outcomes	5	10	8	-	2	-	-				Strong consensus	-
13.Internal collaboration	5	9	7	-	2	-	-				Strong consensus	-
14.Quality and safety culture	4	10	9	-	2	-	-				Strong consensus	-
15.Registration status	1 (1)	9 (6)	5	4	4	3	0.8	0.75	0		Moderate dissensus	Stable
16.Oversight benefits e.g., improved CQC rating	1 (2)	9 (10)	6	7	3	3	0.5	0.43	0		Moderate consensus	Stable
17.Patient experience	4	10	9	-	3	-	-				Strong consensus	-
18.Provider of choice	1 (1)	10 (10)	5	6.5	4	5	0.8	0.77	0		Very high dissensus	Stable
19.Research development	1 (2)	9 (10)	6	6	2.5	2	0.42	0.33	0		Very high dissensus*	Stable

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20.Innovation development	3	9	7	-	2	-	-				Strong consensus	-
21.Organisational sustainability	5	10	8	-	2	-	-				Strong consensus	-
22.Avoiding costly care	2	10	7	-	3	-	-				Moderate consensus	-
23.Profit generation	1 (1)	10 (7)	3	3	3	3	1	1	0		Moderate consensus -ve	Stable
24.Competitiveness	1 (1)	9 (9)	4	5.5	6	4	1.5	0.72	0.78		Very high dissensus	Unstable
25.External collaboration	2 (2)	9 (10)	7	7	1.5	2	0.2	0.29	0		Very high dissensus*	
26.Preventing health crises	1 (2)	10 (10)	8	7.5	4	4	0.5	0.53	0		Moderate dissensus	Stable

SECTION B

Item eligibility: 1 -7 # RIR (relative interquartile range) >30% unstable # IQR > 2 not accepted as consensus # Outliers cancels IQR consensus

Item	Min Score R1(R2)	Max Score R1(R2)	Median R1 R2		IQR R1 R2		RIR R1 R2		RIR variation	Consensus *outliers	Stability
27.Goal achievement	1 (1)	6 (5)	2	2	0.5	0.5	0.25	0.25	0	Very high dissensus*	Stable
28.Benefits beyond goals (e.g., unintended developments)	5	7	6	-	0	-	-			Very strong consensus	-
29.Lessons learnt (e.g., from failed QI)	2 (4)	7 (7)	6	6	1	1	0.17	0.17	0	Ver strong consensus	Stable

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30.QI legacy (e.g., raised safety awareness)	2 (2)	7 (7)	5	6	1	1	0.2	0.17	0	Very high dissensus*	Stable
31.QI cannot fail	1 (1)	6 (1)	3	3	1.5	2	0.5	0.67	0	Very high dissensus*	Stable
32.QI failed if not goals not achieved	1 (1)	6 (5)	3	3	1	3	0.3	1	0.7	Moderate dissensus	Unstable
33. QI failed if not programme not spread	1 (2)	6 (6)	3	4	2.5	3	0.8	0.75	0	Moderate dissensus	Stable
34. QI failed if not new practice not embedded	1 (2)	6 (6)	5	5	1.5	4	0.3	0.8	0.5	High dissensus	Unstable
35. QI failed if not programme/benefits not sustained	1 (2)	6 (6)	5	5	0.5	2	0.1	0.4	0.3	Very high dissensus	Stable
36.Problem solving/programme speed is a sign of QI embedment	3 (4)	7 (7)	5	6	1	1	0.2	0.17	0	Very strong consensus	Stable
37. Problem solving/programme speed is an indicator of QI-ROI	4	7	5	-	1	-	-			Very strong consensus	-
38.Short-term outcomes	1 (1)	4 (6)	2	3	0	3	0	1	1	Moderate dissensus	Unstable
39.Long-term outcomes	1 (1)	5 (6)	2	3	1	2	0.5	0.67	0.17	Strong consensus -ve	Stable
40.Both short and long-term outcomes are	5	7	6	-	0	-	-			Very strong consensus	-
41.Service-user socio-economic benefits	2 (3)	7 (6)	5	5	1	1	0.2	0.2	0	Very high dissensus*	Stable

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42.Friends, families, carers' benefits	4	7	6	-	2	-	-				Strong consensus	-
43.External partners benefits	4	7	6	-	1	-	-				Very strong consensus	-
44.Community and societal benefits	5	7	6	-	0.5	-	-				Very strong consensus	-
45.Only measurable benefits are ROI	1	6	3	-	3	-	-				Moderate dissensus	-
46.Immeasurable benefits are equally valid ROI	2	7	5	-	2	-	-				Strong consensus	-
47.Immeasurable benefits are more valid as ROI	1	5	3	-	2	-	-				Strong consensus -ve	-
48.Immeasurable benefits are sometimes more valid as ROI	2 (3)	7 (7)	4	5	2	2	0.5	0.4	0.1		Strong consensus	Stable
49.Only monetisable benefits are ROI	1	6	2	-	2	-	-				Strong consensus -ve	-
50.Difficult to monetise benefits are equally valid as ROI	4	7	5	-	1	-	-				Very strong consensus	-
51.Difficult to monetise benefits are more important	1	5	4	-	2	-	-				Undecided	-
52.Difficult to monetise benefits are sometimes more important	2 (2)	7 (7)	5	5.25	1	1	0.2	0.19	0		Strong consensus	Stable
53.Monetisation is valid as it is the stipulated requirement	1	6	4	-	1.5	-	-				Undecided	-

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54.Monetisation is valid as it is the best practice	1	6	4	-	2	-	-				Undecided	-
55.Monetisation is impractical, there should be an alternative	2	7	4	-	2	-	-				Undecided	-
56.Monetisation is against professional values	1	5	2	-	1.5	-	-				Strong consensus	-
57.Monetisation is against mental healthcare values	1	5	2	-	2	-	-				Strong consensus	-
58.Only benefits that be directly linked to a programme are ROI	1	6	3	-	3	-	-				Moderate dissensus	-
59.Valid indicators of hard to measure benefits are valid evidence	3 (3)	7 (7)	5	5.5	1	1	0.2	0.18	0		Very high dissensus*	Stable
60.A narrative report of benefits is valid evidence for ROI	3 (2)	7 (7)	5	6	1	2	0.2	0.33	0.13		Strong consensus	Stable
61.Subjective judgement of benefit measurement is acceptable	2	6	3	-	2	-	-				Strong consensus -ve	-
62.Subjective judgement is valid evidence of ROI if criteria agreed	2 (2)	6 (6)	5	5	1	3	0.2	0.6	0.4		Moderate dissensus	Unstable
63.Subjective criteria should be decided per Trust	2	6	4	-	1.5	-	-				Undecided	-
64.Subjective criteria should apply across mental healthcare Trusts	2	6	4	-	2	-	-				Undecided	-
65.Financial proxies are acceptable as ROI evidence	3 (3)	7 (6)	5	5	0.5	1	0.1	0.2	0.1		Very high dissensus*	Stable

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66.A narrative report of difficult to monetise benefits is acceptable	3 (2)	7 (7)	5	6	1	1	0.2	0.17	0	Very high dissensus*	Stable
67.Subjective judgement about monetary benefit is valid evidence	3	6	5	-	1	-	-			Strong consensus	-

Based on my analysis, only five items indicating significant instability (RIR >30%). Most instability was related to the change in the position of outliers; where there had been numerous outliers around narrow IQRs, views converged towards the median. This eliminated outliers, but increased IQRs to >3. Thus, these items remained areas of dissensus. Thus, although instability existed within items, this did not change the overall consensus levels. Table 6-3 illustrates medians, IQRs, and RIRs per item.

6.5.1 Summative results: Rounds 1 and 2

Overall, consensus after Round 2 remained at 45 of 67 (67%) items, and dissensus remained on 22 of 67 (33%) items. Within consensus items, positive consensus (item acceptance) was on 34 of 45 (76%), negative consensus (item rejection) was on 4 of 45 (9%) items, and indecision was on 7 of 45 (15%). The results are presented in Boxplots (Figures 6-3 to 6-15). Pink boxes denote re-rated items, a circle is a moderate outlier, a star is an extreme outlier, and a number represents a participant.

6.5.1.1 Section A; benefit relevance

This section measured item relevance on a 10-point scale. Results are reported per section as well as per themes under each section. Amongst the themes, patient outcomes were rated as most relevant to QI-ROI, followed by development, financial outcomes, and external incentives. Consensus here was moderate to high, with few outliers, dissensus or indecision.

Patient outcomes

Service user health outcomes received the highest rating and strongest consensus (IQR=2, Mdn=10). This was followed by population health (IQR=2, Mdn=8), service user experience (IQ=3, Mdn=9), and service user access to care (IQR=3, Mdn=8). In round 2, the IQR of access

narrowed from 3 to 2 (RIR variation 0.13). Thus, this instability indicated convergence towards stronger consensus on access to care as highly relevant to QI-ROI.

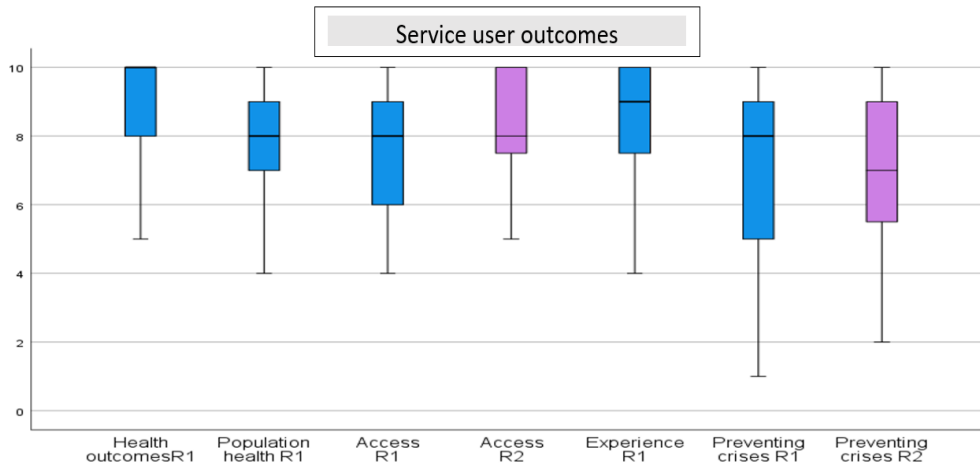


Figure 6-4 Service user outcomes

Financial benefits

Financial sustainability received the highest rating (IQR=3, Mdn=8), followed by cost-avoidance (IQR=3, Mdn=7). There was consensus that profit generation was viewed as less relevant to QI-ROI (IQR=3, Mdn=3). There was a minor degree of indecision regarding cost-savings (IQR=2, Mdn=6), and regarding revenue generation (IQR=3, Mdn=4). In Round 2, the cost-savings IQR narrowed from 3 to 2 (RIR variation 0.2), indicating slight convergence on it as relevant to QI-ROI. However, its relevance remained low (6 of 10). The revenue generation RIR variation was 0, indicating that it is likely seen as not relevant to QI-ROI.

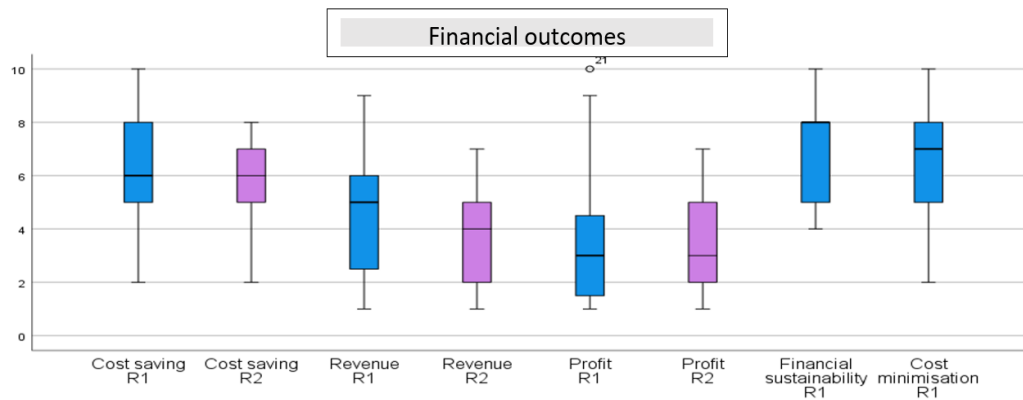


Figure 6-5 Financial outcomes

Organisational development

Improvement of culture received the highest rating and consensus (IQR=2, Mdn=9). This was closely followed by productivity (IQR=1.5, Mdn=8), staff outcomes, efficiency, improved capability, and organisational sustainability (IQR=2, Mdn=8). These were followed by improved capacity, innovation, internal and external collaboration (IQR=2, Mdn=7). External collaboration lost outliers but acquired a slightly broader IQR from 1.5 to 2 (RIR variation 0). This indicated stability in external collaboration as being of moderate relevance. There was some dissensus on development of research skills as relevant (IQR=2, Mdn=6, one outlier). In round 2, the research item IQR narrowed from 2.5 to 2 (RIR variation 0). This suggested stability on research item as of lower relevance to QI-ROI, albeit potential dissensus.

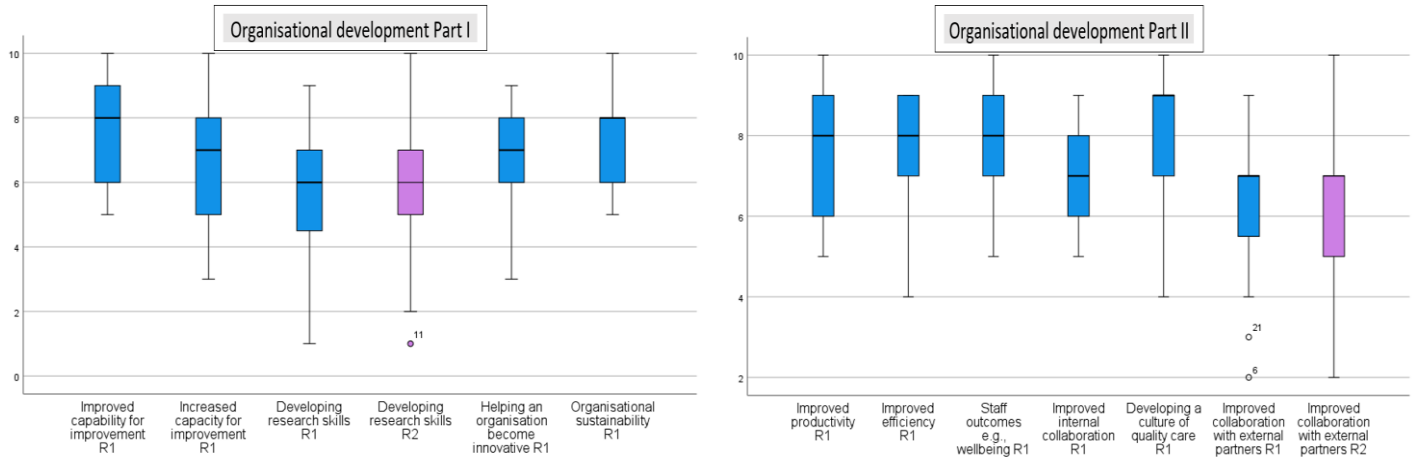


Figure 6-6 Organisational development

External incentives

Within this group, the reputation for quality care was given the highest score (IQR=3, Mdn=8), followed by oversight benefits (IQR=3, Mdn=7). Areas of dissensus were improved status (IQR=3, Mdn=4), being a provider of choice (IQR=5, Mdn=6.5), both with RIR variations 0. Competitive advantage (IQR=4, Mdn=5.5) RIR variation 0.78, indicating significant instability due to a narrowing of IQR from 6 to 4. Nonetheless, this indicated low relevance for these items as per medians, albeit with some significant dissensus as indicated by wide IQRs.

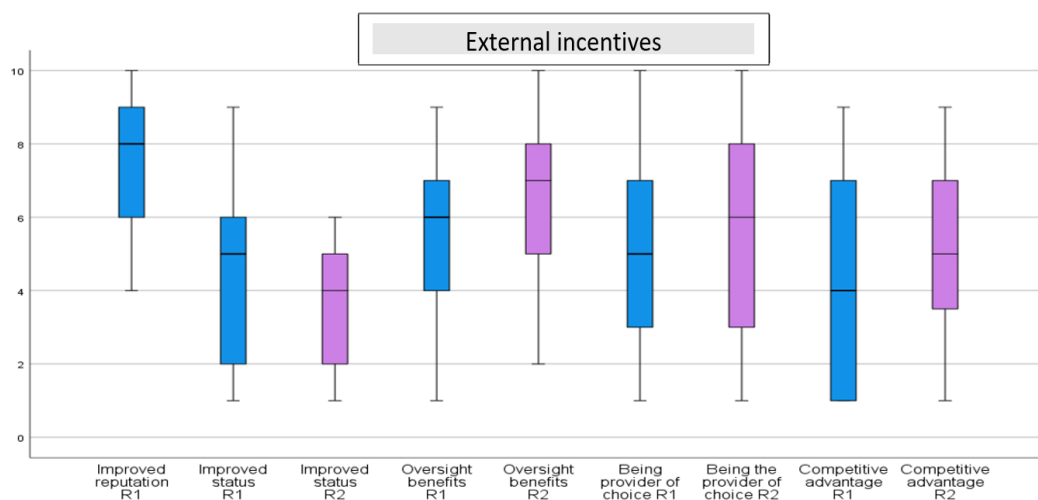


Figure 6-7 External incentives

6.5.1.2 Section B; benefit legitimacy and eligibility

Section B measured QI outcome or benefit eligibility as QI-ROI on a 7-point scale. Most items achieved IQRs 0-1. However, there were multiple outliers, indicating some dissensus on several items. Overall, benefits beyond intended QI goals, as well as benefits that are difficult to measure, monetise, and attribute received higher scores.

Intended versus unintended outcomes

Highest rating and strongest consensus was achieved for benefits beyond intended programme goals (IQR=0, Mdn=6), including lessons from QI programmes (IQR=1, Mdn=6), legacy left by QI programmes (IQR=1, Mdn=6). There was negative consensus on the statement that QI cannot fail (IQR=2, Mdn=3), meaning this statement was rejected.

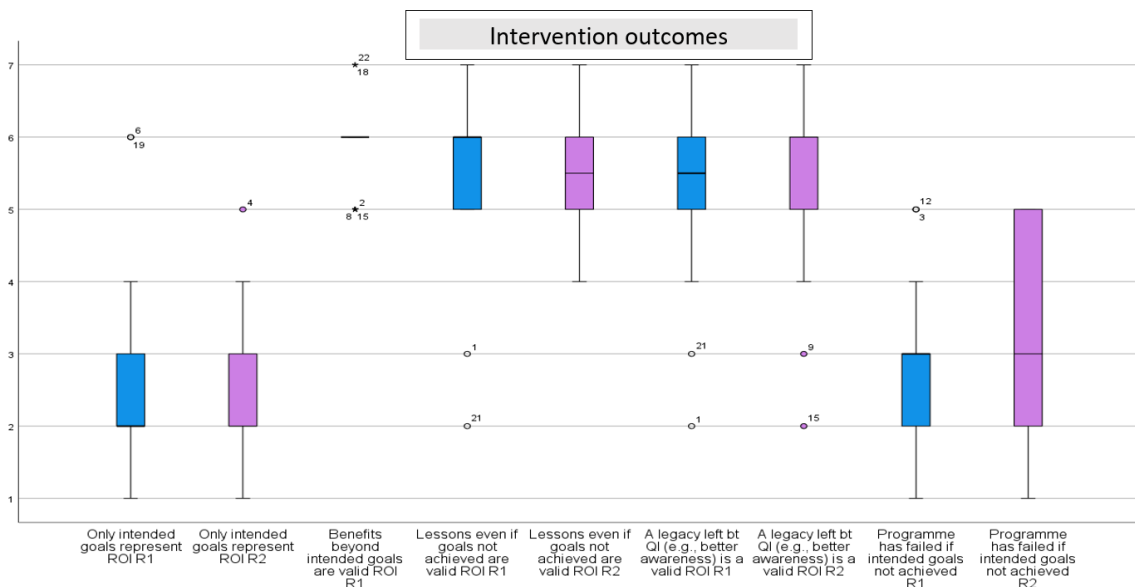


Figure 6-8 Intervention outcomes

Short versus long-term benefits

The item that combined short and long-term benefits are part of QI-ROI achieved the strongest consensus and highest rating (IQR=0, Mdn=6). Negative consensus and low scores were on short-term only (IQR=3, Mdn=3), and long-term only (IQR=2, Mdn =3). The RIR variation of short outcomes alone was 1, due to a widening of IQR from 0 to 3. This indicated significant instability on only short benefits alone are eligible as part of QI-ROI. Long-term outcomes' IQR increased from 1 to 2, RIR variation 0.17, indicating a slight instability. Thus, there was more movement in the short-term outcome item. In the absence of the combined impact item in the second round, participants appeared to favour either short-term or long-term outcomes.

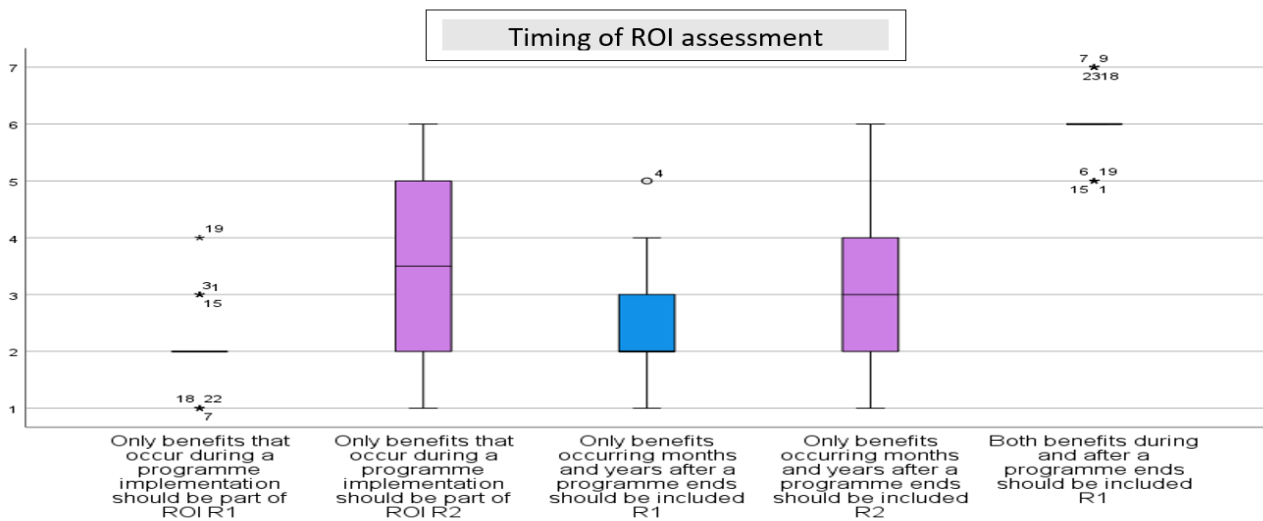


Figure 6-9 Timing of ROI assessment

Implementation outcomes

There was high dissensus on implementation outcomes with wide IQRs and outliers. Spread achieved IQR=3 Mdn=4, embedding IQR=4 Mdn=5, sustainability IQR=2, Mdn=5. There was significant instability with the item on embedding QI, RIR variation at 0.5 and slight instability on the item sustainability with RIR variation at 0.3. This was due to the widening of the IQRs, which replaced multiple outliers. Speed of implementation received the highest score and strongest consensus (IQR=1, Mdn=6).

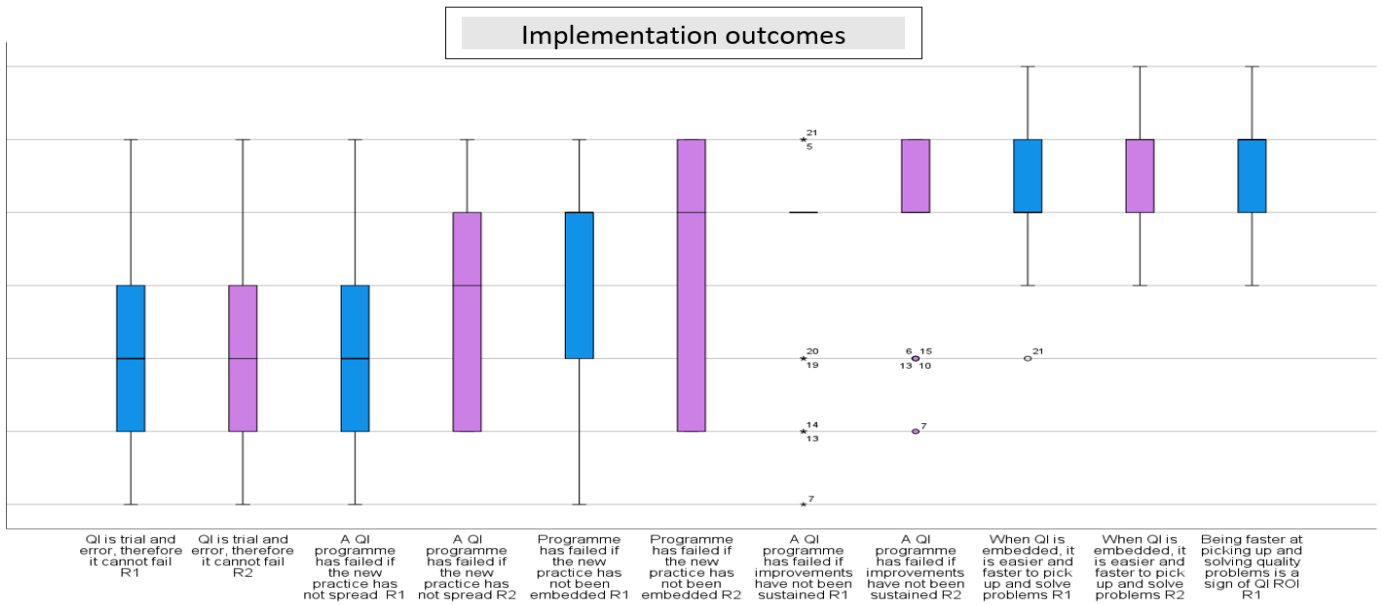


Figure 6-10 Implementation outcomes

External benefits

Benefits for friends and family achieved strong consensus and high rating (IQR=1, Mdn=6). Also highly rated with strong consensus were benefits to community and society (IQR=0.5, Mdn=6), and benefits for external partners (IQR=1, Mdn=6). There was an outlier for service user socio-economic benefits (IQR=0, Mdn=5, RIR variation 0), indicating minor dissensus.

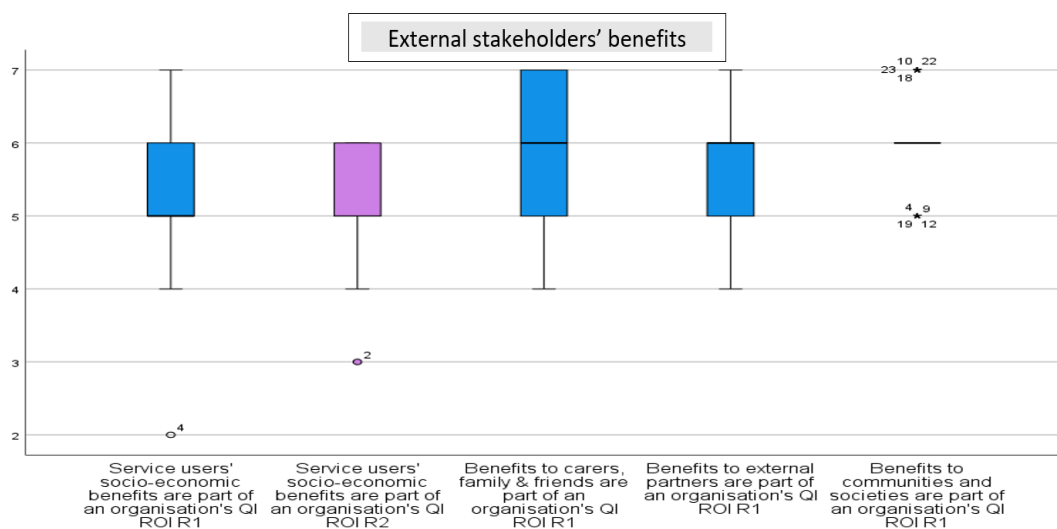


Figure 6-11 External stakeholders' benefits

Measurable and monetisable benefits

There was consensus that immeasurable and non-monetisable are equally valid as measurable and monetisable benefits; immeasurable (IQR=2, Mdn=5), non-monetisable (IQR=1, Mdn=5). There was consensus that immeasurable and non-monetisable benefits are sometimes more valid; immeasurable (IQR=2, Mdn=5) non-monetisable (IQR=1, Mdn=5.25). Finally, there was consensus that immeasurable benefits are *not* more valid as QI-ROI (IQR=2, Mdn=3). There was a level of indecision that non-monetisable are *not* more valid than monetisable ones (IQR=2, Mdn=4, relative RIR 0), indicating some indecision around these items.

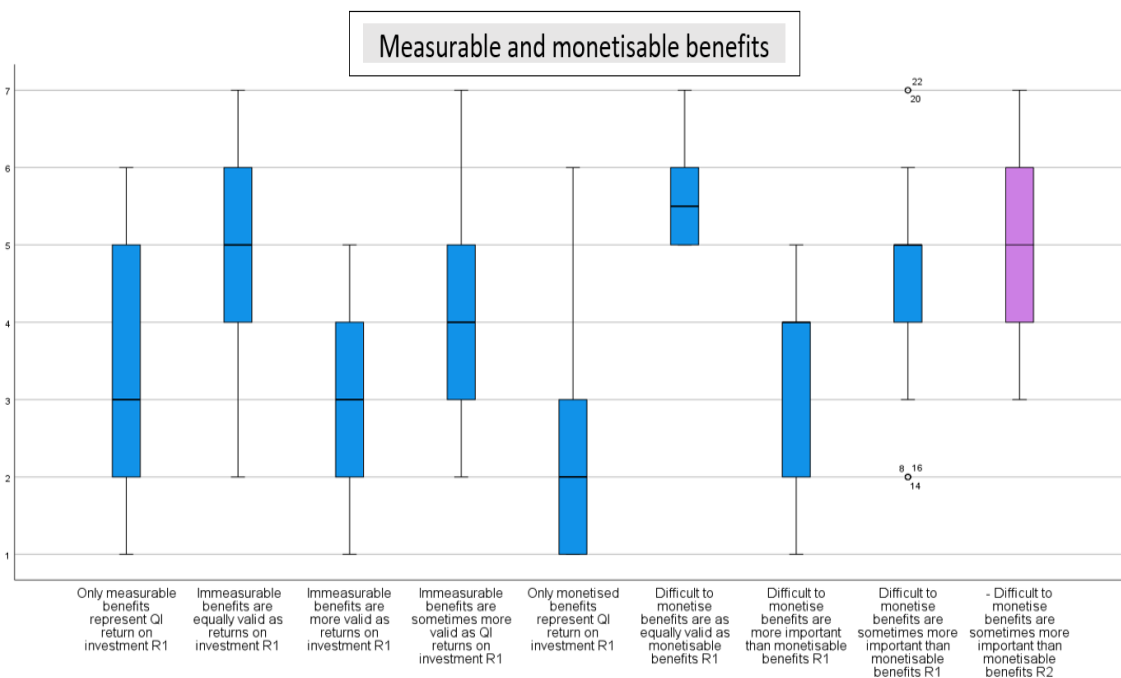


Figure 6-12 Measurable and monetisable benefits

Legitimacy of monetisation

There was consensus that monetisation is not against their professional values (IQR=1.5, Mdn 2) and mental healthcare values (IQR=2, Mdn=2). There was an indication of a group indecision about whether monetisation of QI benefits were viewed as a requirement (IQR=1.5, Mdn=4), best practice (IQR=2, Mdn=4), or as impractical (IQR=2, Mdn=4). Altogether, this indicated an openness to ROI and or an indecision about the legitimacy of monetisation.

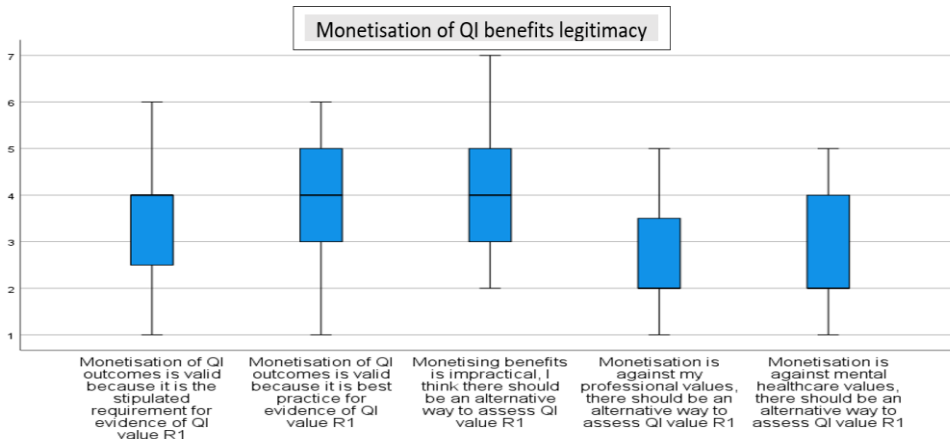


Figure 6-13 Views on monetisation of benefits

Attribution versus contribution

There was rejection of attributable benefits as the only evidence of QI-ROI (IQR=3, Mdn=3). Subjective judgement alone was not accepted as valid evidence of QI-ROI (IQR=2, Mdn=3). Subjective judgement was however accepted as valid evidence of QI-ROI if there was a set criteria (IQR=3, Mdn=5). There was indecision about whether criteria would best be set for each Trust (IQR=1.5, Mdn=4), or the whole mental healthcare (IQR=2, Mdn= 4).

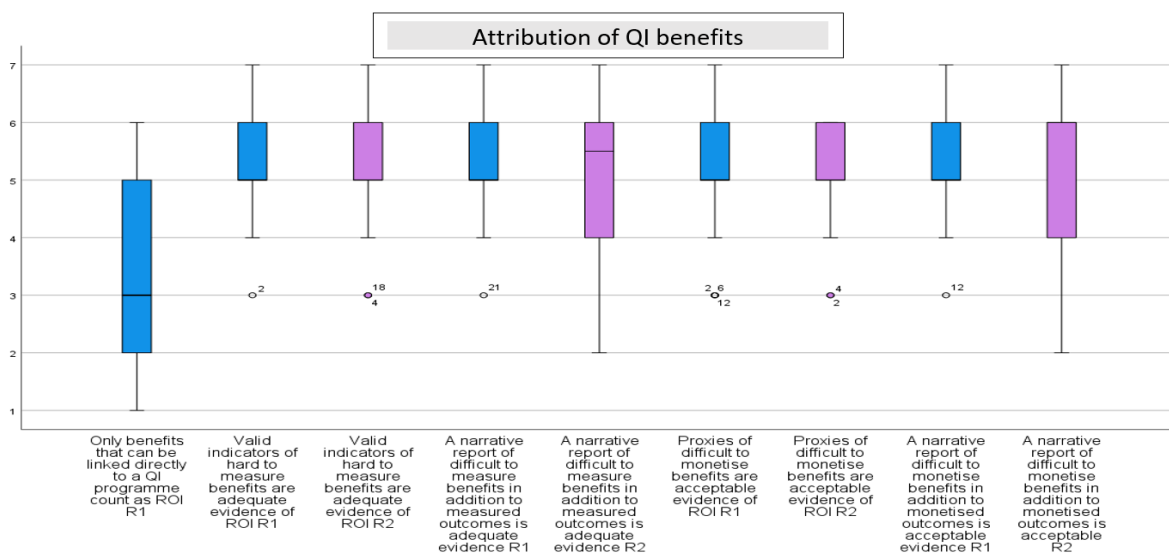


Figure 6-14 Views on benefit attribution

There was consensus that narrative reports, financial proxies, and indicators were acceptable evidence of QI-ROI; narrative reports (IQR=1, Mdn=6), proxies (IQR=1, Mdn=5), and indicators (IQR=1, Mdn=5,5), agreed judgement criteria (IQR=1, Mdn=5). However, there were two areas of instability due to widened IQRs. These were narrative reports as acceptable evidence of ROI (RIR variation 0.13), and subjective judgement as valid evidence of ROI if criteria agreed (RIR variation 0.4). The latter indicated significant instability of the item.

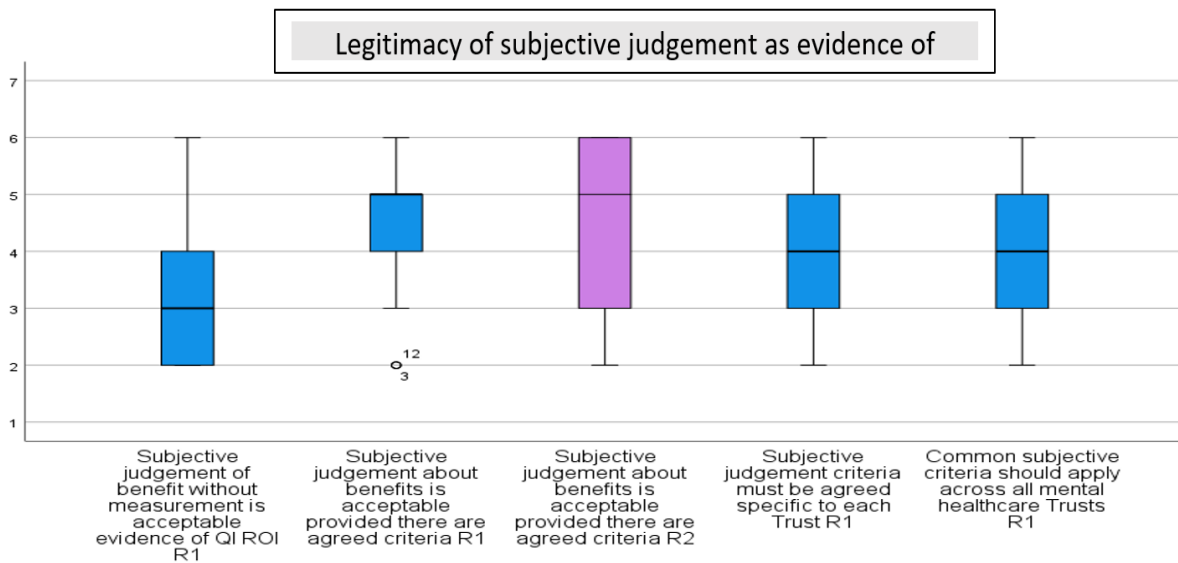


Figure 6-15 Views on subjective ROI judgement

6.5.2 Rounds 1 and 2: Qualitative analysis

In Round 1, only three of 23 participants entered comments. The comments entered did not indicate a need for changes in statements that were to be re-rated in round 2. These comments were added to Round 2 comments for analysis. In Round 2, 13 of 23 participants entered comments. Comments ranged from one word to extensive comments. As such, it was not possible to develop themes. Thus, qualitative data were assessed by hand for any additional information that clarified, supported, or disputed quantitative findings.

Qualitative data supported quantitative findings that patient outcomes are seen as the most relevant. However, participants explained some of the ratings. For example, some emphasised an increasing need to focus on financial outcomes. Several participants saw financial outcomes as a positive but unintended consequence of improved care and processes. A participant described this in terms of primary (patient outcomes) and secondary (financial benefits). In this process, short-term and intended goals are seen as important early indicators of QI-ROI. However, long-term and unintended benefits were also seen as a legitimate part of QI-ROI.

Participants hinted at the factors that determined their conceptualisation of QI-ROI. For some, the current financial context behind the national frameworks influences needs to balance quality and financial outcomes. However, participants did not appear to focus on lower end variables like cost-saving and cost-avoidance. Instead, financial sustainability, a long-term variable, was most valued. This indicated a focus on impact rather than outputs or short-term outcomes in conceptualising QI-ROI, as illustrated by the following quotation:

“In the current context, financial sustainability and resource implications needs to have equal weight in considering where to invest limited QI resource”. Participant 14; Round 2

The views on financial sustainability as the most relevant financial outcome appeared to also be a result of an increasing systems view behind the QI-ROI concept. This view recognises the interconnectedness of mental healthcare. For example, some participants clarified that challenges such as preventing service users’ mental health crises may not be under the control of a single organisation. However, a participant commented that they did not see a connection between preventing crises and QI-ROI. This may indicate a lack of perceived connection to systems outcomes by some. Nonetheless, a systems perspective was used to explain and legitimate externalised outcomes as mandated by national agendas, as can be seen below.

“The current and relatively new ways of assessing business case looks very much at the wider socio-economic benefits and scores them. QI needs to follow the same model”.

Participant 14; Round 2

“The national business case model requires monetisation of benefits in the wider sense to support investments of public money - they have to reach a specific return score”.

Participant 3; Round 1

Participants clarified some of the low ratings. Market-based benefits such as profit were seen as not appropriate as healthcare aims to reinvest finances to support care provision. Further, intrinsic benefits like pride in own work are seen as more relevant than status or competitive advantage. A participant expressed that being a Foundation Trust (a semi-independent organisation) as an example of status benefits is no longer relevant. However, some had rated this statement high, based on the concept of status itself. Another participant stated that being provider of choice may also be meaningless as patient choice in NHS may not be possible.

In terms of oversight benefits, some clarified that although the regulator CQC (Care Quality Commission) is behind some improvements, it is not the only QI driver and focus of benefits. QI programmes are largely driven by internal rather than external agendas. Some participants indicated that they based their QI-ROI concept on their experience concerning the goals of QI. As such, some saw the current ROI philosophy as misaligned to how Trusts work. Therefore, there appeared to be conflict between internal and external QI agendas, as can be seen below.

“Whilst our funding expects us to be able to reduce costs, as an NHS mental health trust at present we are much more focused in our improvement work on ensuring care is safe and effective”. Participant 2, Round 2

“Focus on improve care, this will lead to better outcomes, higher staff satisfaction which in turn will reduce costs - return on investment is approaching the subject from totally the wrong end”. Participant 16, Round 2

“ROI needs to be seen a different in an NHS context than wider business return i.e., better than competitor isn’t a system benefit or return unless it leads to lost income coming back into the [...] sector from another”. Participant 3, Round 2

Two participants indicated that the neutral responses about the legitimacy of monetisation may be a result of ambiguity in the Delphi statement. Nonetheless, there were concerns about uncertainty over the evidence for QI-ROI. Participants stated that although narrative reports can aid understanding, the ability to quantify benefits was essential. This appeared to create dilemmas, as seen in how the challenges of obtaining evidence at times meant that some participants debated or excluded some benefits that were otherwise desired. This was also evident in the different perceptions on the legitimacy, feasibility of quantification and monetisation of valued benefits as seen below.

“The most relevant aspects are always the most difficult to measure”. Participant 2; Round 1

“it is usually possible to monetise but the benefits may accrue to another party or part of the organisation”. Participant 3; Round 2

“... it is not always possible to get a monetary benefit”. Participant 7; Round 2

“Monetisation is how the wider public sector/Treasury assesses the impacts on the wider national economy this is how it has to work”. Participant 3; Round 1

Professional judgement of QI benefits was accepted. However, participants were unclear whether organisation-specific or institutional criteria are best. Some participants indicated that they may have very specific goals for each programme. Nonetheless, participants indicated that core benefits such as health outcomes may be shared. Some participants were concerned that not insisting on evidence may prevent efforts to account for QI investments.

“It is too easy to say that we cannot quantify the financial benefits of QI projects and therefore agree a narrative evaluation is acceptable, however, this allows for a certain amount of complacency, and understanding of route cause issues and quantifiable problems to be agreed which is often the hardest part of QI work”. Participant, 5 Round 2

“I very much agree the monetisation isn't against any profession[al] value but the culture must change as we need to be able to prove the wider system benefits and thus, we need to use national tools in this respect”. Participant 14, Round 2

Finally, participants agreed that unintended outcomes play a significant role in QI-ROI. Some commented that lessons are sometimes part of a QI programme, as supported by the trial-and-error philosophy. However, trial-and-error is seen as a means to reduce chances of failure, and not as a tool for poorly designed, wasteful programmes. Similarly, implementation outcomes such as spread, embedding, and sustainability may be intended, and thus part of QI-ROI.

Participants emphasised that such outcomes can only be part of ROI where improvement has been shown. This implies a difference between a small QI projects and large QI programmes.

“...depends on whether the programme is designed to spread...a programme designed from the outset to spread could be viewed as a failure if it doesn't”. Participant 2, Round 2

6.6 Discussion

In Chapter 5, findings indicated multiple ambiguities and uncertainties about the QI-ROI concept. The main objective of the current study was to improve the precision of the QI-ROI conceptual framework. This entailed obtaining the widespread views on QI outcome eligibility, legitimacy and priority within the framework. The findings from this Delphi study have also indicated an ongoing theme of dilemmas that may be contributing to the ambiguities and uncertainties. Some ambiguities may be a result of a need to contextualise QI-ROI and catering for multiple internal and external obligations. Nonetheless, there appears to be core components of the QI-ROI concept. Thus, the current findings reflect those from Chapter 5.

My findings indicate that patient outcomes are consistently perceived as the most relevant in how QI-ROI is conceptualised. Development outcomes also received high scores, with the development of an improvement culture the most highly rated. Some of the valued benefits in the first section of the survey (item relevance) are difficult to measure and monetise e.g., patient experience. This was consistent with the high scores given to intangible outcomes in the second section (eligibility, legitimacy). There was also consistency between valuing comprehensive benefits and the views that short and long-term outcomes are a measure of QI-ROI. External outcomes were also constantly highly rated. Lastly, the views on cost-saving and financial sustainability indicate an increasing consideration of financial outcomes as part of QI-ROI.

Although some QI benefits may already have established means of measurement, measurement may not always be feasible, valid, or reliable. According to Solid (2020), this applies to most QI benefits. However, this does not mean that QI does not have other valuable benefits (Solid, 2020). Alternatively, Hubbard (2014) argued that everything is measurable when the goal is to reduce uncertainty. Such thinking inspires innovative measurement methodologies and may help redefine QI value and its parameters. Differences in world-views are inevitable. These differing views hint at the complexity of the environment where QI and ROI are enacted.

In complex contexts, consensus building is seen as an emergent process, with benefits revealed over time through diverse feedback mechanisms (Innes & Booher, 1999). Thus, concept instability as a result of ambiguity and uncertainty may be unavoidable, at least in the short-term. Some dissensus and indecision may be related to the newness of rated concepts and items in QI. For example, although collaborating with different sectors is not new, formal integration of services is new. This is likely to increase the relevance of system-wide benefits (NHS Improvement, 2022). Further, traditionally QI is not seen as research. However, as QI matures into Improvement Science, abilities and capacities to generate data for use beyond the local context will be essential (Portela et al., 2016; Ting et al., 2009). Other changes e.g., insights about implementation outcomes may also impact QI-ROI in the future.

Implementation outcomes are also a relatively new focus, and may not be measured in many programmes (Lewis et al., 2015). Implementation insights enhance learning about programmes (Lewis et al., 2015). This may improve programme effectiveness and efficiency. Thus, both intervention and implementation benefits can help maximise returns. Similar to my previous findings, the speed of implementation and problem identification received high positive consensus. Over time, proficiency in QI implementation may enhance the speed of work or productivity and efficiency. Gamlen et al., (2012) attempted to measure the ROI of speed, e.g., from reduced interruptions, but did find it difficult to attribute to their programme.

Valuing benefits such as competitive advantage, provider of choice, and reputation are also novel in UK healthcare. In this study, only reputation for quality was rated highly. Competitive advantage embodies an organisation's ability and capability to perform well beyond its competitors (Zuñiga-Collazos et al., 2019). Competition was introduced in the UK healthcare to drive efficiency. Recently, QI methods are employed to promote competitiveness (Prado-Prado et al., 2020). It is yet unclear if QI can impact such variables, Nonetheless, improving a reputation may affect other variables, e.g., a good reputation may afford competitive advantage, improve status, enhance oversight, and make for a desired provider. Although a reputation of quality care may attract some patients (Miller & May, 2006), it is unclear whether service users of public healthcare can actually exercise choice (McPherson & Beresford, 2019).

Market-based variables like competitive advantage, profit and revenue generation were rated highly by some. Although uncommon in publicly funded healthcare, profit-making in the NHS can be found. This is associated with entrepreneurship to generate revenue in support for service provision (Hodgson et al., 2022). Whether revenue and profit can be achieved through QI is unknown. Alternatively, cost-saving and cost-avoidance were seen as of moderate relevance to QI-ROI by many. As noted in Chapter 4, processes such as cost-avoidance and cost reduction may lead to cost-savings, as well as financial and organisational sustainability. These outcomes have been receiving increasing attention in healthcare (NHS Improvement, 2022). Nonetheless, their secondary status is in conflict with ROI traditions.

Overall, the findings indicate that part of the dilemma lies in interpreting differing demands as a result of 'institutional complexity'. There may be various other explanations for differing views in the legitimacy, eligibility, and priority of certain benefits as QI-ROI in healthcare. These include professional backgrounds, QI programme goals, and organisational development needs. For example, if core objectives have been achieved, a focus may shift to saving costs (Shah, 2020). These different QI foci may explain the overall stability of the consensus levels on core QI-ROI attributes, whilst debating the merits of others. Thus, there might be a 'hierarchy of organisational needs' that may explain the responses of healthcare leaders to ROI.

6.4.1 Potential institutional response to ROI

Under the ‘underpinning theory’ section, I highlighted that ROI may be perceived by some as a threat (Masters et al., 2017). Such perceptions can trigger institutional responses (Oliver, 1991). Concerns over ROI were raised by some in the qualitative study (Chapter 5). In that study, there was prioritisation of healthcare and social values that promote patient outcomes and social justice. The current findings have indicated support for these views. This reflects the overall view that healthcare as an institution has its primary goal as the health (not the economy) of a society (Hegarty, 2012). However, there is an increasing need to include financial accounting as part of QI governance. To this effect, my findings so far have indicated a willingness to compromise and elevate the status of financial benefits in healthcare QI-ROI.

The current and preceding studies have also indicated some level of defiance against traditional ROI. However, unlike in the current study, the qualitative study hinted that professional and mental healthcare values may influence the concept of QI-ROI. The differences could reflect different study designs, for example the in-depth nature of qualitative interviews versus Delphi data. However, the rejection of healthcare marketisation and challenges with monetisation are known (Bozeman & Su, 2015; Bridges, 2005). As such, this may be area that needs further exploration as it may hint to the acceptability of ROI amongst those who need to evaluate it.

In contexts of ambiguity, uncertainty, multi-dependency, and constraints, various responses to institutional change are possible (DiMaggio & Powell, 1983; Oliver, 1991). It is crucial that values of different stakeholders are respected and aligned to QI programmes. Where agendas are seen as misaligned with internal values and capabilities, defiance, avoidance, and manipulation may ensue. Such responses are ineffective and self-defeating for all involved. This has been seen in the use of performance-based payments where individuals may ‘game the system’ for short-term benefit (Elg et al., 2013; Korachais et al., 2020). Uncertainties,

ambiguities, and conflicts are part of the complexity of organisations (Hagen & Park, 2013; Lange et al., 2021). Thus, they must be explored as a first step to their management.

6.6.1 Strengths and Limitations

Delphis have a potential for 'forced consensus' that can result from rephrasing statements between rounds (Murphy et al., 1998). To minimise this issue, for some statements, I created two versions to capture different perceptions on the same variable. For example, to capture thoughts on cost-avoidance, a statement read 'preventing costly care', another 'preventing mental health crises'. Although both may lead to less cost, one is focused on cost, another on patients. This helped ascertain which values participants lean to when conceptualising QI-ROI. Another potential benefit was that feedback was not provided as a group median as per Delphi tradition. This meant that participants blindly re-rated the items, based on their views at the time rather than on previous scores. This could also have minimised forced consensus.

As the study only had two rounds, I was unable to ascertain sustained stability (Dajani et al., 1979). Further, not all statements were re-rated in the second round. However, this was done to minimise survey fatigue and encourage participants to focus on areas that needed more clarity. Another potential limitation of the study as pointed out by some participants, was that some statements may have been ambiguous. Thus, some responses may reflect an issue with the format of the statements rather than participants' views. The definitions of some terms e.g., QI programme had been provided in the first but not second round, to reduce the survey size. However, re-issuing definitions or another Delphi round may have resolved ambiguities.

6.6.2 Recommendations

This study highlighted that participants may be conceptualising QI-ROI from both a project and programme perspective. As such, some benefits may or may not be eligible for large

programme QI-ROI. Some benefits may be shared e.g., health outcomes, whilst others e.g., spread may only apply to large programmes. It therefore may be useful to study this distinction in future research to draw more differences between QI-ROI of small projects and large QI. Future research may also explore the financial impact of implementation failure and or success of QI programmes. This may help clarify whether implementation outcomes are or should be a legitimate part of QI-ROI.

Researchers could explore techniques like the Nominal Group Technique or Concept Mapping where consensus building is done face-face (Davies, 2011; McMillan et al., 2016), or Network diagrams which use software to identify commonly used concepts in a text (Pollack et al., 2018). Further, future study on the Delphi methodology may compare the effects of feedback using only group statistic to ascertain which method may be more prone to social desirability or forced consensus. Further, studies could run subgroup analysis to ascertain any differences by groups, e.g., between QI leaders and board members.

6.6.3 Conclusion

Undoubtedly, patient outcomes are core to any and all QI activity. In addition, organisations look to QI to develop and sustain them. Within the ROI methodology, these and other valued outcomes must ultimately be linked to financial outcomes for them to make sense in financial governance. In the current struggle for evidence of QI-ROI, defining acceptable benefits and their evidence must be negotiated with all relevant stakeholders. Prioritising one measurement philosophy over another risks creating inefficient blind-spots. Further, mental healthcare services are increasingly integrated. As such, QI-ROI ambiguity and uncertainty may elude measures to reduce them. Granted, the QI-ROI concept needs boundaries to enable its operationalisation. This calls for attitudes that embrace challenges and innovative ways to articulate QI benefits in context. In spite of ambiguities, there is largely coherence with healthcare values, and thus patient outcomes, developmental and external benefits as central to QI-ROI in healthcare. In the next study, I summarise the determinants of the QI-ROI concept.

7 The Determinants of the QI-ROI concept

7.1 Introduction

This chapter attends to the second part of the thesis' area of interest; the determinants of the concept of Return on Investment (ROI) from Quality Improvement (QI-ROI). Concepts as mental states are influenced by certain a-priori conditions that determine how things are perceived (Morse et al., 1996). Individuals may or may not be conscious of these determinants (Hardy, 2011; Merikle et al., 2001). Determinants can be defined differently depending on a discipline. In general, determinant is a variable that has power to directly or indirectly influence another towards a certain outcome (Cambridge Dictionary, 2023). In the context of the QI-ROI concept, the definitions adopted in Social Science and Psychology are the most relevant.

In Social Science, to influence is to change thoughts, feelings, attitudes, or behaviours as a result of interacting with others (Rashotte, 2007). This is relevant as QI-ROI is a concept 'under social construction'. Thus, others' influence matter. In psychology, a determinant is likened to an antecedent, or a stimulus that triggers a learned reaction (Seibert et al., 2011). A determinant can also be a precondition, a factor necessary for the activation of an event (Lewis et al., 2018). Antecedent and pre-condition are relevant since concepts may come from our prior experience. Antecedent or precondition are often adopted in conceptual research (Seibert et al., 2011). Determinants are in-turn influenced by moderators that increase or decrease the level of influence of a variable, and mechanism through which a variable operates (Lewis et al., 2018).

Understanding a concept's determinants provides in-depth knowledge about them. This insight is crucial to drive the QI-ROI concept towards maturity (Morse et al., 1996). Depending on the determinants, concepts take certain forms, and lead to specific outcomes e.g., a specific QI-ROI tool. Insights on determinants may also guide management of dilemmas related to QI-ROI. Many determinants of the QI-ROI concept may exist, some have been identified here.

Below, I gather the factors that appeared to determine the conceptualisation of QI-ROI. In Chapter 4 (the systematic review), authors simultaneously provided desired QI benefits and the rationales behind them. To systematically capture these factors, identifying determinants was included as secondary objectives of the studies in Chapters 5 (the qualitative study) and 6 (the Delphi). In this chapter, I synthesise the QI-ROI determinants and offer conjectures for future exploration. This chapter forms part of the weaving phase of my project’s findings as introduced in Chapter 2 (methodology). The final part of the weaving process follows in the next chapter. Fetters et al. (2013), described weaving as a process of merging or integrating contributions of a mixed-methods study to provide coherent conclusions.

To achieve this, I sought to utilise a determinants framework. I first looked to Implementation Science determinant frameworks. However, these are designed for interventions and thus not suitable for concept development. As my project was largely guided by Institutional Theory, I then sought a framework that reflects this theory. Institutional theorists present organisational behaviour as governed by internal and external pressures (DiMaggio & Powell, 1983). As such, I envisioned a framework that presents such forces on the QI-ROI concept. These forces affect one another through mechanisms and are modified by moderators as illustrated in Figure 7-1.

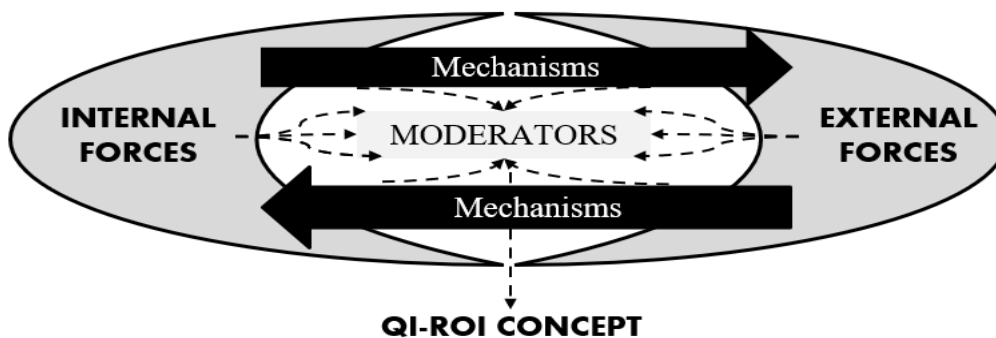


Figure 7-1 The determinants of the QI-ROI concept framework

As this chapter is related to the explanation of why and how the QI-ROI concept becomes conceptualised a certain way, I draw my conjectures predominantly from qualitative data and

theory. As such, this chapter is chiefly based on the narrative synthesis of the systematic review, the qualitative study, and the Delphi qualitative data. However, the Delphi’s quantitative data contributed to my conclusions. In all studies, I used theory to qualify and explain my findings. This also helped deepen my understanding of the determinants of the QI-ROI concept.

7.2 Weaving the potential QI-ROI determinants

In Chapter 4, I identified funding structures, national frameworks, measurement philosophies, and developmental stage as determining factors. These appeared to determine which outcomes are perceived as of value. In Chapter 5, I highlighted five determining factors: the mandates to improve quality and manage scarce resources; the expectations from QI based on knowledge; the competing values; and the resulting ambiguities and uncertainties. In Chapter 6, I found that the QI-ROI concept was influenced by both local and national agendas. The national frameworks supported incorporation of financial and system-wide benefits. Similar to Chapter 4, organisational needs appeared to also influence improvement goals and thus what is deemed ROI at any given time. Thus, contextual factors appeared to have moderating powers. Implicit within all determinants, were other factors like culture and conflict that led to certain responses to ROI. These factors were discussed within the chapters using wider literature and theory.

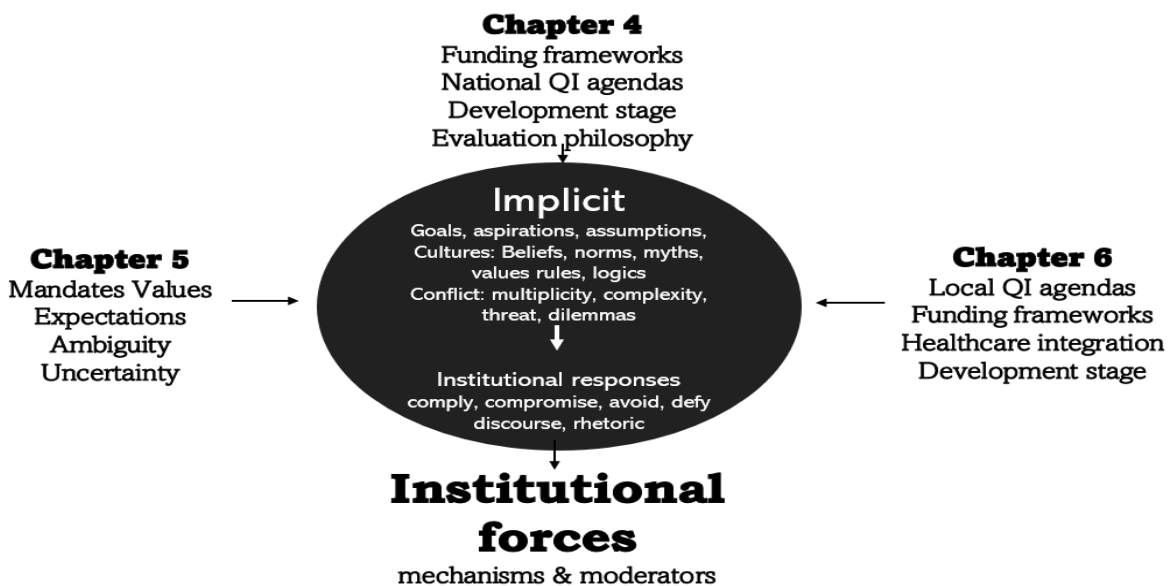


Figure 7-2 Determinants from previous chapters

Figure 7-2 shows the main determining factors deduced from each study. This illustrates the common themes of determinants throughout all studies. Broadly, the determinants found embody cognitive, psychological, social, political, economic, and technical factors that act and interact to produce a QI-ROI concept. I concluded that many internal and external factors influence the QI-ROI concept. Internal factors include beliefs, norms, and values that form cultures and influence expectations and responses to the use of ROI to measure QI value. External factors are political and socio-economic factors. These factors can have both synergistic and opposing effects on one another. Institutional actors may employ strategies as mechanisms to respond to opposing views or to promote own agendas, e.g., rhetoric. The institutional forces are intricately linked but will be separated here for discussion.

7.2.1 Internal forces

7.2.1.1 Myths, beliefs, norms

Myths

Myths are popular traditional stories that may not have any basis in truth (Meyer & Rowan, 1977). Myths give a sense of the unknown and unknowable, the metaphysical. In certain cultures, myths are to be believed without question or one risks negative cultural ramifications. In QI and ROI literature, it was not uncommon to see words like ‘myths’ and ‘misconceptions’ used by critics and proponents of ROI e.g., (Phillips & Phillips 2008). Suspicion of myth can be seen in the use of metaphors like ‘chasing the golden fleece’ (Phipps, 2019) and ‘holy grail’ (Chmielewski & Phillips, 2002). Although some see ROI as rational, others see it as ‘synthetic’, ‘aesthetic’, ‘symbolic’, or a ‘placebo’ (Andru & Botchkarev, 2011; Brousselle et al., 2016; De Meuse et al., 2009). In Chapter 5, a sense of ‘myth’ was also apparent in how some participants discussed potential ‘misconceptions’ about QI, with implications for QI-ROI.

Some, for example Solid (2020), argue that a good ROI analysis is a mix of technical and creative inputs, used to influence or convince others of QI value by invoking emotions and

imaginings. Similarly, some portray ROI as both a science and an art (Bontis & Fitz-enz, 2002; Pokhrel et al., 2017). Although this impacts ROI validity (Botchkarev & Andru, 2011), it also suggests a level of acceptable rationalised mythology about ROI. This rationalisation enables ROI's infusion with local traditions and thus its justification. I thus surmise that:

QI-ROI is a concept borne out of a fine balance between science and local traditions.

Beliefs

Beliefs are strong convictions that something is true, with or without proof (Stern et al., 1999), potentially because of myths. Beliefs may be tested in evidence-based practice. However, attaining definitive evidence outside sterile environments is often impossible (Drake et al., 2001). Alternatively, practice-based QI programmes promote trial-and-error to test and develop evidence in situ. Not all beliefs can be tested as testing some practices may present ethical challenges (Drake et al., 2001). Where evidence exists, there may be barriers to its uptake, like attitudes based on negative beliefs and experiences (Aarons, 2004). Some beliefs are based on concrete healthcare traditions, such as what Meehl (1992) referred to as 'justified beliefs'. In this project, my findings indicated felt obligations and beliefs that healthcare exists primarily to improve health and well-being of service users and populations. I thus purport that:

Beliefs about healthcare obligations towards service users and populations have a significant influence on how QI-ROI is conceptualised.

Norms

Norms reflect what is normally done in a context (Stern et al., 1999). As such, they form part of a local culture (Bellot, 2011). My findings indicate that what is 'normally done' is perceive or promote health and societal outcomes as ones that matter the most in QI-ROI. This may stem from the justified beliefs about the purpose of healthcare. Thus, norms, myths, and beliefs are

intricately linked and affect one another (Stern et al., 1999). For example, norms may stem from beliefs, which then create formal or informal local rules. Thus, norms are how myths and beliefs are operationalised. Left unchecked, all can perpetuate overuse, underuse, and misuse of care, and limit opportunities to maximise QI-ROI (Alderwick et al., 2017). Nonetheless, norms and beliefs influence values, and therefore what is legitimised or valued.

7.2.1.2 Values

Values dictate what is valued. Values can be ethical, financial, professional, even institutional (Woodbridge & Fulford, 2004). In this project, both subjective and objective value in a form of monetary and non-monetary benefits were seen as QI-ROI. Value Theory acknowledges objective and subjective value. Objective value can be ordered independent of preferences (Eabrasu, 2011). Conversely, Subjective Value Theory purports that value is by nature subjective, as demonstrated by revealed preferences, and the satisfaction brought by possession of what is valued (Grassl, 2017). Further, mental healthcare leaders and other healthcare fields indicated that they recognise value for different stakeholders. Thus, health and social care values e.g., health outcomes and social justice appeared to have a strong influence on the concept of QI-ROI. Hence, the concerns that traditional ROI may conflict with organisational values, expectations, and function (Millar & Hall, 2013). To this effect, I suggest that:

Values govern what is seen as important benefits sought from a QI programme.

Measurement philosophy

Values often enable supportive structures around what is valued, i.e., what is measured and how. This supports a theory that espoused values manifest only in the actions taken (Grassl, 2017; Sen, 1973). However, my findings indicate that this may not be case in the context of QI-ROI. This was supported by findings in Chapters 5 and 6 where valuing immeasurable and non-monetisable benefits conflicted with positive beliefs about the superiority of quantitative

evidence. At times, the most valued benefits cannot be measured, monetised, and directly attributed (Krlev et al., 2013; Solid, 2020). Thus, contrary to beliefs that ‘what is measured is what is valued’ (Bevan & Hood, 2006), the ROI methodology may not reflect what is valued in a context. Emmerich et al. (2015) called this the ‘struggle over ‘methodology’ where a method does not depict reality, but rather participates in its enactment. Therefore, I deduce that:

There may be a clash of values and philosophies between healthcare and health economics that limit or inhibit a coherent conceptualisation of QI-ROI.

Quality and QI definitions

This project and wider literature suggest that values may determine a chosen definition of quality and QI methods applied. For example, Lean methods drive popular programmes such as ‘Choosing wisely’ which seek to improve efficiency by reducing low-value care (Bhatia et al., 2015). For some, Lean raises suspicions of cut-backs (Bhasin & Burcher, 2006), and questions of appropriateness (Kurdyak et al., 2016). As such, some argue that ROI was rushed following the culture of overpromising of the Lean methodology (Hyder, 2018). Lean is said to have created misconceptions about quick-fixes (Savage et al., 2016). Alternatively, adoption of Plan-Do-Study-Act with the Deming’s Model may be more palatable to some who seek to study and resolve systematic quality issues (Taylor et al., 2014). My findings have indicated that several aspects of quality throughout an organisation are valued. Therefore, I purport that:

The definition of quality and QI, as well as methods used are a good indicator of the returns sought from QI.

7.2.1.3 Expectations

Throughout this project, authors and participants had different expectations from QI based on their knowledge and experience, as well as their attitude towards QI (i.e., buy-in or scepticism). Some authors and participants indicated that certain perceptions may be based on faulty assumptions and expectations about QI (i.e., myths). Thus, desired outcomes may not be responsive to planned programmes (Gandjour & Lauterbach, 2002). For example, under-supply programmes, improve quality by correcting a shortfall in services, thereby increasing expenditure and depleting ROIs (Swensen et al., 2013; van der Goes et al., 2019). Further, some improvements may require substantial start-up investments (Swensen et al., 2013). This suggests a theoretical threshold, below and above which ROI may or may not be detected (Staines et al., 2015). Thus, a desired or predicted ROI may not be realised (Gandjour & Lauterbach, 2002; Leatherman et al., 2003; Wells et al., 2018). The experience or perceptions of negative ROI may influence conceptualisation of QI-ROI. Therefore, I surmise that:

Expectations may positively or negatively influence how ROI from QI programmes is conceptualised.

7.2.2 External forces

The external determinants of the QI-ROI concept largely fall under four domains: political legitimacy, social legitimacy, economic legitimacy, and funding structures. These together or independently exert pressure to organisations to comply with an externally generated concept of QI-ROI. The interplay of these factors support assertions of theories such as Principal-Agent Theory (PA) (Ludwig et al., 2010). In P-A Theory the principals (e.g., politicians) expect agents (healthcare leaders) to deliver results on their behalf. Often, a quantitative discourse is seen as rational and logical (Cribb et al., 2020). Internally, this may apply in a board and QI leader relationship. In publicly funded systems, the public may be the ultimate principals, but they are represented by politicians, policymakers, commissioners, and other healthcare leaders.

7.2.2.1 Political legitimacy

Internal politics

Internally, QI leaders are dependent on the board to fund programmes. This situation can present internal political challenges. QI leaders and practitioners must produce evidence of QI value for continued high-level leadership support. Where QI value is imperceptible, this can create a blame culture (Armstrong et al., 2018). As such, a quantitative discourse may influence how QI-ROI is conceptualised, regardless of what is valued. Therefore, I purport that:

Internal politics may be exerting significant pressure on organisations to perceive QI-ROI a certain way if they are to gain or maintain QI investment.

External politics

Whilst QI leaders are dependent on the board to fund programmes, the board relies on external fund allocation. Some organisations may have own political influence e.g., Foundation Trusts or leader in QI. However, bigger politics are likely to significantly influence how organisations conceptualise ROI from QI programmes. ROI evaluation and resource-allocation are political processes (Emmerich et al., 2015; Walshe & Smith, 2011). In economic and political reality, the acceptable form of accounting is largely in quantitative financial terms, Therefore, the ROI logic may be the bottom line (Kelly et al., 2012). In this context, Foucault argued that political practices ‘systematically form the objects of which they speak’ (in Berenskoetter, 2016).

The potential impact of politics on QI-ROI was found in wider literature and this project where participants and authors question but also rationalise the ROI logic. Although traditional ROI goes against the values of most contemporary fields, it is still framed as a powerful tool for credible evidence (Kelly et al., 2012). Whilst accusing others of negative ‘misconceptions’, some admit to the challenges that invalidate ROI analyses (Chmielewski & Phillips, 2002).

Whilst ROI's accuracy is applauded, some warn that ROI as a single measure of effectiveness may be misleading (De Meuse et al., 2009). However, critics fear that politically, sticking to convictions is futile (Brousselle et al., 2016). Thus, politics may suppress uncertainty and ambiguity, and lead to isomorphism (DiMaggio & Powell, 1983). Therefore, I conclude that:

External influence may exert significant pressure on organisations to perceive QI-ROI a certain way if they are to gain or maintain political legitimacy.

7.2.2.2 Social legitimacy

In the UK, the National Health Service is seen to have taken a religious status (Kettell & Kerr, 2021). Quality issues are one of the most covered healthcare issues in the media (Campbell, 2022; Lee, 2022). A negative reputation for poor quality care through the media or Care Quality Commission reports has negative impacts for organisations. This may impact staff recruitment and retention, and even threaten organisational sustainability (Whiteford et al., 2013). Negative reputations may intensify internal politics and lead to a cascade of blame (Armstrong et al., 2018), particularly where a systems view on quality is neglected. Correcting reputations may influence the benefits sought, and thus a given QI-ROI concept. This may explain the high rating of a good reputation in the Delphi study. Thus, it is my deduction that:

Desire for social legitimacy may exert significant pressure on organisations to perceive QI-ROI a certain way if they are to gain or maintain legitimacy.

7.2.2.3 Economic legitimacy

ROI falls with economic evaluation of QI. Economics is a study of the management of scarce resources. Scarcity is an essential condition for establishing a theory of value (Backhouse & Medema, 2009). To manage scarcity, efficient allocation and use of resources is sought. Firstly, efficient allocation implies rationing. Here, the goal is to manage opportunity costs by seeking

best value (Danzon et al., 2018). Healthcare rationing occurs from policy to frontlines, in ‘normal’ and emergency periods (Backhouse & Medema, 2009; Mannelli, 2020). Secondly, the concept of efficiency stem from the assumption that resources are wasted. Thirdly, there are hopes to maximise value further through new QI innovations. The second and third assumptions fall within efficiency in use (e.g., ‘Choosing wisely’). In the current economic context, neglecting financial outcomes may be seen as illogical inertia (Wang et al., 2015). This may motivate external efforts to ‘manage and modernise healthcare’. The influence of this was reflected in how financial outcomes are increasingly prioritised. Thus, I surmise that:

Economic factors may exert significant pressure on organisations to perceive QI-ROI a certain way if they are to gain or maintain economic legitimacy.

7.2.2.4 QI investment structure

Socio-economic and political factors may influence a chosen funding structure, which may in-turn influence the conceptualisation of QI-ROI. In the systematic review, authors indicated that a funding method has a strong influence in how a QI programme is implemented and sustained. A number of methods may be used to invest in QI. These include ‘volume-based’, ‘value-based’, ‘outcomes-based’ or ‘performance-based’ methods. Volume-based payments are broad, whilst the others are often prescriptive. Prescriptive funding methods can be subjected to manipulation if against local values, broad ones may be hard to operationalise (Dopp et al., 2020). However, methods that allow broad value are amenable to contextualisation. Therefore,

A given funding structure exerts significant pressure on organisations to perceive QI-ROI a certain way if they are to comply with its inherent expectations.

Health system structure

Organisations may fund QI that benefit others in their ecological space (Pathak & Dattani, 2014). This is called externalities or displacement (Nicholls, 2012), found in fragmented health systems which only focus inward. My findings indicate that mental healthcare embrace externalisation of benefits as part of internal accounting. There are currently ongoing efforts to integrate services to improve the quality and efficiency of care (NHS Improvement, 2022). Although this may add complexity, it may legitimise a system's view of QI-ROI through supportive funding structures. Therefore, I deduce that:

An integrated may funding structure may influence an organisation's QI-ROI perspective to comply with external expectations.

7.2.3 Mechanisms

Internal and external actors may employ certain strategies as mechanisms to promote their goals and values. Strategies can vary from passive to active depending on the level of perceived conflict with values (DiMaggio & Powell, 1983; Oliver, 1991). Strategies can also involve creative use of language through discourse and rhetoric (Green Jr & Li, 2011). This may determine whether internal and external logics are adopted, maintained, moderated, or rejected.

7.2.3.1 Counter strategies

External strategies

Where change is politically supported, mandates, incentives, and frameworks are used to encourage compliance. This may limit strategic intents and limit how creative an organisation can be in defining its own QI-ROI concept (Andriopoulos, 2001). This promotes isomorphism which may in turn cause other inefficiencies (Aksom & Tymchenko, 2020; Burnett et al., 2016; DiMaggio & Powell, 1983), e.g., reduced autonomy may trigger negative internal responses.

Internal strategies

Internal actors employ a variety of strategies to mitigate against opposing forces (Oliver, 1991). My findings indicated some apprehension over ROI's legitimacy. This creates a potential for negative responses such as avoidance, manipulation, and defiance. Previous experience with introduction of market-based concepts has indicated that this is possible (Burnett et al., 2016). In such cases, external powers may lack abilities to effectively enforce regulations and negative counter-strategies may be detrimental to QI and healthcare agendas. However, my findings consistently indicated a significant lean towards compromise. Thus, I purport that:

A chosen response strategy to ROI may mitigate against an imposed QI-ROI concept to maintain or promote a locally desired concept one.

The use of strategies by both internal and external actors may help promote shared agenda. At times, internal actors are bought in to act as 'institutional entrepreneurs' to promote externally generated ideas (Suddaby, 2010). This strategy to diffuse ideas through , rhetoric and discourse was also responsible for the introduction of QI in healthcare (Giroux, 2006).

7.2.3.2 Discourse

Institutional theorists posit that prevailing logics determine what is seen as legitimate. Plural logics can co-exist, depending on their compatibility within different 'argument fields' (Green Jr & Li, 2011). Institutional actors can legitimise or delegitimise logics. Healthcare is often faced with multiple at times conflicting discourses. For example, 'evidence-based care', 'practice-based care', 'person-centred care', 'disability-appropriate care' 'age-appropriate-care', value-based-care (Brown et al., 2012; Gallo et al., 2020; Langley & Denis, 2011; Mondoux & Shojanian, 2019; Rubenstein et al., 2010; Zadeh et al., 2015). Currently, market logics such as 'competition' are being delegitimised in favour of 'collaboration, integration,

and intersectionality’ (NHS, 2019a; Ogungbe et al., 2019). Others such as ‘cash-realising productivity’, and ‘efficiency savings’ are taking hold (NHS, 2019a). Thus, I surmise that:

A prevailing discourse is likely to promote a certain conceptualisation of a QI-ROI concept at any given point.

7.2.3.3 Rhetoric

When discourses compete, words can be used to manipulate agendas (Suddaby, 2010). Individuals may use logic, ethics, or pathos (Green Jr & Li, 2011) to argue their case. For example, in the Delphi, a participant argued that monetised ROI is the right method to assess QI-ROI as this is the expectation from funders (logic). However, some may make emotive or ethical arguments against such statements. For example, in the qualitative study a participant emphasised that improving lives was *the* legitimate ROI. Persuasion through rhetoric can help align external logics with internal agendas if common ground can be found or negotiated. Currently, the UK NHS improvement, OneNHS Finance, and HFMA (Healthcare Financial Management Association) are raising awareness about ‘cost-improvement’ and efficiency savings (HFMA, 2022; NHS, 2023; OneNHSFinance, 2023). As part of this campaign, staff are encouraged through podcasts and forums to develop finance skills. Therefore, I deduce that:

The use of rhetoric is likely to increase consensus on which logic must guide the conceptualisation of QI-ROI over time.

However, my project indicated that rhetorical and discourse strategies could worsen relations. For example, in the all studies, QI sceptics raised concerns that some promote QI as a ‘fix-all’ tool. This can also be seen in the section above relating to QI-ROI myths. Wider literature also attests to this, where rhetoric is feared to accentuate an atmosphere of distrust, particularly

where there is a history of negative experiences or suppressed voices (Giroux, 2006; Vakkuri, 2010). As discussed above, experiences influence a future QI-ROI concept. Meanwhile, contextual factors can moderate an internally generated or externally enforced QI-ROI concept.

7.2.4 Moderators

In any organisation and healthcare system, contextual complexity intervenes to moderate the internal and external forces to produce a 'net' concept of QI-ROI. For example, an organisation may be encouraged to imitate better performing counterparts or be penalised. However, organisations may lack capacity or capability to comply. Further, mental healthcare is a complex environment with multiple actors. This multiplicity and complexity becomes a moderating factor. Moderators may mean a compromise, or that a strongest force prevail. Thus, institutional forces and their mechanism are later moderated by the overall context they operate in. As such, moderators support the need for flexible adaptable strategies advocated by Complexity and Contingency theories (Braithwaite et al., 2018; Tarter & Hoy, 1998).

7.2.4.1 Power and constraints

Internal and external forces act to constrain one-another. As such, participants pointed out that it is crucial to remember that 'we live in a real world' full of constraints. If unmanaged, constraints may negatively impact QI efforts, and minimise ROI. Actors may be accused of 'paying lip-service' to quality care (Absolom et al., 2015). High ranking Trusts may have more power, but even seemingly powerless organisations may passively or actively resist coercion. Some constraints result from norms, beliefs, or values. DiMaggio & Powell (1983) referred to an iron cage that organisation inadvertently constraint themselves with as they blindly follow habits. Similarly, Green Jr & Li (2011) warned that although we use words (through discourse and rhetoric), words can also 'use us', and alter our paths. This creates myopia, and may limit action, reaction, and interaction (Suddaby & Greenwood, 2005). That is, agents and organisations may fail in their ultimate or core goals regarding QI. Therefore, I deduce that:

An organisation's perceived power to adhere to own traditions and values will determine whether an authentic QI-ROI concept can be developed and maintained.

An organisation's flexibility with own traditions and values will determine whether an authentic QI-ROI concept can be developed and maintained.

7.2.4.2 Development stage

Different development levels impact abilities to effectively carry out programmes as well as limit evaluations (Jones et al., 2019). Given the historical poor funding in mental healthcare, most Trusts need to improve both the quantity and quality of their services (Dopp et al., 2020; McDaid et al., 2019). Although levelling-up measures are in place (NHS, 2021), there may still be substantial development required to reach a desired quality status. Depending on the level of development, an organisation may focus, or broaden their QI-ROI concept. This includes the type of specific and novel benefits that may be sought e.g., profit or revenue generation, or improving/repairing a reputation. Developmental stage may explain some of the disagreements regarding some outcomes amongst participants in the Delphi study. For example, a participant rated profit nine out of ten, whilst the median was around three. Therefore, I purport that:

The perceived stage of organisational development may determine the type of benefits sought with the QI-ROI conceptual framework.

QI-ROI assessment capacity and capability

In Chapter 5 and 6, participants indicated that evaluation capacities and capabilities influence whether or not traditional ROI methods are seen as legitimate tools to assess QI value. As discussed in Chapter 3, there are currently limitations to the validity of ROI or financial proxies. Lack of time, complexities, data and human resource capacities and capabilities prevent the development of research-based evidence from calculating ROI (Crawley-Stout et al., 2016; Moody et al., 2015; Shah & Course, 2018). Therefore, I argue that:

The capacities and capabilities to operationalise the desired QI-ROI concept may
inhibit or promote its operationalisation in practice.

Ultimately, internal and external forces, mechanisms, and powers there-in create ambiguities and uncertainties. Depending on the severity of conflict amongst forces, this can create significant challenges. Similar to the impacts of powers and constraints, ambiguities and uncertainties create own ‘realities; that impact perceptions about the QI-ROI concept.

7.2.4.3 Ambiguity

The combined internal and external forces create ambiguities that later act to moderate a QI-ROI concept. Plurality in complex organisations is inescapable. Unsurprisingly, the QI-ROI concept is surrounded by ambiguity from various sources. Mental healthcare leaders are from different backgrounds. Although they seek to act in unison in decision-making, they do bring along their own world-views and biases. This ambiguity may require openness and flexibility. However, as previously discussed, some ambiguity is innate within QI philosophies and methodologies (Giroux, 2006). Further, there are many stakeholders to listen to and cater for, from patients to policymakers. Lastly, conflicting mandates and regulations such as competition and collaboration also add to ambiguities (Vakkuri, 2010). Thus, I conclude that:

The multiplicity and interdependence of mental healthcare organisations means that a QI-ROI concept is likely to need to be flexible and comprehensive.

7.2.4.4 Uncertainty

Due to the subjective nature of some valued QI benefits, and the complexity of mental healthcare institutions, the QI-ROI concept is also surrounded by uncertainty. Most uncertainty result from the challenges in measuring, monetising, and attributing QI benefits. Benefits can also be slow and incremental, as well as span across organisations (Walshe & Smith, 2011). Some uncertainty appeared to be related to the newness of the concept of ROI in healthcare; capacities and capabilities to assess ROI are not yet established. As such, some individuals look to traditional ROI as a guide to how ROI should be assessed. This however appears to clash with what they perceive to be legitimate QI benefits. Therefore, I deduce that:

Uncertainty is likely to limit or inhibit a coherent QI-ROI concept which may call for compromise and flexibility in how QI-ROI is conceptualised.

Below, I illustrate the determinants of the QI-ROI concept as I see them currently. These factors must be formally explored to help develop the theoretical knowledge of the QI-ROI concept.

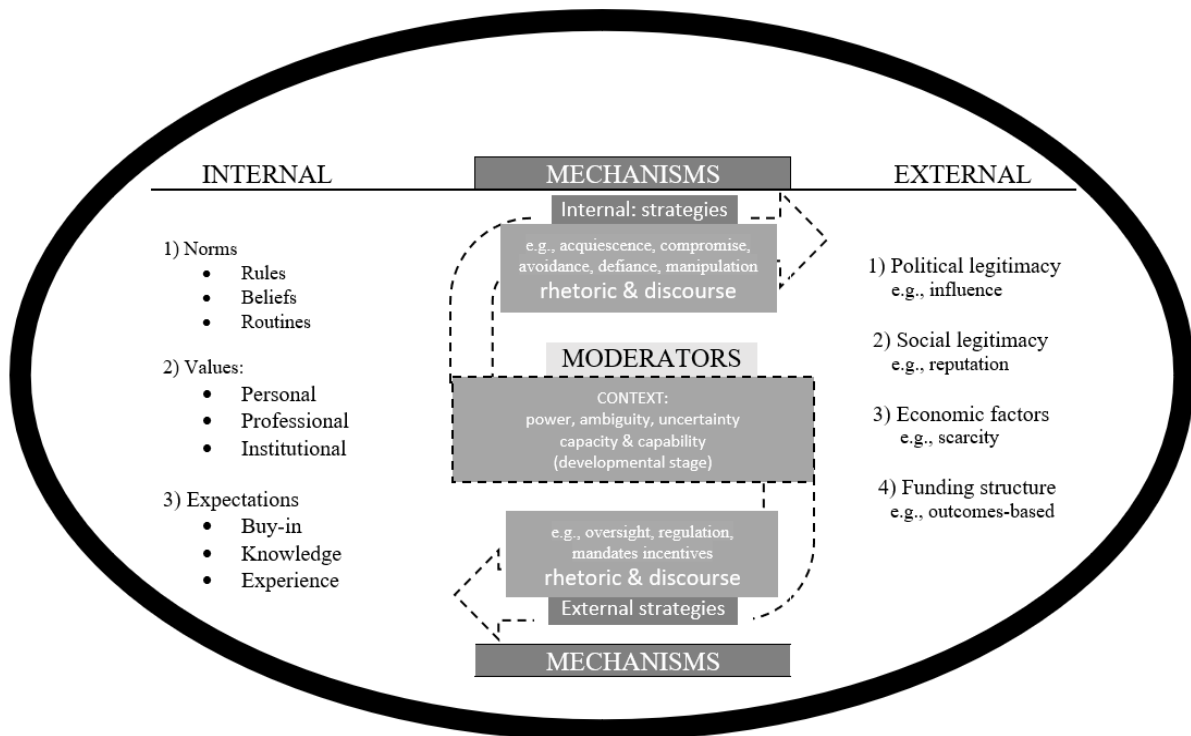


Figure 1 The determinants of the QI-ROI concept

7.3 Discussion

The aim of this chapter was to synthesise the data on the potential factors that determine the concept of QI-ROI. The determinants described here provide some explanations for how and why QI-ROI is conceptualised as both monetary and non-monetary benefits in mental health Trusts. Largely this is a result of the multiple ambiguities and uncertainties presented by internal and external forces. Mental healthcare does operate across several spheres, within and outside healthcare, and therefore has a stake in both internal and external outcomes. Further, the economic context calls for a consideration of financial outcomes. Thus, the outcome of the combined QI-ROI concept determinants are conceptual ambiguities and uncertainties. These ambiguities and uncertainties later become moderators of QI-ROI conceptualisation.

Uncertainty and ambiguity were first discussed in Chapter 5 as inherent features of institutions. As seen above, these can exist at different levels, e.g., in resources, expectations and priorities. Ambiguity has its benefits (e.g., creating shared meaning) and challenges (e.g., conflict). The key is how it is perceived and managed. Ambiguity can be avoided, accepted, or tolerated (Hagen & Park, 2013). Ambiguity tolerance refers to perceiving ambiguity as desirable, and the willingness to accommodate new ideas, multiple and diverse perspectives (Hagen & Park, 2013). In this case, ambiguity can be used pragmatically to balance goals. This may support the development of new unifying concepts (Eisenberg, 1984), like QI-ROI. Ambiguity can also enable accommodation of nuanced organisational needs within a QI-ROI concept.

Alternatively, ambiguity and uncertainty can be used to unintentionally or deliberately deceive others (Miller et al., 2000; Mukherjee et al., 1998), to downplay uncertainties, suppress ambiguities, and thus silence some voices (Pflueger, 2015). In political exercises such as value evaluation or resource allocation, this can lead to ethical challenges. As discussed in Chapter 5, reducing uncertainties in complex contexts can be impossible. Thus, acceptance and tolerance rather than suppression must be part of uncertainty management. Ambiguity, uncertainty, and paradoxes can be paralysing if not well managed (Pina e Cunha et al., 2022)

Why and how QI-ROI is conceptualised has consequences for its operationalisation. This can be a vicious or virtuous cycle as effective application of QI-ROI may depend on how healthcare leaders respond to ambiguities and uncertainties surrounding QI-ROI. Institutional theorists provided predictions on potential organisational responses. Responses include isomorphism through coercion or mimicry (DiMaggio & Powell, 1983), as well as compliance, avoidance, compromise, defiance, and manipulation (Oliver, 1991). In this project, I have found leaders willing to compromise to accommodate multiple duties. Some of these responses may be counter-productive to the goals of QI, organisations, and governments. Organisational theories also explain why ambiguity and uncertainty are the rules rather than exceptions in healthcare.

Ambiguity and uncertainty illustrate the complex nature of QI and healthcare as viewed by Complexity Theory (Braithwaite et al., 2018). This is increased by involvement of multiple stakeholders. As such, QI-ROI reflects various obligations towards stakeholders as explained by Stakeholder (Laplume et al., 2008), and Stewardship theories (Donaldson & Davis, 1991). Further, the Systems Theory (Friedman & Allen, 2011) explains the inclusion of externalised benefits as a response of an organisation to its existence in an ecosystem. Lastly, the need to contextualise benefits can be explained by the Contingency Theory (Tarter & Hoy, 1991) which supports QI-ROI as a concept representing what is rational, logical, and meaningful in mental health, i.e., non-monetised and externalised benefits. Crucially, Institutional Theory recognises internal and external forces that influence logic and meaning in organisations.

7.4 Conclusion

The QI-ROI concept as it stands today is a product of many institutional factors. These factors may be complementary or antagonistic to each-other. Understanding the determinants of the QI-ROI concept is essential in its continued development. There may be many other potential determinants not mentioned or discussed here, for example feasibility of a QI-ROI tool. Leaders have multiple obligation for multiple stakeholders, internal and external to an organisation. Thus, a future QI-ROI tool must support balanced and comprehensive QI-ROI assessment. The assertions made here are currently mere conjectures. Their future empirical testing is needed to continue the development of the QI-ROI concept. This should include the mechanisms and moderators, and outcomes of the QI-ROI concept. Nonetheless, the main drivers behind this conceptualisation of QI-ROI appear to be health and social care values. In the next chapter, I complete the weaving process of my studies, and highlight future directions.

8 Discussion

8.1 Introduction

In this chapter, I synthesise and discuss the findings from my PhD project. Guided by Fetters et al. (2013), I merge my findings through a process called ‘weaving’. First, I summarise the findings from the systematic review and the interviews. I then summarise the findings from the Delphi, a mixed-methods study within which ‘weaving’ has already been performed. I then integrate my findings to isolate the main domains of the QI-ROI conceptual framework. Through this, I frame the concept of return-on-investment for QI programmes in the context of the United Kingdom (UK) National Health Service (NHS) mental healthcare.

A conceptual framework is illustrated using diagrams and figures (Jabareen, 2009). This helps outline and link concepts with their observable parts (Cronbach & Meehl, 1955). To effectively understand and operationalise concepts, further information is required. Morse et al. (1996) stated that “a mature concept should be well defined, with attributes identified, boundaries demarcated, preconditions specified, and outcomes described” (p. 255). Thus, to describe the QI-ROI concept as it stands currently, I illustrate it using (1) the conclusions from each study, (2) the ROI-like concepts examined, (3) potential determinants, (4) and outcomes of this QI-ROI conceptualisation. However, as QI-ROI is a new concept, its definition is not fixed. As such, I provide an intentionally broad definition to allow adaptability and further development.

Accepting conceptual ambiguity seems paradoxical in a study that seeks to promote conceptual clarity. However, some scholars advise against fixing concept definitions (Adcock & Collier, 2001; Berenskoetter, 2016; Goertz & Mahoney, 2012). They argue that ambiguity is not a defect, but a necessary trait that makes concepts useable (Berenskoetter, 2016; Sartori, 1970). Berenskoetter (2016) asserted that concepts are “broad and complex...plural, shifting, and incomplete...” (p. 5). However, Feyerabend (1970), warned against ‘epistemological anarchy’ where scientific standards get abandoned. Thus, flexibility must be balanced with specificity that enables ‘operational meaning’, with minimal loss of ‘conceptual meaning’ (Sartori, 1970).

8.2 Weaving the QI-ROI concept and its framework

8.2.1 Qualitative studies

8.2.1.1 The Integrated Systematic Literature Review

In the first study, I reviewed literatures from multiple disciplines on QI benefits. I identified several ROI-like concepts, each part of QI value in some way, but none individually encompassing the benefits discussed by authors. In the second study, I identified and grouped benefits into four themes: (1) organisational performance (patient and financial outcomes), (2) organisational development (e.g., culture), (3) external outcomes (e.g., incentives and societal benefits), (4) unintended benefits. Negative unintended outcomes from poorly implemented or supported programmes represented loss of ROI as they not only caused failure to achieve stated goals, but also failure to learn, reduced morale, and loss of buy in.

Financial benefits appeared to be less relevant to the concept of QI-ROI, particularly profit. The findings indicated a health and social care logic about QI-ROI. Nonetheless, I concluded that QI-ROI was perceived as both monetary and non-monetary benefits. I graded benefits as immediate (ROI 1), short-term (ROI 2), long-term (ROI 3), and impacts (ROI 4). Benefits included intended and unintended benefits. I explained this as a QI-ROI web of unpredictable connected benefits as suggested by Complexity Theory. Together, these benefits were perceived to strengthen and support resilience of organisations and systems. I then sought support for my findings from mental health leaders through qualitative interviews.

8.2.1.2 The Qualitative Interviews

This study indicated that the views on QI-ROI found in the multidisciplinary review were shared by mental healthcare leaders. Further, participants indicated that a QI benefit must contribute to an organisation's strategic goals to be seen as valuable. Improvement of care was the primary benefit sought, followed by organisational development, and benefits to

external stakeholders. In the context of healthcare QI programmes, financial benefits were perceived as of least significance. There were doubts as to whether profit was appropriate in the healthcare QI context. This was complicated by apprehensions over benefit monetisation. Monetisation was seen to threaten the values held in healthcare as well as minimise QI value.

QI-ROI ambiguity was also evident in this study; QI-ROI could be monetised and or non-monetised, internal and external, implementation or intervention outcomes, effectiveness or impact. Ambiguity appeared to be related to different intrinsic and extrinsic expectations and values sometimes applied in the conceptualisation of QI-ROI. In service of multiple goals, leaders were willing to compromise. However, uncertainty over whether QI delivers on goals limited perceptions about the QI-ROI concept. It was unclear what constituted QI failure. In addition to the views on QI failure from the review, programme failure was often described as implementation failure rather than intervention failure. That is, an intervention may have achieved its goals, but failed to embed, spread, and sustain. Further, failing to achieve goals did not necessarily mean no ROI as unintended outcomes led to other benefits e.g., learning.

Some participants perceived QI to have helped develop capabilities and capacities that later supported organisational resilience during the COVID-19 pandemic. There were also aspirations for QI to assist with new agendas such as organisational, financial, and potentially environmental sustainability. To support healthcare goals, the QI trial and error philosophy was seen to aid innovation and help avoid inefficiencies that result from 're-inventing the wheel'. As part of QI efficiency, strategic implementation, embedding, and sustainability were seen as crucial. I concluded that long-term QI benefits resulted from sustained relationships, capacities and capabilities (QI legacies), that led to accumulated QI knowledge (QI intelligence), and an embedded philosophy of tackling improvement issues (QI logic).

For some, perceived ambiguities and lack of conclusive success raised questions about the justification of continued QI investment. For most, apprehensions over the ROI methodology

raised questions about its appropriateness as a method to assess QI value. Ultimately, QI was seen as an obligation, driven by health and social care values rather than economic values. This appeared to counter the effects of ambiguities and uncertainties, focus the QI-ROI concept, and support continued QI investment. Nonetheless, ambiguities and uncertainties indicated potential conceptual instability. This was further explored through a Delphi study.

8.2.2 The Delphi study

In this two round study, I assessed the potential for wide-spread support for my previous findings within the UK mental healthcare institution. I achieved this by exploring QI benefit eligibility, legitimacy, and priority in the QI-ROI conceptual framework. No new benefits were added as a result of the Delphi. Rather, participants confirmed that improvement is central to QI-ROI. Improvements in health outcomes, access to care, patient experience and population health were highly rated. This was followed by developmental benefits like staff development, collaboration, efficiency, and innovation. In particular, development of an improvement culture received the second highest rating after health outcomes. Financial and organisational sustainability, and benefits to external stakeholders were also highly rated.

Amongst financial outcomes, financial sustainability received the highest median. Cost saving and cost-avoidance achieved mid-level medians, with cost-saving slightly lower. This indicated a focus on impact and long-term benefits rather than short-term outputs and benefits such as cost-savings, cost-reduction, and cost-avoidance. In the second round, cost-savings received a slightly higher score, making it equivalent to cost-avoidance. Similar to the previous studies, profit and revenue were mostly rejected as there were doubts as to whether these can be attained through QI. Related to this were, negative views over monetisation, albeit less than expressed in the qualitative study. Quantitative data indicated neutrality or indecision about the legitimacy of monetisation. However, benefits not easily measurable, monetisable, or attributable were highly rated in both rounds of the Delphi.

Overall, desired benefits were driven by local needs, particularly in relation to benefits seen as novel to UK mental healthcare Trusts. Participants valued a reputation for quality care and a sense of pride from improved quality. However, ratings on external incentives such as competitive advantage, status, and oversight benefits indicated that these were perceived as less relevant to QI-ROI. Participants explained that such outcomes had little influence on why QI programmes are implemented. However, a few participants rated benefits such as competitive advantage, profit and revenue highly. This suggested a potential diffusion and adoption of market-based ideas into healthcare. Whatever the desired benefits, there was consensus that a variety of benefits from short-term to impacts are seen as part of QI-ROI.

Participants also confirmed that implementation outcomes are part of QI-ROI. Initially, quantitative data indicated some indecision and dissensus regarding these outcomes. However, through the Delphi qualitative data, some clarified that in large-scale QI and where outcomes are positive, spreading, embedding, and sustaining improvements were perceived as part of QI-ROI. Participants also clarified that ‘trial-and-error’ did not mean that QI cannot fail. It only enables psychological safety to innovate and learn. I concluded that both intervention and implementation outcomes were seen as part of QI-ROI in large-scale QI. Finally, participants confirmed that service user socio-economic benefits as well as benefits for external stakeholders (societies and system partners) were both legitimate and relevant as an organisation’s QI-ROI. This emphasised the obligations felt by organisational leaders towards external stakeholders. Given the multiple and complex internal and external goals and benefits sought from QI, I concluded that ambiguities and uncertainties over QI-ROI are inescapable. However, the Delphi provided insights on where and why they may exist.

8.2.3 Integration of the project findings

The QI-ROI conceptual framework initially developed in the systematic literature review remained largely unchanged. This reflects the subsequent support gained for its contents throughout the project. Internal outcomes, like health outcomes, patient experience and culture development were seen as the primary goals and benefits sought from QI. However, external

benefits, normally not part of internal governance were valued. Thus, the QI-ROI concept in UK mental health Trusts appears to adopt both a local and systems views. Though not primary, cost-saving and financial sustainability appear to be of increasing significance. However, this was set against negative views about monetisation. This is not to say mental health Trusts do not value financial outcomes. It is a reflection on goals and expectations from QI programmes.

Some benefits appeared to be adjuncts to QI-ROI, for example implementation outcomes like ‘spread’ may act as mechanisms for efficient programmes. Novel benefits such as profit, status, revenue, oversight benefits, and competitive advantage appear to have little or no role in the conceptualisation of QI-ROI. As such, some concepts initially included in the QI-ROI framework have now been minimised or excluded. Some of these may still be linked to QI-ROI as achieving QI-ROI may enhance status, oversight, competitiveness or being a provider of choice. However, if gained, these benefits may be considered incidental in UK Trusts. Thus, QI-ROI contains attributes of intrinsic value (a benefit of value in itself) and extrinsic (or instrumental) value which are means for obtaining benefits of intrinsic value (Grassl, 2017).

Based on my findings, most of the benefits described in this project appear to fall under four main domains: Development, Improvement, Savings, and Sustainability; acronym DISS. The DISS forms what Satori (1970) referred to as the ‘ideal type’, with improvement as the “core trait or intension concept”, and development, savings, and sustainability as ‘extension concepts’. Any benefit that contribute to an organisation’s goals within one of these domains represents QI-ROI in that context. Over time, QI-ROI may become more nuanced depending on organisational needs. Finally, QI-ROI as defined here is viewed as a process, and not an event. An event implies a dichotomy; e.g., its either improvement exists or it doesn’t, a process implies broad temporal benefits (Adcock & Collier, 2001). QI-ROI is indicated to be the latter.

Figure 1-1 outlines the QI-ROI concept. The given description enables prediction of its outcomes. For example, a comprehensive perception of QI value may improve QI-strategy

alignment, focus investment decisions, and facilitate organisational effectiveness. The potential determinants were summarised in the previous chapter. However, the outcomes and determinants are conjectures that would need to be tested in future research and practice.

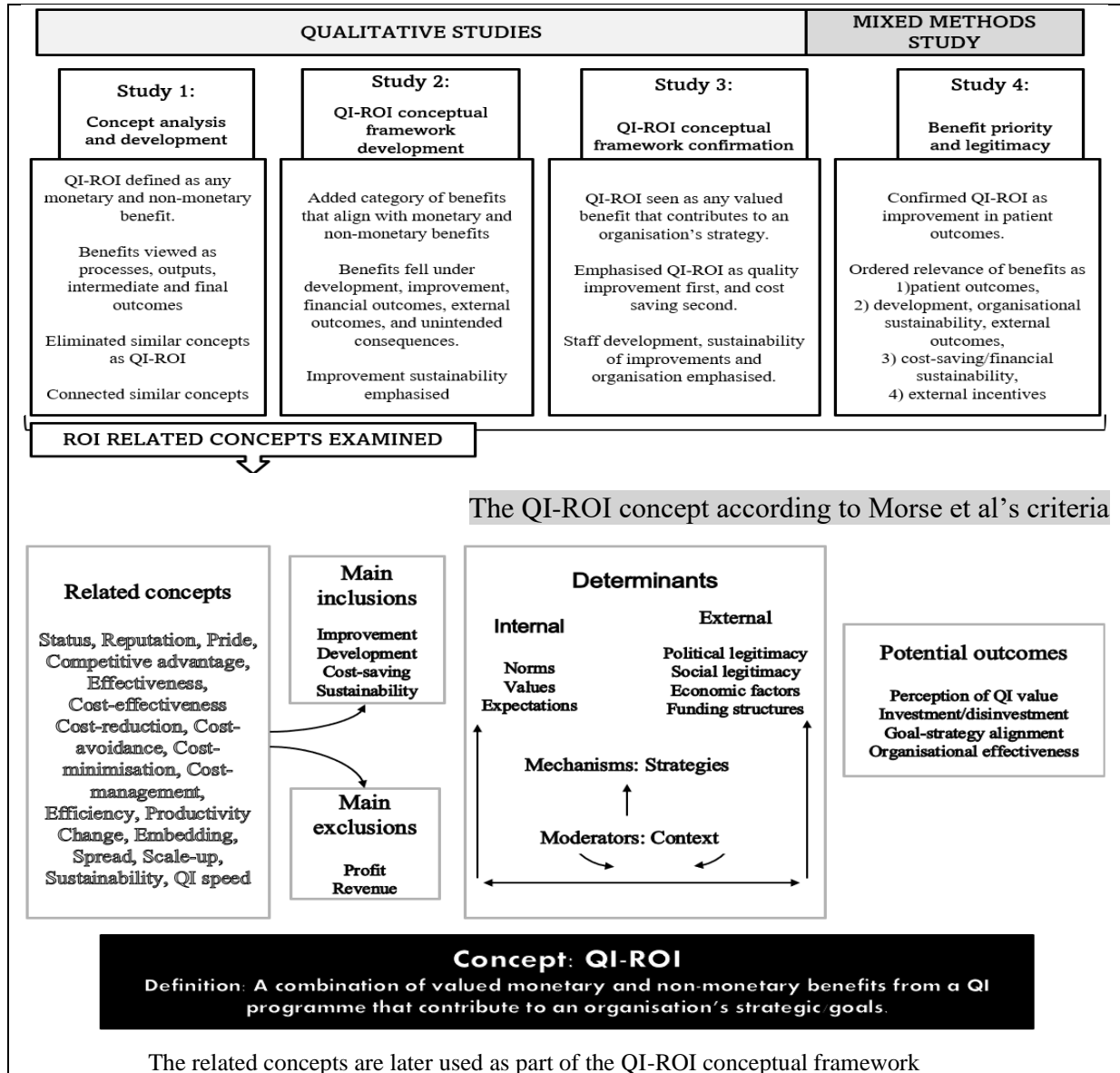


Figure 8-1 Weaving the QI-ROI concept

8.3 The four main QI-ROI domains

The DISS domains follow a QI programme's journey from immediate benefits to impacts. As shown in the previous chapters, development is often the first benefit or sets of benefits in a QI journey. As such, development would align with ROI 1, followed by improvement (ROI 2), savings (ROI 3), and sustainability (ROI 4). As seen in Figure 8-2, the DISS domains connect and feed to each other across a temporal (horizontal) plane. Together, they help balance the organisational needs to improve quality and manage scarce resources over time. Vertically, the DISS domains connect to their more observable parts e.g., development (domain), capability (sub-domain), cognitive change (mechanism), new skill (indicator). These connections reflect QI-ROI's 'ladder of abstraction' (Sartori, 1970) from the frontline to the board level.

Board members made up the bulk of participants in this project as organisational level QI investors. As such, some QI-ROI indicators in Figure 8-2 are abstract, e.g., patient experience. These can be broken down at the programme level and presented to the board as composite measures of overall QI value. Three levels of QI-ROI can thus be deduced: micro (frontline), meso (organisation), and macro (system and society). At the macro level, DISS reflects national and international agendas on system strengthening. (e.g., sustainability). This aligns with Satori's differentiation of concepts as (1) low-level (contextual) when set against local goals, (2) medium-level when applied across regions, or (3) high-level when set against national or international goals. The board has obligations towards all these levels. Central to their duties, and thus DISS domains, is improvement of quality. Before improvement comes development.

8.3.1.1 Development

Developmental factors are often seen as improvement preconditions rather than QI outcomes (Brandrud et al., 2017). Development can also occur intentionally or unintentionally as part of an improvement strategy. Improving health outcomes often requires improvements in process and staff behaviours. This includes improvements in human factors like cognitive and psycho-

social factors (Carayon et al., 2014). QI programmes support the psychological safety needed to help staff and teams develop skills for sustainable QI benefits (Aranzamendez et al., 2015).

Development can result in acquiring new relationships, capabilities, and capacities (Cummings & Worley, 2014). This can improve efficiency, productivity, lead to savings and sustainability. My findings indicated that development of staff, teams, leadership, collaboration, processes, and other aspects are part of QI-ROI. Together these reflect an organisational culture, or how things are done in a context (Braithwaite et al., 2017). In QI, a desired culture is one that maintains attitudes and behaviours for high value, quality, and safe care (Braithwaite et al., 2017; Halligan & Zecevic, 2011). An organisational culture is so crucial that it is seen as key to attaining ROI (Scott et al., 2003). In the Delphi, culture was rated second to health outcomes.

Measuring developmental outcomes of individuals, teams, and processes is not new in healthcare (Brady et al., 2014). Achievement of development can be deduced from changes in attitudes and behaviour of both processes and humans e.g., using attitude scales (Aarons, 2004). There are also well established measures of improvements in structures, processes, and outcomes of care e.g., (Donabedian, 1988; Weich et al., 2020). Measuring culture can be notoriously difficult. However, organisational culture as a concept has been developed by various scholars over time to assist with its measurement e.g., (Bellot, 2011; Fein, 2011). This can illuminate development as fundamental to quality improvement and QI success.

8.3.1.2 Improvement

Improvement means there has been a change from an undesired to a desired, or at least to a more desirable state. In QI measurement, improvement is demonstrated by achievement of measurable goals (Healthcare Quality Improvement Partnership, 2015). This is associated with evidence-based care quality definitions (Lohr, 1990). In QI measurement and small projects, effectiveness is essential as improvement evidence (Riley et al., 2010). QI effectiveness is quite

significant such that it has been linked or even viewed as synonymous to ROI (De Meuse et al., 2009; Solid, 2020). In the context of ROI, effectiveness is evidenced by measurable monetised returns. However, in this research project, improvement was viewed as of value in and of itself. Nonetheless, QI effectiveness is an important part of QI-ROI. Depending on the goals, scope, and strategies used, QI effectiveness may take different meanings.

In large-scale QI programmes, effectiveness take a broader view (Clay-Williams et al., 2014; Pettigrew et al., 2019). QI programmes are described as comprehensive interventions that benefit service users, staff, organisations, systems, and societies (Batalden & Davidoff, 2007; Mery et al., 2017; Riley et al., 2010). Effective QI programmes are evidenced by improved abilities to efficiently identify and solve problems, to innovate and strengthen systems (Latino, 2015; Ovretveit et al., 2017; Reed & Card, 2016). This description of large QI programme effectiveness is embodied by my findings. It also fits well within the descriptions of quality care as illustrated in Chapter 3, Figure 3-1. Further, it alludes to the effectiveness of all the components needed for sustained organisational and health system improvement. As such, this description reflects the goals of both QI and healthcare services discussed in Chapters 2 and 4.

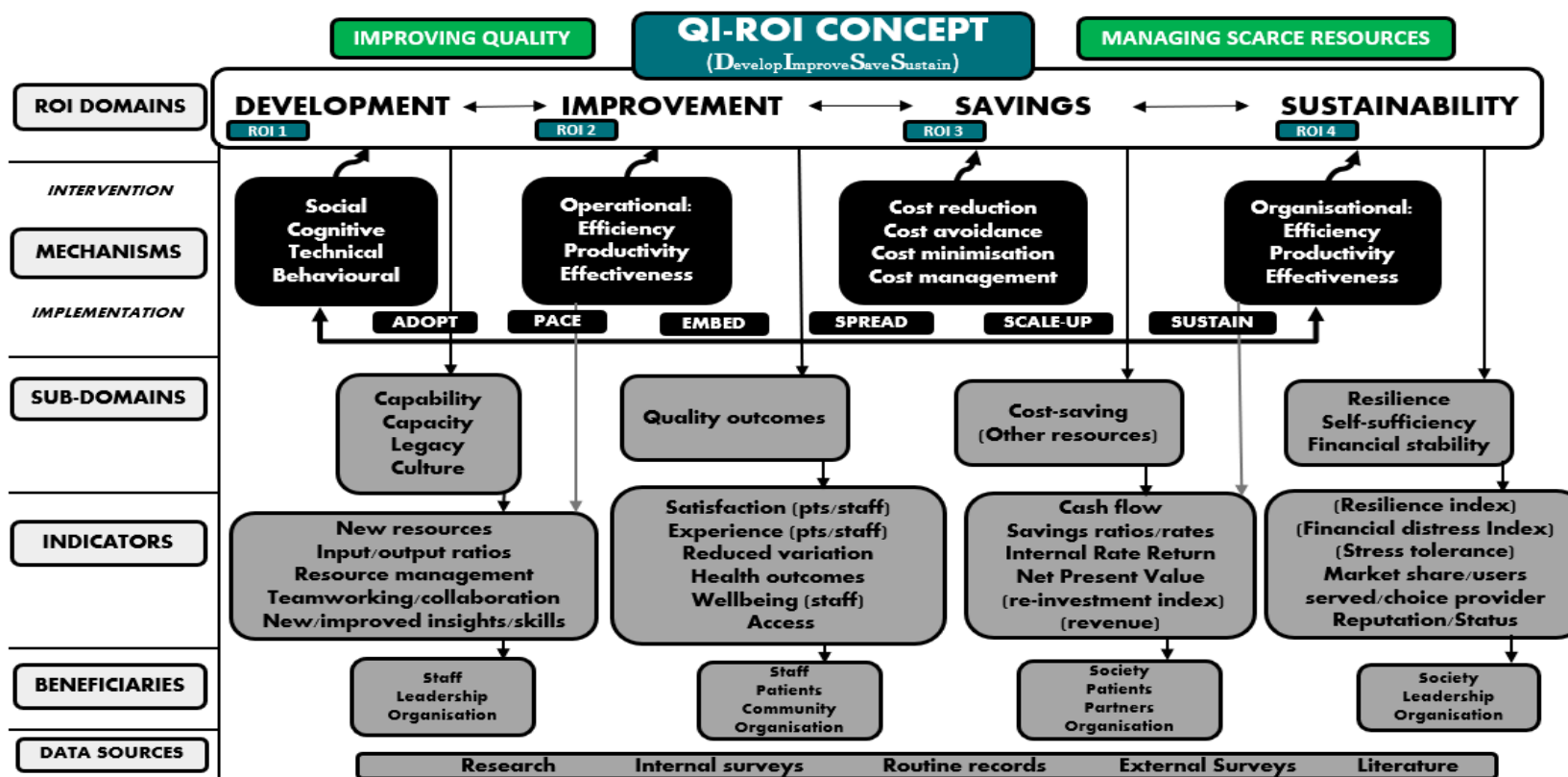
It was outside the scope of this project to define QI success and failure. However, my findings suggest that these are much broader than the achievement of stated goals. QI failure includes intervention failure, implementation failure and negative outcomes, such as failure to learn, blame, reduced morale and loss of buy in. In my research, this type of QI failure was associated with system failure rather than a process or individual. Alternatively, success includes intended and unintended benefits from both success and failure. This is steeped in the QI trial-and-error philosophy where failure may be seen as success. Thus, QI success and effectiveness may hold different meanings. QI effectiveness as a scientific term reflects only stated goals, but success may mean broader achievements that link QI benefits to wider healthcare and QI goals. In the context of QI programmes, if QI-ROI is perceived as QI effectiveness, it would matter where one 'looks' for it. A narrow view may miss crucial system benefits that contribute to savings.

8.3.1.3 Savings

Cost-saving was most associated with QI-ROI, after financial sustainability. Savings as QI benefits can be in many forms including staff time and effort. In economic terms, savings means money saved (NHS Improvement, 2022). Thus, savings would be the only monetised part of QI-ROI. ROI in healthcare has been framed as cost-savings (Price et al., 2020; Solid, 2020). For example, a cost-saving equation resembles one used for cost-benefit ratios (Solid, 2020). The ‘concept of cost-saving’ is not defined. However, it can be viewed as spending less than would have been spent as a result of efficiency, avoiding and or reducing costs. For example, Swensen et al. (2013) stated that the principal source of ROI is removal of waste. Programmes such as ‘Choosing Wisely’ target such efficiency savings (Bhatia et al., 2015).

Savings lead to retained funds rather than money gained from trading (profit), or allocation (revenue). In publicly funded healthcare, organisations rarely seek to generate profit from their services. Alternatively, revenue is generated primarily from regular funding streams or performance incentives. In some cases, revenue can come from adding private practice within a Trust. In the UK publicly funded healthcare, leaders seek to re-invest savings into their organisations (NHS Improvement, 2022). This was reflected in how participants in the qualitative and Delphi studies discussed cost-savings as a mechanism for improved care. In for-profit organisations savings may be deemed profit, calculated as retained earnings (Kaufman et al., 2016). In non-profit industries, savings would not be referred to as profit.

It may be possible to track savings from QI. Economic evaluations are commonly used to track costs and benefits, e.g., ROI and CEA. Routine reports or literature, and other tools also help monitor savings resulting from QI. These include the Cost of Quality model by Berte & Nevalainen (1997), the Quality-Cost Framework by Nuckols et al. (2013), and the Stages of Implementation Completion by Saldana et al. (2014). These techniques and tools can be built into improvement practices to monitor internal and external costs, and then used to develop a form of ‘re-investment index’ as evidence of QI contribution to organisations’ finances. In Figure 8-2, I have included the ‘re-investment index’ as a potential indicator.



Levels of (Develop Improve Save Sustain) assessment

Micro	Meso	Macro
Service users (+family/carers/friends) Staff/teams/leaders	Systems (processes/structures) Organisation (development, culture, balance statements etc.)	Community/Society (e.g., reputation) External partners (collaboration, contribution etc)

Figure 8-2 Final QI-ROI Conceptual framework [the ‘re-investment index’ and ‘financial distress index’ do not yet exist (to my knowledge), but could be developed or borrowed from other industries, e.g., resilience indicators.

However, costs are sometimes inversely related to benefits. Programmes have a different effects on QI-ROI, e.g., expansion programmes may increase costs and decrease ROI, whilst substitution programmes may not increase costs (van der Goes et al., 2019). van der Goes et al., developed a framework to assess potential effects of QI programmes on ROI, referred to this as a ‘savings effect’. This is calculated as the difference between total costs and savings. Similarly, in the education field, Opperman et al. (2018) developed a framework that can be used to calculate ROI. Saving, in whatever form they come, support sustainability.

8.3.1.4 Sustainability

Financial sustainability

Financial sustainability refers to the continued ability to independently fund service provision (National Audit Office Office, 2020). Financial sustainability is of increasing significance in health systems, including in the UK (NHS Improvement, 2022). This was reflected in the findings from this project. Financial sustainability requires ongoing savings from various sources (National Audit Office, 2020). As such, a link of QI outcomes to an organisation’s finances such as a ‘re-investment index’ can help illuminate QI contributions. Financial sustainability has a mutually dependant relationship with programmatic sustainability; finances sustain QI programmes, whilst sustained programmes support financial sustainability.

Sustainability of improved processes and outcomes

The concept of sustainability is perceived differently depending on the assumptions adopted (James et al., 2021; Lennox et al., 2018). In Implementation Science, sustainability is defined as “the extent to which a newly implemented treatment is maintained or institutionalised within a service setting’s ongoing, stable operations” (Proctor et al., 2011 p. 70). Sustainability is a long-term outcome in an implementation process. At the early stages, cognitive, behavioural, and psycho-social assessments of interventions test their feasibility, appropriateness, and acceptability (Proctor et al., 2011). This may be used to adapt interventions to context, promote

their adoption and fidelity (Proctor et al., 2011). In the QI-ROI framework provided, implementation outcomes like embedding and spread are illustrated as mechanisms that connect DISS domains. For example, adoption requires development, which may lead to improvement. Embedding and spreading improvements may lead to savings and sustainability.

Organisational sustainability

Financial and organisational sustainability emerged as important in the conceptualisation of QI-ROI. This finding, initially identified in the systematic review, was confirmed in the qualitative study, and tested in the Delphi study. At an organisational level, sustainability is defined as the capacity and capability to permanently meet the needs of stakeholders (Rostkowski et al., 2020). The concept of organisational sustainability in healthcare is not developed. However, sustained finances, intervention and implementation outcomes may be part of this construct. Organisational sustainability can be viewed as a process, rather than an end. This may enable insights to organisational stress that threatens sustainability of quality care. As noted, the pace of identifying and solving problems is crucial in this process. This can enable interventions to help ameliorate further deterioration and organisational failure. Thus, to be more meaningful, the DISS domains must be linked to other main organisational duties.

8.3.2 Situating the DISS domains within organisational ontology

Conceptual development is a crucial part to theory development (Hupcey & Penrod, 2005). As such, it is important to link QI-ROI to wider organisational ontology (Sartori, 1970). By highlighting the DISS links to organisational reality, I hope to build on the theory of QI-ROI. My findings indicate that through DISS, QI-ROI contributes to wider system and organisational goals such as development, performance, and resilience. Some of these goals were introduced in chapters 2, 3 and 4 as ‘agendas related to QI’ and healthcare, needs, duties, and obligations. Figure 8-3, the DISS domains link QI-ROI with many other organisational obligations. These organisational life aspects have own extensive literature but will be described briefly below.

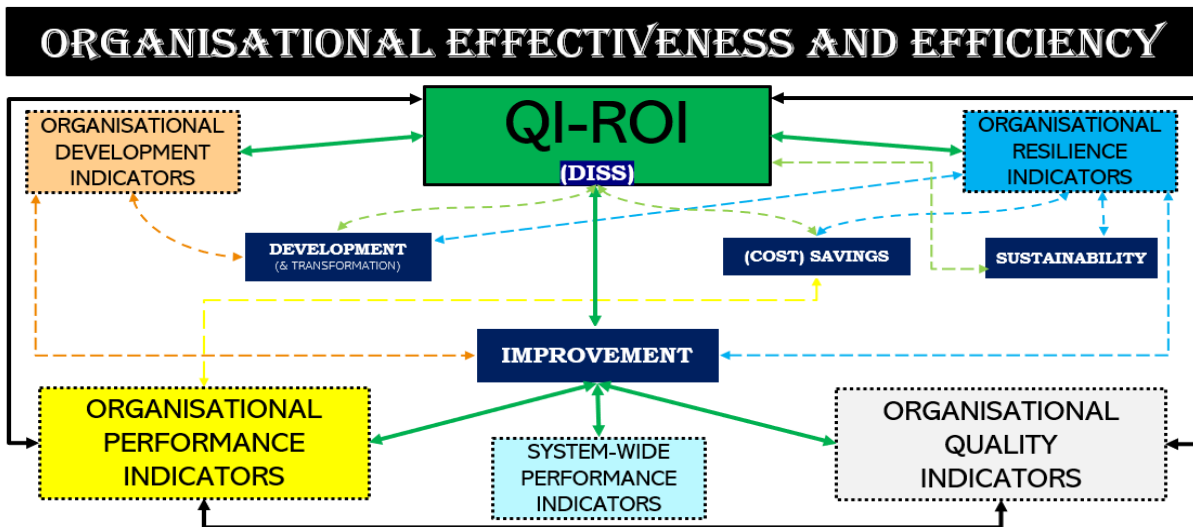


Figure 8-3 QI-ROI as part of organisational function

8.3.2.1 Organisational Development

Organisational development stemmed from seminal practitioners such as Kurt Lewin around the 1940s (Odor, 2018). Cummings & Worley (2014) defined organisational development as “a system-wide application and transfer of behavioral science knowledge to the planned development, improvement, and reinforcement of the strategies, structures, and processes that lead to organisation’s effectiveness” (p. 1). Here, development is an intentional strategy targeting specific developmental goals. In this description, the aspects of organisational development in DISS are evident. As discussed, my findings indicated that QI programmes contribute to many of the developmental outcomes. Organisational development can lead to organisational effectiveness, efficiency and sustainability (Sharma & Singh, 2019).

8.3.2.2 Organisational effectiveness and efficiency

I found that QI programmes contribute to staff and process productivity and efficiency. On a broader scale, this amounts to organisational and systems effectiveness, productivity, and efficiency. Organisational efficiency relates to successfully converting organisational input (e.g., staff) into better care (Bartuševičienė & Šakalytė, 2013). Organisational effectiveness encompasses how well an organisation performs against crucial objectives, and how outputs

interact with economic and social environments (Bartuševičienė & Šakalytė, 2013). My findings indicated that external collaboration is a valued part of QI-ROI. Collaboration can improve organisational effectiveness and performance (Sharma & Singh, 2019). As such, measures of organisational efficiency and effectiveness include financial, operational, behavioural, structural measures, quality and performance indicators (Rojas, 2000).

8.3.2.3 Organisational Performance

Organisational performance is similar to organisational effectiveness in that it tracks how well an organisation or system performs against set targets (Elg et al., 2013). Performance measures are used to understand and hold organisations to account. Performance indicators include quality indicators that track clinical performance (Baars et al., 2010; Spaeth-Rublee et al., 2010). One of the most popular performance measurement models is the Balanced Score Card (BSC) (Kaplan, 2009). The BSC sought to broaden measures of organisational performance beyond ROI (Kaplan, 2009). Organisational performance also reflects local and global mental health priorities, as well as organisational resilience (Spaeth-Rublee et al., 2010).

8.3.2.4 Organisational Resilience

Improving the quality and safety of healthcare is associated with sustainable and resilient organisations (Braithwaite et al., 2015). Resilient organisations possess the capacities and capabilities to survive shocks and crises (Chen et al., 2021). Resilience measures include financial, relationship, and cultural resilience (Chen et al., 2021; Hillmann & Guenther, 2021). Thus, the DISS domains individually or in concert support resilience. The review findings suggested that QI is perceived to contribute to resilience, organisational and systems strengthening. The qualitative study supported this. In the qualitative study, I referred to a 'QI logic' where relationships and skills developed during QI programmes are applied in finding solutions to future quality problems, e.g., safe care provision during the COVID-19 pandemic.

As the findings from this project show, healthcare leaders do value resilience, as well as financial and organisational sustainability. Achieving this may require borrowing business management ideas. However, uncritical spreading of such beyond their instrumental utility is unhelpful (Bromley & Meyer, 2017). Organisations have far-reaching consequences for themselves and their societies (Delbridge & Edwards, 2007; Scott, 2005). As such, an uncritical focus on market-based ideas may lead to organisational failure (Bromley & Meyer, 2017). With this in mind, I discuss the ROI method challenges from Chapter 3, in the context of QI-ROI.

8.3.3 Situating QI-ROI within existing ROI challenges

In the Chapter 3, I highlighted known technical and philosophical challenges of the ROI methodology. My findings have indicated support for these concerns. The main concern is the neglect of intangible benefits. Some QI benefits are tangible, and positive ROIs from QI programmes have been reported (Solid, 2020; Willson, 2015). Guidance on how to monetise QI benefits has been provided (Krlev et al., 2013; Phillips, 2012; Solid, 2020). As stated, QI-ROI in this thesis has been defined as inclusive of both monetary and non-monetary value. However, some QI benefits may be impossible or challenging to measure, monetise, and attribute (Solid, 2020), i.e., intangible. As such, my findings support the views on monetisation.

8.3.3.1 Intangible benefits

Intangible benefits are sometimes the most important benefits from QI programmes. This was apparent throughout this project and achieved high consensus in the Delphi. However, according to Botchkarev & Andru (2011), intangible benefits are unlikely to become official components of organisations' financial statements. This has caused concern. Bridges et al. (2010), asserted that the commodification of care is a significant downfall of economic evaluations. Russ-Eft & Preskill (2005) argued that bottom-line issues for both for-profit and non-profit organisations need not mean monetisation. Similarly, Krlev et al. (2013), argued against forced monetisation of value that is neither monetisable nor quantifiable. This, they stated, shows lack of reflexivity where the ambition to monetise dominates the appropriate

capturing of value. However, it is worth noting that intangible benefits are not only elusive, they can also differ within and between individuals (Kelly et al., 2012), rendering allocation decision-making imperfect and unstable (Eabrasu, 2011). This presents challenges for funders.

With ‘high value ticket’ or ‘low hanging fruit’ programmes, benefits are more obvious (Solid, 2020; Willson, 2015). Where intangible benefits are seen as more important, traditional ROI may become counter-productive. Solid (2020) explained this phenomenon; programmes with lower rates of return often require the most skill to appropriately frame associated benefits. As such, interventions that produce the most benefit may not produce the highest ROI (Solid, 2020 p. 59). Thus, focusing on measuring value (through ROI) may reduce the ability to meet stated quality goals (Solid, 2020). This is “because ensuring that value can be reliably measured and quantified can make it difficult to measure quality, and vice versa” (Solid, 2020).

Based on the various benefits conceptualised as QI-ROI in this project, I argue that the above is a matter of attribution rather than QI contributions. Further, a perceived lack of QI-ROI may reflect an accepted definition of QI returns-on-investment than the actual absence of QI value. If QI-ROI is accepted to encompass all QI value as indicated in this project, and intangible benefits are sometimes more important than tangible benefits, it would be paradoxical to state that “interventions that produce the most benefit may not produce the highest ROI”. Defining QI-ROI this way may have negative implications for QI evaluation and investment. Clearly, if ROI misrepresents the value of healthcare QI, it may not be the appropriate tool to measure it.

In publicly funded healthcare such as in the UK, the funders and recipients of improved care are the public. Their relationship with leaders is as stakeholders and not as shareholders as seen through economic theories like Principal-Agent (P-A) Theory (Ludwig et al., 2010). Given the low relevance of market-based concepts such as profit, monetised value, and competitive advantage found in this project, P-A may not explain QI-ROI. In such economic theories, rationality is seen as objective and quantitative. This can lead to minimisation of the qualitative

attributes of QI-ROI expressed by healthcare authors, practitioners, and leaders in this project. Crucially, these intangible aspects might be the value that matters to service users and societies.

My findings have indicated that health and social care logics create, legitimise, and sustain QI-ROI meaning. As such, global healthcare leaders in both public and private healthcare see themselves primarily as stewards for population health. Nowadays, this includes accounting for efficient allocation and use of resources. This was demonstrated throughout this project by how economic discourses were justified, albeit apprehension over monetisation. Thus, economic theories do influence leadership practices. To this effect, compromise emerged as the main response to traditional ROI. However, the permeation of economic logics only partly explain the evolution of QI-ROI conceptualisation. Oliver (1991) warned that if misaligned to local values, needs, and abilities, externally generated concepts risk responses like avoidance, defiance, and manipulation. This may be counter-productive to the many healthcare goals.

8.3.3.2 Broad and externalised QI value

QI-ROI includes various internal benefits. Further, there is a high perceived relevance of externalised benefits like socio-economic benefits, benefits to families, societies, and external partners. These benefits support value-based care (Teisberg et al., 2020), as well as systems effectiveness and efficiency (NHS Improvement, 2022). Economists such as Appleby (2005) also advocated for comprehensive data to truthfully assess the value of quality improvement in the UK. This may be done with an acknowledgement that trade-offs between scientific rigour and transparency may be necessary to fully assess value of healthcare investments (Appleby, 2005). There is also evidence that commissioners seek innovative ways to measure value that matters to populations (Coombes et al., 2022; National Centre for Creative Health, 2023).

Public Value Theory explains the existence of multiple healthcare goals and benefits (O'Flynn, 2007). In this regard, QI-ROI through DISS may have far reaching implications. According to

Al-Raisi & Al-Khoury (2010), the public value part of public ROI includes financial ROI (financial gains), public ROI (public gains), and political ROI (political gains). All elements of public ROI depend on providing good quality service and operational efficiency (Al-Raisi & Al-Khoury, 2010). The implication of viewing QI-ROI through Public Value Theory is that QI-ROI may hold benefits for many stakeholders, including economists and politicians. As Emmerich et al. (2010) stated, QI has been used to protect political leaders from scrutiny.

To support assessment of externalised benefits, outcome data templates for integrated Trusts are being developed (NHS Improvement, 2022; The HFMA & Thornton, 2021). Data on broader QI value may be available in sources such as the UK Care and Quality Commission, mental health dashboards, formerly 'Five Year Forward' (NHS England, 2023), and routine NHS surveys, e.g., friends and family tests and staff surveys. However, isolating intangible and externalised costs and benefits can be a challenge (Krlev et al., 2013). To help, alternatives to traditional ROI have been attempted by others in and outside healthcare, albeit unsatisfactorily (Botchkarev & Andru, 2011). Nonetheless, a solution is needed to highlight QI benefits, rather than to ignore or minimise the overall QI value expressed in this project.

8.3.4 Situating QI-ROI in existing alternatives to ROI

Alternatives to traditional ROI exist as outlined in Chapter 3. Some of these may be useful to in some way to capture QI-ROI as described here. These include Social ROI that includes social and environmental benefits (Krlev et al., 2013), the Phillips ROI methodology for staff development (Phillips, 2012), value-based measures (e.g., Ozminowski et al., 2016), and Multiple-Criteria Decision Analysis (MCDA) that include broad and intangible benefits. MCDA is recommended by the UK Treasury (2022). Further, ROI in service industries is not as a stand-alone tool (NICE, 2011; Andru & Botchkarev, 2011). In economic logic, this means additional financial metrics such as net present value and internal rate of return (NICE, 2011).

Without a valid way to incorporate valued benefits, ROI inherently favours tangible benefits. In the Delphi, participants were undecided when asked if they thought an alternative to ROI was indicated. Nonetheless, this project has indicated that a QI value evaluation tool must go further than financial metrics. Further, participants indicated that value judgements may be acceptable as evidence of QI-ROI. Currently, there is no criteria for what constitutes acceptable value judgement (Aarons, 2004). Therefore, unless effectively challenged, the improper use of ROI as the primary method to assess QI value is set to continue. As such, I offer a way forward based on known traditional ROI challenges, existing alternatives and my findings.

8.3.5 Potential future directions

My findings have indicated that although in disagreement with the ROI philosophy, leaders are nonetheless intending to comply or compromise. Complying may mean a symbolic use of ROI, seen as ‘synthetic’ and a ‘placebo’ (Brousselle et al., 2020; Botchkarev & Andru, 2011). Alternatively, compromise may mean ROI imitations. There are views that traditional ROI should not be imitated as this leads to errors (Botchkarev & Andru, 2011). Solid (2020), agrees and argue that ROI should not attempt to encompass all value. As such, Solid referred to two separate acts of “evaluating value and calculating ROI, to maintain ROI purely a metric. Thus, to incorporate QI value as described in this project, traditional ROI may have to be abandoned and replaced as been done in other fields. This may be essential to retain its integrity as a metric.

ROI is grounded in well-established methodology, and as such has many advantages as stated in Chapter 3. Therefore, I do not dispute this traditional ROI use in suitable contexts. However, I found QI-ROI to be conceptualised as inclusive of all value. Thus, the argument being made here is directed against ROI as the primary tool for assessing the value of QI programmes. In the context of limited space for all QI value within the current ROI methodology, an argument can also be made that QI-ROI is not and should not be referred to as ROI. It may be more appropriate to refer to it by its attributes, e.g., the DISS tool for QI-ROI or QI value evaluation. This may allow clarity on ROI as a metric, and QI-ROI as a concept of benefits.

Based on the findings from this project, QI-ROI requires a comprehensive tool that includes both monetary and non-monetary QI value. The weighted value scale approach mentioned above can be used to assess QI-ROI in a manner that accommodates all valued benefits. Similar practices are recognised in economic theory (Eabrasu, 2011; Ozminkowski et al., 2016), and recommended by the UK Treasury in a form of MCDA (UK Treasury, 2022). Although value is monetised in value-based healthcare, value scores are also used (Baggaley, 2020). Value scales help choose those with the highest agreed scores (Ozminkowski et al., 2016). Thus, unlike traditional ROI, value scales may help resolve conflicts on QI value. Practitioners and researchers could co-produce a value scale for QI benefits, and a tool to sum up a 'DISS score'.

An accessible and flexible online interface can then be placed to allow individual organisations to contextualise their QI programme value scale. Data about the known costs and benefits from QI programmes can be obtained from different internal and external sources. For example, improvement outcomes can come from QI evaluators, financial statements from accounting, development outcomes from human resources, and sustainability outcomes from operations departments. Developing a QI-ROI value scoring tool might be one way of heeding the advice of experienced ROI researchers and practitioners. Gair once suggested that “it might be more reasonable to find standard ways of expressing certain aspects in a quantitative or qualitative way rather than forcefully pushing for monetization...” (in Krlev et al., 2013 p. 12).

8.3.5.1 What level of ROI evidence would DISS offer

The threats to the evidence provided by traditional ROI and its variations in healthcare was discussed in Chapter 3. With access to direct costs and benefits, ROI analysis is more straightforward, and the evidence is high, reliable and valid. In QI business cases where ROI is predicted rather evaluated ex-post, estimates of costs and benefits are used. This increases the risk of errors. However, this can be counteracted by discounting ratios to account for passage of time and performing sensitivity analysis to assess the robustness of predictions against better or worse case scenarios. Often, under-estimated ROIs are recommended. In evaluative ROI, known costs and benefits can be calculated to arrive at a ratio. However, in

service industries such as healthcare, the risk of arriving at erroneous ROI's is even higher due to the combined complexity of healthcare services, QI itself, and ROI methodology.

There are no known methods to grade the level of ROI evidence. However, the Cochrane (Higgins et al., 2019) and the UK Centre for Reviews and Dissemination and Evidence for Policy and Practice Information Centre (2008) methods provide some guidance. In general, direct unbiased evidence occupies the top of a hierarchy. This is followed by indirect and potentially biased means of acquiring and analysing evidence. Highly rated evidence often exclude subjective or qualitative data. However, there are now also hierarchies of qualitative evidence (Noyes, 2010). In the previous chapter, I highlighted that ROI is viewed as both as science and an art. In this context, professional and other credible judgements of QI-ROI may be submissible. This may help develop a form of 'level of DISS evidence' tool.

A DISS tool for QI-ROI evaluation would include qualitative and quantitative data. Quantitative or objective data can be assigned the highest level. The strength of evidence would be reduced the less objective the evidence provided. Direct monetary value could be level 1, indirect monetary value through proxies can be assigned level 2, indicators without financial proxies can be assigned level 3, and narrative reports level of 4.

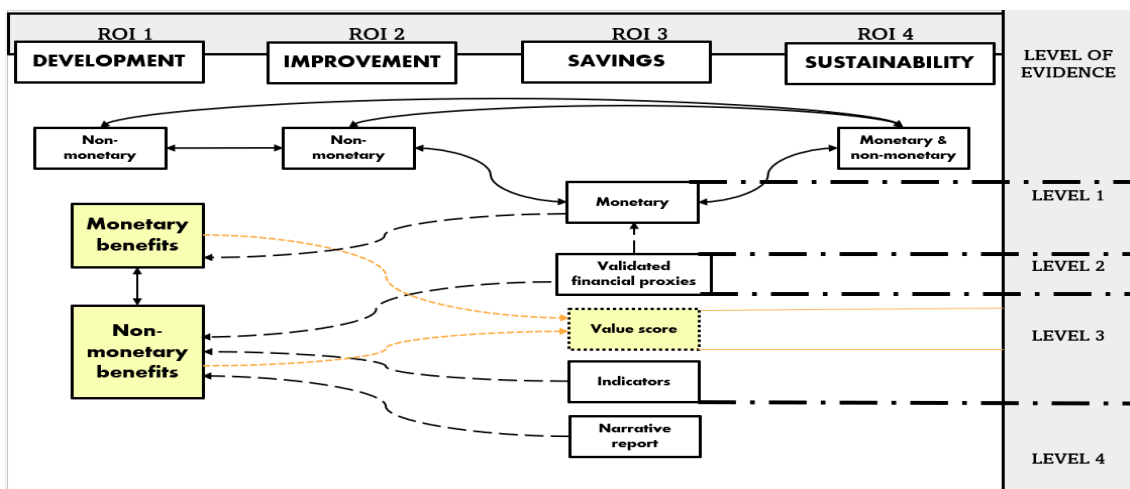


Figure 8-4 Trustworthiness of QI-ROI evidence

After developing a composite of value scores, QI benefits could be assigned a value score on a scale e.g., 0-10. Once a measure has been developed, value scores may be viewed as indicators of QI value and graded as such. Value scores can allow comparative valuing of different types of benefits without losing the weight of non-monetary benefits as done in traditional ROI.

Regardless of the ROI approach taken, some developments that support better understanding of costs and benefits are available as discussed in the ‘savings’ section. The choice will have to be explored with relevant stakeholders. To improve the utility of ROI, Bontis & Fitz-enz, (2002), advised observing “5 Cs”. This meant, ROI evaluations must be Consultative by engaging relevant stakeholders, Credible in their methodological rigour, Comprehensive in the costs and benefits considered, Conservative in their estimations, and Customisable to context. Similar views were expressed by Andru & Botchkarev (2011) and Solid (2020). Such observations may also help in the development of any future QI value assessment tool.

8.4 Project’s unique contributions

My work is distinct in several ways. Through this project, I have (1) differentiated QI-ROI from similar concepts, (2) explained the relationship between value and QI-ROI (3) explained the relationship between QI effectiveness and QI-ROI, (4) differentiated QI-ROI from traditional ROI and its variations, (5) differentiated QI-ROI from exiting QI business case and evaluation frameworks, (6) highlighted the importance of implementation outcomes as part of QI-ROI, and (7) highlighted the historical and theoretical aspects of QI-ROI.

8.4.1 QI-ROI and ROI-type concepts

The National Institute for health and Care Excellence views cost-benefit, cost-effectiveness, cost-consequence as synonymous with ROI (NICE), 2011). Some see ROI as cost-saving, value, effectiveness, impact, or efficiency. These concepts describe relationships between

goals, inputs, and outputs. In QI-ROI, effectiveness, efficiency, and productivity act as initial developmental outputs that serve as mechanisms for improvement, savings, and sustainability. Outcomes and impacts rely on achievement of many smaller benefits along a QI journey. I referred to this as a ROI-web, to signify the complex nature of QI-ROI. This project has indicated that the all-defining concept to describe QI-ROI is ‘valued benefit’. In a way, this concurs with the NICE assertion that ROI encompass various concepts. However, in the NICE guideline, these represent tools for assessing specific types of economic value. QI-ROI brings QI benefits together, as well as explain their relationships.

8.4.2 The relationship between QI-ROI and value

Value, cost, efficiency, savings, and ROI are sometimes used as synonyms. Solid (2020), initially clarified the difference between ROI and value. Solid stated that “ROI is primarily a representation of monetary returns from a single perspective, while value can represent a wider spectrum of benefits and utility ... for a variety of individuals and organizations” (p. 11). However, in Solid’s book, there was a tendency to link or refer to value primarily as monetary ROI. This is common in economic logic, e.g., in value-based care where the value is ultimately monetised (Baggaley, 2020). In this project, value was used in two ways; (1) As an adjective to describe the condition for legitimacy, eligibility, and relevance of a QI outcome as ROI, (2) as a noun for both monetary and non-monetary benefits. QI-ROI is inclusive of all that is valued. A QI benefit must contribute to organisational strategic goals to be deemed valuable.

8.4.3 The relationship between QI-ROI and QI effectiveness

This project has found that QI programme effectiveness is broader than achievement of stated goals. QI programmes have broader stated and unstated QI and system goals like improving capabilities and capacities, learning, development, sustainability, and resilience. These help develop and cement a culture of safe and high quality care. Although these goals may not be stated in a specific programme, they form the foundation upon which all QI programmes are based on (Benn et al., 2009). Thus, valued benefits can occur even when intended goals are not

achieved. As such, I suggested that overall QI success, perceived as the achievement of broader goals more accurately reflects QI-ROI. Alternatively, QI failure includes negative outcomes like failure to learn, blame, reduced morale, that may lead to reduced buy-in in QI programmes.

8.4.4 QI-ROI and traditional ROI

More emphasis has been placed on non-monetary benefits by authors and participants in this project. As such, I included both monetary and non-monetary benefits as QI-ROI. In doing this, I have clarified the problem of ‘either-or’, and advanced it to the question of ‘more-or-less’ (Sartori, 1970). Some benefits may matter more or less to an organisation depending on its needs, ambitions, and strategic goals. Although ROI variations recognise intangible and broad benefits, none demonstrably elevate intangible benefits to the same status as monetary benefits. ROI imitations ultimately seek monetisation, a practice proven to be problematic. QI-ROI in a form of a ‘DISS’ score aims to elevate intangible benefits to the high status they deserve.

8.4.5 QI-ROI and existing QI benefits evaluation frameworks

Several QI business case and QI effectiveness evaluation frameworks exist. These were discussed in more detail either in the background literature if outside healthcare QI contexts, or as part of the systematic review if within healthcare QI (Bailit & Dyer, 2004; Chow-Chua & Goh, 2002; Ciarniene et al., 2017; McLees et al., 2015; Mery et al., 2017; Rogers et al., 2009; Shah & Course, 2018; Swensen et al., 2013). Many of these frameworks embody the comprehensive nature of ROI as found in my studies. In this project, I have analysed the QI benefits assembled by previous authors and the views of mental healthcare leaders. Through this, I identified four QI-ROI concept domains: development, improvement, savings, and sustainability. To my knowledge, the QI-ROI conceptual framework I have developed here is the only one tailored to large QI programmes in mental healthcare and healthcare at large.

8.4.6 QI-ROI and implementation outcomes

Through this project, I have highlighted the importance of implementation outcomes as part of QI-ROI. Implementation study is viewed as crucial in the promotion of the uptake of scientific evidence into practice (Mittman, 2004; Bauer et al., 2020). The need to understand implementation of QI has seen the significance of Implementation Science increase recently (Steinmo et al., 2016; van Schoten et al., 2018; Waterman et al., 2015). This need can also be seen in the high value placed on organisational learning as part of ongoing improvement (Davey et al., 2013; Edmondson, 2004; NHS Improvement, 2017). The implication of this is that QI programmes can become more effective and efficient, and eventually cost-saving and sustainable. Thus, implementation success contributes to QI-ROI. The increasing interest of Implementation Science on value, costs, and efficiency is a potential sign of this recognition (Ovretveit et al., 2017; Pinnock et al., 2017; von Thiele Schwarz et al., 2019).

8.4.7 Highlighting the QI-ROI historical and theoretical perspectives

At the start of the project, I assumed a QI-ROI concept to likely reflect various obligations of healthcare organisations. In this chapter, I linked these wider organisational duties e.g., organisational efficiency to the DISS domains. The history of QI and ROI I presented in Chapter 3 provided clues to the competing health, political, and socio-economic discourses influencing the conceptualisation of QI-ROI. The definition of QI programmes also hinted to the assumptions held about QI value. My findings supported these assumptions. As such, in the previous chapter, I summarised the internal and external factors that determine the QI-ROI concept. These determinants explain the inherent ambiguities and uncertainties, and hint to the potential future instability of the QI-ROI concept. To support QI-ROI's theoretical development, I employed various economic and organisational theories to illuminate some of the assumptions behind the QI-ROI concept. These insights helped me affirm my thesis.

8.5 Project thesis

My thesis is stated as follows:

“The concept of return-on-investment from Quality Improvement programmes in mental healthcare Trusts incorporates both monetary and non-monetary benefits that support an organisation’s strategic goals as determined by internal and external agendas”

This thesis embodies my key conclusion from the project. It speaks to the opinions of many authors and participants who seek innovative means to balance the many healthcare goals and benefits from QI. This thesis was developed with insights from each chapter as outlined in Table 8-2. However, my thesis has its strengths and limitations as will be discussed next.

8.6 Strengths and Limitations

8.6.1 Strengths

8.6.1.1 Mixed methods approach

Guided by Pragmatism and Critical Realism, I used mixed-methods for fuller exploration of the concept of ROI from QI programmes. Conceptual scholars recommend mixed methods, but also studying the qualitative aspects (what, how, why) of a concept before studying the quantitative aspects (Sartori, 1970; Morse et al., 1996). To that effect, my findings are based first on qualitative multimethods followed by the Delphi. The Delphi contained the only quantitative component of my research project. Although the quantitative contribution was small, it was sufficient for my objectives.

Table 8-1 Thesis development: weaving findings of the study of the QI-ROI concept and its framework

Contributions from each chapter		
<p>Chapters 2 & 3: Background chapters</p> <p>Explored the history of the ROI and QI Highlighted potential QI-ROI determinants Highlighted existing concerns with QI evaluation Highlighted existing concerns with traditional ROI Introduced economic theories Introduced organisational theories</p>	<p>Chapter 4: The systematic literature review</p> <p>Differentiated QI-ROI from ROI-like concepts Linked ROI-like concepts in a framework Identified QI benefits Sorted and linked categories of benefits Highlighted positive unintended consequences Highlighted negative outcomes as ‘negative ROI’</p>	<p>Chapter 5: The Qualitative study</p> <p>Emphasis of system-wide QI-ROI perspective De-emphasis of market-based concept of QI-ROI De-emphasis QI effectiveness as core to QI-ROI De-emphasis benefit monetisation as core to QI-ROI Emphasis on implementation outcomes as valuable Highlighted ambiguities and uncertainties of QI-ROI</p>
<p>Chapter 6: The Delphi study</p> <p>Explored the ambiguities and uncertainties Explored the legitimacy of benefits Explored the order benefit relevance Re-emphasis of system-wide QI-ROI</p>	<p>Chapter 7: Discussion (the determinants)</p> <p>Summarised the hows and whys of the QI-ROI concept Explored sources of ambiguities and uncertainties Highlighted potential conflicts and dilemmas Highlighted challenges for evaluation of QI-ROI</p>	<p>Chapter 8: Discussion (overall synthesis)</p> <p>Identified of the main QI-ROI constructs (DISS) Linked together the main QI-ROI constructs Linked QI-ROI to available measurement tools Linked QI-ROI to other overall organisational agenda</p>
Summary contributions of the project to the historical and theoretical understanding of the IQ-ROI concept		
<p>Highlights the broad QI value chain from an organisation’s perspective Highlights benefit relevance within this value chain Highlights debates on legitimacy and eligibility of QI benefits Supports DISS operationalisation with links measurement & beneficiaries Supports prioritisation of intangible benefits Highlights implementation outcomes as integral part of QI-ROI</p>	<p>De-emphasises profit and QI effectiveness as the core of QI-ROI Links to other overall organisational agenda Supports healthcare integration Encourages and supports innovation of QI value evaluation Highlights theoretical foundations of value Highlights concept determinants that help to explain QI-ROI conceptualisation</p>	

The systematic literature review enabled me to gain broad perspectives that would have otherwise been impractical to obtain through participant-based research. The qualitative interviews enabled me to engage high level organisational leaders to assess support for my initial findings. Finally, through the Delphi I qualified my findings by assessing the legitimacy, eligibility, and relevance of benefits as QI-ROI with a wider group. This enabled me to affirm my findings at the institutional level, thereby strengthening the conclusions I have drawn.

8.6.1.2 Stakeholder engagement

The constructed QI-ROI concept is a result of the collaboration between the participants and I as a researcher. I also drew insights from multiple authors. Thus, my definition of QI-ROI is based on the narratives and views of authors, leaders and practitioners with knowledge and experience in QI investment and evaluation. I saw board members as ideal participants as they sit at the meso level, with obligations towards micro and macro levels. The board are key in QI investment and disinvestment decisions. However, a small number of clinical directors and QI leaders were involved. Further, some QI leaders were also members of the board. This helped improve the balance of views from QI evaluator and QI investor. My analysis sought to highlight participant and author views by presenting them semantically. This allowed the literature and participants to ‘speak’ through my project, with minimal interpretation of views.

8.6.1.3 The concept analysis and development approach

My approach to this project was chiefly pragmatic so as to accommodate multiple truths of socially constructed concepts (Hupcey & Penrod, 2005). The bulk of this project focused on the historical and theoretical aspects of QI-ROI to make way for QI-ROI operationalisation. As stated, this follows Sartori (1970) guidance that it is first important to learn what and why, before studying how much. I have identified four DISS domains as qualitative representations of how the QI-ROI concept is perceived. These domains were the most prevalent themes of the views and sentiments of healthcare QI authors, leaders and practitioners on QI value. I have also identified the localised and broad nature of QI-ROI. However, the QI-ROI definition has

been kept vague to allow further developments as the concept gains maturity over time. Further, this enables contextualisation of QI value within the DISS domains as per organisational needs.

8.6.1.4 Theoretical underpinnings

To add depth to my concept analysis and development, I linked my findings to various economic and organisational theories. This helped me explain the different influences of organisational behaviour and meaning-making on the formation, legitimation, and stability of the QI-ROI concept. The ambiguities and uncertainties found in this project are predicted by Complexity, Stakeholder, Systems, and Stewardship theories. Crucially, through Institutional Theories, I highlighted various internal and external forces that impact the conceptualisation of QI-ROI. Through Value Theory, I supported a broad concept of QI value. Finally, the Contingency Theory explains the need to contextualise the QI-ROI concept as per local goals.

8.6.2 Limitations

8.6.2.1 Type of healthcare provider involved

As discussed in preceding studies, the main potential limitations of this project is its scope. The participants in this project represent views of the UK NHS mental healthcare Trusts. The findings may be transferable within the UK and global healthcare systems that share attributes with mental healthcare. For example, long-term care providers often engage with external stakeholders for ongoing safe quality care. However, it cannot be assumed that QI-ROI as defined here also applies to acute healthcare providers as they may have different goals.

8.6.2.2 Type of leaders involved

As discussed, the participants in this projected were largely members of Trust boards, with a few leaders outside the board. The number of participants involved in each study were valid

within the methodologies in which they were used. My findings indicated consensus on the core QI-ROI concept amongst participants. However, without the views of other relevant stakeholders such as commissioners and service users, it is impossible to conclude that all those involved in QI implementation, evaluation, and investment conceptualise QI-ROI similarly. ROI is traditionally assessed from an investors perspective, but others perspectives also matter.

8.6.2.3 Type of large-scale QI programme

It is worth noting that although the definition of large-scale QI programmes was provided and agreed with participants, they may at times been referring to smaller projects in their responses. In the qualitative study, there were opportunities to correct this, however, not so in the Delphi. This was evident in the responses about implementation outcomes, where some pointed out that implementation outcomes only matter for large programmes. Therefore, I could not conclusively determine if my findings exclusively reflect benefits of large QI programmes.

8.7 Recommendations

8.7.1 Recommendations from previous chapters

In the previous chapters, I provided some recommendations specific to each study reported. These include exploration of the QI-ROI concept in specific localised contexts, comparing QI-ROI concepts of projects versus large programmes, single site large-scale programme versus collaboratives, improvement of QI studies reporting (Chapter 4). I also recommended an exploration of QI-ROI contribution versus its attribution (Chapter 5), and exploration of implementation outcomes as legitimate part of QI-ROI (Chapter 6). Finally, in Chapter 7, I recommended the study of the QI-ROI determinants that I have put forward. Based on the current chapter, I now offer further recommendations on ways forward from this thesis.

8.7.2 Recommendations about traditional ROI

Review of the appropriateness of ROI to assess QI value

Perhaps the fundamental step is the determination of the role that should be played by ROI in the assessment of QI value. This project did not set out to make a case against ROI. Such a case was attempted by Dearden in the Harvard Business Journal in 1969. Nonetheless, the findings from this project largely do make a case against traditional ROI as applied to QI programmes. Although there are merits for ROI, its use in traditional forms within the healthcare QI programmes is likely to be limited and or symbolic. Further study should consider engagement of other relevant stakeholders, for example, commissioners as fund-holders in the UK health system, the service users and public as payers and recipients of care, and staff who are at the frontline. Such a study may offer more robust clarity on the utility of traditional ROI.

Value judgements use in narrative reports

Narrative reports are currently used to detail intangible benefits as part of ROI adaptations. These reports are based on value judgements. Given the known lack of some valid indicators and proxies, narrative reports are seen as legitimate adjuncts to ROI analyses by some practitioners. Although briefly explored in the Delphi, this was not the focus of this project, and no clarity on the acceptability of this practice in QI was established. In the absence of an acceptable alternative or continued ROI use, this will also need further exploration. Studies could explore how an acceptable value judgement can be defined, e.g., academic driven, field experts or professional judgement. Additionally, studies may explore whether criteria should be applied to individual organisations or across mental healthcare for comparative research.

8.7.3 Recommendations about QI-ROI value scale

Intangible benefits

As discussed, incorporating intangible aspects of QI-ROI through ROI methodologies is known to be challenging. The work of experienced scholars such as Phillips of the Phillips methodology, Krelv et al. (SROI), and QI (Solid 2020) may be helpful here. Further, Improvement and Implementation Sciences use innovative quantitative and qualitative evaluation methods to measure different outcomes at various stages of a programme. In Implementation Science, von Thiele Schwarz et al. (2019), made a theoretical proposition of a broad value equation that reflects patient, provider, organisation, and system value (p. 6). It is not yet clear how that may be operationalised. Nonetheless, these ideas may be developed to enhance insights about intervention, service and implementation outcomes that reflect QI-ROI. Research could develop a list of known tangible and intangible benefits can be compiled to support QI-ROI assessment. More knowledge about such QI benefits will also be beneficial for those who prefer traditional forms and adaptations of ROI methods.

QI value scale

This is related to the recommendation above. Once known QI-ROI benefits have been compiled, a value scale can be developed and validated. Value weighting is uncommon in healthcare. As mentioned in the background chapter a similar method, MCDA is used and recommended in healthcare. As stated, value scales may support operationalisation of the DISS domains as an alternative to ROI. Research on how this could be achieved is needed.

Externalised benefits

This project has indicated that externalised benefits are conceptualised as part of ROI from QI programmes. However, currently there are no known ways to operationalise this part of QI-ROI. As stated, the formal integration healthcare services may mean data on externalised costs and benefits become more accessible in the future. Innovative research methods may wish to take advantage of this to help incorporate externalised QI costs and benefits. The work of SROI scholars with extensive experience in this area can provide useful guidance.

Financial proxies and QI benefit valuation

Participants have indicated that financial proxies may be acceptable. As discussed in Chapter 3, other disciplines such as in SROI have long embarked on this journey. However, based on their long history and experience, it is already known that valid and reliable financial proxies may not exist for certain outcomes. Nonetheless, further study could help identify specific financial proxies applicable to QI benefits, and thus help create a database for known QI-ROI proxies. This would be useful regardless of how QI value is assessed e.g., ROI or DISS score.

Links between QI-ROI to other organisational agendas

My findings have suggested that QI-ROI in a form DISS domains supports some organisational goals and objectives. Research could explore this further to help validate these claims and establish links between DISS and wider organisational and system goals.

8.7.4 Research approach recommendations

In-depth use of theory

This project has engaged a few relevant theories to so as to enhance understanding of the ROI phenomenon as applied in mental healthcare and similar organisations. However, theory use here was only intended as a tool to explain findings. This meant a superficial use of theory that does not add more understanding to the theory itself as applied in the context of the value of QI programmes. Further study could make theory use a primary objective so as to help improve understanding of QI-ROI in healthcare contexts. For example, the potential responses to ROI as an institutional change agent using Oliver's (1990) hypotheses can provide an understanding of the appropriateness of traditional ROI for the assessment of QI value.

Another example could be of the understanding of the interconnectedness of QI programme benefits through Complexity Theory. This can help produce data on QI contribution where evidence of attribution is not feasible. Improvement and Implementation Sciences have close links with Complexity theory. Frameworks such as the Context and Implementation of Complex Interventions (CICI) framework by (Pfadenhauer et al., 2017) are an illustration of this relationship. Such frameworks could help provide further clarity on ideas I have introduced in this project such as the 'ROI-web'. Finally, Stakeholder Theory could be used to identify relevant stakeholders through stakeholder analysis either for a general study or in a context.

Critical analysis of latent views

Braun & Clarke (2006) argue that there is always a level of interpretation in qualitative research, and therefore do not recommend a 'realist view of qualitative research' where a researcher 'gives voice', rather that acknowledge their active role in research conclusions. In this research project, I provided mostly semantic analysis of authors and participants' views. A large number of authors and participants' words and expressions were provided in quotes and minimal interpretations of such were offered. The goal here was to let the authors and participants 'speak for themselves'. It was vital at this very early stage of the study of QI-ROI that my influence as a researcher is minimal. However, further research could go deeper and increase our understanding of the ROI phenomenon through study of latent meanings. Given the political nature of economic evaluations, dedicated studies that include rhetorical, discourse, or narrative analysis may provide such deeper insights on the QI-ROI concept.

8.8 Conclusion

The QI-ROI concept has a rich history and theoretical underpinning based on the histories of both QI and ROI. QI-ROI has been defined here as any valued benefit within the four DISS domains. QI-ROI in a form of the 'DISS' domains supports many organisational goals and obligations. The determinants of the QI-ROI concept identified here have provided useful insights to potential QI-ROI related dilemmas. Ultimately, this PhD project has answered some

crucial questions regarding ROI from QI, but many remain. Recommendation for further study have been made, and an alternative way perceive and operationalise the QI-ROI concept described here been offered. Other avenues that can be pursued to improve on the development of the QI-ROI concept produced in this project. The process must engage other relevant stakeholders. The way forward may remain muddy until the fundamental question of the utility of traditional ROI has been fully answered. This will be crucial for developing a QI value assessment tool that can be implemented with greater feasibility, acceptability and fidelity.

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10 Appendices

Appendix 9 i Chapter 4 Example Search strategy Web of Science

Concept 1: Context	Concept 2: QI Methods	Concept 3: QI Outcomes	Limits	Database
Health* All levels	"Quality improvement" OR QI OR "statistical process control" OR Lean OR "Six sigma" OR "Lean* Six-sigma" OR Audit NEAR/1 feedback OR "Model for improvement" OR "Root cause analysis" OR "Process mapping" OR Define NEAR/1 Measure NEAR/1 Analy?e NEAR/1 Improve NEAR/1 Control OR DMAIC OR "Plan do study act" OR PDSA OR PDCA OR "Driver diagram" OR "Theory of change" OR "Logic model" OR "statistical quality control" OR SQC	Return NEAR/1 investment OR "Rate of return" OR Payback OR "Business case" OR Benefit* NEAR/1 cost OR Risk* NEAR/1 benefit* OR Cost* NEAR/1 benefit* OR Cost* NEAR/1 consequence* OR "Cost reduction" OR "Cost containment" OR "Cost control" OR "Cost avoidance" OR Cost* NEAR/1 saving* OR cost* NEAR1 outcome* OR Value NEAR/1 investment OR Value NEAR/1 care OR "Value for money" OR Value NEAR/1 improvement OR Improvement NEAR/1 outcome* OR Resource* NEAR/5 outcome* OR Resource* NEAR/5 benefit*	None	Web of Science: (All databases) MEDLINE SciELO Citation Index Russian Science Citation Index Web of Science Core Collection KCI-Korean Journal Database

https://apps.webofknowledge.com/UA_CombineSearches_input.do?product=UA&SID=F5tdD2WX3IIMXwfjJfW&search_mode=CombineSearches

Appendix 9 ii Chapter 4 Links to search strategies

<https://onedrive.live.com/?cid=D1DBD5A64FD65ECB&id=D1DBD5A64FD65ECB%21629&parId=D1DBD5A64FD65ECB%21105&action=defaultclick>

Appendix 9 iii Chapter 4 Excluded Articles

Author	Country	Setting	Type of article	Type of programme	Rationale for exclusion
Backman et al. 2018	Canada	3 hospital ICUs	Report	Safety LEAP program PDSA, Audit & Feedback	Single department Single category outcome
Beistch et al. 2013	US	162 mini-collaborative QI projects; 234 health departments, 16 states	Quantitative report	Multi-State Learning Collaborative (MLC)? PDSA/Lean	Organisational outcomes not discussed, Discussing history leading to collaborative
Chua et al. 2020	UK				Pre-print
Engel et. Al. 2013	US	Three hospital ICU	Case studies	ICU Early Mobilization Collaborative PDSA	Single department
Gillissen et al. 2013	Netherlands	Colonic Surgery in 33 Hospitals	Quantitative Pre & Post	Colonic Surgery in 33 Hospitals Breakthrough series collaboration ? PDSA/Lean	Single department Single category outcome Clinical outcome
Gupta et al. 2017	US	Internal medicine units	Quantitative Report	Eliminating Healthcare Waste by Changing Medical Resident Test Ordering Behavior PDSA	Single department Single outcome category: Clinical outcomes and cost saving
Habonimana et al. 2019	Burundi	Community settings	Report	Improving long-lasting insecticidal nets PDSA	Single category outcome Clinical outcome
Hirai et al. 2018	US	Public health Maternal and child services	Retrospective Pre and Post	Collaborative Improvement and Innovation Network (CoIIN) to Reduce Infant Mortality PDSA	Single category outcome Clinical outcome
Hoerger et al. 2011	US	Cholesterol Reference Method Laboratory Network (CRMLN) laboratories	Report	Lipid Analysis Standardization Logic model	Single category outcome: Clinical outcome
Hopper & Morgan 2014	US	Hospital	Report	5 Million Lives Campaign; Pressure Ulcer Prevention PDSA	Single category outcome: Clinical outcome

Hung et al. 2015	Taiwan	Hospital	Report	Methodology to Improve Process of Surgical Specimen Handling Six Sigma	Single department
Jalbert et al. 2019	Canada	Hospital; Pathology and Internal medicine	Report	Choosing wisely Decreasing daily blood work in hospitals PDSA	Single category outcome Clinical outcomes
Knudsen et al. 2019	Denmark Multinational	-	Review	PDSA Effectiveness	No details conceptualization of benefits
Martin et al. 2019	US	Multi-hospital Paediatric Cardiology	Report	IMPACT Registry and National Pediatric Cardiology Quality Improvement Collaborative: PDSA	Single department
Marvin et al. 2016	UK	Hospital	Report	Medicines reconciliation at transfers of care from an acute UK hospital Statistical Process Control	Single department/ward Single category outcome: Clinical outcomes
Masters et al. 2017	UK, USA West EU, Canada, Japan, New ZL Australia	Public health Different specialisms	Conceptual Review	General QI	Single category outcome Financial, QALYs
Mavin and Hills 2015	UK	Hospital	Report	Prevention of catheter associated urinary tract infections. PDSA	Single outcome category: Clinical outcomes
McGrath et al. 2017	UK	4 Hospitals ICU & ENT	Report	Global Tracheostomy Collaborative PDSA	Single outcome category: Clinical outcomes
Neil et al. 2019	US	Hospital	Report	Improving Respiratory Rate Accuracy PDSA	Single department
Papoutsis et al.	UK	12 Hospitals	Mixed methods Qualitative: experience of using Frailsafe checklist.	The Frailsafe Project Breakthrough collaborative	Single department/ward
Pullyblank et al. 2020	UK	Hospitals	Report	Implementation of the National Early Warning Score: Breakthrough collaborative	Single category outcome: Clinical outcomes

					(Other categories discussed as determinants/ strategy.)
Ratish et al. 2019	India	Hospital	Report	How to Save Half a Million Dollars: An Antimicrobial Stewardship Program PDSA, Audit and Feedback	Single category outcome: Clinical outcomes and cost-saving
Richardson et al. 2017	UK	Hospital 4 ICUs	Report	Reducing the incidence of pressure ulcers PDSA	Single department Single outcome category: Clinical outcome and cost saving
Rubenstein et al. 2010	US	Multistate	Quantitative	Translating Depression Collaborative Care Research Into Practice PDSA	Single department Single outcome category: Patient outcomes
Shafer et al. 2008	US	300 hospitals: 58 organ procurement organizations (OPOs)	Report	US Organ Donation Breakthrough Collaborative Increases Organ Donation PDSA	Single department/ward Single outcome category: Increased donated organs
Talai et al. 2019	US	9 Neonatal ICUs	Report	Perinatal Quality Collaborative (TIPQC) PDSA	Single department/ward Single category outcome
Trietsh et al. 2017	Netherlands	88 GP surgeries'	Cluster RCT	Local quality improvement collaboratives (LQICs): prescribing and test ordering performance. Audit & Feedback	Single outcome category Ordering and prescribing
Turner et al. 2017	US	Hospital	Report	Antimicrobial Stewardship Program Audit & Feedback	Single outcome category: Patient outcomes and cost saving
van Kasteren et al. 2005	Netherlands	13 Dutch Hospitals	Report Before & After	Reducing incidence of surgical site infections (SSI). Audit and Feedback	Single outcome category: Patient outcomes and costa saving
Wagner et al. 2001	US	26 Organisations	Report	Collaborative to improve diabetes care Breakthrough collaborative- PDSA	Single department
White et al. 2017	UK	9 sites	A national, longitudinal, cross-sectional study	Productive Ward-Releasing Time to Care Programme	Single category outcome: Staff engagement

Wijaya et al. 2017	Malaysia	22 sites	Survey	Virtual breakthrough series collaborative PDSA	Single category outcome: Patient satisfaction
Zhu et al. 2020	China	Hospital; peroperative	Quantitative report	Reduce the Incidence of Unplanned Surgery Cancellation Six Sigma	Single department
Zubkoff et al.	US	15 vice Veterans Integrated Service Networks (VISNs);	Pre & Post survey	Virtual Breakthrough Series (VBTS) collaborative to prevent hospital-acquired conditions: catheter-associated urinary tract infection (CAUTI) and hospital-acquired pressure ulcers (HAPUs). PDSA	Single category outcome: Clinical outcome

N=34 Single dept. collaboratives n=13 Single cat outcome n=24 Org. outcomes not discussed n=2 Pre-print n=1 ROI n=1 Econ Eval n=0

Comments

Organisational benefits present on all these studies based on organisational obligations, however as per exclusion criteria stating minimum Category 1 a & b, plus at least one element from other categories, these were excluded. The only 1 of 2 ROI article excluded for only discussing two organisational outcomes.

ROI Determinants

1. Contextual
2. Research related
3. ROI method related
4. Responsiveness of targeted outcomes (short/long-term) vs intervention specificity

Appendix 9 iv Chapter 4 Data Collection Tool

Author & Country	Country	Setting	Type of article	Type of programme	ROI/Outcomes/Impact discussed
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Bailit and Dyer 2004	US	-	Conceptual	General QI Business case	Business case framework: organized around three broad areas: direct financial considerations, strategic considerations, and internal organizational considerations: Patient, staff, organization, external stakeholders, financial outcomes, direct and indirect, image, reputation, competitiveness, legal, patient enrollment, compliance with performance and quality requirements, status (license or influence), accreditation, oversight, incentives (carrot and stick), recruitment and retention, alignment with mission/ethical
Banke-Thomas et al. 2015	UK	Public Health	Review ROI studies	ROI in Public Health	Socio-economic, environmental, stakeholder engagement, patient outcomes
Beers et al. 2017	US	Paediatric Mental Health Primary Care 19 practices; 8 academic health centers, 6 private practices, 4 federally qualified health centers (FQHC), 1 outpatient specialty clinic.	QI Evaluation Report	Improve screening practices in primary care. PDSA	Community resources, Health care financing, Support for children and families, Clinical information system redesign, Decision support for clinicians, sustainability, cost-effectiveness, ? negative consequences
Benning et al. 2011	UK	22 NHS hospitals; 4 interventions, 18 control general wards, critical care, perioperative care, and management of medicines	Mixed methods study Before & After Quantitative (surveys) Qualitative (interviews, document analysis)	Safer Patients Initiative Independent evaluation PDSA	Patient outcomes, clinical processes, staff engagement, QI leadership development/effectiveness, systematization of QI, sustainability of QI, organizational learning, compliance, penetration, sustainability, risk management, safety culture, raising awareness about capacity issues, negative consequences related to staff engagement and implementation
Bevan et al. 2011	UK	-	Conceptual Large-scale change	General large-scale QI	Leadership, patient outcome, organizational development (capacity and capability), QI spread and sustainability, productivity, efficient use of staff, cost saving
Bielaszka-DuVernay 2011	US	Hospital; Two acute care units	Report	Collaborative: Redesigning Acute Care Processes in Wisconsin Lean	Financial outcomes, patient satisfaction, process outcomes, defining clinician roles, efficiency (resources and staff), clarifying roles, patient engagement, improved communication-staff and patients, new ways of working, structures and processes, professional development, pride, productivity, effectiveness, spread, risk

					management, negative consequence-penalised for moving pts too quickly	
Bosse et al. 2015	Tanzania	Three hospitals, 1 int, 2 control surgical departments hernia and varicocele, appendicitis, intestinal obstruction, and septic wounds		Quantitative Before and after	Improving pre and post op care using checklist PDSA, Donabedian SPO	Structural and process outcomes, clinical outcomes, contribution to curricula, sustainability,
Botros and Dunn 2019	UK	Hospital; Surgical department; urology, upper and lower gastrointestinal surgery, vascular surgery, and orthopaedics		Action research Implementation	Medicine's reconciliation PDSA	Clinical processes, patient safety, QI fidelity, spread and sustainability, staff and patient communication and relationships, supporting staff education, efficiency (staff time, variation, waste), innovation, compliance with standards, raising awareness/education, process outcomes, governance-performance management drs, improved multidisciplinary working, effectiveness,
Bridges 2006	US	-		Conceptual Patient perspective	Lean vs HTA	Efficiency and safety of a system, innovation, universal access. ethical and social consideration stakeholder engagement, organizational culture, risk management,
Bryan et al. 2019	UK	-		Conceptual (Discussion and guide)	General large-scale QI	Patient safety, Efficiency, clinical processes, culture and climate, leadership and governance, skills and workforce, infrastructure, and resources, innovation, sustainability, integration and collaboration, strategic/mission alignment, capability and capacity,
Brink et al. 2017	South Africa	34 hospitals obstetric and gynaecological, orthopaedic, cardiovascular, thoracic, and other vascular surgery, neurosurgery, and gastrointestinal surgery		Quantitative Pre & Post	Reducing Surgical Site Infections (SSIs) Audit & Feedback	Process outcomes, clinical outcomes, new ways of working, role clarification, highlighting additional areas of improvement, compliance, collaboration and teamworking
Care Quality Commission 2018	UK	-		Conceptual (Report)	General QI	Patient safety, staff development, leadership, culture development, systems strategy
Chow-Chua and Goh 2002	Singapore	-		Conceptual	General QI ROI	QI and performance evaluation framework Patient, staff, organizational benefits.
Ciarniene et al. 2019	Lithuania	-		Conceptual Literature review, Qualitative study, Document analysis	General QI	QI patient value conceptual framework Patient and organizational benefits.

Collins and Fenney 2019	UK		-	Conceptual (Discussion)	Collaboratives Review	Patient safety, organizational culture, leadership development, staff development, efficiency
Comtois et al. 2013	Canada	Hospital		Report Economic evaluation Observation and document review; Report	Hospital-wide QI review 2006-2011 Kaizen/Adapted Six-Sigma	Financial outcomes, patient outcomes, new ways of working, highlighting related areas of improvement, efficient time use, staff satisfaction, cumulative cost savings, leadership development, empowerment, align with health reform, building foundation for bigger complex, innovation
Crawley-Stout et al. 2016	US	Public health		Quantitative; Before and after ROI calculation	QI experiential learning (QI 101) programme Lean	Financial benefits; saving time, process improvement, clinical effectiveness leading to reduced A&E attendance, and improved smoker diagnosis, staff development, informed patients, innovation, external/community benefits.
Crema and Verbano 2017	Italy		-	Systematic Review	-	Patient safety, process management, clinical effectiveness, cost-efficiency, ethical issues (fairness, appropriateness, rights, solidarity), priority-setting
De Miranda et al. 2020	Brazil	Hospitals (state, municipal and national)		Quantitative Before & after	Healthcare Associated Infections (HCAIs) programme PDSA	Leadership, Regulations and standards, Organizational capacity (educational and training, Information, Population participation
de la Perrelle	Australia Multinational		-	Review (of) QI collabs. Economic review QI Collaboratives	QI collaboratives	Financial outcomes, clinical outcomes, process outcomes, staff engagement, development of guidelines, patient and public engagement, patient retention/increase, cost and time savings to carers/patients, cost-effectiveness, improvements in other conditions, spreading costs and benefits, off-setting other benefits,
DelliFraine et al. 2010	US Multinational		-	Review	Lean Six-Sigma Review	Clinical outcomes, process outcomes, financial outcomes (cost effectiveness)
Fischer et al. 2020	US		-	Conceptual Explains ROI and related	General QI Business case	Patient safety and experience, financial benefits, processes, external stakeholders e.g., society, aligning values and priorities, team engagement, data, Maximize current people and systems,

					recruitment, retention, reputation, incentives, accreditation, regulation, capacity, throughput, productivity, future costs, performance management
Fortney et al. 2012	US	Outpatient clinics Different specialties	Feasibility study Non-Randomised Implementation	Collaborative: telemedicine based CCM program to improve depression care. PDSA	Clinical outcomes, process of care, implementation outcomes
Furukawa et al. 2016	Brazil	Hospital Pharmacy and a medical-surgical clinic	Report	Environmentally sustainable medication process Lean	Benefit to the institution, environment, and health. Raising awareness, training and education, IT improvement, new ways of working, role clarification,
Gandjour & Lauterbach 2002	Germany	-	Conceptual	General QI	Financial benefits, social benefits, clinical outcomes
Goodridge et al. 2008	Canada	Province-wide	Quantitative Survey	Retrospective survey Lean	Nurse engagement, ownership, normalization, cultural shift, leadership development, training and education, professional and career development,
Hatcher 2002	US	Hospital	Report	Needle-stick injury PDSA	Clinical outcome, financial savings, staff well- being
Heitmiller et al. 2010	US	Department of Anesthesiology and Critical Care Medicine	Quantitative Lean Six-Sigma	Reducing blood product wastage Lean Six Sigma	Raising awareness, education and training, multidisciplinary teamworking, processes and structural changes, cost-saving, innovation, staff engagement, patient safety, change in practice, role clarification and accountability, innovative research method.
Honda et al. 2018	Brazil	-	Review	Lean Six-Sigma review	Patient safety and experience, increased patients, clinical outcomes, staff costs and turnover, efficiency, process improvement
Hunter et al. 2015	UK	14 sites; primary care trusts, provider trusts including mental health, community, acute care, and ambulance services.	Mixed methods Mixed Qual ITS	Northeast Transformation System (NETS)	Clinical outcomes, clinical processes, staff engagement, staff development,
Kanamari et al. 2015	Senegal	Health Centre: 9 departments	Qualitative	5S Pilot staff perceptions study	Work environment, attitude and behavior of staff, attitude and behavior of patients, and

				Lean	quality of services (efficiency, patient-centeredness, and safety).
Lavoie-Tremblay et al. 2017	Canada	Multi-hospital 8 units	Report	Transforming Care at the Bedside Program PDSA	Patient experience, clinical outcomes, team effectiveness
Leatherman et al. 2003	US	4 case studies business case discussion	Conceptual: 4 case studies. Lit. review Interviews Expert opinion Document analysis	General QI Business case	Financial benefits, enhanced market position; reduced regulation and oversight; improved reputation; improved patient retention and decreased reenrollment, marketing, and acquisition costs; improved recruitment and retention of essential staff; and improved health outcomes, pride, market share,
Masso et al. 2010	Australia	New South Wales healthcare 10 hospitals	Qualitative Senior managers interviews	Clinical Services Redesign Program (CSRP). Lean Six-Sigma	Cultural change, leadership development, performance management, sustainability, influence, legitimacy amongst peers, alignment with priorities,
McGrath et al. 2017	UK	4 Hospitals: ICU & ENT	Report	Global Tracheostomy Collaborative PDSA	New ways of working-ne teams/collaborations, clarifying organizational goals, staff engagement, patient engagement, clinical outcomes, education, training, awareness, leadership development, use of data infrastructure, reputation, litigation, financial outcomes, service status, influence, financial incentives, innovation.
McVane et al. 2019	Multi-country Sweden Malawi, Bulgaria, Indonesia 2 more	-	Conceptual Review of 6 articles from the International Journal of Health Governance	Lean healthcare governance Lean	Clinical outcomes, patient safety and experience, staff engagement and empowerment, leadership development, organizational culture, stakeholder engagement, efficiency, infrastructure development
McLees et al. 2015	US	Public health Different specialties	Conceptual Expert opinion, Literature review, review of quality award data	General QI	QI evaluation framework Efficiency and effectiveness (includes organizational outcomes e.g., development and processes), staff satisfaction
Mery et al. 2015, 2017	Canada	Multinational review	Review System-wide QI (Collaboratives?)	Capacity building QI ROI	Framework for evaluation: Organisation capacity and capability, High performance, self-sustaining, effective resource

					allocation, programme spread and sustainability, staff capacity and capability, patient outcomes, financial outcomes
Morganti et al. 2012	US	40 healthcare organisations	Conceptual Document analysis Interviews	Perfecting Patient Care (PPC) Toyota Production System	Spread and sustainability, patient outcomes, staff development, culture
Moraros et al. 2016	Canada	-	Review	Lean effectiveness	Patient experience, clinical outcomes, staff outcomes, financial outcomes
Morrow et al. 2012	UK	Hospitals; 96 organisations 5 case studies	Mixed methods; Interviews and survey	The Productive Ward: Releasing Time to Care Lean	Teamwork and collaboration, staff engagement, career development, skill development, financial benefits, patient safety and experience, innovation, leadership development, clinical structures and processes, better use of data, sustainability,
Neri et al. 2008	US	Virtual Health Multi-hospital	Report	Blood product utilization Six-sigma	Patient safety, financial outcomes, clinical processes
Niemeijer et al. 2015	Netherlands	Hospital	Review Report	5 Year impact of Lean Six Sigma	Increase number of admissions Improve ward/department capacity. Improve productivity of personnel Reduce unnecessary use of diagnostic tests. Patient satisfaction Improve safety. Reduce costs by reducing inventory. Increase revenue Improve utilization of equipment by use of ICT Improve process of purchase and maintenance -Improve utilization of outpatient clinic. Increased influence, improved purchasing procedures and bargaining power, Efficient use of staff-redirecting,
O'Sullivan et al. 2020	UK	Hospital	Report	General QI	Training and development, staff motivation strategic alignment, service user engagement, clinical outcomes, patient experience, leadership development, organizational development, sustainability
Pearson et al. 2017	UK	Regional health and social care	Quantitative ITS	Hospital at home PDSA	Stability, Creating foundation for future QI, collaboration and teamworking, ownership,

Perencevich et al. 2007	US	-	Conceptual Discussion	Hospital Acquired infections business case.	motivation, process of care, sustainability, improved relationships, patient safety. Business case framework Externalities, reputation, incentives, benefits to untargeted patients, patient safety, legal costs,
Power et al. 2016	UK	Hospitals: 10 regions 133 hospitals	Report Mixed methods Action research	Harm Free Care Four harms; venous thromboembolism (VTE), pressure ulcers, urinary tract infection in patients with urinary catheters and falls. PDSA	Alignment with national goals, system and process, collaboration, networking, engagement, sustainability, initiative fatigue, establishment of a measurement system, patient safety, development of the NHS safety thermometer, strategy refinement, financial incentives
Robert et al. 2020	UK	8 Hospitals	Qualitative-mixed method	10-year review of the Productive ward collaborative programme PDSA & Lean	Patient outcomes, staff outcomes, implementation outcomes, influence, structures and processes, culture,
Rogers et al. 2008	Australia	-	Conceptual 'Proof of concept'	The Stronger Families and Communities Strategy	Cost-benefit methodology Financial /non-financial, short-term/long-term, positive/negative
Roney et al. 2016	US	Hospital: 11 units	Report	Implementation of a MEWS-Sepsis screening tool PDSA	Clinical outcomes, implementation outcomes, staff engagement
Schouten et al.	Netherlands	Diabetes management: Hospital outpatients and family medicine	Controlled before & after	Collaborative PDSA	Health care costs, Health outcomes (QALYs), clinical outcomes, process outcomes, social outcomes (carers and families)
Shah and Course 2018	UK	Hospital Case studies	Conceptual	General QI Business case/ROI	The ELFT framework for evaluating return on investment from quality improvement: venue, Cost reduction Cost avoidance Productivity and efficiency Staff experience Patient, carer, and family experience outcomes, high reliability, team efficiency and productivity, staff turnover, sustainability, spread, acquisition of new business, influence through reputation,

Sibthorpe et al. 2018	Australia	Public health	Review	Primary care Aboriginal community PDSA	using data more rigorously, market share, support other organisations, registration status, Patient clinical outcomes, process outcomes, systems outcomes
Sermersheim et al. 2020	US	Hospital: Adult ICU, Paediatric ICU, Emergency department	Report	Improving Patient Throughput with an Electronic Nursing Handoff Process FOCUS-PDSA	Process outcomes, organizational influence, spread and sustainability, standardized pathways, innovation, meeting external obligations, leveraging existing systems, teamworking, culture, education and training
Staines et al. 2015	Sweden	Jönköping County Council health departments	Qualitative interviews and document analysis	20 Year review of QI	Patient satisfaction, clinical outcomes, financial outcomes, influence, sustainability, quality award, structures and processes, leadership development, recruitment, organizational resilience, culture, innovation, education, and research, pride, incentives, patient engagement,
Stephens et al. 2018	UK	93 Hospitals: surgery, anaesthesia, and critical care	Report	The Enhanced Peri-Operative Care for High-risk patients (EPOCH) trial PDSA	93 Hospitals: surgery, anaesthesia, and critical care, Enhanced resources, QI skill delivery, patient outcomes, process outcomes, fidelity
Strauss et al. 2019	Canada	Hospital	Quantitative before and after	Choosing wisely Reductions in unnecessary aspartate aminotransferase and blood urea nitrogen tests; Audit & Feedback	Systems and Process outcomes, sustainability, cost saving, training, and education
Swensen et al. 2013	US	22 hospitals Case studies	Conceptual Expert opinions over experiential track record of 22 hospitals	General QI Business case	QI evaluation framework: the needs of patients, & reputation, & esprit de corps, and & financial return sufficient to maintain state-of-the-art medical practices. Alignment with patient interests, moral obligation, patient safety, reliability, staff engagement, legal, society, sustainability, agreement on shared goals, new ways of working, finding other related systems/process defects, collaboration, benefits to employers e.g return to work, leadership

					development, redefining and clarifying roles, productivity, multi-hospital collaboration, improving quality curricula, spread/diffusion, cost-effectiveness, create business case for better data management, creating patient trust to lower legal costs, job security, trust staff and leadership, quality and academic influence, future cost avoidance, new essential staff roles, sustain and accumulate,
The Health Foundation 2011	UK	NHS Hospitals; general ward care, critical care, peri-operative care, and medicines management.	Conceptual (Technical report)	Safer Patients Initiative? Breakthrough Collaborative PDSA/Lean/SPC	Clinical outcomes, clinical processes, organizational culture, and climate, spread, safety skills and awareness, design for patient safety, high reliability, networking and collaboration, staff engagement, empowerment, leadership engagement, teamworking.
Thursky et al. 2018	Australia	Hospital	Mixed methods Exploratory sequential design	Sepsis management Process Mapping	Clinical outcomes, structural and process outcomes, spread and sustainability, financial outcomes.
Van den Heuwel et al. 2006	Netherlands	Hospital	Conceptual	General QI Six Sigma	Cost reduction, quality improvement, and patient safety. Increased market share, process outcomes, cross departmental effects
Wells et al. 207	UK	-,	Economic eval. Review 20 yrs. of QIC	Breakthrough Collaboratives, Keystone Collaboratives	Effectiveness, cost-effectiveness, sustainability, share data, innovations, learn faster, more effective in implementing and spreading improvement ideas, improve processes of care and if sustained, improve patient outcomes, and reduce healthcare costs. powerful way to scale up and spread innovations and create long-term learning networks, compliance with performance criteria, team engagement, culture change, aligns with values and drives intrinsic motivation, data management, data
White et al. 2014	UK	Hospital	Review	Productive Ward-Releasing Time to Care. Lean	Patient safety, staff well-being, financial savings, sustainability.

Williams et al. 2020	UK	Hospital	Quantitative naturalistic stepped-wedge trial	Productive Ward-Releasing Time to Care PDSA	Patient outcomes, friends and family outcomes, nursing teams outcomes-culture and resilience, doctor-patient communication
Wood et al. 2019	UK	Hospital and community secondary care, community services, care homes and the ambulance service.	Report Quantitative (survey)	Quality Improvement Collaborative (QIC) Reducing pressure ulcers PDSA	Clinical outcomes, process outcomes, staff engagement, staff empowerment, patient and family engagement, financial savings
Worral et al. 2008	UK	4 Mental Health organisations	Realist Evaluation Report	Mental Health Improvement Partnerships programme PRINCE 2	Social inclusion. Patient outcomes, staff engagement, training, and education, learning and innovation, collaboration, organizational capacity, financial outcomes, culture development.
Yamamoto et al. 2010	US	Hospital: emergency department (ED), medical-surgical unit, intensive care unit (ICU)/progressive ICU (PICU), and burn unit, pharmacy manufacturers	Report Before & after	Improving Insulin Distribution and Administration Safety Lean Six Sigma	Clinical outcomes, patient safety, service user experience/satisfaction, efficiency of time use, cost-saving, process outcomes,

Appendix 9 v Chapter 5 Topic guide

How is Return on Investment from Quality Improvement perceived by Mental Healthcare Leaders and Why A Qualitative Study

Qualitative Study Research Questions

1. How is return on investment in Quality Improvement conceptualised?
2. What influences those conceptualisations in healthcare organisations?
3. How may these meanings influence quality improvement investment?

Interview Questions

These questions aim to support addressing of the above questions. They are based on the Systematic review findings and aim to ascertain in more depth how and why ROI is conceptualised a certain way by the leader and or their organisation. Further, the questions are designed to understand how that affects leader's decision-making toward investment/disinvestment.

1a: For what objectives/goals is QI used for in your organisation?

Question goal:

- To ascertain leaders' assumptions and expectations in relation to QI outcomes.

Research question to address:

- How is return on investment in Quality Improvement conceptualised?

1b: Why are these objectives important to the organisation?

Question goal:

- To ascertain leaders' assumptions and expectations in relation to QI outcomes.

Research question to address:

- What influences those conceptualisations in healthcare organisations?

1c: How important are these objectives to QI investment decisions?

Question goal: To ascertain the significance and validity of these expectations and assumptions on the decision to invest in QI in relation to organisational needs.

Research question to address: How do these meanings influence the decisions that are the taken towards quality improvement investment?

2a: Do you think QI lives up to that/those objectives?

Question goal: To ascertain perception of QI impact

Research question to address:

- How is return on investment in Quality Improvement conceptualised?

2b: How do you know QI has worked to meet those objectives?

Question goal:

- To ascertain how they assess fulfilment of those expectations and gain understanding of consistency between assumptions, expectations, and evaluation.

Research question to address:

- What influences those conceptualisations in healthcare organisations? How do these meanings influence the decisions that are the taken towards quality improvement investment?

3a: What other if any benefits do you think your organisations gets from having used QI methods?

Question goal: To ascertain if any (other) wider internal or external organisational benefits or consideration are factored in QI ROI?

Research question to address: How is return on investment in Quality Improvement conceptualised?

3b: How important are these other benefits of QI to your organisation?

Question goal: To ascertain if these extra benefits are of any priority or significance?

Research question to address: How do these meanings influence the decisions that are the taken towards quality improvement investment?

4a: Are there any non-beneficial or less beneficial outcomes of QI?

Question goal: To ascertain what is viewed as a negative or non-beneficial QI outcome and why.

Research question to address: How is return on investment in Quality Improvement conceptualised?

4b: What do you think are the consequences of poor outcomes of QI? immediate vs longer term

Question goal: To ascertain if poor or negative outcomes affect future QI investment decision, if so how.

Research question to address: What influences those conceptualisations in healthcare organisations? How do these meanings influence the decisions that are taken towards quality improvement investment?

5: How much of a priority do you think investing in QI is under normal and challenging times?

Question goal: To ascertain the extent to which the perceived value of QI is consistent and stable.

Research question (s) to address: How is return on investment in Quality Improvement conceptualised? What influences those conceptualisations in healthcare organisations? How do these meanings influence the decisions that are taken towards quality improvement investment?

6a: What do you consider as investments that your organisation makes towards QI?

Question goal: To ascertain any consideration of wider or non-monetary investments?

Research question to address: What influences those conceptualisations in healthcare organisations?

6b: What do you think influences attainment of QI benefits?

Question goal: To ascertain perception of wider influences of organisational factors on QI?

Research question to address: How do these meanings influence the decisions that are taken towards quality improvement investment?

7: What does the phrase Return-on-Investment mean to you, and how does this apply to QI?

Question goal: To gain insight into how the specific phrase ROI is perceived and if that has any affiliation with the other QI outcomes/benefits/consequence/value already discussed.

Research question to address: How is return on investment in Quality Improvement conceptualised?

8: Do you think this view is shared within your organisation?

Question goal: To ascertain their assumptions on the potential differences in meaning-making at an organisational level.

Research question to address: How is return on investment in Quality Improvement conceptualised? What influences those conceptualisations in healthcare organisations?

9: What advice would you give to NHS organisations who invested a lot in QI, and those who have not invested in QI?

Question goal: To summarise perceived potential benefits/outcomes of QI

Research question to address: What influences those conceptualisations in healthcare organisations?

Introductory questions (on record/transcription)

Question (i): General awareness of QI?

Can you talk to me about Quality Improvement – what does this term mean to you?

Question (ii): Role and QI decision making influence

I would like to find out a little bit about your role in this organisation.

- What it entails?
- How long you have been in this role?
- What involvement you have with QI decision-making?

Main questions and Possible probes (on record/transcription)

1a: For what objectives is QI used for in your organisation?

Possible probes:

- What problems do you expect QI to solve or improve in your organisation?

1b: How important are these objectives to the organisation?

Possible probes:

- Why are these aspects important?
- Are these objectives aligned with certain aspects of your organisation?

- Without such a focus, do you think some important aspects may be missed?

1c. Which objectives are more priority in QI investment decisions?

Possible probes:

- QI as a priority under normal circumstances?
- How would an NHS organisation decide if they should invest in QI?
- How should they decide if the investment is enough or too much?
- In your capacity as X, what do you think should matter most to the executive board when deciding how investment in QI should be renewed / cut / increased?

2. How much of a priority do you think investing in QI is or should be?

- during crises or times of limited capacity
 - ❖ Is there a situation you can think of when that may not be a priority?
 - ❖ e.g., funding/staff shortages, would QI still exist in current form, or at all
 - ❖ Why is that so?
 - ❖ Which objectives can be prioritised less?
 - ❖ Has QI made a difference in the organisation's pandemic response?

3a: Do you think QI lives up to those objectives its applied for?

- Do you believe that QI has any value or benefits for your organisation?

3b: How do you know QI has worked to meet those expectations?

Possible probes:

- Would things be different without QI?

4a. What other if any benefits do you think your organisations gets from having used QI?

Possible probes:

- Does QI affect or impact any other crucial aspects in your organisation? how?

4b. How important are these other aspects of QI benefits to your organisation?

- Why are these aspects important?
- Are these other QI aspects aligned with certain aspects of your organisation?
- Which are more important for investment decision-making?

5a. Are there any non or less beneficial outcomes of QI?

- What are the negative outcomes of QI?
- What would help the executive board know if QI is working or failing?

5b. What do you think are the consequences of poor outcomes of QI?

- What are the immediate consequences?
- What are the longer-term consequences?
- In what way are they not beneficial?
- What does these outcomes impact?
- How do these QI outcomes create problems or challenges?
- In what way does previous (if any) QI lessons contribute to?
- How do these influence investment decision-making?

6. What do you think influences attainment of QI benefits?

Possible probes:

- What do you think is necessary for your organisation to make the most of QI?
- How do you think these exert their influence?

7. What do you consider as investments that your organisation makes towards QI?

Possible probes

- Apart from financial investments, what other resources are applied to QI activities?
- Do you consider those the only or the most relevant investments?
- How important are these resources to QI payback abilities?
- How important are these resources to QI investment?

8. Are you aware of the phrase Return-on-Investment

a. The ROI process

- Have you had any experience in this process?
- What does the process involve?
- Who does the process involve?

b. ROI meaning

- What do you think this means?
- Do you think this phrase/concept represent what we have just discussed?
- In what way does it or does it not represent what we have just discussed?
- How does ROI apply to QI?
- What do you consider a QI investment payback?
- Is the idea of QI's pay back vs objectives vs outcomes to your decision-making?
- Do you think these are different things?

9. Do you think this view is shared within your organisation?

Possible probes

- Do you think different individuals may see ROI as something else?
- Why do you think may explain these differences?

10: What advice would you give to NHS organisations who invested a lot in QI, and those who have not invested in QI?

Possible probes:

- What do you think are the main lessons or points to consider when deciding to invest, not invest or remove investment from QI activities.



Dr Claire Henderson
Institute of Psychiatry, Psychology & Neuroscience

Email: approvals@hra.nhs.uk
HCRW.approvals@wales.nhs.uk

(IoPPN)
8 De Crespigny Park,
SE5 8AF

12 October 2021

Dear Dr Henderson

HRA and Health and Care

Study title:	The concept and determinants of return on investment from quality improvement in mental health.
IRAS project ID:	302749
Protocol number:	Not available
Sponsor	King's College London

I am pleased to confirm that [HRA and Health and Care Research Wales \(HCRW\) Approval](#) has been given for the above referenced study, on the basis described in the application form, protocol, supporting documentation and any clarifications received. You should not expect to receive anything further relating to this application.

Please now work with participating NHS organisations to confirm capacity and capability, in line with the instructions provided in the "Information to support study set up" section towards the end of this letter.

How should I work with participating NHS/HSC organisations in Northern Ireland and Scotland?

HRA and HCRW Approval does not apply to NHS/HSC organisations within Northern Ireland and Scotland.

If you indicated in your IRAS form that you do have participating organisations in either of these devolved administrations, the final document set and the study wide governance report (including this letter) have been sent to the coordinating centre of each participating nation. The relevant national coordinating function/s will contact you as appropriate.

Please see [IRAS Help](#) for information on working with NHS/HSC organisations in Northern Ireland and Scotland.

How should I work with participating non-NHS organisations?

HRA and HCRW Approval does not apply to non-NHS organisations. You should work with your non-NHS organisations to [obtain local agreement](#) in accordance with their procedures.

What are my notification responsibilities during the study?

Appendix 9 vii Chapter 5 Invitation letter

	Date
Name	
Address	
Dear	
<p>My name is S'thembile Thusini, or Tay for short. I am a PhD student at King's College London with the Health Services Research Department. I would like to extend an invitation to you to partake in my research study. My study is interested in learning your views on the value (if any) derived from large healthcare Quality Improvement (QI) programmes in mental health organisations.</p>	
<p>This study will involve you taking two surveys a few weeks apart. The first survey should take about 15 minutes. The second survey should be shorter depending on the outcome of the first survey.</p>	
<p>The results from my project could help develop a tool that can be used to measure the value of QI in future QI programmes at an organisational level. The hope is that that may assist healthcare decision-makers in anticipating and evaluating the value of QI programmes, as well as provide clarity to how QI contributes to organisational duties.</p>	
<p>I would be extremely grateful to have an opportunity to discuss this with you as a senior healthcare leader. I believe that your insights will be most valuable in achieving the aims of my PhD project.</p>	
<p>If you have any further questions, please do not hesitate to contact me on 07969616056 or email s'thembile.thusini@kcl.ac.uk.</p>	
<p>I look forward to hearing back from you.</p>	
<p>Many thanks and kind regards, Tay</p>	

Appendix 9 viii Chapter 5 Consent form

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research		
Title of project: The concept and determinants of return on investment from quality improvement in mental health: Qualitative study		
Ethical review reference number:	Version number: DD/MM/YY	
		Tick or initial
I confirm that I have read and understood the information sheet dated [INSERT DATE AND VERSION NUMBER] for the above project. I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction.		
I consent voluntarily to be a participant in this project and understand that I can refuse to take part and can withdraw from the project at any time, without having to give a reason, up until a month after your interview .		
I consent to the processing of my personal information for the purposes explained to me in the Information Sheet. I understand that such information will be handled under the terms of UK data protection law, including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018.		
I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.		
I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any research publications.		
I consent to my participation in the research being audio recorded. (Please select as appropriate)		YES NO
I agree that the researcher/ research team may use my data for future research. This data will not be identifiable in any report. (Please select as appropriate)		YES NO
I understand that I must not take part if I fall under the exclusion criteria as detailed in the information sheet and explained to me by the researcher.		
I understand that the information I have submitted will be published as a report and may be used in conferences and other presentations related to this study.		
I agree that the researcher may retain my contact details so that I may be contacted in the future by King's College London researchers. (Please select as appropriate)		YES NO
I agree to be re-contacted in the future by King's College London researchers regarding this project. (Please select as appropriate)		YES NO
I agree to be contacted in the future by King's College London researchers who would like to invite me to participate in future studies of a similar nature. (Please select as appropriate)		YES NO
I consent to have my anonymised direct quotations used in this study's publications.		
I consent to members of KCL having access to my data.		
I wish to receive a copy of the final report via email.		
_____ Name of Participant	_____ Date	_____ Signature
_____ Name of Researcher	_____ Date	_____ Signature

Appendix 9 ix Chapter 5 Participant Information Sheet

INFORMATION SHEET FOR PARTICIPANTS V1 05/10/21

Thank you for reading this information sheet and for considering taking part in this research.

Ethical Clearance Reference Number: 302749

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of project

The concept and determinants of return on investment from quality improvement in mental health organisations.

Invitation Paragraph

I would like to invite you to participate in this research project which forms part of my PhD research project. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please do not hesitate to ask me and my research team if there is anything that is not clear or if you would like more information. The research team is formed of myself and my academic supervisors, whose details can be found at the bottom of the information sheet.

What is the purpose of the project?

The purpose of the project is to investigate what counts as value-for-money or value from using large Quality Improvement programmes in Mental Health organisations. To learn this, I need to hear the views of healthcare leaders who are involved in quality improvement activities and or decisions about investment in QI in their organisation. I am hoping to interview up to 15 individuals in leadership positions at SLaM. The information obtained will be used in the future to develop a guide for a tool that can be used to evaluate value-for-money from large quality improvement activities. The study you are being invited to take part in will take about 8 months from the beginning of the interviews. This will be approximately from October 2021 to June 2022. During that time, the information learnt from the discussions with healthcare leaders at SLaM will be put together, analysed, and reported.

Why have I been invited to take part?

You are being invited as you have been identified as one of the healthcare leaders in your organisation who may have influence in the decisions related to investing in quality improvement. As a leader in your organisation, insights on your views on how quality improvement impacts your organisation will be very important. Should you decide to participate, you will be one of about 15 participants in your organisation who will be taking part.

Who may take part?

Only healthcare leaders who have participated in quality improvement related activities may take part in this study.

What will happen if I take part?

Your involvement in this study will involve a one-off interview. The interviews will last approximately 60 minutes.

If you decide to take part, you will need to sign a consent form agreeing your participation in the study and that you are happy for us to contact you about this or related studies in the future. The consent form will have a check-box beside every statement which you will have to initial if you agree. This consent form will be stored securely in encrypted and password-protected digital files or in a secure locked cabinet for those who will undertake in person interviews. You will be given a copy of this consent form to keep.

You can choose not to agree to be contacted again or take part in any related studies after this study.

At the beginning of the interview, I will ask for your personal information, such as your role. These interviews will take place over a secure recorded videocall on Microsoft Teams. Some interviews may be held in person at the SLaM premises for those who prefer in-person interviews. In-person interviews will also be recorded using Microsoft Teams on a secure computer. I will need to record the interviews so that I can be able to listen attentively during our discussion. Recording will help me go over our discussion and take important notes later so that I can accurately capture your views. The recordings will be deleted as soon as I have put the information on paper. Your personal details will not be put on that written document. You do not have to agree to be recorded. If you choose not to be recorded, I will take notes as we discuss instead.

After the interviews, I will put the audio recordings in writing (transcription). The recordings will then be deleted. The transcription will not contain any of your personal details. I will however keep your contact details separately for the duration of my PhD project (until October 2023), in case I need to get in touch with you again, for example about further information for this or other research. Should you wish not to be contacted again and for your contact details not to be kept, they will be deleted permanently after the interview has been converted into a written format. If kept, only myself and my supervisors will have access to your personal information.

After the interviews, I will analyse your transcription alongside transcripts of other participants so that I can find common themes. These themes will help me learn about the common views in your organisation related to the value-for-money of large quality improvement programmes.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way. Once you have read the information sheet, please contact us if you have any questions that will help you decide about taking part.

What are the possible risks of taking part?

There are no known risks to taking part in this study. Questions for the interview are not designed to trigger any stress.

What are the possible benefits of taking part?

Whilst there are no immediate benefits for those participating, a thorough discussion with you will help me reach a more complete understanding of this topic. This could then translate into the results of my project making clearer recommendations regarding future steps in the evaluation of quality improvement's value in yours and other organisations. This could also lead to more complete research evidence which can be used to enable practical changes in how you and others in your position make decisions. More complete insights may also improve future research. Therefore, your participation may mean that you have an opportunity to contribute to this process.

Data handling and confidentiality

Your data will be processed under the terms of UK data protection law (including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018). After the interviews, I will convert the audio-recording into a written research data format. At the end of my PhD project (October 2023), all personal data from this study will be removed. Only research data (the interview questions and your responses) will be kept longer should it need to be used again. Digital research data will be stored on a secure encrypted and password-protected network within the Institute of Psychiatry, Psychology and Neuroscience at Kings College London for 5 years. Hard copies will be kept in a locked cabinet at the Institute of Psychiatry, Psychology and Neuroscience at Kings College London, also for the duration of 5 years. Only myself and my academic supervisors will have access to the full study dataset.

We will retain your contact details so that we can make you aware of any future related studies and provide you with study findings should you be interested. However, you can opt out of further contact at any point. You will have to notify us via email or telephone if and when you wish to opt out of any future contact by the research team. Researchers from outside this study may request access to only anonymised data from the Principal Investigator at Kings College London (Dr Claire Henderson). Should this happen, you will be informed, and your consent will be requested before any data is released.

Some anonymised direct quotations from some study participants will be published to support transparency in research evidence. No information that could identify you will be used in any publications related to this study. Only data necessary for the discussion of the study concepts and themes be in published quotes.

Data Protection Statement

We will need to use information from you for this research project. This information will include your initials, name, role, and contact details. We will use this information to do the research or to check your research data to make sure that the research is being done properly. Once we have finished the study, we will keep the research data so we can check the results in the future if needed. We will write research reports in a way that no-one would be able to work out that you personally took part in the study. We will keep all information about you safe and secure. People who do not need to know who you are will not be able to see your name or contact details.

What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason. We can delete any contribution you will have made by then. However, we can only delete data if your contribution has not already been anonymised and mixed in an analysis with those of other participants. You will therefore not be able to withdraw your data after one month of your interview. We can however remove your contact details from the point you notify us that you have decided to withdraw from the study.

We need to manage your data in specific ways for the research to be reliable. This means that we won't be able to let you see or change the research data we hold about you.

If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study.

Where can you find out more about how your information is used?

You can find out here more about how we use your information:

- at www.hra.nhs.uk/information-about-patients/
- our leaflet available from <https://www.slam.nhs.uk/about-us/privacy-and-gdpr> (SLaM) or www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research (KCL)
- by asking one of the research team
- by sending an email to the Data Protection Officer, Informationgovernance@slam.nhs.uk (SLaM) or info-compliance@kcl.ac.uk (KCL)

If you would like more information about how your data will be processed under the terms of UK data protection laws, please visit the link below:

<https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research>

How is the project being funded?

This research project is funded by the London Interdisciplinary Social Science Doctoral Training Partnership CASE studentship.

What will happen to the results of the project?

The results of the project will form part of my PhD Thesis and be published in a scientific journal. Should you wish to receive a copy, I will send you a copy of this article at the end of my PhD project, in 2023. The research results may also be used for additional or subsequent research or for illustration in conference presentations and lectures. All participant data will be anonymised. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings or research data.

Who should I contact for further information?

If you have any questions or require more information about this project, please contact me using the following contact details:

My contact details: S'thembile Thusini s'thembile.thusini@kcl.ac.uk

Or my supervisors:

- 1) Dr Claire Henderson Tel: +44 (0) 20 7848 5075

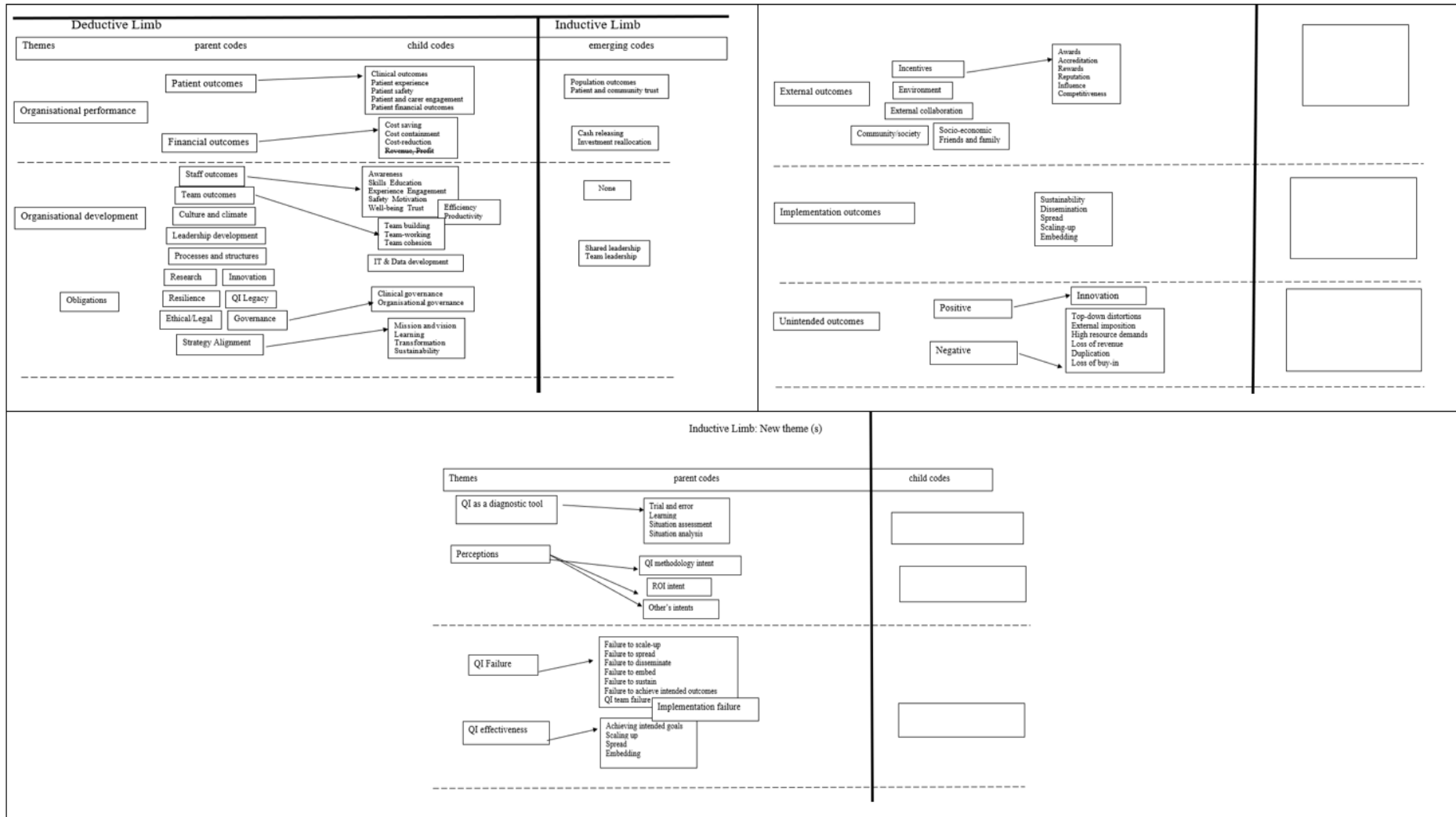
- 2) Dr Kia-Chong Chua Tel: +442078480663

What if I have further questions, or if something goes wrong?

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions; Dr Claire Henderson Tel: +44 (0) 20 7848 5075 email: claire.l.henderson@kcl.ac.uk.

Thank you for reading this information sheet and for considering taking part in this research.

Appendix 9 x Chapter 5 Data collection tool



Appendix 9 xi Chapter 5 codebook and additional quotes

Themes	Main codes	Child codes	Description	Exemplar Quotes
ROI CONCEPTUALISATION			How ROI was defined or perceived by participants.	<p>“I don't think we should ever be looking at it purely in terms of money or cost savings. I think that is a short-sighted view of what quality improvement should do. I think it should be return, I think we should change it to return on value”. Participant 1</p> <p>“Many things in the NHS, in my experience would not be measured just on financial outcomes because you have to look at outcomes of some who people use our services, communities and families. I think we I think we have to have a wider definition of return on investment than a purely financial one”. Participant 5</p> <p>“I'm not looking to make profits. I don't see uhm , you know, a depressed child at the end of treatment as a monetised outcome”. Participant 11</p>
	Any benefit		Different types of internal and external benefits that are a ROI. Includes patient, staff, financial, systemwide benefits, value, quality, evidence-based care.	<p>“... a business case should be a combination. It's very simplest form, non-financial and financial benefits or a weighing up of the non-financial benefits against the financial cost. That's as a minimum. That's what there needs to be”. Participant 1</p> <p>“the reality is that often return on investment ... well my understanding is sometimes if you put money in then you will save money or save or have better processes as a result. So, it's not always about money, it's about quality of service as well”. Participant 10</p> <p>“return investment for me means what is the impact, you know? So, you've made an investment in resources might be financial or might not be financial people, systems or whatever it is and what is the benefits? What are the benefits that you've reaped from that they can be financial or non-financial”. Participant 4</p> <p>“ROI initiative is you look at what care are we providing at the moment... against best practice standards that achieve the best outcomes for patient ... You give them the right holistic treatment so they don't very often need to come back into your system, and they can get meaningful employment”. Participant 2</p> <p>“I think, we in the NHS. I would put a greater store on intangible assets and what creating a spirit of enthusiasm, interest, communication, engagement, a sense of empowerment or belief we can do things. I think they're phenomenally valuable things, and they make a difference to patient care” Participant 16</p>
	Cost		Definitions of ROI that lean more heavily on cost of care	<p>“I think some of the costs, on return on investment that could be attributed to QI, is an improvement in your experience of work. So, if a team got high turnover, causes stress and QI can fix some of those problems, then you reduce the cost does not only add paid staff off sick, but agency” Participant 15</p> <p>“If you start to reduce the amount of turnover you getting people staying longer because they feel it's a good organisation to work. There is always a cost when someone leaves then you gotta replace them. This cost to that and there's churn and turnover, so there are some of the examples for me on return on investment”. Participant 6</p> <p>“I think return on investment; you can measure in different ways. I mean measure it in hard terms about, we've managed to save this much money because we've reduced the number of complaints or reduce the number of incidents”. Participant 7</p> <p>“If you're spending too much on that, you probably are not going the outcomes. That's your ROI”. Participant 8</p>
INFLUENCING FACTORS			Factors that influence the consistency of QI-ROI conceptualisation	<p>“for the board it will mean success and it would mean success for the public we serve, which is why we've been put in post and the positions were in so actually in reality it is just about succeeding in the roles that the public have gifted to us to by virtue of us being appointed onto”. Participant 12</p> <p>“The board has responsibilities in law as a board of what it means to do, you know, in order to satisfy our regulators that we're doing a good enough job. Our board. It's far more ambitious”. Participant 9</p>

Themes	Main codes	Child codes	Description	Exemplar Quotes
	Healthcare mandates		Perceived obligations and aspirations	<p>"I have a role and accountability within the board and with the board for quality delivery. There's other delivery of the services that are safe, good outcomes, good patient experience... responsibility for oversight of the financials, but also creating an environment where we can invest appropriately in innovation, development and quality improvement"</p> <p>Participant 7</p>
		Main goals	The main goals which QI is geared towards. These include patients, staff, financial, system, societal outcomes improvement	<p>"...as a board member I...I have a role and accountability within the board and with the board for quality delivery. There's other delivery of the services that are safe, good outcomes, good patient experience". Participant 7</p> <p>"to improve the lives and the experiences and the outcomes and realize the potential of people who use our services. But to do equally the same for the staff that are dedicated and come and work in our service". Participant 2</p> <p>"A commitment for our organisation to be anti-racist. A greater focus on community to support people, o live good lives, avoiding the need for admissions". Participant 3</p> <p>"we really interested in what are stakeholders are telling us and they might think we should be doing things very differently, but we see that fits with our strategic priorities in that we are offering equity of services to all parts of communities". Participant 5</p> <p>"We are making a lasting, enduring impact on people social determinants of health and their quality of life. And we want to make sure that we enhance they primary and community care offer and not go to inpatient care". Participant 12</p>
		Objectives	The objectives that leaders wish to meet in-order to improve the stated the main organisational goals. Including sustainability, managing scarce resources.	<p>"when I sort of talked about financial benefits. I talk about how do we then reinvest that to make us more sustainable service for the future, knowing that we've got increased demands often in decreasing capacity or capacity, that's stable..."</p> <p>Participant 12</p> <p>"We've got an objective around sustainability which is about value for money. We think that this will help with our value for money because it will help too as far related to it, one of the biggest drivers for our, uh, I would, uh, overspend and deficit within the organisation is staff and the amount of bank and agency staff we use". Participant 6</p> <p>"there has to be a recognition that resource is limited, so it's how you maximize the benefits of your patience within a fixed resource and how you tie that back to patients. If you don't do that, what you are doing is adversely impacting patients in the future cannot access your services 'cause you ran out of money effectively or time". Participant 1</p> <p>"it's to get the best bang for your buck in a way you know we don't have endless money and you can't do everything, so you have to try and be as economical and productive and the highest quality to deliver the best quality of care".</p> <p>Participant 11</p> <p>"delivering a better care at lower cost and achieving, a sustainable organisation because we're working in an era of rising acuity come with, uhm, severe constraints on the money ... so for me how you use the money we receive becomes critical... because it's public money. We should make sure that it's used ... to maximize the benefit of to the people that we serve". Participant 3</p>
	Values		Reasons for wanting to achieve main goals and objectives. This included intrinsic and extrinsic values.	<p>"I know, I sounds like an old socialist and I work in a nationalized healthcare system. I kinda don't care what it costs. I care a little bit about using the best, making the best use of the time we have in our hands" Participant 11</p> <p>"it's the right thing to do. And the UM. I think. If I've had that. And other people get that and other people from more stigmatized communities can get that. I think we will have a fantastic health service". Participant 15</p> <p>"most people come into the healthcare business because they want to see patients get better. They don't come in because they think we're going to shave 1000 pounds off 1 bit of a budget if we do a little bit here ..." Participant 2</p> <p>"I don't suppose many people think of it as a job as much as they think of it as being a passion and a commitment".</p> <p>Participant 9</p> <p>"I think as a mature organisation I think that and I know that having service users and carers involved in from leading their individual care ...it really shows the world and us internally that we value services and cares". Participant 10</p> <p>"I'm conscious that often we in in the political context, we talk about the return of on investment by talking about, you know, the amount you save by the investment that you make in a new service". Participant 3</p>

Themes	Main codes	Child codes	Description	Exemplar Quotes
				<p>“the trouble with the NHS at the moment is very focused on ‘cash releasing’ sort of things so that it drives cost out and I don't believe that that is well, it shouldn't be exclusive measure or absolutely and it may be part of it, but it is also about value, so measuring the value added and that's measuring outcomes, money on experience and money”. Participant 7</p> <p>“I'm not looking to make profits. I don't see I, you know, uhm a depressed child at the end of treatment as a monetized outcome”. Participant 11</p> <p>“the effort that trust should take to make sure that that the quality of services, are, is. saying and the way it's applied in the trust is make sure that frontline workers, carers. Uh, service users themselves are involved in identifying ways in which complex issues, often things that are not easily solved can be dealt with and services improved”. Participant 5</p> <p>“we want the organisation to be a great place to work. Uh, and we're saying that to be able to be that we've got to have high levels of staff engagement”. Participant 6</p>
	Expectations		What leaders expect from QI based on leaders' understanding of QI function relative to goals and objectives	<p>“To my knowledge we're not where we need to be and there is room for a great deal of improvement, and certainly if you talk to people who use our services. Uhm, and talked to local communities, which we do. We know that there's a huge gap in terms of what people and what we are able to deliver the moment...” Participant 5</p> <p>“...there's sometimes a mismatch between, the kind of high standing that the Trust has part of its research at partly to do with other links between the Trust and are all- psychiatrist, so there's other and the reality that. When you look at services within the Trust, uh, you know the outcomes are not, uh, not great. They're not certainly, if they're not kind of national leading”. Participant 13</p> <p>“I'm not saying all of it can be stopped with QI because not everything is quality and not everything is a quality improvement project. Some of it's just about improving quality through different ways to do it, and some of it's just a one off” Participant 15</p> <p>“...you need to, be incredibly thoughtful about where it is that you invest and focus on using that approach versus what other things you could use within the organisation, either to improve quality, improves safety, improve staff retention and wellbeing and so I would say it's worth it, but it's not a panacea to all your issues” Participant 16</p> <p>“I think clarity of issues and diagnosis. I think QI methodology is fantastic at doing that and identification of what some of the blocks and or barriers to change and delivery will be and then crucially, what the success factors will look like. I think you can do that really quickly using QI methodology”. Participant 12</p> <p>“that capacity of doing things differently, might not fit with a very simple kind of quality improvement of just about efficiency. It might be actually developing a new way of doing things entirely.” Participant 13</p> <p>“just to be really clear, that doesn't mean everything QI does work. In fact, a lot of things QI does, won't work, you know. A successful business case isn't one that you get the money for the thing you wanted and do it.” Participant 1</p> <p>“understand you're gonna have failures in it and you are gonna have failures on it and you will go backwards on some things. But don't let that put you off. You know we learn from that and then say we're going to do something in a slightly different way.” Participant 6</p> <p>“I think the problem is, a zeal, that it solves and delivers on every problem that they're sort of that slightly religious aspect of it, that if you only did everything with QI.” Participant 11</p> <p>“I think that you know they did sort of a blind filter process, but I think it's really hard to do because I think everybody thinks everything's important. And of course, everybody has their own individual thing that that drives them and motivates them...” Participant 14</p> <p>“I don't think you it can deliver organisational transformational change a, an infrastructure of an entire trust. I don't think it can do that.” Participant 9</p>
	Ambiguity		Several ambiguities within and between their understanding of QI	<p>“I would only ever on the list if we could measure it and that would be with and you left us some sort of psychological safety type so beginning and end for service, for staff and for service users. But we still add a narrative”. Participant 15</p> <p>“not immediately obvious in money. If you if you want, you can probably drill it down some money, but just from a a broad-brush stroke people wouldn't immediately”. Participant 14</p>

Themes	Main codes	Child codes	Description	Exemplar Quotes
			function, success, measurability, and monetisability.	<p>“I think they're sort of Holy Grail of outcomes. If you like that healthcare has to cover. Some of those you can translate into financial metrics”. Participant 4</p> <p>“I think probably now we don't think of it so much like that because it's actually embedded in the organisation. It's not an ad on, it's business as usual. It's what we do. So, It's part of us. So, in the same way you would say well how, how do you measure the investment of investment we've made in the HR department”. Participant 9</p> <p>“this quality improvement is something that you invest in, but it doesn't give you anything for a while. You know you've got. You might have to wait two years before you get anything you know you gotta be patient...” Participant 1</p> <p>“I think there is an expectation that it should be driving out those that that ROI and that benefits sort of almost immediately after each project is run”. Participant 4</p> <p>“I think there's a slight split brain, [the] organization is gone or well, I've just invested 10 million in QI. So, like you know, come on, where's my results? Where's my results? And you know, obviously, that's not what it's about at all. It's about an ethos, a way of looking at things, the way of thinking about things, creating huge infrastructure you need in order to be able to even just look at your data”. Participant 16</p> <p>“do I use return on investment to mean all of the benefits that accrue from QI. Yes. Should I not be so lax about that? Probably also the case because I can see legitimately why we might want to say ROI is the bit-that's the financial element of it, and sometimes it gets lost alongside the softer benefits, so I can see that there's a reason why you'd want to focus on the financial benefits. But in my loose language, do I equate benefits to ROI, yes? I probably do”. Participant 4</p> <p>“So I think that people often say QI and don't know what they mean, so that people use it and potentially not be trained or understand how to use CQI or continuous improvement methodologies and therefore not implemented properly and then not like it because they don't think it doesn't work”. Participant 12</p> <p>“I think they want results, and they want things changed quickly. ...they want is an instant change, and it doesn't happen...I mean, I think there's a bit of lack of understanding?”. Participant 15</p>
	Uncertainty		Expressions of uncertainty over QI outcomes or ROI. These include issues with causality, and poor communication regarding outcomes.	<p>“...there is absolutely no guarantee that they will deliver”. Participant 3</p> <p>“one of my frustrations would be that I think it's hard to see the return on investment from QI at the moment. I, I think that would be something that would be a common comment from people if you ask them, but from where I sit, I think it's hard for me to see explicitly what the return on investment is” Participant 1</p> <p>“I'm not in a position to say that and I would add though, the point I made earlier, which was a criticism from, someone working in our trust that too often, quality improvement projects fizzle out”. Participant 8</p> <p>“I think there's more to be done around the impact, so we got a lot of involvement. I think maybe QI could help with what the impact is and sort of looking at the methodology around impact”. Participant 10</p> <p>“I'm uncertain if I could really answer that. If at the time when we were initially sort of rolling out and embedding, if we'd ask patients what it meant to them, they probably, I don't think they would have particularly said anything, and one of the key agendas was to include service users from the get-go in new project design and your ideas, and we did”. Participant 14</p> <p>“personally think that at the minute we've got some exceptional QI programs where people have improved elements. I think there's still quite a lot of I would say uncertainty about at, say, an organisational level, a big improvement program, what's going to work”. Participant 2</p> <p>“we know we're certainly seeing benefits of the things that we've done through QI. I'm not sure we're very good at advertising it”. Participant 9</p> <p>“I think with anything, you can never 100% stand there and say this is directly attributable to X, but you might be able to conclude to the best of your working knowledge”. Participant 14</p> <p>“...staff satisfaction, how do I measure that? I can see their measure, but I can't put a monetary value on it, but I know from all of the evidence that we that we have”. Participant 6</p> <p>“I don't know whether we would that easily, I think we would uhm as we sit at the moment, we would struggle to measure it up as clearly and systematically as we would have liked...” Participant 7</p>

Themes	Main codes	Child codes	Description	Exemplar Quotes
				<p>“it's quite complicated to measure... the danger is that the upfront costs are kind of easier to measure and the benefits are probably harder to measure, so it's a challenge to demonstrate that kind of return on investment just because I, I think that the benefits are harder to measure, probably”. Participant 13</p> <p>“It's always about what the measurable outcomes of the improvement you're making. And then there's other people that often think about how do I then translate that into a return on investment or a financial projection for organisation? And that's often what the board job is-I think to the hold that uncertainty and try to bring that level of clarity without putting that burden on staff that, may not be at that level of experience or understanding” Participant 12</p>
DISINVESTMENT POTENTIAL				<p>“I think I think in order to understand the financial impact of that investment that they have made to you know. So sometimes you make decisions based on the fact that you won't get any of this. You know you won't get any financial returns. Sometimes you make it based on the fact that actually you'll save”. Participant 4</p> <p>it's quite resource intensive to start with and so your returns come over longer periods of time. As I say, they're not cash releasing. As the pressure on the money increases. You got under pressure that you start reducing the investment or not investing more when you need to or and not in particular areas and the pressure in the service as a whole means people are just so hard pressed that it it falls to the bottom of the list of immediate priorities. Participant 7</p>
	Low		low expressions of wishes to disinvest from QI	<p>“we have invested in a quality centre which oversees all our all our major QI initiatives. So, you know we are committed to QI, certainly for the moment”. Participant 5</p> <p>“if we then said no, no, we're going to stop all this, 'cause we're just doing this. I think we wouldn't learn. We actually would miss some things as well”. Participant 6</p> <p>“there's [been] some noise about whether or not it's been as effective as it could be. And you know what's gone wrong with QI, but it's never translated into the disinvestment”. Participant 9</p>
	Moderate		Concerns about QI but wishes to re-examine QI rather than disinvest when QI is ineffective	<p>“I don't think they would, but it's not really about QI methodology, it's more about the whether people are practicing that way of working, uhm deliver in a timescale that's needed by the organisation.” Participant 12</p> <p>“I think if nothing got better. I think if you've applied it properly, to strategic or like significant issues., and you're not getting either the improvements in outcomes or the engagement and staff. You need to do something different.” Participant 16</p> <p>“if there are whole host projects which are consuming staff time which are not geared to these strategic priorities for the board, then that is a problem, some of those projects would have to stop.” Participant 5</p> <p>“if you don't do it right, you're gonna struggle to get money to invest in it because you know, we, you know; private sector allows shareholders to do it, we've got taxpayer responsibility.” Participant 6</p> <p>“so I might change my view on how you go about QI, as opposed to stopping altogether, so it might be smaller scale, or it might be much more focused on one or two key objectives...” Participant 7</p> <p>“it wouldn't say we're going to stop the program and disinvest from the program. It would merely node be a quite a difficult discussion about well, what's going on, what we need to change, and how we're going to turn that round.” Participant 8</p> <p>“I would struggle to think in an ever-changing NHS that anyone has got it so completely nailed that they don't need that support anymore.” Participant 9</p>
	High		low expressions of wishes to disinvest from QI	<p>I would say I don't think there are enough measurable examples that I am aware of, that would justify QI in our organization at the moment, and again, that's the difference between me believing in it fundamentally as a concept, which I do. and believing it is a mechanism used by my organization. Participant 1</p>

Themes	Main codes	Child codes	Description	Exemplar Quotes
				<p>“I think there is a need, to move away from QI with Capital QI as a brand, and support all members that work in healthcare systems to have a toolkit of approaches, including audit, you know, whatever, ... standards appraisal”.</p> <p>Participant 16</p>

Concept 1: Context	Concept 2: QI Methods	Concept 3: QI Outcomes	Limits	D a t a b a s e
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<p>Health*</p> <p>All levels</p>	<p>"Quality improvement" OR QI OR "statistical process control" OR Lean OR "Six sigma" OR "Lean* Six-sigma" OR Audit NEAR/1 feedback OR "Model for improvement" OR "Root cause analysis" OR "Process mapping" OR Define NEAR/1 Measure NEAR/1 Analy?e NEAR/1 Improve NEAR/1 Control OR DMAIC OR "Plan do study act" OR PDSA OR PDCA OR "Driver diagram" OR "Theory of change" OR "Logic model" OR "statistical quality control" OR SQC</p>	<p>Return NEAR/1 investment OR "Rate of return" OR Payback OR "Business case" OR Benefit* NEAR/1 cost OR Risk* NEAR/1 benefit* OR Cost* NEAR/1 benefit* OR Cost* NEAR/1 consequence* OR "Cost reduction" OR "Cost containment" OR "Cost control" OR "Cost avoidance" OR Cost* NEAR/1 saving* OR cost* NEAR1 outcome* OR Value NEAR/1 investment OR Value NEAR/1 care OR "Value for money" OR Value NEAR/1 improvement OR Improvement NEAR/1 outcome* OR Resource* NEAR/5 outcome* OR Resource* NEAR/5 benefit*</p>	<p>None</p>	<p>W e b o f S c i e n c e : (A l l d a t a b a s e s)</p>
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The development of the QI-ROI conceptual framework for evaluating Return on Investment from Quality Improvement programmes in mental health organisations; a DELPHI exercise study. **33873**

Note: There is a newer version of the project. [Update](#)

Project Tree ▼

- The development of the QI-ROI conceptual framework for evaluating Return on Investment from Quality Improvement programmes in mental health organisations; a DELPHI exercise study.
 - Minimal Risk Registration Form

Action Required on Form	Status	Review Reference	Date Modified
No	MR Registered	MRSP-22/23-33873	05/09/2022 15:41

Date 04/11/2022

Dear

My name is S'thembile Thusini, or Tay for short. I am a PhD student at King's College London with the Health Service and Population Research Department. I would like to extend an invitation to you to partake in my research study called "The development of the QI-ROI conceptual framework; a DELPHI study". I am interested in learning your views on the return on investment (ROI) or value (if any) derived from large healthcare Quality Improvement (QI) programmes in mental health organisations. My previous studies have looked at differentiating QI-ROI from similar concepts (paper in press), the benefits included in the QI-ROI (doi:10.1186/s12913-022-08171-3), and a Qualitative study (paper under construction). With the planned Delphi study, I hope to clarify some of the remaining questions about QI-ROI.

This study will involve an online survey hosted by the secure Qualtrics website. I am hoping to hold two rounds of the survey between November 2022 and June 2023. The survey should take about 10 minutes a few weeks apart. The study will involve mental healthcare leaders across the UK. My survey questions purely pertain to your perceptions on the concept of return on investment. If you partake in the study, you will not be engaging as an employee of the Trust, but as an expert in your field. The conclusion I will draw from this is how mental health care leaders perceive ROI.

The results from my project could help develop a tool that can be used to measure the value of QI in future QI programmes at an organisational level. The hope is that that may assist healthcare decision-makers in anticipating and evaluating the value of QI programmes, as well as provide clarity to if and how QI contributes to organisations.

I would be extremely grateful to have an opportunity to discuss this with you. I believe that your insights will be most valuable in achieving the aims of my PhD project.

Please see the information sheet attached for more details. If you have any further questions, please do not hesitate to contact me on 07969616056 or email s'thembile.thusini@kcl.ac.uk. If you are interested in the study, please let me know so we can discuss the next steps.

Many thanks and kind regards,
Tay

Appendix 9 xiv Chapter 6 Delphi Consent form

CONSENT FORM FOR PARTICIPANTS IN RESEARCH PROJECTS								
Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research								
Title of project: The development of the QI-ROI conceptual framework for mental health; a DELPHI study.								
Ethical review reference number:		Version number: DD/MM/YY						
		Tick or initial						
1.	I confirm that I have read and understood the information sheet dated [INSERT DATE AND VERSION NUMBER] for the above project.	YES NO						
2.	I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction.	YES NO						
3.	I understand that I must not take part if I fall under the exclusion criteria as detailed in the information sheet and explained to me by the researcher.	YES NO						
4.	I consent voluntarily to be a participant in this project.	YES NO						
5.	I consent to participate in this study via Qualtrics website	YES NO						
6.	I understand that my identity will be concealed and that the Qualtrics website will not divulge my personal data.	YES NO						
7.	I understand that I can refuse to take part and can withdraw from the project at any time, without having to give a reason, up until a month after the survey.	YES NO						
8.	I consent to the processing of my personal information for the purposes explained to me in the Information Sheet. I understand that such information will be handled under the terms of UK data protection law, including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018.	YES/NO YES/NO						
9.	I understand that my information may be subject to review by responsible individuals from the College for monitoring and audit purposes.	YES NO						
10.	I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any research publications.	YES NO						
11.	I agree that the researcher/ research team may use my data for future research. This data will not be identifiable in any report.	YES NO						
12.	I understand that the information I have submitted will be published as a report and may be used in conferences and other presentations related to this study.	YES NO						
13.	I agree to be re-contacted in the future by King's College London researchers regarding this project entitled " <i>The development of the QI-ROI conceptual framework; a DELPHI study.</i> "	YES NO						
14.	I agree that the researcher may retain my contact details so that I may be contacted in the future by King's College London researchers for other related research.	YES NO						
15.	I agree to be contacted in the future by King's College London researchers who would like to invite me to participate in future studies of a similar nature.	YES NO						
16.	I consent to have my anonymised direct quotations used in this study's publications.	YES NO						
17.	I consent to members of KCL having access to my data.	YES NO						
18.	I wish to receive a copy of the final report via email.	YES NO						
<table style="width: 100%; border: none;"> <tr> <td style="width: 30%; border-bottom: 1px solid black;">Name of Participant</td> <td style="width: 30%; border-bottom: 1px solid black;">Date</td> <td style="width: 40%; border-bottom: 1px solid black;">Signature</td> </tr> <tr> <td style="border-bottom: 1px solid black;">Name of Researcher</td> <td style="border-bottom: 1px solid black;">Date</td> <td style="border-bottom: 1px solid black;">Signature</td> </tr> </table>			Name of Participant	Date	Signature	Name of Researcher	Date	Signature
Name of Participant	Date	Signature						
Name of Researcher	Date	Signature						

Appendix 9 xv Chapter 6 Participant Information Sheet

INFORMATION SHEET FOR PARTICIPANTS Version Number 04/11/22

Ethical Clearance Reference Number: King's College London; MRSP-22/23-33873

YOU WILL BE GIVEN A COPY OF THIS INFORMATION SHEET

Title of project

The development of the QI-ROI conceptual framework for mental health; a DELPHI study.

Invitation Paragraph

I would like to invite you to participate in this research project which forms part of my PhD research project. Before you decide whether you want to take part, it is important for you to understand why the research is being done and what your participation will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please do not hesitate to ask me and my research team if there is anything that is not clear or if you would like more information. The research team is formed of myself and my academic supervisors, whose details can be found at the bottom of this information sheet.

What is the purpose of the project?

The purpose of the project is to investigate what counts as a return on investment (ROI) or benefits from large Quality Improvement (QI) programmes in Mental Health Trusts. To learn this, I need to hear the views of healthcare leaders who are involved in quality improvement activities and or decisions about investment in QI in their organisation. The information obtained will be used in the future to develop a guide for a tool that can be used to evaluate value from large-scale quality improvement activities. The study will be a survey. The study will take about 6 months, between approximately November 2022 and approximately June 2023. During that time, the information learnt from the discussions with the leaders will be put together, analysed, and reported.

Why have I been invited to take part?

You are being invited as you have been identified as one of the healthcare leaders in a mental healthcare organisation who may have influence in the decisions related to investing, implementing, or evaluating quality improvement programmes. As such, your insights on how quality improvement impacts mental health organisations will be very important. Should you decide to participate, you will be one of the participants across UK mental healthcare Trusts.

Who may take part?

Only healthcare leaders who have participated in quality improvement related activities such as programme design, implementation, evaluation, and investment may take part in this study.

What will happen if I take part?

Your involvement in this study will involve two surveys of about 10 minutes each, depending on your responses. The surveys will be a few weeks apart depending on how quickly I receive responses from all participants. The first survey is guided by my findings from previous studies. This survey has two sections; first you will assign a level of importance on items, and then decide your level of agreement or disagreement on other items. There are also spaces for optional comments about any issues arising from the survey. After the first survey, I will analyse the data and summarise it as feedback to all participants. The feedback will highlight any issues arising from the initial survey as well have questions that may need further clarification during the final survey. At the end of the final survey, I will analyse all participants data and compile a report of what I will have learnt about mental healthcare leaders' views regarding return on investment from QI programmes in mental health organisations. This report may be published. If it is not published, all participants will receive feedback from the final survey by the end of my PhD in October 2023.

If you decide to take part, you will need to sign a consent form. The consent form will be provided via your email and in the Qualtrics website before the start of the survey. Should you need any more information based on the items in the consent form, please do not hesitate to contact me or my supervisors. Should you wish not to give consent, the webpage will terminate your session without prejudice. Should you wish to proceed and give your consent, you will then be taken to the survey pages. This consent form will be stored securely in encrypted and password-protected digital computer and software. As part of the consent form, you will be asked if you agree for us to contact you about this or related studies in the future. You can choose not to agree to be contacted again or take part in any related studies after this study.

At the end of the survey, I will ask for you to specify your role as a mental healthcare leader to help me see if differences in opinion (if any) vary with role. No personal details will be taken during the survey. Only I and my supervisors will know the names of all the participants, and these will not be shared with other participants. However, some participants may know each-other as I am requesting potential participants to refer others who may be interested in the study. I will keep your contact details separately for the duration of my PhD project (until October 2023), in case I need to get in touch with you again, for example about further information for this or other research. Should you wish to not be contacted again and for your contact details not to be kept, they will be deleted permanently after the study data has been analysed. If kept, only I and my supervisors will have access to your personal information.

Do I have to take part?

Participation is completely voluntary. You should only take part if you want to and choosing not to take part will not disadvantage you in any way. Once you have read the information sheet, please contact us if you have any questions that will help you decide about taking part.

What are the possible risks of taking part?

There are no known risks to taking part in this study.

What are the possible benefits of taking part?

Whilst there are no personal benefits for those participating, a thorough discussion with you will help me reach a more complete understanding of return on investment from QI programmes. This could then translate into the results of my project making clearer recommendations regarding future evaluation of quality improvement's value in mental health organisations. This could also lead to more complete research evidence which can be used to enable practical changes in how you and others in your position make decisions about quality improvement. Further, more complete insights may improve future research on this subject. Therefore, your participation may mean that you have an opportunity to contribute to this process.

Data handling and confidentiality

Your data will be processed under the terms of UK data protection law (including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018). After the surveys, I will convert yours and others' responses into a written research data format. At the end of my PhD project (October 2023), all personal data from this study will be removed. Digital research data will be stored on a secure encrypted and password-protected network within the Institute of Psychiatry, Psychology and Neuroscience at Kings College London for 5 years. Only I and my academic supervisors will have access to the full study dataset.

We will retain your contact details so that we can make you aware of any future related studies and provide you with study findings should you be interested. However, you can opt out of further contact at any point. You will have to notify us via email or telephone if and when you wish to opt out of any future contact by the research team. Researchers from outside this study may request access to only anonymised data from the Principal Investigator at Kings College London (Prof Claire Henderson). Should this happen, you will be informed, and your consent will be requested before any data is released. No information that could identify you will be used in any publications related to this study.

Data Protection Statement

We will need to use information from you for this research project. This information will include your initials, name, role, and contact details. We will use this information to do the research or to check your research data to make sure that the research is being done properly. Once we have finished the study, we will keep the research data so we can check the results in the future if needed. We will write research reports in a way that no-one would be able to work out that you personally took part in the study. Only anonymised quotations from optional comments will be published. We will keep all information about you safe and secure. People who do not need to know who you are will not be able to see your name or contact details.

What are your choices about how your information is used?

You can stop being part of the study at any time, without giving a reason. We can delete any contribution you will have made by then. However, we can only delete data if your contribution has not already been merged in an analysis with those of other participants. We can however remove your contact details from the point you notify us that you have decided to withdraw from the study. We need to manage your data in specific ways for the research to be reliable. This means that we won't be able to let you see or change the research data we hold about you. If you agree to take part in this study, you will have the option to take part in future research using your data saved from this study.

Where can you find out more about how your information is used?

You can find out here more about how we use your information:

- At www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research (KCL).
- Or email info-compliance@kcl.ac.uk (KCL)
- Or by asking one of the research team.
- Or by sending an email to the Data Protection Officer

If you would like more information about how your data will be processed under the terms of UK data protection laws, please visit the link below:

<https://www.kcl.ac.uk/research/support/research-ethics/kings-college-london-statement-on-use-of-personal-data-in-research>

How is the project being funded?

This research project is funded by the London Interdisciplinary Social Science Doctoral Training Partnership CASE studentship.

What will happen to the results of the project?

The results of the project will form part of my PhD Thesis and be published in a scientific journal. Should you wish to receive a copy, I will send you a copy after the end of my PhD project, in 2023. The research results may also be used for additional or subsequent research or for illustration in conference presentations and lectures. All participant data will be anonymised. No other use will be made of them without your written permission, and no one outside the project will be allowed access to the original recordings or research data.

Who should I contact for further information?

If you have any questions or require more information about this project, please contact me using the following contact details:

My contact details: S'thembile Thusini s'thembile.thusini@kcl.ac.uk

Or my supervisors:

- 3) Professor Claire Henderson Tel: +4420 7848 5075 claire.1.henderson@kcl.ac.uk
- 4) Dr Kia-Chong Chua Tel: +442078480663 kia-chong.chua@kcl.ac.uk

What if I have further questions, or if something goes wrong?

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions; Professor Claire Henderson Tel: +44 (0) 20 7848 5075 email: claire.1.henderson@kcl.ac.uk.

Thank you for reading this information sheet and for considering taking part in this research.

Appendix 9vxi: QI Return on Investment Survey

Start of Block: Default Question Block

INTRODUCTION TITLE OF PROJECT: The development of the QI-ROI conceptual framework for mental health; a DELPHI study. Ethical review reference: King's College London; MRSP-22/23-33873

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Thank you for taking part in this study

Please note that this study is about return on investment from using quality improvement (QI) methodologies in large-scale QI programmes. Large QI programmes are those designed to affect an entire organisation or a large part of an organisation, e.g., two or more departments.

This study aims to learn what mental healthcare leaders think about or mean by return on investment from large-scale QI. I would appreciate any further pertinent information you wish to highlight in the optional space at the end of each section.

There are 67 statements across two sections, and a final demographic question. Some statements have definitions for clarity. The survey should take about 10 minutes. You can go backwards and change your response if you wish. Many thanks in advance. S'thembile Thusini (Tay) PhD student, King's College London

CONSENT FORM If **CONSENT** already **GIVEN**, please **go to end of page**, select I consent.

If not, please read carefully, select one option on the side and end page.

	PLEASE SELECT	
	YES (1)	NO (2)

1. I confirm that I have read and understood the information sheet dated 04/11/22 for the above project. (1)

2. I have had the opportunity to consider the information and asked questions which have been answered to my satisfaction. (21)

3. I understand that I must not take part if I fall under the exclusion criteria as detailed in the information sheet and explained to me by the researcher. (22)

4. I consent voluntarily to be a participant in this project. (24)

5. I consent to participate in this study via Qualtrics website. (25)

6. I understand that my identity will be concealed and that the Qualtrics website will not divulge my personal data. (26)



7. I understand that I can refuse to take part and can withdraw from the project at any time, without having to give a reason, up until the survey has been analysed. (27)



8. I consent to the processing of my personal information for the purposes explained to me in the Information Sheet. (28)



I understand that such information will be handled under the terms of UK data protection law, including the UK General Data Protection Regulation (UK GDPR) and the Data Protection Act 2018. (29)



9. I understand that my information may be subject to review by responsible individuals from King's College London for monitoring and audit purposes. (30)

10. I understand that confidentiality and anonymity will be maintained, and it will not be possible to identify me in any research publications. (31)

11. I agree that the research team may use my data for future research. This data will not be identifiable in any report. (32)

12. I understand that the information I have submitted will be published as a report and may be used in conferences and other presentations related to this study. (33)

13. I agree to be re-contacted in the future by King's College London researchers regarding this project entitled "The development of the QI-ROI conceptual framework; a DELPHI study. (34)



14. I agree that the researcher may retain my contact details so that I may be contacted in the future by King's College London researchers for other related research. (35)



15. I agree to be contacted in the future by King's College London(KCL) researchers who would like to invite me to participate in future studies of a similar nature. (36)



16. I consent to have my anonymised direct quotations used in this study's publications. (37)



17. I consent to members of KCL having access to my anonymised data. (38)

18. I wish to receive a copy of the final report via email. (39)

CONSENT FORM Please select one

Yes I consent (1)

No I do not consent (2)

Skip To: End of Survey If Please select one = No I do not consent

End of Block: Default Question Block

Start of Block: SECTION 1

Section A SECTION A: RELEVANCE

In my previous studies, a number of QI outcomes were seen as important benefits. The statements below represent some outcomes from those domains.

Please indicate how relevant you think each statement is to return on investment from a large-scale QI programme.



Q.1

1.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved service user health outcomes (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.2 2.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved overall population health (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.3

3.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Saving money (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

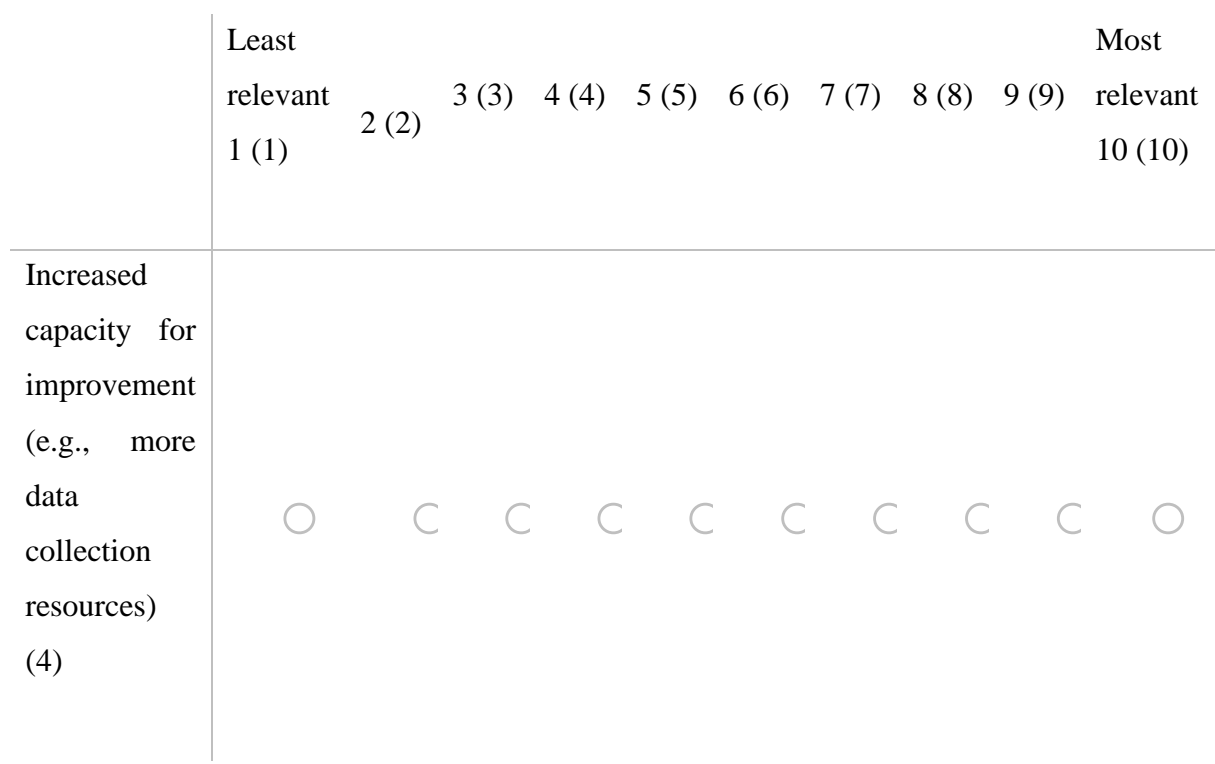
X→

Q.4

4.

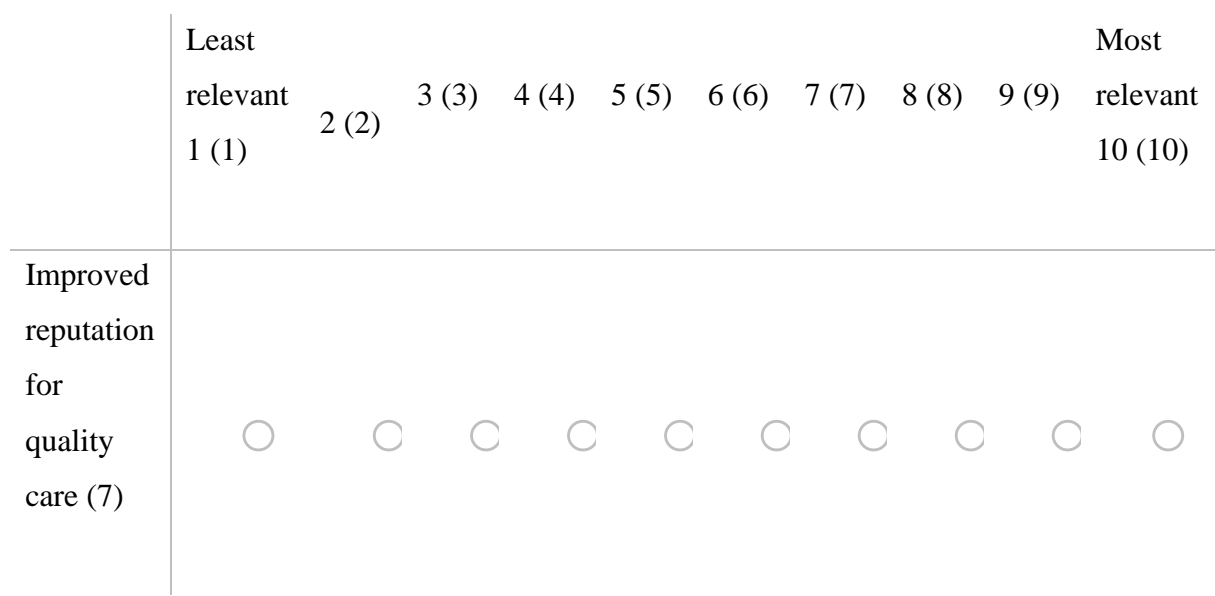
	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved capability for improvement (e.g., new skills) (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→



	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Financial sustainability (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>





Q.

8

8.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved productivity (better use of resources) (8)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Q.

9

9.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved efficiency (reducing waste) (9)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

10

10.

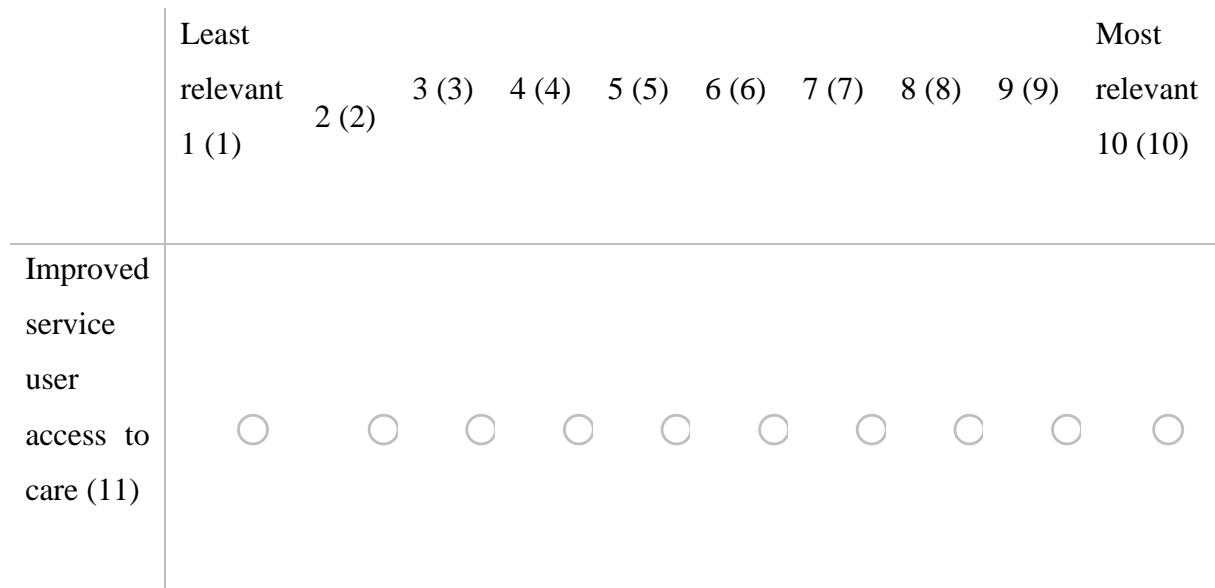
	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Generating revenue or income (10)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Q.

11

11.



Q.

12

12.

	Least relevant	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant	10 (10)
Improved staff outcomes e.g., wellbeing & retention (12)		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved internal collaboration (19)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Q.

14

14.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Development of a culture of providing quality care (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

15

15.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved status e.g., being a Foundation Trust (10)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved relationship with regulators e.g., CQC (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

17

17.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved service user outcomes e.g., experience and engagement (13)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

18

18.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Being the provider of choice (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Developing research skills (20)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Q.

20

20.

	Least relevant	1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant	10 (10)
Helping an organisation become innovative (29)	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

21

21.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Organisational sustainability (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q.

22

22.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Minimising need for costly care (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→

Q.23

23.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Generating profit (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

X→

Q.

24

24.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Being better than competitors (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Improved collaboration with external partners (3)	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>



Q.

26

26.

	Least relevant 1 (1)	2 (2)	3 (3)	4 (4)	5 (5)	6 (6)	7 (7)	8 (8)	9 (9)	Most relevant 10 (10)
Preventing mental health crises (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

COMMENTS

OPTIONAL

COMMENTS

Please place an optional comment regarding your scores above.

End of Block: SECTION 1

Start of Block: SECTION 2

Section

B

SECTION

B:

AGREE/DISAGREE

My previous studies indicated some differences of opinion on some aspects of return on investment from QI programmes.

Please indicate if you agree or disagree with each statement below.

Q.27-32 Q. 27-32 INTERVENTION SUCCESS

Definition

Linked to the design and goals of a programme.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
27. Only benefits that are related to a programmes intended goals represent return on investment. (33)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. Benefits beyond intended goals are valid returns on investment (34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

29. Lessons learnt even when intended goals were not achieved are a valid return on investment.
(35)



30. A legacy left by QI (e.g., better awareness and capabilities) is a valid return on investment.
(39)



31. QI is trial and error and therefore it cannot fail.
(36)



32. A QI programme has failed if it has not achieved its intended goals. (47)



33-37

Q.

33-37

IMPLEMENTATION

SUCCESS

Definition

Linked to the design and process of implementation.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
33. A QI programme has failed if the new practice has not spread in an organisation. (28)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. A QI programme has failed if the new practice has not been embedded in an organisation. (29)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. A QI programme has failed if improvements from a programme have not been sustained.

(30)

36. When QI is embedded, it is easier and faster to pick up and solve quality problems.

(32)

37. Being faster at picking up and solving quality problems is a sign of QI return on investment.

(31)

Q.38-40 Q. 38-40 SHORT-TERM and LONG-TERM OUTCOMES

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
38. Only benefits that occur during a programme implementation should be part of return on investment. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Only benefits occurring months and years after a programme ends should be included. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

40. Both benefits during and after a programme ends should be included. (3)



41-44

Q.

41-44

EXTERNAL

OUTCOMES

Definition

External: outside a registered healthcare entity with unique accountability.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
41. Service users' socio-economic benefits are part of an organisation's QI return on investment. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. Benefits to carers, family & friends are part of QI return on investment. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

43. Benefits to external partners are part of QI return on investment.
(6)

44. Benefits to communities and societies are part of QI return on investment.
(37)

45-48

Q.

45-48

MEASURABILITY

Definition

Ability to quantify benefits.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
45. Only measurable benefits represent QI return on investment. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Immeasurable benefits are equally valid as returns on investment. (14)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Immeasurable benefits are more valid as returns on investment. (15)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

48.

Immeasurable benefits are sometimes more valid as QI returns on investment.

(13)



Q. 49-57 Q. 49-57 MONETISABILITY

Definition Ability to quantify and convert benefits to money

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
49. Only monetised benefits represent QI return on investment. (16)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Difficult to monetise benefits e.g., wellbeing are as equally valid as monetisable benefits. (17)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

51. Difficult to monetise benefits are more important than monetisable benefits. (19)

52. Difficult to monetise benefits are sometimes more important than monetisable benefits. (18)

53. Monetisation of QI outcomes is valid because it is the stipulated requirement for evidence of QI value. (45)

54.

Monetisation
of QI
outcomes is
valid

because it is
best practice
for evidence
of QI value.

(46)



55.

Monetising
benefits is
impractical, I
think there
should be an
alternative

way to assess
QI value.

(47)



56.
Monetisation
is against my
professional
values, there
should be an
alternative
way to assess
QI value.
(23)



57.
Monetisation
is against
mental
healthcare
values, there
should be an
alternative
way to assess
QI value.
(24)



Q. 58 Q. 58 ATTRIBUTION (i)

Definition

Ability to directly link cause (QI) to effect (benefit).

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
58. Only benefits that can be linked directly to a QI programme count as returns on investment. (25)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q.59-64 Q. 59-64 ATTRIBUTION (ii)

Definition Indicator: A measurable change that shows progress towards or achievement of a

desired

output

or

outcome.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
59. Valid indicators of hard to measure benefits (e.g., experience) are adequate evidence of return on investment. (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

60. A narrative report of difficult to measure benefits in addition to measured outcomes is adequate evidence of return on investment.
(9)



61. Subjective judgement of benefit without measurement is acceptable.
(21)



62.
Subjective
judgement
about
benefits is
acceptable
provided
there are
agreed
criteria. (10)

63.
Subjective
judgement
criteria must
be agreed
specific to
each Trust.
(11)

64. Common
subjective
criteria
should apply
across all
mental
healthcare
Trusts. (12)

Q.65-67 Q. 65-67 ATTRIBUTION (iii)

Definition **Proxy:** A financial value estimate of a benefit that has no market (financial) value
e.g., patient experience.

	Strongly disagree 1 (1)	Disagree 2 (2)	Somewhat disagree 3 (3)	Neither agree nor disagree 4 (4)	Somewhat agree 5 (5)	Agree 6 (6)	Strongly agree 7 (7)
65. Proxies of difficult to monetise benefits are acceptable evidence of return on investment. (20)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. A narrative report of difficult to monetise benefits in addition to monetised outcomes is acceptable. (22)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

67.
Subjective
judgement
about
benefits is
acceptable
provided
there are
agreed
criteria.
(10)

OPTIONAL TEXT OPTIONAL COMMENTS

Please share any relevant considerations about QI-ROI you think are missing above.

End of Block: SECTION 2

Start of Block: SECTION 3



DEMOGRAPHICS What best describes your role and background as a mental healthcare leader. Please select maximum 2 options.

- Executive board member: economics background (1)
- Executive board member: no economics background (2)
- Non-executive board member: economics background (3)
- Non-executive board member: no economics background (4)
- Director: economics background (5)
- Director: no economics background (6)
- Quality Improvement Leadership: economics background (7)
- Quality Improvement Leadership: no economics background (8)

End of Block: SECTION 3
