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Taking data seriously: the value of actor-network theory in rethinking patient experience data

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Abstract
Hospitals are awash with patient experience data, much of it collected with the ostensible purpose of improving the quality of patient care. However, there has been comparatively little consideration of the nature and capacities of data itself. Using insights from actor-network theory, we propose that paying attention to patient experience data as having agency in particular hospital interactions allows us to better trace how and in what circumstances data lead (or fail to lead) to quality improvement.

Since the 1980s, there has been an increased emphasis on improving professional accountability, openness and effectiveness in the provision of health care services. Collecting data which are able to clearly and objectively describe and assess the quality of health care interventions has become a preoccupation for hospitals and other care providers (as well as those that accredit and regulate them). Together with the plethora of metrics and technical tools used to measure performance in hospitals, feedback provided by patients about their care experience has increasingly been seen as a key instrument that may potentially inform quality improvement.

Despite the well-publicized commitment toward performance management since the 1980s and notwithstanding the vast quantity of data that has since then been collected about patients' experiences, it is not clear whether and how health care organizations use these data to identify and implement improvements in health care quality.[1] While there has been a recognition that data processes in health care systems need to be improved in terms of coordination and management to achieve desired results, social science research has shown a striking lack of interest in critically reflecting on broader issues related to the nature of data, i.e. on the very value of collecting patient experience feedback in

the first place.[2,3] Indeed, there has been little investigation of the ontological reality of data[4]; that is, what data are, what discourses they express and in what ways they produce effects in the contexts where they circulate.

We believe a more critical approach to data is needed. We start by proposing a possible paradigm through which we might more fruitfully account not only for what data are but also for what data do – how they become embedded in webs of relations, reshaping everyday interactions with health care staff responsible for their collection, analysis and operationalization, as well as the technologies used to collect and visualize such data.

This requires us to take data seriously. Data cannot be seen simply as inert objects wholly open to human

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manipulation, but rather as having the potential to be full-blown actors themselves, endowed with vital properties. As such, they are linked to other parts of the organizations in which they circulate and have equal agency as all of those taking part in the processes that lead to – or hamper – the emergence of quality improvement. We think that one approach, actor-network theory (ANT), is particularly fruitful in highlighting these processes.

ANT and data as actants

ANT was developed by Bruno Latour, Michel Callon and John Law in the field of science and technology studies during the 1980s.[5] Although it carries 'theory' in its name, ANT is better understood as a range of methods for conducting research which aims to describe the connections that link humans and non-humans (for example, objects, technologies, policies and ideas).[6,7] In particular, ANT seeks to describe how these connections come to be formed, what holds them together and what they produce. Researchers using ANT are interested in connections between humans and non-humans because they subscribe to the notion that everything that exists in the world is the outcome of an interaction between two or more human and/or non-human entities.

Using ANT means ascribing equal agency to people and things. While it is true that people use data and do things with them, it is equally true that data make people do things, i.e. they influence their work, they structure organizational practices, make organizations take certain decisions rather than others and produce particular effects and affects. This system of mutual influence between people and objects is what ANT calls an actor-network. In other words, ANT states that actors (for example, nurses in charge of collecting patient experience data) act in the way they do and are able to produce effects only through their interactions with other human and non-human entities (for example, the technical devices used to collect data, the protocols that regulate their work, the chains of authority they are accountable to, the targets they need to meet). From this perspective, data are what Latour has called 'actants', entities that are endowed with the potential to produce change in, and in turn to be transformed by, the course of action of other actors.

Using ANT to approach patient experience data has the potential to make two interrelated contributions to existing debates. Firstly, it emphasizes the *performative* nature of quality improvement, bringing to the fore the ways in which quality improvement emerges – or fails to emerge – as a result of a contingent series of interactions between various human (individual, institutional) and non-human actors (bureaucratic

documents, policies, technologies, targets, etc.). In the case of patient experience, exploring such performativity of data would mean moving beyond dominant perspectives which see data as inert, open to infinite technical refinement in the service of quality improvement. Rather, it would require recognizing that data collected by health care providers produce effects as a result of specific series of interactions with other actors, e.g. more or less competent hospital staff, sympathetic or indifferent policy makers, efficient or faulty technological devices used for their collection and analysis, etc. Thus, it may be the case that the interaction of data with a particular presentational and analytical technology (e.g. Meridian or PowerPoint), makes data more or less compelling to nurse managers, enabling or hampering its journeys to other hospital documents and meetings.

Secondly, tracing the movement of patient experience data through a health care organization by focusing on its performativity may also lead to important insights into the structure of an organization. As data travel, and translate into reports, narratives and interventions, they make and reveal alternative organizational relations to those which are officially recognized. For example, whereas hospitals are formally hierarchical institutions with a wide range of fixed roles and responsibilities, the contingent interactions in which data get embedded may reveal alternative decision-making processes, and may bring to the fore the role of certain actors (such as health care assistants or receptionists) who are conventionally marginal, but who nevertheless often come to play an unexpectedly central role in ensuring the quality of care.[8,9]

A flattened perspective such as this, which treats actors as equally important regardless of their assumed place in an institution, is key to more faithfully account for how quality improvement emerges in practice. By moving away from taken-for-granted organizational and institutional structures through which data are supposed to be gathered, analysed and deployed, such an approach requires that better attention is paid to alternative organizational arrangements as well as to forms of agency which would otherwise go undetected, including non-human agency. Thus, in addition to allowing for the role unexpectedly played by certain people within hospitals, the flatness promoted by ANT also requires us to pay attention to how quality improvement can be produced or hampered by the agency of specific non-human actors. This would, for instance, mean examining the unorthodox use of certain technologies,[10] or of types of knowledge that are not usually labelled 'data'.

Casting a panoramic view over the vast web of relations that practically shape quality improvement is essential to move forward the current debates on

patient experience data and their role in health care. As mentioned at the beginning of the paper, it is widely recognized that a discrepancy exists between the proliferation of forms of data collection and the limited ways in which such data are used to inform quality improvement. With its flat approach to the mutually influencing relations between actors, ANT holds out the promise of bringing to the surface the processes of interaction and negotiation between actors; it keeps the messy, everyday mechanics of improvement centre stage.

Exploring these processes is key to helping organizations learn what data are and how they can be best put to use. If we understand data as not only the product of health care organizational structures but also as involved in creating and sustaining them, we may better show how such data shape quality improvement activities. Recognizing this potentially creative character of data may offer alternative paths to improvements in patient care which would otherwise go undetected.

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