

Delivering primary health care to people who are homeless: an evaluation of the integration, effectiveness and costs of different models

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Disclosure of interests

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Scientific Summary

Background

There is a high prevalence of health problems among single people who are homeless, and since the 1980s specialist primary health care services have been developed in several locations across England for them. These include dedicated health centres and mobile health teams that visit hostels and day centres. There have been very few evaluations of these services, however, and their effectiveness is unknown. In 2010 the Department of Health reported a lack of systematic data on the use of health services by people who are homeless and costs, and a lack of evidence of the potential to improve primary care and health outcomes, and reduce secondary costs. This study aimed to address this knowledge gap.

Objectives

The study's overall aim was to evaluate the effectiveness and costs of different models of primary health care provision for people who are homeless. The research questions were:

- a. Which models or service elements are more effective in engaging people who are homeless in health screening and health care?
- b. Which models are more effective in providing continuity of care for long-term or complex health conditions?

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- c. What are the associations between integration of the models with other services and health outcomes for people who are homeless?
- d. How satisfied are service users, primary health care staff and other agencies with the services?

Study design and methods

The study concerned single people (not families or couples with dependent children) staying in hostels, other temporary accommodation and on the streets. A mapping exercise was conducted across England to identify primary health care services for them. Information was collected from staff at these services, and from managers of hostels and day centres for people who are homeless about access to primary health care. From these two surveys, four existing Health Service Models were selected for evaluation:

1. Specialist health centres primarily for people who are homeless (Dedicated Centres).
2. Mobile homeless health teams that hold clinics in hostels or day centres for people who are homeless (Mobile Teams).
3. Mainstream GP practices that also provide targeted services exclusively for people who are homeless (Specialist GPs).
4. Mainstream GP practices that provide 'usual care' services to the local population, including to people who are homeless (Usual Care GPs) as a comparison.

Two Case Study Sites were recruited for each of the three specialist models, and four for the Usual Care GP model. The primary outcome was the extent of health screening among people who were homeless *and* evidence of an intervention if a problem was identified (scored 0 or 1). Six 'Health Screening Indicators' were selected: body mass index, mental health, alcohol use, tuberculosis, smoking, and hepatitis A. Data for the primary outcome came from the medical records.

A secondary outcome was the effectiveness of the models in providing health care for 'Specific Health Conditions' that may be difficult to manage or require integration with other services. These were chronic respiratory problems, depression, alcohol and drug problems.

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Each condition had five outcomes (each scoring 1 or 0). Outcomes one and two assessed whether a treatment plan had been initiated and continuity of care / follow up provided by the Case Study Site. Outcomes three and four concerned patient satisfaction with information provided about the condition and treatment received. Outcome five assessed stability or change in the health condition over the study period. Other secondary outcomes included: (i) changes over time in health and wellbeing; (ii) oral health status and receipt of dental care; (iii) utilisation of health and social care services over 12 months and service use costs; and (iv) satisfaction with the service by patients, practice staff and external agencies.

The study commenced April 2015, and fieldwork ran from January 2016 to June 2019. Patients who had been homeless in the last 12 months were recruited as ‘case study participants’, interviewed at baseline, four and eight months, and information collected about their circumstances and service use in the preceding four months (totalling 12 months of data). Overall, 363 case study participants were recruited: 96 at each of the three specialist models, and 75 at the Usual Care GP model. Medical records were obtained for 349 of the 363 case study participants, from which the primary outcome and some outcomes for the Specific Health Conditions were scored, and service use data extracted. Interviews were also conducted with 65 staff and sessional workers at the Case Study Sites, and with 81 service providers and stakeholders.

Various indicators were used to measure the relative effectiveness of the four Health Service Models, and each was analysed separately. Comparisons were performed using appropriate regression techniques to explore associations between Health Service Models, demographic and health profiles of participants, and outcomes. Differences in outcomes between models were investigated in relation to contextual factors and mechanisms (service delivery factors). Qualitative data from the interviews with case study participants, practice staff and other agencies were examined using NVivo and themes identified. Service use was valued using national tariffs at the individual participant level to provide a cost by service use item, and by groups of items over 12 months.

Key findings

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At baseline, the majority of Specialist and Usual Care GP participants were living in staffed accommodation, while 41.7% from Mobile Teams and 27.1% from Dedicated Centres were sleeping rough. Dedicated Centre and Specialist GP participants were significantly more likely to be using heroin or cocaine, injecting drugs and receiving opioid substitution treatment. A higher percentage of Mobile Team participants were not born in Britain, and they were less likely to have drug problems. Unlike the other three models, the Mobile Teams did not have a 'fixed' base or a GP in the team. Instead, nurses ran clinics in hostels and day centres and patients were encouraged to register with local GPs. In most cases medical records were shared. Much of the work of the Mobile Teams' nurses concerned assessing health needs and linking patients into GPs or other services, rather than acute disease management.

Primary outcome scores ranged from zero to six (the most favourable), with an overall mean of 3.30 (SD 1.24). There were no significant differences in scores between Dedicated Centres, Specialist GPs and Usual Care GPs, but Mobile Teams had a highly significant lower score. Regression analysis revealed more favourable scores were also associated with self-reports of depression or drug use at baseline, spending a higher proportion of the study period in staffed accommodation, and more consultations with a GP, nurse or health care assistant at the Case Study Site.

Regarding Specific Health Conditions, more than one-fifth of participants reported chronic respiratory problems or depression at baseline, completed instruments that indicated severe problems, yet these were not documented in the medical records. This applied to all Health Service Models, suggesting a failure at times by staff to identify or record these problems. The most noticeable differences between Health Service Models concerned continuity of care (outcome two). Dedicated Centres, followed by Specialist GPs, were significantly more likely to have achieved this for participants with depression, alcohol and drug problems. Mobile Teams were least likely to have maintained continuity of care for all conditions apart from drug problems, for which Usual Care GPs scored slightly lower. When interventions by GP practices were included in the Mobile Teams' scores, continuity of care rates reached levels comparable to or above those of Usual Care GPs but not as high as

Dedicated Centres and Specialist GPs. Overall, there were significant associations between the availability of on-site substance misuse services and continuity of care for alcohol and drug problems.

Across all models, poor oral health was common, many participants did not seek dental care, and dental pain and other dental needs were unaddressed. Dental services specifically for people who were homeless or vulnerable were available at or nearby seven Case Study Sites, but many participants did not access these. Participants of the three specialist models rated the service and care they received considerably more favourably than the general population's ratings of their GP practice, while Usual Care GP participants rated the service less favourably. Regression modelling revealed a highly statistically significant beneficial effect for the specialist models compared to the Usual Care GP model regarding overall experience of the Case Study Site and quality of care received.

Participants of the specialist models were more likely to say they had confidence and trust in the doctors and nurses, and generally welcomed the friendly attitude of staff, the flexibility of the service and availability of drop-in sessions. Most staff at the specialist models had considerable experience of working with people who were homeless and had developed innovative ways to address their health needs. They were also more likely than staff of the Usual Care GPs to be well integrated with local homelessness services. A common problem reported by staff and external agencies of all except one Case Study Site was the poor availability of mental health services.

Contacts with GPs over the 12 month study period were considerably higher among the study participants than the general population. In addition, 33.1% had at least one hospital admission, and 65% used out-of-hours services such as NHS 111 or accident and emergency departments. The number of out-of-hours service contacts was positively correlated with the number of GP and nurse contacts, suggesting that out-of-hours services are not necessarily a substitute for GP or nurse consultations. Stepwise logistic regression of out-of-hours services usage found the only significant predictor was number of changes of accommodation during the study period, with each additional change rendering a participant 1.45 times more likely to use such services.

Service utilisation and costs were significantly highest among Dedicated Centre participants, and significantly lower among Usual Care GP participants. Higher 'grand total costs' were also associated with spending a higher proportion of the study in staffed accommodation and more changes of accommodation during the study period; lower grand total costs were associated with being Black or Black/British, and recent involvement in education/training/employment.

Conclusions and implications

In this study participant characteristics, contextual factors and mechanisms were influential in determining outcomes. Analyses have mainly focused on differences between the four Health Service Models, but there were key differences between CSSs within the same model which are also reported.

Overall, outcomes for Dedicated Centres and Specialist GPs (particularly SP1) were relatively favourable, especially in relation to continuity of care for health conditions and service utilisation by participants. Their relative success is likely to be attributable to service delivery factors. They had dedicated staff working with patients who were homeless, and provided flexible 'drop-in' services. Multidisciplinary working was prominent with on-site mental health and substance misuse services, and the sites were well-integrated with local hospitals, street outreach teams and homelessness sector services.

With no GP in the Mobile Teams, patients received health care from both Mobile Team nurses and local GPs. The less favourable scores associated with this arrangement for health screening and continuity of care for health conditions, suggest poor coordination between the services. Whereas health care by Dedicated Centres and Specialist GPs was delivered by GPs and nurses from the *same* practice and patients were registered with a *single* primary health care provider, the Mobile Team model involved the delivery of primary health care by multiple providers at different sites. This may have negatively affected collaborative working among staff and led to uncertainty and confusion among patients. Although the mean number of nurse consultations was considerably higher among Mobile Team

participants than other models, their GP contacts were less than participants of Dedicated Centres and Specialist GPs.

Usual Care GPs operated very differently to other models, and service delivery factors are likely to have been crucial in contributing to their relatively low performance for some outcomes. Their practice list sizes were large, they had no dedicated staff or targeted services for patients who were homeless, did not offer drop-in clinics so patients were required to book appointments, and were not well-integrated with homelessness services. However, positive scores for health screening at two sites, and higher satisfaction ratings at one site, suggest that some mainstream GPs can accommodate the needs of patients who are homeless given the right circumstances.

Implication for NHS commissioners and health care service managers and practitioners arise from the study's findings. In areas with unmet health needs among people who are homeless, commissioners need to consider what models of provision are most appropriate, taking into account the scale and nature of local homelessness. Questions arise as to the function of Mobile Teams and their collaboration with GPs, and whether a more effective service could be delivered if they operated as part of a GP practice rather than a separate service. Likewise, different configurations of dental care delivery need to be explored, and consideration given to the poor availability of mental health services

There needs to be improved health screening for people who are homeless, leading to an intervention where indicated. Awareness needs to be raised of the links between homelessness and chronic respiratory problems and depression, and assessments undertaken to detect these conditions and initiate treatment if required. The relatively poor performance of Usual Care GPs for some outcomes raises questions about their role in providing health care to patients who are homeless, and when the practices might require additional support. Consideration should be given to the introduction of a 'homelessness lead' at these practices to enable more focused work to be undertaken with patients who are homeless. Finally, the evaluation of services is critical, including their performance against national and local indicators, comparisons of different service delivery models, and monitoring of longer-term outcomes.

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There were limitations to the study. One of the main difficulties was recruiting mainstream GP practices with enough patients who were homeless for the Usual Care GP model. Medical records could not be accessed for 14 participants of this model. Given the innovative nature of this study, various measures were used for the first time to assess the performance of the Case Study Site. Screening for the primary outcome and the management of Specific Health Conditions did not rely on validated tools for scoring (as none could be found). Instead they depended on the expertise of the research team and other clinicians. Various 'rules' were adopted for the scoring which undoubtedly had an influence on outcomes.

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