

Drivers of ‘clinically unnecessary’ use of emergency and urgent care: the DEUCE mixed-methods study

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Scientific summary

The DEUCE mixed-methods study

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Scientific summary

Background

In the context of supply not matching demand, policy-makers have expressed concerns about the high levels of demand for some services that provide emergency and urgent care: emergency ambulances, emergency departments and urgent same-day general practitioner appointments. This mismatch between supply and demand has led to interest in what we term the 'clinically unnecessary' use of services. This is defined by the research team in this study as 'patients attending services with problems that are classified as suitable for treatment by a lower urgency service or self-care'; for example, problems that could be dealt with by a general practitioner rather than in an emergency department. It is a challenging issue to consider because patients may face difficulties deciding on the best action to take, and different staff may make different judgements about what constitutes a legitimate reason for service use.

Aim

The aim of the study was to identify the key factors (drivers) affecting 'clinically unnecessary' use of emergency ambulances, emergency departments and urgent same-day general practitioner appointments from patient and population perspectives.

Objectives

The study objectives were to:

1. identify the drivers of 'clinically unnecessary use' using a realist review and a qualitative interview study
2. understand how different subgroups of the population make decisions about help-seeking using a qualitative interview study
3. identify potential intervention strategies using a focus group study
4. measure the prevalence of population views of seeking urgent care, and how these views vary by circumstances, and by population subgroups, using a population survey
5. identify the characteristics of people who have a tendency to make 'clinically unnecessary' use of the ambulance service, emergency departments and general practices using vignettes within a population survey.

Design

This was a sequential mixed-methods study with three work packages: a realist review, a qualitative study of individual interviews and focus groups with three patient subgroups, and a population survey.

Methods

Realist review

We used 32 qualitative studies to develop 10 programme theories (i.e. proposed explanations of patients' behaviour). We tested these programme theories against existing health behaviour theories and evidence from 29 quantitative studies.

Qualitative interview study

We undertook interviews to explore decision-making processes with 48 patients, 16 in each of three subgroups identified as having high levels of 'clinically unnecessary' use: parents of young children, young adults and people living in areas of social deprivation. The interviewees were not aware that health professionals considered their contact 'clinically unnecessary'. We also undertook a focus group with patients from each subgroup (total $n = 15$ participants) to explore potential interventions.

Population survey

We purchased a 60-item module in the 2018 British Social Attitudes Survey with a representative sample of the British population ($n = 2906$). We explored attitudes among the population towards seeking care when faced with an 'unexpected health problem that was not life threatening', and the prevalence of the programme theories that we identified in our realist review. In addition, respondents were presented with vignettes of different health problems and asked to identify the actions that they would take. This allowed us to identify people who had a tendency to make 'clinically unnecessary' use of services and to test the realist review programme theories.

Integration

We used an adapted triangulation protocol to compare the findings from each work package. We classified explanations for service use under three broad headings: characteristics of symptoms, patients and health services.

Results

Drivers are presented separately in the following sections. These were highly interdependent and multiple drivers featured in individuals' decision-making processes.

Drivers related to symptoms

Anxiety and concern about seriousness of symptoms that required reassurance

In the review, we identified a programme theory that uncertainty about the seriousness of symptoms could cause anxiety, and a related programme theory that this anxiety could be heightened by experience or knowledge of traumatic events. This anxiety led patients to seek reassurance from services. In the interviews, varying degrees of anxiety or concern due to uncertainty about both the meaning and the seriousness of symptoms featured as a key driver in all three subgroups. Some interviewees had clearly been anxious that a symptom might be serious, whereas others had sought reassurance that their own conclusion that a symptom was not serious was correct. In the survey this anxiety explained the tendency to make 'clinically unnecessary' use of emergency ambulances (odds ratio 1.6) and general practitioners (odds ratio 2.0).

Inability to get on with daily life and need to return to normal functioning

In the review, we identified a programme theory that patients sought care urgently so that they could get back to normal and deal with responsibilities such as working or looking after children. Interviewees, particularly young adults, also discussed this issue, describing how their help-seeking was a result of both actual and anticipated detrimental effects on their functioning. In the survey, increasing numbers of the population wanted to see a doctor or nurse immediately for an unexpected health problem as the effect of the problem on their functioning increased: 9% (262/2906) if there was no detrimental effect on functioning, 29% (831/2906) if the problem was affecting sleep and 67% (1938/2906) if they could not work or look after their family.

Need for immediate symptom relief

In the review, we identified a programme theory that a perceived need for immediate pain relief affected urgent help-seeking behaviour. Interviewees extended this from pain to a range of symptoms

that drove them to contact emergency ambulances and emergency departments. Participants in the social deprivation focus group highlighted how an inability to obtain free prescriptions directly from a pharmacist could drive them to make contact with services that could provide these.

Waited long enough for things to improve

In the review, we identified a programme theory that patients sought care urgently after they had delayed seeking help from services and had used self-care until they felt that they had to seek treatment immediately. This use of self-care, and an unwillingness to delay further when things had not improved, was strongly evident in all subgroups in our interviews, and was sometimes related to frustration with their general practitioner's inability to resolve an ongoing problem.

Drivers related to patients

Inability to cope with health problems due to mental health problems, stressful lives or limited resources

In the review, we identified a programme theory that people experiencing long-term stress associated with poverty or illness could have difficulty coping with an unexpected health problem and looked for the least burdensome health-care option. Interviewees discussed stress in their lives caused by a range of factors, including long-term health problems, social isolation and difficult work or personal situations. Young adults and people living in socially deprived communities referred to the role of mental health problems, such as anxiety and depression, when seeking health care. Although not necessarily mental health service users, they struggled with mental health problems that reduced their capacity to cope with unexpected physical health problems. Young adult focus group participants emphasised that improvements in mental health services were needed to address this lack of ability to cope. The survey results showed that members of the population who felt overwhelmed when faced with a health problem were twice as likely to have a tendency to make 'clinically unnecessary' use of an emergency ambulance (odds ratio 2.2) or a general practitioner (odds ratio 1.7). Limited resources were associated with a tendency to use emergency ambulance services when 'clinically unnecessary' in terms of manual social class (odds ratio 3.0), not having a car (odds ratio 2.1) and having low health literacy (1.7). Low health literacy was also an explanation for a tendency to make 'clinically unnecessary' use of a general practitioner (odds ratio 1.3).

Fear of consequences when responsible for others

In the review, we identified a programme theory that patients sought care urgently to minimise risk when they were responsible for others, particularly vulnerable individuals. In interviews, this was a key driver for parents of young children, who were concerned that their child's health could change quickly and were aware that they were responsible for their child's well-being. Fear of consequences for young children was also evident in responses to the survey vignettes, which showed that 37–42% of the population had a tendency to make 'clinically unnecessary' choices about a sick child, compared with 1.5–30% for adult illness or injury.

Compliance with and influence of social networks

In the review, we identified a programme theory that patients followed the advice of trusted others. We discuss later how 'trusted others' can be health service staff, but here we discuss the role of social networks. Among interviewees, it was apparent that family, friends and colleagues could sometimes direct where help was sought. This was sometimes related to recursivity or learnt behaviour in that others' previous positive experiences of emergency departments could affect a patient's decision to attend an emergency department. In the survey, 56% of the population consulted family and friends when deciding whether or not, and where, to seek help.

Subgroups with greater tendency to make 'clinically unnecessary' use of services

We undertook interviews with three subgroups of people who had been identified as more likely to be 'clinically unnecessary' users: parents of young children, young adults and people from areas of

deprivation. In the survey, we identified different subgroups who had a greater tendency to make 'clinically unnecessary' use of services: men (odds ratio 1.5) and people from black, Asian and minority ethnic groups (odds ratio 1.7).

Drivers related to health services

Perceptions or experiences of different health services

In the review, we identified a programme theory that 'clinically unnecessary' use was driven by perceptions or experiences of services. One aspect of this was that patients were attracted by the emergency department as they felt they would be seen quickly, could undergo diagnostic tests such as X-rays and would receive expert help. Interviewees in all subgroups valued these attributes of emergency departments. In the survey, a preference for emergency departments because they offer quick access to tests was a key driver of the tendency to make 'clinically unnecessary' use of emergency departments (odds ratio 1.7), and 18% of the population viewed emergency department doctors as having greater expertise than general practitioners. In the focus groups, parents of young children were attracted by specialists in child health within a paediatric emergency department and wanted a similar paediatric specialism in general practice.

Another aspect of the attraction of emergency departments was related to recursivity, that is learnt behaviour. There was some evidence that patients' positive experiences of emergency departments had led them to use them again or to recommend them to family and friends. In the survey, members of the population who felt that undergoing tests validated their decision to use a service had a greater tendency to use an emergency department (odds ratio 1.5).

Another aspect of this was concerns about the quality of primary care. Some interviewees highlighted concerns about the quality of their general practitioner or the general practitioner out-of-hours service, which acted as a driver of their emergency department attendance. In the survey, although 10% of the population expressed a lack of confidence in their general practitioner, this did not explain the tendency to use emergency departments. By contrast, in all three subgroups, some interviewees who had consulted their general practitioner for their latest health problem expressed high levels of satisfaction with their general practitioner.

Lack of timely access to an appropriate general practitioner appointment

In the review, we identified a programme theory that people's use of emergency departments was sometimes driven by their frustration with lack of access to a general practitioner when they had failed to obtain an appointment in the desired timeframe or thought it unlikely that an appointment would be available. An additional issue interviewees raised was that some general practitioner appointment systems offered a problematic dichotomy of same-day/urgent appointments, which were difficult to obtain, and booked/routine appointments, which often necessitated waiting for many weeks. Focus group participants identified the need for a new intervention to simplify appointment systems and make it possible to see a general practitioner within a few days. By contrast, many of our interviewees recruited from general practice described their general practitioner as accessible, highlighting that frustration with access to general practitioner appointments was not universal.

Compliance with health service advice

In the review, we identified a programme theory that patients sometimes used ambulances and emergency departments because they were following the advice of health professionals. Interviewees had not always made the decision to call an ambulance or attend an emergency department themselves but had been directed to do so by health service staff, including general practitioners, during either face-to-face or telephone consultations.

Conclusions

'Clinically unnecessary' use of emergency and urgent care is of interest when supply fails to match demand. Patients use emergency ambulances, emergency departments and same-day general practitioner appointments when they do not need the level of clinical care provided by those services for a multitude of inter-related reasons that sometimes differ by population subgroup. Some of these reasons relate to health services in terms of difficulty accessing general practice leading to use of emergency departments, and to population-learned behaviour relating to the positive attributes of emergency departments, rather than to patient characteristics. Social circumstances, such as having complex and stressful lives, influence help-seeking for all three services. Demand may be 'clinically unnecessary' yet completely understandable when service accessibility and patients' social circumstances are considered.

Implications for health care

In the context of demand outstripping supply for emergency and urgent care, evidence suggests that unless supply can be increased:

- There is unlikely to be a single solution to these multiple, inter-related reasons for 'clinically unnecessary' use of services. Rather, a series of solutions, undertaken concurrently, may be necessary.
- Changes to health services could reduce 'clinically unnecessary' use of emergency departments, in particular by strengthening general practice by improving access to general practitioner appointments within a few days, emergency departments undertaking fewer of the tests that validate 'clinically unnecessary' use, and increasing awareness and improving knowledge of the services offered by alternative providers.
- Patients' social circumstances play a key role in urgent help-seeking, suggesting that wider public health issues that cause stressful lives, limited resources (both financial and in terms of health literacy) and mental health problems may increase the 'clinically unnecessary' use of ambulances, emergency departments and general practitioners.

Recommendations for research (in priority order)

1. Evaluate new interventions to address 'clinically unnecessary' use of emergency ambulances and emergency departments, including interventions that strengthen capacity in primary care, change general practitioner appointment systems, reduce practices in emergency departments that encourage further 'clinically unnecessary' use, improve health literacy, improve population mental health and increase resources for some patient groups.
2. Evaluate new interventions to address 'clinically unnecessary' use of general practice, including educating people about the role of pharmacies, improving access to free prescriptions via pharmacies and improving people's confidence to self-manage minor illnesses.
3. Evaluate new interventions tailored to different population subgroups, such as education and support aimed at parents of young children.
4. Understand the drivers of 'clinically unnecessary' use among other subgroups identified in the survey, in particular men and people from black, Asian and minority ethnic groups.
5. Explore why health professionals recommend that patients make use of health services that other health professionals subsequently judge to be 'clinically unnecessary'.

Study registration

This study is registered as PROSPERO CRD42017056273.

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