Patients' experiences and views of an emergency and urgent care system

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Abstract

Background Surveys of patients' experiences and views of health care usually focus on single services. During an unexpected episode of ill health, patients may make contact with different services and therefore experience care within an emergency and urgent care system. We developed the Urgent Care System Questionnaire and used it to describe patients' experiences and views of an emergency and urgent care system in England.

Methods A market research company used quota sampling and random digit dialling to undertake a telephone survey of 1000 members of the general population in July 2007.

Results 15% (151/1000) of the population reported using the emergency and urgent care system in the previous 3 months. Two thirds of users (68%, 98/145) contacted more than one service for their most recent event, with a mean of 2.0 services per event. Users entered the system through a range of services: the majority contacted a daytime GP in the first instance (59%, 85/145), and 12% (18/145) contacted either a 999 emergency ambulance or an emergency department. Satisfaction with all aspects of care diminished when four or more services had been contacted.

Conclusions This is the first study to describe patients' experiences and views of the emergency and urgent care system. The majority of patients experienced a system of care rather than single service care. There was an indication that longer pathways resulted in lower levels of patient satisfaction. Health care organisations can undertake similar surveys to identify problems with their system or to assess the impact of changes made to their system.

Introduction

In recent years policymakers in England have proposed changes to both emergency^{1,2} and urgent care,³ defining urgent care as 'the range of responses that health and care services provide to people who require – or who perceive the need

for – urgent advice, care, treatment or diagnosis'. Patients seeking emergency and urgent care may not consult or attend a single service. Instead they may make several contacts with the same or different services.⁴ For example, they may contact a general practitioner (GP) out-of-hours, be directed to an emergency department, and then

consult a GP in hours. Each service may be effective but together may not operate as a system ensuring the smooth transfer of patients along their care pathway. Systems, and the services within them, are frequently re-modelled to meet the needs of the population. Changes in one part of the system may impact on another part of the system. Therefore there is a need to measure the performance of systems as well as the individual services within them, and the effect of changes made to them. Patients' experiences and views of a system should be an essential component of performance measurement. This study seeks, for the first time, to describe the patient reported journey through an emergency and urgent care system and satisfaction with that journey.

Methods

Setting

An Urgent Care Network Board in central England agreed to host our study. Emergency and Urgent Care Network Boards vary from region to region but typically include representation from primary, acute, and community NHS Trusts, social services and ambulance services. Meeting on a regular basis, the purpose of most networks is to develop an area wide strategic plan for the delivery of a system of emergency and urgent care. The Urgent Care Network Board hosting this study covered an area in England with one major city, a number of large towns and large rural areas. The socio-demographic profile of the area was similar to England with the exceptions of a lower proportion of ethnic minority communities and a higher proportion of home ownership. The emergency and urgent care system consisted of an ambulance trust, two acute hospitals with emergency departments, minor injuries units, NHS Direct the 24 h nurse-led telephone help line, day time general practice, GP out-of-hours, an NHS walk-in centre, and a range of other services offering urgent treatment for specific health problems e.g. dentists.

Data collection

A survey was used to measure patients' experiences and views of the system. The process of undertaking a survey of a *system* is challenging. There is difficulty in identifying users of an emergency and urgent care system because there is not a single entry point at which to capture them. Identifying system users by accessing the records of all component services within a system would be difficult given the large number of services involved and the probability of double counting multi service users. Therefore, a general population survey was chosen as an appropriate approach to identifying system users, by screening for recent users of the emergency and urgent care system and then asking for details of their most recent use of the system. The strength of using this approach is that all parts of the system can be included, and it includes anyone who attempted, but failed, to use the system.

A market research company was engaged to undertake a telephone survey of the general population. They undertook random digit dialling during July 2007, with one attempt to contact a landline telephone number, aiming to identify 1000 respondents representative of the age/sex profile of the system population. Random digit dialling involves generating random telephone numbers, and therefore has the advantage of including numbers that may not be listed in the telephone directory. Standard market research procedures were followed to identify an adult to speak to within a household who was aged 16 and over. An adult or a child in the household was selected as the focus of the interview in line with meeting the quota sample.

This methodological approach was compared with a postal survey of a random sample of the general population based on GP lists and was found to yield a sample more representative of age, gender, and minority ethnic communities, be more accurate in assessing the use of different services in the system, more cost effective to undertake, and had fewer missing values.⁵

Questionnaire

The Urgent Care System Questionnaire was used. This was developed using qualitative research with recent users of an emergency and urgent care system.⁶ All respondents were asked a screening question about use of emergency and urgent care and some socio-demographic questions. If they had attempted to contact emergency or urgent care services in the previous 3 months they were asked to complete the remaining parts of the questionnaire about their most recent event. They described their most recent pathway of care, gave details of the first three services in the pathway and then answered a number of satisfaction items about system use.

Sample size

The expected proportion of system users identified by the population survey was unknown. However there was an expectation that a sample of 1000 members of the general population would identify between 100 and 350 recent system users, offering a large enough dataset for description of system experiences and views.

Analysis

Data were analysed using SPSS version 12 (IBM, Somers, NY, USA). ANOVA was used for comparison of means and the chi-squared test for comparison of proportions. Confidence intervals (95% CI) were calculated for key statistics.

The study was approved by the local NHS Ethics Committee and gained full approval from local research governance organisations.

Results

Response rate

A total of 18 091 telephone calls were made, of which 5215 numbers were unobtainable. 1286 callers were not eligible to complete the survey because the quota had been filled. Of the remaining 11 604 calls, 1000 people completed

the survey, achieving a response rate of 9% (1000/11 604) from people who were contactable and eligible for inclusion.

Estimate of use of urgent care system

15% (151/1000, 95% CI: 13,17) of the sample reported using emergency and urgent care in the previous 3 months, of which 145 provided details of their experiences and views of the system and form the basis of the following results. This was at the lower end of our expectations and this smaller number of system users had implications for the precision of our estimates and statistical power of any comparisons made. There appeared to be some variation in the proportion of people making use of the emergency and urgent care system in different socio-demographic groups but these were not statistically significant (Table 1).

System experiences

Just over a half of users entered the system with an illness (56%, 80/144), with less than a fifth (17%, 24/144) reporting an injury as their reason for using the system. The remainder reported having an 'other problem' (28%, 40/144). Although about a third of users (37%, 54/145) contacted a service immediately after

Table 1 Reported urgent care use in past 3 months by socio-demographic characteristics

Characteristic	%	<i>n</i>	<i>N</i> = 1000	<i>P</i> value
Age				
0–15	0	30	175	0.166
16–44	11	43	380	
45–64	16	44	275	
65+	16	28	170	
Sex				
Male	14	72	500	0.930
Female	15	73	500	
Ethnic group				
White	15	141	958	0.510
Other	10	4	42	
Accommodation type				
Owner	14	114	840	0.059
Rented/other	19	31	160	

thinking the health problem was urgent, 29% (42/145) waited more than a day before making contact with a service. About a quarter (24%, 34/144) of first contacts took place out-of-hours, defined as weekends and before 08:30 and after 18:00 on weekdays in our study.

Pathways

Patients entered the system through a variety of routes. A daytime GP was the first contact for the majority of system users (59%), with one in ten (10%) users opting to call NHS Direct in the first instance, and 8% opting to make their first contact with the emergency department (Table 2). The majority of system users (68%) had more than one service on their pathway (Table 3), indicating the importance of consid-

ering pathways and systems rather than use of individual services, with 8% contacting four or more services.

The most common service on a pathway was GP 'in hours' (Table 3); 70% of system users made contact with this service. 15% of system users visited an emergency department, and 5% made use of the 999 ambulance service. The most common pathways were GP 'in hours' only (14%, 21/145), and GP 'in hours' to pharmacy (14%, 21/145).

Reasons for moving along a pathway

Ninety-eight multi service users provided their reasons for moving along a pathway. Multiple reasons could be given and the main reasons for using another service were that a service told the user to do so (88%, 86/98) or that their health problem changed (18%, 18/98). However, people also moved along a pathway because they were unhappy with other services in the system: some were not satisfied with a service (6%, 6/98), wanted another opinion (10%, 10/98), or felt there was no access to another service they wanted (2%, 2/98).

Satisfaction with the system

System users were asked for their views on the extent to which care was given with sufficient urgency, the number of services they had needed to make contact with, overall care received, and specific aspects of the system (Table 4). Psychometric testing had identified three discrete domains of system satisfaction⁷: *entry into the system*, *patient convenience of the system*, and *progress through the system* (Box 1). Response options were provided on a five point scale ranging from strongly agree to strongly disagree. Domain scores were calculated by scoring individual items from 'strongly agree = 5' through to 'strongly disagree = 1' for positive statements, with reversal for negative statements. The mean score in each domain was calculated so that scores varied between 1 and 5, where 5 indicated most satisfaction.

Table 2 First contact on a pathway (*n* = 145)

	First contact % (<i>n</i>)
GP in hours	59 (85)
NHS Direct	10 (14)
Emergency Department	8 (12)
GP out-of-hours	6 (9)
999 ambulance service	4 (6)
Walk-in centre	3 (5)
Pharmacist	3 (5)
Other	6 (9)

Table 3 Pathway experience (*n* = 145)

	% (<i>n</i>) of system users
Number of services on a pathway	
1	32 (47)
2	40 (58)
3	19 (28)
4+	8 (12)
Mean (<i>SD</i>)	2.0 (1.1)
Range	1–9 services
Services involved in pathway*	
GP in hours	70 (102)
Emergency Department	14 (21)
NHS Direct	14 (21)
GP out-of-hours	10 (14)
Walk-in Centre	7 (10)
999 ambulance	5 (7)
Minor Injuries Unit	1 (1)

*Sums to more than 100% because more than one service on pathway

Table 4 Satisfaction by number of services on the pathway ($n = 145$)

	One ($N = 47$) %	Two ($N = 58$) %	Three ($N = 28$) %	Four or more ($N = 12$) %	All ($N = 145$) %	P value
Did you think your case was managed with sufficient urgency?						
Definitely/yes	85 (40)	95 (55)	93 (26)	58 (7)	88 (128)	0.003
Definitely not/no	15 (7)	5 (3)	7 (2)	42 (5)	12 (17)	
How do you feel about the number of services contacted?						
The right number	91.5 (43)	91 (53)	96 (27)	58 (7)	90 (130)	0.002
Too many/Too few	8.5 (4)	9 (5)	4 (1)	42 (5)	10 (15)	
Overall, how would you rate the care you received?						
Excellent/very good	77 (36)	81 (47)	82 (23)	58 (7)	78 (113)	0.342
Good – very poor	23 (11)	19 (11)	18 (5)	42 (5)	22 (32)	
Domains of satisfaction						
Entry, mean 95% CI	4.4 (4.2, 4.63)	4.3 (4.12, 4.52)	4.3 (4.03, 4.61)	3.9 (3.37, 4.46)	4.3 (4.19, 4.44)	0.259
Progress, mean 95% CI	4.1 (3.87, 4.38)	4.2 (4.05, 4.43)	4.2 (3.96, 4.44)	3.6 (2.86, 4.29)	4.1 (4.01, 4.27)	0.076
Patient convenience, mean 95% CI	4.0 (3.77, 4.22)	4.0 (3.85, 4.19)	3.8 (3.5, 4.07)	3.3 (2.78, 3.85)	3.9 (3.79, 4.03)	0.014

The majority of system users felt that their case had been managed with sufficient urgency (90%), that they had contacted the right number of services (88%), and reported their overall care as excellent or very good (78%). The mean score for *patient convenience* (3.9, 95% CI: 3.79, 4.03) was lower than the other domains of *entry into the system* (4.3, 95% CI: 4.19, 4.44), and *progress through the system* (4.1, 95% CI: 4.01, 4.27).

Satisfaction by length of pathway

Views about whether their case had been managed with sufficient urgency ($\chi^2 = 13.825$, d.f. = 3, $P = 0.003$) and whether they had contacted the right number of services ($\chi^2 = 14.435$, d.f. = 3, $P = 0.002$), differed by the number of services they had used in a pathway (Table 4). People who used four or more services reported lower levels of satisfaction. There was also evidence of this for overall care although this was not statistically significant ($\chi^2 = 3.342$, d.f. = 3, $P = 0.342$). The score for each system satisfaction domain remained fairly constant when up to three services had been used, falling when four or more services had been contacted (Table 4). This was statistically significant for the domain *patient convenience* [$F(3, 141) = 3.681$, $P = 0.014$].

Box 1 Summary of study designs

Entry into the system includes items:

I did not know which service to go to about this problem
I felt that the first service I tried was the right one to help me

I felt sometimes I had ended up in the wrong place

Progress through the system includes items:

My concerns were taken seriously by everyone

I was made to feel like I was wasting everyone's time

I had to push to get the help I needed

I moved through the system smoothly

It took too long to get the care needed

I felt that no one took responsibility and sorted out my problem

I saw the right people

I felt I was given the wrong advice

Services did not seem to talk to each other

At each stage I was confident in the advice services gave me

Patient convenience of the system includes:

Travelling to the services I needed was easy

I was told how long I'd have to wait

Services had the information they needed about me

I had to repeat myself too many times

Services understood that I had responsibilities, like my need to look after my family

The role of services within the system

The diversity of pathways through a system makes it difficult to undertake any analysis at an individual pathway level in a survey of this size. However, it is possible to study pathways another

way – by considering pathways which involve a particular service. For example, any pathway that includes the emergency department could be compared with any pathway including GP out-of-hours. Formal analysis is problematic because the pathways are not independent of each other. This is further compromised by the small number of users of some services. However, this type of analysis can provide an indicator of services appearing to operate less well than others in the context of a system. We looked at satisfaction with the system when individual services were on a pathway (Fig. 1). Although statistical testing was not possible, we have shown that a change of around 0.3 in a domain score would indicate a 'clinically significant' change in satisfaction.⁷ The data indicates that pathways with the GP out-of-hours service and NHS Direct tended to have lower mean scores than other services for all three satisfaction domains. This was particularly the case for *entry into the system*. The emergency department and ambulance service appeared to receive higher mean scores than other services for *entry into the system*. However, numbers were small and these observations should be treated with caution.

Discussion

This study describes the health seeking behaviour of emergency and urgent care *system* users and, for the first time, patients' experiences and views of the system rather than of the indi-

vidual services within it. Users are not a homogeneous group: they enter the system using different health services, at different times, and with different care needs. We found that the majority of patients experience a *system* of care and reported diminishing satisfaction if more than three services were contacted for a health event.

Use of the emergency and urgent care system was estimated as 15% in a 3 month period during July 2007. In a previous study using population postal surveys to explore the use of unscheduled care, 16% of the population had used unscheduled care in the previous 4 weeks.⁴ The focus of our work here was urgent rather than unscheduled care but there is a considerable overlap between these two forms of care and therefore we would have expected higher use in 3 months than we obtained. We validated reported use of key services in the system and our estimates were accurate.⁵

The Healthcare Commission recently acknowledged the need to deliver co-ordinated emergency and urgent care and thereby reduce the problems experienced by patients who are transferred between services.⁸ Users of emergency and urgent care tend to be *system* users with two-thirds of users contacting two or more services in the process of obtaining definitive care. Longer pathways may be an indicator of more complex clinical need but they may also be indicative of patient confusion about where to

Figure 1 Domains of satisfaction by service on a pathway.

access appropriate services, service availability, and patient dissatisfaction with early services on their pathway.⁶ System users in this study exhibited diminishing satisfaction levels when more than three services were used. It is therefore important that services work together as a *system* to reduce pathway length where this is problematic, ensuring efficient patient movement and transfer of information between services.

Policymakers have taken a system perspective of emergency and urgent care,³ and recommended the establishment of 'networks' of system stakeholders to ensure that services are coordinated within local systems.⁹ Although there is considerable variation in the organisation of networks, a common feature of all networks is the focus on a 'whole systems' approach to emergency and urgent care delivery with the network providing the organisational means of introducing change and achieving appropriate policy initiatives. Our previous work confirms that networks are designing and implementing service changes aimed at improving cross boundary working and therefore attempting to improve emergency and urgent care delivery.¹⁰

The Next Stage Review¹¹ highlighted the need to reduce the variation in the quality of care provided in the NHS, and acknowledged the rising expectations of NHS users. Improving access to services was an overriding feature of the review and has led to the introduction of a GP-led health centre with extended opening hours in each primary care trust, in addition to 100 new general practices in areas with the poorest provision. We found that patients were satisfied with their entry into the system suggesting that access in this particular system was already good. It would be interesting to undertake further studies to assess if any future improvements in patient satisfaction are evident following the implementation of new access and equity driven changes to the system.

Previous studies looking at patient satisfaction tend to report high levels of patient satisfaction with specific emergency and urgent

health services.¹²⁻¹⁵ We found good levels of satisfaction with the system overall. We were also able to identify specific services within the system which appeared to affect overall satisfaction with the system. In the system in this study, the emergency department and 999 ambulance service performed well in terms of entry into the system and progress through it. Patient access to these services does not require an appointment, the services are available 24 h a day 7 days a week, and they are long established services familiar to the population. In addition, both of these services have national targets: emergency departments have a target of 95% of patients spending no longer than 4 h in the department from arrival to discharge, and 999 ambulance services have a target of responding to 75% of life threatening calls within 8 min. Patient perceptions of waiting times impact on satisfaction,¹⁶ so it will be of interest to see how the removal of the emergency department 4 h target impacts on patient satisfaction (http://www.dh.gov.uk/en/MediaCentre/Pressreleases/DH_116863, accessed 5 July 2010). In this study there was also some indication that users of the GP out-of-hours service and NHS Direct seemed less satisfied than users of other parts of the system. Both services are accessed via the telephone. There is evidence that some telephone based health services are risk averse.^{17,18} In this geographical setting there was also some overlap between the two because NHS Direct provided the call handling for some GP out-of-hours calls. Other studies have found patient satisfaction with GP out-of-hours^{14,19} and NHS Direct¹⁵ to be high. However, evidence suggests that whilst GP out-of-hours patients were generally satisfied, those receiving telephone advice are less satisfied compared with those receiving other types of GP out-of-hours contact.^{14,20} In addition, both services are available during the traditional out of hours period when other services may not be available, to ensure immediate movement along a pathway. Such a delay in moving through the system could be a factor in reduced satisfaction levels.

Strengths and limitations

This is the first survey of users of the emergency and urgent care system. The survey was administered during the month of July. System use is likely to fluctuate due to seasonal variation and it is possible that if the survey was administered over the winter months, the use of the system would be higher than reported here.

Although considered low when compared to a postal survey, a response rate of 9% is not untypical when using a quota sampling and random digit dialling approach to telephone survey methodology.^{21–23} Using this approach provided a more representative sample in terms of socio-demographic characteristics of the population and accurate estimation of use of services within the system.⁵ However there is still likely to be underrepresentation of some groups, for example people with hearing or speech difficulties.

The study area was not selected to be representative of England. However, the socio demographic profile of the area was generally similar to the rest of the country. Even so, there are areas throughout England that have populations with higher levels of deprivation than the area here and patient experiences and views may differ considerably from those found here. Service provision differs throughout the world and it may be that our findings are not transferable to emergency and urgent care systems in other countries. Finally, the size of the sample in terms of numbers of system users was small and thus offered limitations to precision and power. Nonetheless the dataset was large enough to describe key issues about use and views of the system with the small sample size mainly affecting statistical comparisons.

Implications for practice

Taking both a service specific and a system level approach are essential when trying to improve patient care within the emergency and urgent care system. The service perspective can determine where service improvements can be made, but by its very nature cannot capture the pathway experience of a patient moving between services.

Given the policy focus on improving the integration of services across a patient centred NHS, understanding how the patient negotiates their way through the various emergency and urgent care services, and streamlining this journey, is important. We would argue that taking a broader system perspective is the key starting point in identifying ways to ensure the emergency and urgent care system works for patients.

In a patient centred NHS, patients' perspectives become increasingly important when both developing and monitoring services. This survey could be used in two ways by those organising emergency and urgent care. It could be used when planning emergency and urgent care re-design to detect problems with a system from patients' perspectives. For example, an organisation may identify a large proportion of users with long pathways or a service which appears to perform poorly in the context of the system. The survey could also be used to assess the impact on patients' experiences and views of any changes made to an emergency and urgent care system by undertaking this survey before and after the change. For example we are assessing the impact of the introduction of the '111' non emergency telephone service on system users' experiences and views using the same approach, albeit with a larger sample size.

Conclusions

This is the first study to describe patients' experiences and views of the emergency and urgent care system, rather than the individual services within it. Our study indicated that the majority of patients experience a system of care rather than single service care. In this particular system there was an indication that longer pathways resulted in lower levels of patient satisfaction.

Health care organisations can undertake similar surveys to identify problems with their system or to assess the impact of changes made to their system.

Conflict of interest

None.

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