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Evaluation of GP led walk in centres in Sheffield and
Rotherham

PhD thesis

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Abstract

Background

General Practitioner led walk-in centres (GP WICs) were established in the UK in 2009. Their purpose was to reduce unnecessary patient load at Emergency Departments (EDs) and to increase the accessibility of GP health care services. The objectives of this study were to determine the satisfaction and experiences of users of GP WICs, the impact of GP WICs on local EDs, and the views of health care professionals about the centres.

Methods

A survey was conducted in two GP WICs in Sheffield and Rotherham during September and October 2011. Routine data were obtained from EDs in Sheffield and Rotherham, one year before and one year after the opening of the GP WICs, to estimate the impact of their opening. Interviews were conducted with PCT managers, GPs, and ED consultants and nurses to determine their views about the impact of GP WICs on other services.

Ethical approval of the study was obtained by Yorkshire and Humber NHS REC in 2010.

Results

Based on a sample of 1030 survey participants, 93% of patients were either highly or fairly satisfied with the service at the Rotherham GP WIC and 86% at the Sheffield GP WIC. The difference between the centres was due to the longer reported waiting times in Sheffield.

A statistically significant reduction of 5% (95% CI 1% to 16%) in minor ED attendances was found at the Sheffield adult ED following the opening of the WIC. No impact was found on any other service.

There were some discrepancies between the views of managers and health care professionals regarding the usefulness of the GP WIC in Sheffield. Managers

perceived it as an important service whilst most of the healthcare professionals were not in support of the idea of establishing GP WICs.

Conclusion

GP WICs provide easy access for minor health care problems. The study found evidence that GP WIC reduced attendances at ED, but not by as much as would have been estimated from the patients' reported intentions. However, if the centres have to be closed down without finding an alternative, there might be a significant rise in attendances at other NHS services.

Glossary

WIC: walk-in centre

PC: Poly clinics

CHC: Community health centre

NHS: National Health Service

MIU: Minor injuries unit

ED: Emergency Department

UCC: Urgent care centre

CCG: Clinical commissioning group

PCT: Primary care trust

CCC: conventional care centre

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Research paper publications and conference presentations

Paper 1 (appendix 1)

Mubashir Arain, Jon Nicholl, and Mike Campbell. "Patients' experience and satisfaction with GP led walk-in centres in the UK; a cross sectional study." *BMC health services research*. 2013;13 (1):142.

Paper 2 (appendix 2)

Mubashir Arain, Mike Campbell and Jon Nicholl. Impact of a GP led walk-in Centre on NHS Emergency departments. *Emerg Med J* 2014;0:1–6. doi:10.1136/emered-2013-202410

Conference presentations

- Oral presentation on the impact of the GP walk-in centres on other NHS services in the UK. Mubashir Aslam ARAIN, Jon NICHOLL, Mike CAMPBELL. The Future of Primary Healthcare in Europe (IV); Crossing Borders in Primary Care. IVth EFPC biannual conference in Gothenburg. Sweden. 2012.
- Oral presentation on GP led walk-in Centre in Sheffield and Rotherham; Another way of urgent health care provision. Mubashir Aslam ARAIN, Jon NICHOLL, Mike CAMPBELL. GRF Davos One Health Summit 2012. Switzerland.
- Oral presentation on "Evaluation of the GP led walk-in centres in Sheffield and Rotherham". Annual Graduate Research conference 2010; University of Sheffield.

Chapter one

Background

1.1 Introduction

Health services are evolving and new services are introduced from time to time for the provision of better and timely care to patients. In the UK the National Health Service (NHS) is responsible for providing healthcare services in the UK and for implementing new services and healthcare related policies. The NHS has made a number of efforts to strengthen primary healthcare services to increase accessibility of healthcare as well as to address patients' needs by introducing new urgent care services such as NHS Direct, walk-in centres, urgent dental services, and out-of-hours services to complement existing General Practitioner (GP) services. In the past few years there has been a particular concern about an increase in the use of Emergency Department (ED) services provided by the NHS (Gillam, 2010; Nicholl et al, 2013) and part of the rationale for introducing the new urgent care services has been to stem this increase. Although the new urgent care services may have benefits for patients, it has been argued that they are unlikely to reduce patient load at EDs (Coleman et al, 2001). For example, if a large proportion of patients present to EDs with acute and serious illnesses/injuries then alternative urgent care services for minor problems are not likely to have an impact. Clearly, evaluation of local needs before introducing a healthcare service is important to ensure that the service is valuable, and close monitoring and evaluation of healthcare services is also required to maintain the quality of the services and their proper utilization by patients (Dias, et al, 2008). Moreover, introduction of new services needs to be in line with patients' needs and preferences (Gerard et al, 2004).

NHS nurse led walk-in centres are one way of providing accessible healthcare services to the general population without compromising the standard of care (Mabrook et al, 1998). Walk-in centres function in other countries under different names and with a different range of services (Mountford et al, 2001). The United States of America (USA), Canada, South Africa and Austria have been developing walk in centres for

many years. The walk-in centres in North America and Australia primarily provide care outside office hours because unlike in the UK, where GPs are responsible for a defined list of registered patients 24 hours a day (although they may provide this care through a co-operative or deputising service for out-of-hours), GPs in other countries are often not accessible outside office hours, and patients are free to choose the most convenient healthcare provider (Salisbury et al, 2003).

The NHS introduced nurse led walk-in centres in 2000 which were opened in almost all cities. The NHS walk-in centres provide basic healthcare service by trained nurses. These centres are open for longer hours than GP practices and are also open on public holidays. Unregistered patients can also get healthcare services through these centres without needing registration or prior appointment. The main purpose of these centres was to provide easy and timely access to every resident of the city and to decrease patient load on other NHS services. The effectiveness and efficiency of these healthcare centres regarding the provision of care is debatable. One ecological study which was conducted to determine the effectiveness of walk-in centres for reducing waiting times at other primary healthcare service found no impact of the centres on other services (Maheswaran et al, 2007). Other studies have also shown no evidence of a reduction in patient load on other services as a result of the opening of walk-in centres (Salisbury et al, 2003 and Chalder et al, 2003). One possible explanation for these findings is that new walk-in centres increase the number of patients seeking care for minor and self-limiting illnesses. This might contribute to an increase in patient load at other services as a result of an increase in referrals through the centres (Salisbury, 2003). In contrast to these disappointing findings, patient satisfaction with the quality of service has been found to be greater at walk-in centres as compared to GP practices as a result of easy access and much shorter waiting times (Salisbury et al, 2002a). Furthermore, the services have been found to provide a high standard of quality of care and to be safe (Grant et al, 2002).

A new kind of GP led walk-in centre was introduced in the UK in 2009 following a report by the Department of Health on the situation of urgent care services in London (Darzi 2008). In the first instance these centres started in London where they are called

‘Poly Clinics’ and they provide a mixture of different primary healthcare services under one roof delivered by GPs and trained nurses. Most of the primary healthcare was supposed to be provided by these poly clinics in London, and one such centre was supposed to be opened in every Primary Care Trust (PCT) in the NHS so that around 150 such clinics were planned to open in the UK (Imison et al 2008). Most PCTs established a centre in their localities in 2009–10. In some areas the centre is known as a Darzi Centre (after Lord Darzi who proposed the need of such centres by the Department of Health), whilst in other areas they are known as GP walk-in centres or GP led walk-in centres. The range of services also varies from centre to centre. However, most of the centres were initially planned to be equipped with a diagnostic laboratory, a pharmacy, and other community health services, such as smoking cessation and sexual health, along with GP and nurse consultations.

Urgent care can be defined as care that is sought and provided on the same day that the need arose. This is also sometimes called unscheduled or immediate care and is care that can be provided in the form of medical advice/reassurance, treatment or follow up. The GP WICs were opened with the aim of strengthening primary care services as well as providing urgent care. In the current urgent care system in the NHS, these centres act as a first point of contact for urgent care where the centre is available. Other first point of contact urgent care services in the NHS include ambulance services, EDs, GP in-hours and GP out-of-hours services, and NHS 111.

GP led walk in centres (GP WICs) are staffed by GPs and nurses in contrast to earlier walk-in centres set up in the UK where only nurses have been providing care (Sheffield GP Health Centre website). There were some local consultations about the services which the centre was going to provide (appendix 3) GP WIC provide nurse and GP consultations. These new GP centres are also able to deal with chronic diseases such as diabetes, asthma and heart disease, and the centres also provide the opportunity to access medical records. Therefore, these new services were expected to satisfy many of the previous objections to walk-centres. However, another debate was raised regarding how these new services were different from existing NHS nurse led walk-in services and how patients should choose which service to use at the time of need. Were they going to complement the existing services provided by the NHS or going to compete with them in certain areas? Some of the new centres have already been closed

down because of the lack of the evidence to show any reduction in ED attendances (Yorkshire post, 2011) and in many areas, the GP WICs have been merged with the nurse led centre such as in Sheffield and Rotherham where this study was conducted. Another report revealed that around half of the walk-in centres have been closed down (Brian, 2012). In the light of these concerns a report from the King's fund (Gregory 2009) clearly flagged the need to evaluate the impact of the GP WICs in the UK.

This new type of GP led walk-in centre has also been introduced in both Sheffield and Rotherham and the purpose of this research were to determine the effectiveness of the GP-walk-in services in Sheffield and Rotherham.

The literature search found several studies of the impact of various types of nurse led walk-in centres, but no evaluations of the impact of GP WICs. The specific research questions about any impact of these centres originated from considering the policy papers about the purpose of establishing GP led walk-in centres in the UK, which mainly included better access to GPs and reducing unnecessary patient load at other services. Considering the literature on the topic, it was found that critiques against walk-in centres often came from health care professionals. It was therefore also considered important to include the perspective of other local healthcare providers about the role of GP WICs. Hence, exploring the views of key informants was also included in the research questions.

1.2 Why access is important?

The term "Access" has been used in health care for a long time without having a particular definition (Khan et al, 1994). Access is a complex idea and societies may define access differently at different stages of development (Gulzar, 1999; Guagliardo 2004).

One of the earliest definitions of access was provided by Bureau of Health Planning (1979) as

“The ability of a population or a segment of a population to obtain health services. This ability is determined by economic, temporal, locational, architectural, cultural, organizational, and informational factors which may be barriers or facilitators to obtaining services.”

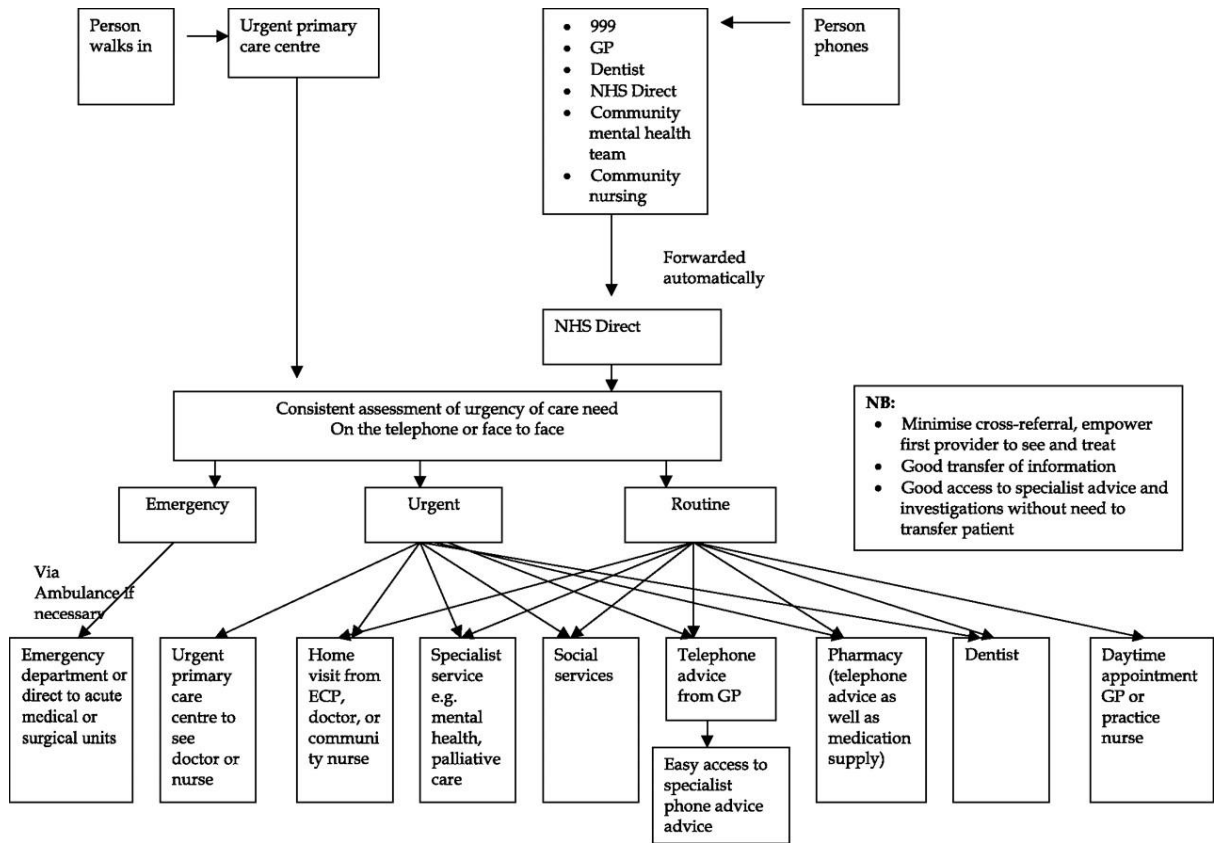
The World Health Organization (WHO) included accessibility to health care services as an integral part of a Primary Health Care model. According to WHO (1978),

“Accessibility implies the continuing and organized supply of care that is geographically, financially, culturally, and functionally within easy reach of the whole community. The care has to be appropriate and adequate in content and in amount to satisfy the needs of people and it has to be provided by methods acceptable to them.”

Geographic accessibility means that the distance, travel time, and means of transportation are acceptable. Financial accessibility means that whatever the method of payment, services are affordable. Cultural accessibility means using technical and managerial methods in keeping with the cultural patterns of a community. Functional accessibility is having the right kind of care available on a continuing basis to those in need when they need it.

This difficult concept of access to health care has been discussed by Gulliford et al (2001) who argued that access can be conceptualised in at least four ways. The extent to which a patient can have access to a healthcare service depends on financial, organizational, social and cultural barriers which can potentially limit service utilization. Gulliford et al highlight the issue of differing assumptions and expectations in relation to access and suggest that the availability of services and barriers to utilisation need to be evaluated in the light of the differing perspectives, health needs, and settings of diverse groups in society. It is also note worthy that access may not be related to need and hence it is sometimes difficult to define and differentiate between the two (Giannone, 2003).

Access to health care is associated with the overall health status of the community. Therefore, the difference in the health status of people in different communities is likely to be associated with cultural and financial accessibility. Sometimes there are also legal barriers to health care access as a result of illegal immigration. In many European countries, undocumented migrants have poor health status as a result of restricted access to healthcare services (Biswas, 2011).



ECP, emergency care practitioner; GP, general practitioner.

Salisbury C , and Bell D Emerg Med J 2010;27:186-188

In the UK, access to the primary healthcare is particularly important because it acts as a gate keeper for other specialty services (Salisbury et al 2007a). Primary care is a major component of England's NHS. Around 300 million consultations per year with GPs in England make up about 80% of all patient contact with the NHS. In addition to providing healthcare to the registered population, GPs are charged with coordination and gatekeeping of access to services provided by secondary care, tertiary care and other allied healthcare providers (Gibbons et al, 2012). However, there is an issue with quick access to primary care services (GPs) in the UK, and there is pressure on GPs to increase opening hours and improve urgent care access (Lind, 2013). The Government has taken a number of measures to improve primary care access. In 2004, the Government introduced Advanced Access to manage demand through a variety of alternatives to face-to-face appointments with GPs (Lattimer 2005). The new model of advanced access to GPs is an innovative approach where telephone triage is used in GP surgeries, which was said to dramatically increase the capacity of surgeries, help reduce unnecessary visits, and enable quick access to those who are in urgent need (Vance, 2007). One evaluation of advanced access in general practice found a slight increase in quick access to GPs without any decrease in the continuity of care, however no dramatic benefits were seen (Salisbury et al, 2007a).

In addition to access to health care in general, there are particular concerns about urgent care access. Access to urgent care services is also defined in different ways according to the health care system (Salisbury, 2010). For urgent care, access to primary care services is important as it may prevent unnecessary work load on EDs. There are a number of services in the UK for the provision of urgent care services out-of-hours and in-hours to improve access which together makes up the urgent care system (Salisbury, 2010). There are multiple first points of contact available to access health care services (figure 1.1). In Salisbury's model, shown in the figure, patients first come into contact with the system either through telephone consultation or in person and are then classified as emergency cases, urgent cases or routine cases. The emergency cases go straight to EDs and there is no confusion about those cases. However, for cases classified as routine or urgent, there are a number of overlapping services and several factors influence who uses which service. This confusing picture

may make what the Bureau of Health Planning referred to as ‘informational’ factors affecting access worse (Bureau of Health Planning, 1979).

1.3 Research questions

The research questions of this study were;

- What kind of patients (characteristics of service users such as age, sex, ethnicity) use the GP walk-in services?
- Do these centres have greater activity during out-of-hours when other GPs are closed or in-hours?
- Why do patients use these GP WIC services?
- How satisfied are patients with the services and what are their experiences with the services?
- Is there any impact on other NHS services as a result of the opening of the GP WICs?
- What do other healthcare providers think about the role of GP WICs in urgent care services provision?

1.4 Different approaches to evaluation

The understanding of epistemology, that is how things come to be known, and particularly the two different approaches of positivism and post positivism provide insight about the paradigm through which researchers can address a research question. The positivist approach is concerned with measuring or recording observable phenomena, and so is more concerned with numbers and quantitative kinds of research. On the other hand post positivism argues that human beings cannot be taken as a scientific tool or experimental elements, hence cannot be researched without an in-depth understanding of the social context. Therefore, post positivism uses qualitative approaches and tries to obtain an in depth understanding through richness of data. The methodology used in a research study depends on the approach chosen and then particular methods and tools are required to address the specific research questions. For example, in quantitative research, hypothesis testing methods require appropriate sample sizes and representative samples to generalize the results, whereas qualitative research methods help in theory generation and do not require a fixed sample which may or may not be representative. The tools used might, for example, be questionnaires or laboratory investigations in a quantitative approach or interviews or focus group discussions in qualitative research.

Evaluation is a necessary component to every program, regardless of its size, age and orientation. There are numerous purposes and numerous approaches to evaluation (Craig et al, 2008). The methods used for evaluation are very much dependent on the research questions asked so it varies according to the research questions (Sackett & Wennberg, 1997; Guyatt et al, 2000). There are certain research questions which can only be answered effectively through qualitative research (Mays and Pope, 1995), while others need to be answered through a quantitative approach or through mixed methods. In addition, it is important to consider who is the target audience for that particular evaluation and who would benefit from the project. Answers to all these questions help in deciding about a particular approach to be used to evaluate a healthcare service.

One of the evaluation approaches is the Rapid Evaluation Method (REM) which is planned and executed with the active participation of the health service and the service managers, staff trainers and supervisors, and the staff themselves. This evaluation method is particularly important when information needs to be generated within days or weeks (Anker et al, 1993). Hence, the method is more popular for commercial purposes and where client satisfaction is required. The information produced is followed by managerial action to strengthen the system and to develop further plans on health care services. So this approach is most appropriate when the research questions are about how to improve and strengthen services, rather than how effective or cost-effective the services are.

For determining cost-effectiveness, economic evaluation is necessary. Economic evaluation uses a set of analytic tools to assess the value for money of alternative ways of allocating limited resources to health care (Fulop et al, 2001). There are two important aspects of economic evaluation; first, economic evaluation involves comparison and it is only possible to report value for money service if an appropriate comparison is available. Second, economic evaluation focuses on both cost and non-resource consequences which are potentially valued for users such as health effects and healthcare access.

The rationale for using economic evaluation includes appraisal of any change in the allocation of resources, model of care and organisational changes such as service delivery. Value for money is an important aspect of any new service as well as for any change in the existing health care services. The issue of the cost incurred by patients (service users) is a particular area in economic evaluation for debate (Torgerson et al 1994). Drummond (2005) emphasised the need for improved methodology of economic evaluation to produce more useful and generalisable results (Drummond et al, 2005). One of the important limitations of the economic evaluation approach is that this approach mostly helps only in assessing the efficiency of the service delivery in terms of health and there is limited consideration of the impact on other important aspects such as access and satisfaction. The GP WIC would benefit from economic evaluation if the research question would be more focused on cost effectiveness of the

services. Although cost effectiveness is an important aspect of GP WIC services, the main purpose of establishing the centres was to improve patient access and reduce unnecessary patient load at EDs. So it was decided not to focus on the question of cost-effectiveness, especially since the researcher had little expertise in economic evaluation.

The epidemiological approach includes a set of research designs for estimating the magnitude of benefits of interventions to improve delivery of health services (Fulop et al, 2001). The randomised controlled trial is considered as the gold standard method for evaluating health services interventions at an individual level and the equivalent is cluster randomised trials at an organisational level (Cochrane, 1979). Cluster designs address some of the issues of contamination which might occur in individual level RCTs. However, in cluster designs fewer units (such as hospitals) are available to randomise compared to individual RCTs so the balance between the groups can be affected and the ample benefits of randomisation may not be achieved. Moreover, randomisation is not always possible in health services research because of ethical concerns as well as due to the fact that implementation may happen at a national level so the researcher is unable to evaluate an intervention through randomised trials (Black, 1996). Thus, other appropriate designs are needed in the epidemiological approach which are more applicable in health services research. These include before and after studies, time-series analyses, cohort studies and case-control designs. Before-and-after designs aim to measure the effects by comparing them before and after the introduction of an intervention. This design has a particular limitation of not being able to control for other concurrent changes over the period of time. Researchers often use a control population which is similar in characteristics and study the effect before and after in the population of interest where the intervention was applied and compare that with the control population. Time series designs detect the effect of an intervention adjusting for the underlying secular trend (Cook and Campbell, 1979). These designs are sometimes known as interrupted time series when observations over a time period are interrupted by an intervention (CRD's guidance, 2008). Again, in time-series analysis, it is possible to have a control arm which is a set of observations in a similar setting but without the intervention or interruption. This helps in further ensuring that the

effect seen was due to the intervention and not because of any other changes over the period of time which would have influenced the outcome.

The aim of epidemiological studies is to determine if there is any causal relationship. For example, does national level cancer screening improve early detection of bowel cancer? Researchers need to decide which design is appropriate according to the purpose of research and the available resources. However, if non-randomised or observational methods such as time series need to be used, the findings should be interpreted with caution (Craig et al, 2008). The main limitation of non-randomised designs is the lack of randomised controls which introduces a threat to the internal validity of the study (Cook and Campbell, 1979).

Process evaluation, also known as implementation evaluation, is used to investigate how a specific program operates. There are three main questions that process evaluation can answer. First, why was this program developed? Second, how is this program operated, and finally is the program operating as intended? This approach is particularly useful in complex public health interventions where outcome evaluation needs to be combined with a process evaluation (Moore et al, 2014). The process evaluation may combine qualitative and quantitative data to investigate complex interventions. In 2008, the Medical Research Council published revised guidelines on evaluating complex interventions. The guidelines indicate the usefulness of process evaluation in complex evaluations (Craig et al, 2008). However, no set guidelines are available on how to conduct a process evaluation.

Realistic evaluation is another approach used in health services research and involves qualitative and quantitative data collection. The term 'Realistic Evaluation' was first used in Pawson's and Tilley (1997) seminal work. They developed a theoretical model that was not focused only what outcomes were produced after implementing new interventions but also how they were produced, and what is important about the varying conditions in which the new interventions take place. This new framework claims to be "a blend of theory and method, quality and quantity, ambition and realism, which promises greater validity and utility from the findings of evaluation studies" (Pawson's and Tilley, 1997). This is a new evaluation paradigm which shows how programme evaluation needs to be, and can be, improved. This framework can be

applied to qualitative data as well as quantitative data derived from descriptive or experimental studies.

Tilley criticises the quasi-experimental model of service evaluation as the model is unable to identify how different interventions work differently in different contexts. Realistic evaluation on the other hand seeks to understand the contextual conditions where the intervention is effective (Tilley, 1998). Realistic evaluation does not use a simple cause-effect model in terms of outcome, but sees an outcome as being produced in a social context which must be taken into account. Therefore, one of the purposes of this evaluation method is to determine ‘what works for whom’, ‘in which contexts particular programs do and don’t work’, and ‘what mechanisms are triggered by what programs in what contexts’. For example, if the question is asked whether an intervention is working or not, the answer from a realistic approach would be that it depends on the circumstances where the intervention is particularly useful or not useful. This method of evaluation provides comparison of interventions in different settings and how an intervention fits into a particular system of health care delivery. A particular strength of realistic evaluation is the ability to take the lessons learnt from one evaluation and apply them across a range of different contexts (Gill and Turbin, 1999).

One of the limitations of the realistic evaluation approach is that it is intellectually enormously challenging. It requires sustained thinking to work through program theory to come up with a defined outcome and contextual framework in which the intervention is functioning.

This evaluation of GP WICs involves different models of healthcare services in different settings and the primary objectives were to identify how the model works in a particular situation. However, no single hypothesis was made in this research and a number of research questions were established. Both qualitative and quantitative data have been collected to come up with an answer to these research questions, hence the study uses a mixed methods approach. Although the study uses some elements of the realistic approach to evaluation, there is no specific objective to investigate why the intervention works or not. My approach in this project was mixed method and it was

broader in a way that multiple research questions were answered through multiple methodologies.

Mixed methods research was defined by Johnson et al (2007) as

“Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration.” (Johnson et al, 2007, p. 123).

This definition was based on and extracted from 19 different definitions available in the literature on mixed methods research.

There are some important strengths of mixed method approach such as more confidence in findings when rich data from multiple sources is obtained as well as ensuring that the voice of hard to reach population is also heard in research (O'Cathain et al, 2006; O'Cathain et al 2007). The use of mixed methods approach is increasing in health services research and it is considered as a very useful approach in health services evaluation (Curry et al, 2013). Moreover, mixed method design is used for a number of purposes in health services research including determine the sample, understanding how interventions work in real world, determining generalisibility and designing study instruments (O'Cathain et al 2007).

One of the strengths of this methodology is the richness of data from multiple sources to help the researcher in understanding different aspects of the service. The mixed method approach uses the strengths of both quantitative and qualitative research methods. Investigators often integrate the qualitative and quantitative data which maximizes the strengths and minimizes the weakness of each of the data types (Creswell et al, 2011). The underlying rationale for inquiry in mixed methods research is to generate broader and deeper insights into a topic of research (Greene and Caracelli, 1997). It provides better and comprehensive understanding of the research problem than either quantitative or qualitative approaches alone. A large proportion of

health services research studies use a mixed methods approach to bring comprehension in the study (O'Cathain et al 2007).

1.5 Study design

This was a mixed methods evaluation study in which quantitative data was obtained through patient surveys and secondary data sets while qualitative data was collected through interviews with the key informants.

There are number of designs through which a healthcare service can be evaluated depending on the purpose of evaluation (Bowling, 2009). Either qualitative or quantitative data can be used although many prefer a mixed method approach which can achieve more than either approach alone (O'Cathain et al, 2007; Creswell, 2011). The quantitative approach is usually considered as providing hard data which can be used in decision making models (Denzin, 2005). It may also help in describing the use of services, estimating the cost per visit and cost effectiveness, and to measure other indicators which can be estimated through numbers. This kind of approach often measures outcomes and evaluates healthcare services typically using questionnaires. In addition, routine data (that is data not collected specifically for the research) can also be used in the quantitative approach and is usually focused on the processes of care. Qualitative research methods have been gaining in importance for evaluating healthcare services and are particularly important when in-depth information is required on a particular aspect of a healthcare service (O'Cathain et al, 2010; Mays & Pope, 2000). These methods typically use focus group discussions with the patients, or in-depth interviews of the patients and/or staff involved in providing healthcare services. This method is more useful in understanding the wider aspects of healthcare through in-depth information. Researchers also use mixed methods (qualitative and quantitative) to come to a conclusion about the value of new services, and this approach is becoming increasingly popular in health services research (Wisdom, 2012). However, the principal objectives in this project were to describe the characteristics of patients using a new GP WIC healthcare service, measure the impact of the new services on the surrounding NHS services, and to measure patient experiences of and

satisfaction with the new services. Therefore, a quantitative method was considered to be the major approach to achieve these objectives.

It was also considered important to obtain a holistic view about the GP WIC services and to gain some insights into the perspectives of other healthcare providers regarding the role of the GP WICs and how the services were working and how they could be improved. Therefore, in addition to the quantitative data, qualitative data obtained from interviews with local healthcare providers was needed in a mixed methods evaluation.

This evaluation study has not looked into the health economics aspects and no cost effective analysis was performed. These services might be cost effective if a large number of patients divert from EDs to the GP WICs. However, there is little evidence that outreach services are cheaper than hospital services, and relocation of services also results in significant costs (Powell 2002; Gruen et al 2003). Although cost effectiveness is an important aspect of GP WIC services, the main purpose of establishing the centres was to improve patient access and reduce unnecessary patient load at EDs. So it was decided not to focus on the question of cost-effectiveness, especially since the researcher had little expertise in economic evaluation.

Ethical approval of the study was obtained by Yorkshire and Humber NHS REC in 2010.

1.6 Summary

In this chapter the context of establishing GP WICs in the UK is discussed and the rationale for their evaluation is also discussed. GP WICs were established in 2009 after a report from the Department of Health about how to improve patient access to GP care. One centre was established in every PCT. GP WICs open 7 days a week for at least 12 hours a day. The purpose of this research was to understand the role of GP WICs in the provision of urgent health care, patient satisfaction with these services and their impact on other NHS services. Different approaches to answer the research questions are described in this chapter.

Chapter two

Literature Review

2.1 Introduction

In this chapter, different models of walk-in centres and other unscheduled care services in the UK, the impact of the walk-in centres and the role of the walk-in centres in the urgent care services delivery will be discussed in the light of the existing literature. In addition, the methods of literature search will be discussed. The scientific literature on walk-in centres is mostly related to NHS nurse led walk-in services. There are also evaluation reports related to other kinds of walk-in centres such as commuter walk-in centres and walk-in centres co-located with EDs. However, only little literature is available on the GP WICs. Therefore, some grey literature was also included to cover the literature specifically related to the GP WICs.

2.2 Methods of literature search

The Medline (Pubmed), CINAHL, Scopus, Embase and Web of Science search engines were mainly used for the index literature. Google Scholar was also used to retrieve grey literature and for retrieving the full text of certain articles which were not available elsewhere. Other literature was searched in NHS newsletters, Pulse and NHS Health Services Journal to retrieve local health service reports and news related to the GP walk-in centres. There was no restriction applied on the date of the publication of articles. However, most of the literature was published within the last 15 years (since 1995). No language restriction was made on the literature search. Keywords were looked for anywhere in the text (title, abstract and main article). The primary aim of the literature search was to retrieve scientific literature published in the UK or other countries where walk-in healthcare services are functional. The initial literature search was conducted during the first year of PhD (2010) but the literature was updated

throughout the project. The primary keywords used in the searches are given in box 1. In addition, literature was also identified and retrieved through the references of the selected articles.

Box 1 The primary keywords used for retrieving literature from Medline, CINHAL, Scopus, Google Scholar, web of science

1. Walk-in centre\$
2. urgent care centres
3. walk-in clinic\$
4. Darzi centre
5. Retail clinic\$
6. Polyclinic\$
7. Ambulatory care facilities
8. Minor injuries
9. Minor illness\$
10. urgent care centre
11. GP led walk-in centre
12. super surgeries
13. unscheduled access or unplanned access
14. Primary healthcare
15. Nurse led service\$
16. drop in centre\$
17. Nurse-Managed Centres

2.3 Quality of the studies included in the literature review

An important part of the literature review process is to assess the risk of bias in included studies. The bias can be introduced because of poor design, or inappropriate conduct or analysis of the study which can lead to an underestimate or overestimate of the effect of any intervention being evaluated. In this review, the methodological quality of the included studies was assessed in order to understand about the quality of literature. There are a number of scales available for assessing and scoring study quality (Downs et al, 1998; Moher et al, 1995; Ramsay et al, 2003). However, the use of quality scores might be problematic and it is preferable to consider individual aspects of the quality of study in terms of how the study was designed, conducted and

interpreted (CRD's guidance, 2008; Greenland, 1994; Jüni et al, 1999). In this review, therefore, there was no specific tool used to produce any scoring. The quality was assessed by looking at the methodology of individual studies and some of the potential biases in the studies.

Quality is a complex concept involving the validity of a study. The validity of a study is the assessment of how near the study findings are to the 'truth' and whether the findings are of relevance in the particular setting or patient group of interest. How the validity of a study should be assessed depends on the aims of the review.

The following indices are commonly considered to assess the quality of any study:

- Study design and its appropriateness to the research objective
- Any potential bias in the study
- Any issue related to study quality
 - Choice of outcome measure
 - Statistical issues
 - Quality of reporting
 - Quality of the intervention
 - Generalisability

Appropriateness of study design

The type of study can be used to assess its susceptibility to bias. Randomised Controlled Trials are considered as the best design to evaluate the effect of an intervention, followed by non-randomized intervention studies, quasi experiments, cohort, case-control and case study/case series. However, simply grading the studies according to the hierarchy of study design provides an inadequate assessment and does not consider variation in the quality of studies of the same study design (CRD's guidance, 2008). Moreover, it needs to be remembered that it is not always possible to use an RCT design for evaluating an intervention. In the case of GP walk-in centres and other health care services, the introduction of the service is not likely to be under the control of researchers which makes it difficult to evaluate the intervention using an RCT. In addition, it may not be ethically appropriate to conduct an RCT, for example to evaluate the effects of smoking on health. Sometimes the information provided in the study is ambiguous (particularly in the case of observational studies) and it might

be necessary to evaluate any potential bias using different aspects of the study rather than relying on the descriptive label used. In general, it can be observed that observational studies are more susceptible to internal bias in comparison to experimental studies, and findings and conclusions are more tentative, indicating areas for further research (Deeks et al, 2003).

One of the useful study designs in healthcare intervention evaluation is quasi-experimental where a study determines the effect of an intervention by comparing populations with and without the intervention, such as before and after its introduction. In before and after designs the comparison is usually made in the same group of participants hence reducing selection bias. An interrupted time series study, which is an alternative to a before and after study, determines the effect of an intervention by observing sets of information over a period of time, thus permitting the separation of real intervention effects from other long-term trends.

Risk of bias

Bias refers to systematic deviations from the true underlying effect brought about by poor study design or conduct in the collection, analysis, interpretation, publication or review of data (CRD's guidance, 2008).

Selection bias: This bias can be introduced at the stage of the selection of the participants from the local population which can cause systematic differences between the selected participants and the local population (Carneiro, 2011). Systematic differences may also be introduced between different groups being compared within the study (Carneiro, 2011; Higgins, 2011).

Performance bias: This systematic difference can occur as a result of differences in the provision of care to the participants in the intervention group in comparison to the participants in the control group.

Detection bias: This can occur where certain study participants or specific groups are more closely observed than other study participants. Detection bias can be introduced where the assessor is aware of the treatment provided.

Other bias: It is also important to identify any other bias exist in the selected studies by examining the studies such as reporting bias, bias because of non-responders, etc.

Other issues related to study quality

It is important to identify and evaluate the outcome used in the study in order to understand the validity and reliability of the study. For example, if patient satisfaction is measured in a study, it is important to determine if a valid scale was used and whether or not the scale was aimed to be applied in the same setting and population in which it is being used.

In addition, to understand and evaluate the risk of bias it also needs to be considered whether the research findings can be applied to other similar settings, which is known as the generalisability of the study (Jüni et al, 2001).

Quality of studies in the GP WIC review

Most of the studies included in the GP WIC review were observational studies and surveys. In addition, most of the studies did not have a control arm to compare findings of the intervention groups. Some of the important studies included in the review were divided into different groups in accordance with the research methods applied. These were cross sectional surveys (Coleman et al, 2000; Hutchison et al, 2003; Larsen 2004; Pope et al, 2005; Salisbury et al, 2005), mixed methods studies (Chalder et al, 2007, Coster et al, 2009; O’Cathain et al, 2009; Salisbury, 2003), secondary data analysis (Weinick et al, 2010; Christakis et al, 2001), and miscellaneous reports (Gregory, 2009; Imison et al, 2008; Maybin, 2007) and editorials (Hellstern, 1987; Salisbury, 2008; Nicholl and Mason, 2013). In addition, there were time series analyses (Chalder et al, 2003; Munro et al, 2005), non randomised controlled studies (Turner et al, 2013, Salisbury et al, 2007c), studies with a before and after design (Hsu et al, 2003), ecological study (Maheswaran et al, 2007) and reviews (Salisbury and Munro, 2003; Desborough et al, 2013; Purdy, 2010). Qualitative studies were also included in the review (Jackson et al, 2005). Whilst design limitations were identified in some studies, these were not to an extent that warranted exclusion from the review. The major limitation in applying the findings of

this literature review to GP WICs, was that most of the literature related to nurse led walk-in centres. Literature related to GP led walk-in centres is scarce.

A large scale study on patients' experience and satisfaction compared walk-in centre services and general practitioners at 38 walk-in centres and 34 GP surgeries (Salisbury et al, 2002). The survey questionnaire contained questions related to socio-demographic characteristics, location and opening hours, reasons for consultation, satisfaction with the service and treatment provided or referral information. The response rate was 82% (85% at walk-in centres and 77% at GP surgeries). The study also compared data of responders with non-responders and found no significant differences in terms of sex and age. The study found that convenience and quick access were the most common reasons for using walk-in services. A greater proportion of users were young adults. The study also revealed that the users of walk-in centre were more satisfied in comparison to the GP surgeries. It was a large scale study with a large sample of around six thousand patients (walk-in centres patients: n=3785 and GP surgeries patients: n=2263). The GP surgeries were also selected from the nearby locations of the walk-in centres. In addition, the response rate was very high for a questionnaire study (82%) so the results were likely to be representative.

One important study (Chalder et al, 2003) included in the review assessed the impact of NHS walk-in centres on the workload of local accident and emergency departments, general practices, and out of hours services. This was a time series analysis with control sites to compare changes over time at EDs, GPs and out-of-hours service in towns with a walk-in centre within 3 kilometres and those without a walk-in centre. A total of 20 emergency departments, 40 general practices, and 14 out of hours services were included in the study. The main outcome of the study was the mean number (emergency departments) or rate (general practices and out of hours services) of consultations per month in the 12 month periods before and after the establishment of a walk-in centre in the locality. They found small and not statistically significant reductions in attendances at ED and general practices. This appears to have been a well designed and analysed study, though the estimate of the impact on general practice is unreliable as only around 25% of general practices supplied their routine activity data.

Maheswaran et al (2007) conducted a large scale ecological study to determine the impact of walk-in centres on waiting times for a general practice appointment. The study examined the influence of 32 WICs in 56 primary care trusts in England. The main outcome of the study was waiting time to the next available appointment with a GP surgery. The study found no effect of a single walk-in centre on workload or waiting times in nearby practices. One of the limitations of the study was the unavailability of data on staffing levels at GP surgeries which might have changed in response to changing patient loads, leaving the waiting time the same.

Salisbury et al (2007c) aimed to determine the impact of walk-in centres co-located with EDs on attendances rates, visit duration and cost at those EDs. It was a controlled before and after study at eight EDs with walk-in centres and matched controls with no walk-in centres. Data was collected through observations, interviews with managers and documentary analysis. Similar data were collected at control sites. The study found that there were only few differences between the EDs with or without co-located walk-in centres in terms of patients attendance rates, cost and waiting time. Only difference found was the greater role of nurse management of patients at EDs with walk-in centres. The study had a limitation of using routine patient records so the quality of data may be questionable. Secondly, the study was conducted just a few months after the establishment of co-located walk-in centres so the organisational model and patients' use of the new facilities might change over time.

Another important study is Salisbury et al's review of walk-in centres (Salisbury et al, 2003b). The review aimed to look at the international studies on walk-in centres to generate evidence for the walk-in services in the UK. The author utilised multiple databases (MEDLINE, the Science and Social Science Citation Indexes, the British Nursing Index, PsychLIT, CINAHL, the National Research Register, and the Cochrane Library) without using any language restrictions to produce a comprehensive review of literature on walk-in centres. The review found that the users of walk-in centres are a working age group population and a slightly different population from those using conventional general practice services. Patients mostly use the service for minor illness and injuries when other health care services are closed.

One mixed method study conducted on commuter walk in centres (Coster et al, 2009) included six centres in the study. The study developed a questionnaire based on a previously validated questionnaire and included a patient satisfaction tool. The questionnaire was used to collect data regarding sociodemographic details, reasons for attending the walk-in service, commuting status, patient satisfaction, waiting time and referral information. The study had a response rate of 58% and 1828 patients participated in the study. Routine data from the centre was not available which limited the comparison of survey participants with routine patients. The possibility of non-response bias was also mentioned in the study as the response rate was lower than intended.

One study included in the review was a survey of managers in minor injuries units, walk-in centres and at A&E departments to examine the extent to which nurse practitioner prescribe medicines independently (Larsen 2004). The response rate in the study was 62%. The study found that 44% of nurse prescribers do not actually prescribe even after completing a nurse practitioner course. The study did not aim to explore the reasons for not prescribing medicines and recommended further studies on the topic.

A qualitative study included in the review was conducted in the UK to explore users' preferences of choosing walk-in centres (Jackson et al, 2005). The study included 23 semi-structured qualitative interviews of patients who had recently used a walk-in centre. The researcher approached 112 users and was able to interview 23 participants. The sample was purposively selected to represent different times of attendance and sex. The analysis of the data was conducted using the constant comparative method. The study found that the walk-in centre improved access for patients to healthcare as perceived by the services users. However, the study was limited to one walk-in centre and it was a possibility that other patterns of service use and preference could be found in patients choosing other services.

2.4 International literature on walk-in centres

In the USA, walk in centres originated as freestanding emergency centres in the early 1970s. In late 1970s and 1980s, they evolved into ‘urgent care centres’ or ‘ambulatory care centres’. By the year 1986, around 3800 walk-in centres were dealing with 53 million patient contacts per year (Hellstern, 1987). They are mainly located in shopping malls and usually provided services outside office hours only. The centres are also called as “convenient care clinic (CCC)” or “walk-in medical clinics” or sometimes called “retail clinics”. These clinics represent a significant innovation in the delivery of simple acute and preventive healthcare in the United States. In the US, these clinics are usually located in retail stores and provide care for a limited number of acute conditions, including colds, flu, sore throats, ear infections, and minor skin conditions; they also offer limited preventive services and vaccinations. They provide walk-in services, have evening and weekend hours, and post fixed prices for visits. In the USA, patients pay separately for each visit. Care is typically provided by nurse practitioners. There are currently around 1,200 CCCs across the country (Weinick et al, 2010). One survey reported that the most common reasons for using these walk-in services included convenient timings, consultation without needing an appointment, low cost and shorter waiting times as compared to other services (Maybin, 2007). These centres offer lower per-episode costs than emergency departments. Retail clinics, therefore, may reduce overall health system spending if patients substitute care at retail clinics for care at more expensive sites (Maybin, 2007).

The first walk in centre in Canada was opened in 1980 (Hutchison, 2000). Canadian walk-in centres are more comparable to UK walk in centres than USA centres. Canadian walk-in centres are highly accessible because of their large number, and for example about a third of Ontario residents visit a walk-in centre each year (Decima Research, 1993). However, there are important distinctions between the concept of the walk-in service in other countries including Canada compared with walk-in centres in the UK. First, centres in other countries are mostly led by doctors rather than nurses. Second, they have developed in an entrepreneurial competitive healthcare economy, in direct competition with family doctors. Doctors in these countries are mostly paid on a fee-for-service basis unlike in the UK where GPs are paid on their patient list size.

Thus, in Canadian healthcare system, walk-in centres compete for business by offering quick and convenient access, especially when traditional family practices are closed or are not able to offer a quick appointment. Two features of Canadian centres are similar to the UK walk in centres. First, they are also funded by general taxation. Second, GPs play a gate keeper role for secondary and tertiary healthcare. A third feature which is similar to the UK is that patients are not charged for using the walk in centres which is different to the USA walk in centres (Mountford et al, 2001). One study from Canada reported a decrease in hospital attendances as well as hospital admissions because of the improvements in the primary care services (Christakis et al 2001).

Nurse led walk-in centres have also been introduced in Australia very recently (2010) as a result of a shortage of GPs (Parker, 2012). The consultations are free for the local residents. The centres have been co-located with EDs. Consultations are provided by nurse practitioners only who get support from clinical decision support software. The centres open from 7 in the morning to 11 pm which is longer than the opening hours of the walk-in centres in the UK. The aim is to complement other healthcare services and reduce patient load at other services (Desborough et al 2013).

2.5 Understanding walk-in healthcare services in the UK

The term walk-in service has been used for several kinds of walk-in healthcare services in the UK. Walk-in centres have been functioning with different names and different ranges of services provided in different parts of the country. For example, in some places walk-in centres are providing consultations by trained nurses only while in other places they are supported by general practitioners. In addition, they differ in terms of location, services provided at the centre, opening times and how they collaborate with other services. Table 2.1 summarises some of the services commonly provided at nurse led walk-in centres, commuter walk-in centres, walk-in centres co-located with EDs, GP led walk-in centres, GP supported walk-in centres, minor injuries units, urgent care centres, polyclinics, and Darzi centres [Table 2.1].

Table 2.1 Typical characteristics of different kinds of unscheduled walk-in healthcare services in the UK				
Types of walk-in service	Opening hours	Services provided	Healthcare providers	Locations
Nurse led walk-in centre	8:00am to 10:00pm	Consultations for minor illnesses	Trained nurses	In the main city area or near the hospital
Nurse led WIC co-located with ED	8:00am to 10:00pm	Consultations for minor illnesses	Trained nurses	Beside emergency department
Commuters WIC	7:00am to 7:00pm	Consultations for urgent health problems particularly targeting commuters	GPs and trained nurses	Near train stations (ceased to function in many areas)
GP led WIC	8:00am to 9:00pm	Consultations for urgent health problems and GP surgery services such as vaccination services, contraception, along with some diagnostics facilities	One or more GPs as well as trained nurses	Near the city centre area
GP supported WIC (where nurse led walk-in centre moved to GP led walk-in centre)	8:00 to 10:00pm	Consultations for urgent health problems and GP surgery services such as vaccination services, contraception, along with some diagnostics facilities	Trained nurses but GPs available under the same roof and patients can be referred	Near the city centre area
Minor injuries unit*	8:00am to 8:00pm	Treatment for minor injuries. X-ray facilities are mostly available	Trained nurses	Beside major hospitals
Urgent care centre	Some open 24hours Others open 8:00am to 10:00pm	Services vary from centre to centre. GPs/nurse consultations, treatment of minor injuries, fractures and other illnesses	GPs, nurses and sometime other trained staff such as emergency care practitioners	Either co-located with ED or located in a local community
Poly clinics (super-surgeries)	8:00am to 8:00pm	Centres for GP consultations, diagnostic services, urgent care services, and availability of other health services such as Ophthalmology, Dentistry, Physiotherapy and sometime complementary and alternative medicine	GPs and trained nurses. At some centres, physiotherapy, dentistry and/ophthalmology services may also be available	
Darzi centre	In some locations, GP led Walk-in centres are known as Darzi centres			
* At some places, opens until 9:00pm; WIC = walk-in centre; ED= emergency department				

Nurse led walk-in centres

NHS nurse led walk-in centres were first established in 2000-2001 and aimed to provide convenient access to a range of treatments for minor health problems. Whether or not the services improve patient access and reduce patient load at EDs is controversial. There have been studies which have showed high levels of satisfaction with walk-in services as compared to GP services and the waiting time for treatment was also significantly lower at these services (Salisbury and Munro, 2003). However, studies have failed to find any significant reduction in patients load at ED as a result of the opening of these centres (Maheswaran et al, 2007; Chalder et al, 2003).

Commuter walk-in centres

Commuter walk-in centres were established in 2005 to improve healthcare access for patients by providing easy health access on the way to the workplace (Department of Health, 2004). The centres were placed near train stations on the assumption that commuters would have easy access to services. One evaluation of commuter walk-in centres showed that some of the centres were underutilised (O'Cathain et al, 2009). Although patient satisfaction was high at most of the centres, the services were mostly used by local residents or workers rather than commuters.

GP supported walk-in centres

In some PCTs, a new model of combining GP led walk-in centres with the traditional nurse led walk-in centres has been established. This new model is sometimes called as GP supported walk-in centre as stated by the Sheffield PCT urgent care commissioner (D Masson 2010, personal communication, 11 October). In this model, when a patient presents to the centre, he/she is usually seen by a nurse first, but can be referred to a GP within the centre. Some cases, however, are directly seen by a GP depending on the nature of the health problem. There is a no scientific literature on how effective this new model will be and how much impact it will have on EDs. However, having two services in one place makes the urgent care services less confusing than having a separate GP led walk-in centre and a nurse led walk-in centre.

Minor injury units

Minor injury units (MIUs) were established much earlier than walk-in centres and other urgent care services. MIUs are usually led by nurses and an appointment is not necessary. Some MIUs and walk-in centres do not have facilities to treat young children. This depends on the capacity, resources, and skill levels available at the MIU or walk-in centre. Studies have shown some beneficial role of minor injuries units for providing timely care of minor injuries without the long waiting time at ED (Snooks et al, 2004; Byrne et al, 2000; Mabrook et al, 1998). In the presence of rapid changes in urgent care services and the introduction of new models, the future of minor injury units is unknown. In some places, minor injuries units have moved in to the ED to have an integrated one door urgent care service. The MIU in Sheffield is also likely to be moved to ED in the near future as revealed in the meeting with the PCT manager (Masson D, personal communication, 4 Oct 2012).

Urgent care centres

“Urgent Care Centre” is a vague term used for a number of urgent healthcare services. The specific NHS urgent care centres started in 2008/9 and are usually co-located with emergency departments and are the first point of contact for patients who self refer to ED (Urgent Care Centre, Leicester 2012; Healthcare for London, 2010). Sometimes, these centres are located within polyclinics. Services are provided for illnesses/injuries that do not need specialised care. Diagnostic facilities are also available on site.

Polyclinics

Polyclinics were opened in London to provide GP access without appointment along with diagnostic facilities and a pharmacy on site (Sharp, 2009). They open 8am to 8pm, 7 days a week and patients with minor health illnesses as well as patients with long-term conditions can present at these centres. Polyclinics were started after a report stated that ED attendances would rise by 60% in London by 2020 if no alternatives were introduced (Healthcare for London, 2008). These centres were aimed at reducing unnecessary hospital visits in London. Initially, seven polyclinics in London were

established in Harrow PCT (Alexandra Avenue), NHS Hounslow (Heart of Hounslow), Lambeth PCT (Gracefield Gardens), NHS Redbridge (Loxford Polyclinic), Tower Hamlets PCT (The Barkantine), NHS Waltham Forest (Oliver Road), and NHS Hammersmith & Fulham (Hammersmith Hospital). Although it was reported that these services were established according to the local needs (O'Dowd, 2008), many argued that these clinics were unnecessary in some places (Rawson, 2008; Tiwari, 2008) or the service did not fulfill the expectations of the local residents (Odent, 2008). However, most of the literature is based on personal views (letters) and no evaluation study has been published yet on the effectiveness of these centres.

Darzi centres or GP led walk-in centres

Darzi centres or GP led walk-in centres are relatively new services in the UK and little literature is available on the effectiveness of the services in terms of costing, GP access and effect on other NHS services (Oliver 2008). Centres were established in most PCTS in 2009 and have been providing a different range of services in different areas according to local needs. For example, the Rotherham GP walk-in centre has been established in a community centre, where a range of other services such as sexual health, physiotherapy, diagnostic and X-ray, laboratory, and pharmacy services are also available, whilst the GP led walk-in centre in Sheffield does not have X-ray or Pharmacy on site. The Sheffield GP WIC provides GPs and nurse consultations along with some basic procedures, such as contraceptive services and ear cleaning, similar to other GP practices. In general, Darzi centres provide services 8am to 8pm, however, again this varies from region to region and some services are open until 10pm in the evening. The centres open on bank holidays, evenings and weekends, hence providing easy GP access for those who are unable to obtain their GP appointment because of working hours. The policy paper reported the aims of these centres were improving GP access as well as decreasing unnecessary patient load at other NHS services (Imison 2008). So far, there is little evidence on the effectiveness of these centres in reducing patient load at other services. Furthermore, some PCTs have already closed these centres in their locations in the absence of any evidence of a reduction of unnecessary patient load at EDs (Yorkshire post 2011).

2.6 The impact of the walk-in centres on NHS services

It is evident that EDs are over loaded with patients, which results in delays in healthcare provision (Gerard et al, 2005; Nicholl et al, 2013). There are several unscheduled care services at primary care level which complement the services of EDs to share patient load. GP led and nurse led walk-in centres in the UK are one of the services that complement other urgent care services and ought to help reduce patient load at other urgent services, along with improving accessibility to healthcare services without compromising the standards of care. It has been demonstrated that visits to a primary healthcare services may be much less costly than visiting ED (Campbell et al. 2005). However, the cost per visit depends on the volume of patients being treated, and the benefit can only be obtained if a large proportion of patients use such services instead of attending EDs. The impact of nurse led walk-in centres on other NHS services has been evaluated in research studies to determine their effectiveness in terms of decreasing patients load at other services (Salisbury et al, 2007c, Maheswaran et al 2007). It has been claimed that a large proportion of patients presenting to ED could have been managed by healthcare professionals at primary healthcare services (Salisbury et al, 2007c). Hence, most of the research studying the impact of walk- in centres has investigated it by analysing their impact on the use of ED services as a result of the establishment of the walk-in centres (Salisbury et al, 2007c, Maheswaran et al 2007). Other studies have determined the impact of the opening of walk-in centre on the surrounding GP practices and GP out of hours services, in terms of the daily attendance rate of patients (Chalder et al 2003; Hsu et al, 2003) and their attitude towards the opening of walk-in centres (Pope et al, 2005). However, none of these studies were able to demonstrate any significant effect on the reduction of patients load on other NHS services as a result of the opening of these walk in centres.

One study (Chalder et al, 2003) was conducted in 20 EDs to determine the effect of a nurse led walk-in centres on EDs using a time series design. The study showed a slight decrease in patient load (Mean change in the monthly number of patients= -175; CI= -387 to 36) after the opening of walk-in centres. Nevertheless, the decrease was not statistically significant (P value=0.11) in EDs with a walk-in centre as compared to those without any walk-in centre. The study also evaluated the impact of the opening

of walk-in centres on other primary care services including GP practices and out-of-hours services. A total of 20 GP practices participated in the study (25% response rate) and it revealed that the overall increase in patients' attendance rate was higher for the GP practices without any walk-in centre in the surrounding area (mean=23.7 per 1000 patients/month; 95% CI= -8.0 to 55.3) in comparison to the increase in patients' attendance rate at the GP practices with a walk-in centre in their surrounding area (mean=3.9 per 1000patients/month; 95% CI= -13.9 to 21.7), but the difference was not significant (P value=0.25). Furthermore, no significant difference was found in the use of GP out-of-hours services between the towns with walk in centres and those without walk-in centres (P value= 0.24). A reduction in attendance rates was apparent at the EDs and GPs working in the area surrounding the walk-in centres. However, the reduction was not statistically significant and the study concluded that there is a need for a long term assessment to determine the impact of walk-in centres on other NHS services. It was reported in the study that the effectiveness of walk-in centres for reducing patients load at ED would be better if the centres were co-located with the ED (as only 3 centres were co-located with an ED in the study no conclusive remarks were given). The assumption of greater effectiveness of walk-in centres co-located with Emergency departments was also reported by healthcare professionals, presented in the results of a postal survey of NHS healthcare provides (Pope et al, 2005). No effect on ED attendances were found as a result of the co-located walk-in centres. Another before and after observational study (Salisbury et al, 2007c) was conducted on 8 Emergency department sites, where walk in centres were established, to determine the effect of the opening of co-located walk-in centres on EDs. They also selected 8 EDs as a control group for comparing patients' attendance rate during the same time period. There was a constant increase in patient attendance at ED both for interventional sites and control sites with a mean increase of 813/month (95% CI -30.3 to 1655, p value=0.06) in the interventional sites and 270/month in the control sites (95% CI -114 to 655, p value=0.17). The large increase in ED attendance was a result of merger of two urgent care facilities, the p-value was calculated after controlling for that effect. Thus, Salisbury et al (2007c) did not find any difference in the change in the attendance rate between those EDs where walk-in centres were co-located and those without any walk-in centre.

Another study was carried out to determine the impact of the opening of a walk-in centre on emergency visits of patients to GPs (emergency visit was defined as a visit to a GP requested on the same day) (Hsu et al, 2003). A total of 12 GP practices were enrolled and routine data was obtained for 6 months before and after the opening of the walk-in centre (9 in Loughborough were taken as exposed GP practices, and 3 were taken as controls in the nearby town of Market Harborough in Leicestershire). There was no significant difference in the frequency of emergency visits at GP practices before and after the opening of walk-in centre. Furthermore, no effect was seen on other emergency care services including GP out-of-hours services, ED, and minor injuries units.

There are several possible reasons for the failure of studies to show any impact of reducing patient load on other urgent care services in the presence of walk-in centres. First of all it is obvious that opening a single centre may only affect the local population in the surrounding area instead of affecting the whole town (mostly only one centre is established in each town). Hence even if these centres are reducing use of other services by local patients, the effect may not be visible in the presence of a large volume of patients from other localities using different services. Secondly there is a lack in the marketing of these centres to the public and very a large proportion of the population is either unaware of these centres or unaware of the purpose of these centres (O'Cathain et al 2007b).

In addition to the lack of evidence of the effectiveness of nurse walk-in centres in reducing patient load at ED, there are other issues about the credibility of these centres. Health care professionals have claimed that these walk-in services only duplicate other NHS services and others doubt the quality of the services on the basis of lack of evidence of safe healthcare by independent nurses. One postal survey (Pope et al, 2005) was conducted on NHS healthcare providers who were working in the surrounding area of 20 selected walk-in centres to determine their views on NHS walk-in centres regarding the impact of service, effectiveness of the service and their attitude towards walk-in centre. The professionals included in the survey were GPs, consultants from EDs, nurses from hospitals and GP practices and community pharmacists working in close proximity of the selected walk-in centres. Overall, 79% responded to the survey

and a sample of 1591 was obtained. As many as 76% of the responders reported that the walk-in centres did not bring any change in the work load of patients to their services, 15% reported some increase in the work load, and 9% reported some decrease in the work load. Overall, respondents agreed that there was increased accessibility to healthcare services for patients in the presence of walk-in centres, which is also evident from other studies (Chapman 2004). Only 23% stated that they would encourage their patients to use these services as an alternative to their own service. In the presence of mixed attitudes of healthcare professionals to walk-in centres, it was advised in the report that better communication is required between existing healthcare services and the new services. The walk-in centre may complement the existing services and decrease patient load only if healthcare professionals encourage the use of such services.

In 2009, the Department of Health announced the opening of the GP led walk-in centres in order to address some of the questions raised about the appropriateness of nurse led walk-in centres. The new services also aimed to produce a significant reduction in ED minor attendances because of the presence of GPs in the centres. However, these services raise many other questions about how they differ from existing GP practices, and again whether opening one centre for a large population can produce a significant impact on other urgent care services. It is possible that the service would only produce an effect on the business of the surrounding GPs instead of producing any impact on ED or other urgent care services. A comprehensive evaluation of these new GP led walk-in centre may discover some of the answers to these questions and help in predicting the future of these new services.

2.7 Patients' satisfaction and perception about walk-in services

Healthcare services are considered valuable for populations if the services are accessible, appropriate, acceptable to the community and fulfil patients' needs (Asadi-Lari et al 2004). The GP WICs, as well as nurse led walk-in centres, were designed taking into consideration most of these important features of a valuable healthcare

service. The policy documents which initiated the development of GP WICs in every PCT explained that these centres were expected to provide high quality care in a smaller primary care setting which could complement urgent care departments in larger hospitals (Darzi, 2008). In addition, it was considered they would increase accessibility for patients to healthcare services because of the longer opening hours of these centres and opening during weekends and bank holidays. Furthermore, walk-in centres also provide services to unregistered patients. This is particularly important to address the needs of newly arrived migrants or asylum seekers or students who have not registered with a local GP and who may use EDs for urgent health problems.

Hargreaves et al (2006) identified in a cross sectional survey at an ED and a walk-in centre in inner London that as many as 68% of patients who were immigrants from Australia and Africa were not registered with any GP. In addition, tourists may also attend ED as a result of lack of registration with any GP. Furthermore, population mobility within the country affects the proportion of registered patients. One study identified that around 40% of people took longer than 6 months to register with a GP after moving from one place to another (Millett et al, 2005).

One study examined patients' choice of using walk-in centres and reported that along with the expectation of shorter waiting times, there were other reasons such as that some patients did not want to bother their GPs or were sent to the centre by NHS Direct. In the presence of an adequate number of staff, waiting time is expected to be much shorter than at ED or at a GP surgery. Some patients were looking for a second opinion (Chalder et al, 2007). Another study exploring patients' choices of using a walk-in centre service identified that most of the patients came to know about walk-in centres through GPs (or GPs' receptionists) or other healthcare agencies. Some patients also felt that GPs' time is precious and therefore they were hesitant to use GP services (Jackson et al, 2005).

Before the opening of NHS nurse led walk-in centres, it was argued that patients' expectations may not be fulfilled as the centres were only led by trained nurses without any GP support (Chapple et al, 2001). Nurses had already been involved in delivering care at minor injuries units and EDs. Nevertheless, there are some restrictions on the

delivery of care by nurses and the services that can be provided by nurses are limited as compared to GPs. In addition, limited evidence exists about the safety of healthcare delivery by nurses alone, although some researchers believe that nurses are able to provide healthcare services for minor illness without any safety concern (Brooke, 2002; Sakr et al, 1999). Moreover, most of the research studies on walk-in centres report that patient satisfaction is high with the service provided (Salisbury et al, 2002; Jackson et al, 2005), although one study found that patients' satisfaction is not higher at walk-in centres co-located with EDs compared to patients' satisfaction with EDs (Chalder et al, 2007). This was taken as an important concern because in the presence of shorter waiting times and a large number of trained staff, it was expected that the satisfaction with these centres would be higher for patients presenting with minor illnesses/injuries. Patients may feel comfortable using traditional healthcare services as compared to newly introduced services. One population based longitudinal survey evaluated patients' choice for the use of urgent care services over a period of 5 years. The study revealed that a large proportion of the population do not use alternative services for healthcare advice (NHS Direct, walk-in centres etc) and continue to contact their own GP (O'Cathain et al 2007).

The perception of patients and the general public about the use of healthcare services is important in understanding their decision about choosing a service at the time of need. Patients' choice of using a service is highly dependent on their satisfaction with the service. So it is important to use standardised patient satisfaction scales to obtain reliable and comparable results for continuous monitoring of service provision (Salisbury et al, 2005). In addition, it is important to create awareness about the availability of services to help patients make the best decision for themselves (O'Cathain et al, 2007). It has also been reported that in the presence of a number of alternative urgent care services, it may not be possible for the patients to be sure about the kind of services to be used in case of emergency (Lattimer et al, 2010).

2.8 Common health problems for which walk-in services are used

The common problems which present at walk-in services include respiratory problems (coughs and colds), skin problems, musculoskeletal problems, and minor injuries/wound care (Salisbury, 2003; Desborough et al, 2012). Ear Nose Throat (ENT) infections (including tonsillitis or pharyngitis, otalgia, cough) are also very commonly seen at walk-in centres. One study evaluated the cases of ENT presented at a walk-in centre and found that the walk-in centre effectively dealt with around 85% of cases (Rourke et al, 2009). In another study, the top five commonly presented problems at walk-in centres included flu or systemic viral infection (5%), contraceptives for unprotected sex (3%), wound dressing (3%), ENT problems (3%) and the common cold (2%) (Salisbury et al, 2002).

It has been observed that skin diseases are among the top ten disease conditions that present at walk-in centres (Salisbury et al, 2003). One study looked at dermatological conditions presenting at a walk-in centre in Southern England over a period of two years. The study identified that as many as 21% of patients at a walk-in centre had complaints related to skin problems (Ersser et al, 2005). The GP WICs may be able to provide care for all such skin conditions without needing further referrals. However, follow-up by their own GP might be necessary and updating medical records about medication given to the patient is also important. Patients also sometimes present with episodic problems related to chronic diseases such as diabetes and cardiovascular diseases. The new GP WIC centres particularly advertise that they are able to deal with chronic diseases in the presence of GPs.

One study evaluated the quality of care at walk-in centres and general practices for some specific medical conditions and found that the quality of care for asthma and post coital contraception was better at walk-in centres than general practices. However, the quality of care was better for chest pain at general practices. For other common problems including headache and sinusitis, there was no difference between walk-in centres and general practices (Grant et al, 2002).

Continuity of care has been reported as one of the potential issues with the walk-in services, particularly for chronic diseases (Kinnersley et al, 1999). Continuity of care refers to the continuation of care by the same GP or same GP surgery where the patient's records are maintained. If a patient is seen by a health care service other than patient's own GP there is a potential risk of breaching the continuity of care. Continuity of care can be maintained through good communication between different primary care services. Continuity of care is particularly an issue if a patient uses walk-in centres for chronic health problems. Continuity of care for diabetes has been identified as a particularly important issue because of the increase in the availability of alternative healthcare services (Gulliford et al, 2006). There are various ways of helping to maintain continuity of care such as by providing access to the medical records. The GP WICs have access to the medical records of patients. The GPs at the GP WIC can access the previous medical history of the patient and the patient's own GP also receives updates on the treatment/advice given at the GP WIC.

Prescribing antibiotics is one important issue with nurse led walk-in centres which helps decide whether such illness should be considered as minor and treated at the walk-in centre or should be taken as a serious illness and referred to a GP service or an ED for further assessment and treatment. There are written instructions (patient group direction) for nurses to prescribe certain antibiotics for some specified conditions (Brooks et al, 2003). Nurses receive prescription training in a course involving an assessment and examination, which enables them to prescribe medicines without the supervision of a GP. However, there is an on-going debate about which kind of antibiotics can be prescribed by nurses and how safe it is to provide antibiotics to patients presenting at a nurse led walk-in centre (Otway, 2002). One study which evaluated the prescription and advice about antibiotics prescribed by nurses identified inconsistencies in the advice provided to the patients. The study recommended that some walk-in centres need to conduct further training sessions for the provision of safe prescriptions by nurse practitioners (Rosen, 2002). It has also been reported that around 40% of nurses do not prescribe independently even after going through prescription training courses (Larsen, 2004).

Urgent care services for dental problems are another important part of the healthcare system. This is particularly noteworthy for unregistered patients who face difficulties

in seeking healthcare out-of-hours (Anderson et al, 2005). There are several kinds of dental problems which patients perceive as an emergency and dental pain is one of the most common reasons for presenting to an urgent care service. Dental pain may arise from several conditions ranging from a minor injury to a severe infection or some other serious illness. However, studies have shown that most of the dental problems presenting to urgent care services only need reassurance by a doctor (Anderson et al, paper I, 2005) or a minor intervention (Anderson et al, paper II, 2005). Thus, this kind of service can be integrated with other healthcare services for minor illnesses/injuries under the same roof.

2.9 Summary

The literature on the effectiveness of the walk-in centres is discussed in this chapter. The literature search included searching several databases including MEDLINE, EMBASE, CINHAL, SCOPUS and Web of Science. Google Scholar was also used. References in the key studies on the topic were also looked at to find other relevant studies. The organisation of urgent care services in the UK is also described briefly, and the role of GP WICs in the current urgent care system is discussed.

Chapter three

Patients' satisfaction survey

3.1 Introduction

GP WICs started in 2009 and have been operating in many PCTs since their establishment. Previously, walk-in centres in the UK were mostly nurse led. The new GP WICs are different in terms of the availability of a GP at the service, hence a wider range of services is available, and the GP WICs are also able to register patients at their service. Patient experience and satisfaction surveys are one of the important tools in health service research to understand the quality of a new service like GP WICs. In this Chapter, the methods and findings of a survey of users of GP WICs will be discussed. The survey methods in this study were used to identify what kinds of patients use GP WICs (demographics), why they present to these services, what experiences they have, and how satisfied they are with the service. In addition, the survey included questions to determine patients' intentions to visit other services before and after consultation at the GP WICs to help determine any potential impact on other NHS services. A post-visit postal survey of patients who attended the service was also conducted around 4 weeks after visiting the GP WICs to determine whether or not the patients had had to use another service for the same health problem. The post-visit (follow up) survey will be discussed in chapter four.

3.1.1 Objectives

- To describe the characteristics of patients using GP walk-in services (age, sex, ethnicity etc)
- To describe the pattern of activity at the centres during opening hours.
- To identify the reasons for using a GP WIC service.
- To report patients' satisfaction and experiences with the service.
- To determine any potential impact on other NHS services.
- To compare two different models of the GP WICs.

3.2 Methodology

3.2.1 Research design

A cross sectional survey was designed to collect patients' experience and satisfaction data from both centres. In addition, the survey included questions related to the potential impact of the GP WIC on other services to help in understanding the role of the GP WIC in diverting patients from other services such as Emergency Departments.

3.2.2 Measuring patient satisfaction and experiences

Patient satisfaction is commonly measured to help determine the quality of healthcare services. However, there are several important issues with measuring patient satisfaction and using it for measuring the quality of a healthcare service. Patient satisfaction is subjective in nature and depends on patients expectations and judgements about a healthcare service. Therefore, patient experiences are sometimes used to determine the quality of health care services. Patient experiences with a service are a self-reported record of different aspects of the processes of care experienced while using a service such as how accessible the service was for the patient, the waiting time, and the availability of appointments (NHS Employers, 2009). On the other hand, a patient's satisfaction with a service represents their response to those experiences and this may be directly related to their prior expectations and a number of other factors which can influence the satisfaction level. Patients' reported experiences are considered to be less subjective than their reported satisfaction (Cleary, 1997) and a patient may be satisfied with a service, although the reported experience was suboptimal (Salisbury, 2010). So although there is usually a significant association between patient experiences and global satisfaction with a service (Danielsen, 2010), it is recommended that patient experiences with the service rather than satisfaction should be used for monitoring purposes (Jenkinson, 2011). It was expected that a survey questionnaire including both patient experience questions as well as questions related to satisfaction would provide a better understanding about the quality of the service than questions about either alone. Therefore, the questionnaire used in this research included questions related to experiences as well as satisfaction with the service.

Crow et al (2003) reviewed 139 studies to determine different aspects of measuring patient satisfaction. They divided factors affecting patient satisfaction into two groups; those related to patient characteristics and those related to the services. It was found in the review that satisfaction is related with patient health status. For example, sicker patients were likely to report less satisfaction as their expectations were greater. Similarly, satisfaction is also linked to prior experiences with the healthcare service. Older patients are likely to be more satisfied with the service. Choice of service provider is associated with higher satisfaction. In the USA, care provided under fee-for-service arrangements generates greater satisfaction than that delivered by prepaid schemes, and gatekeeping arrangements score relatively poorly on satisfaction. The review recommended that patient satisfaction surveys should be conducted in a way to achieve a high response rate and obtain responses for hard to reach groups. The surveys should be designed and focused on consumers (patients) views.

There are multiple scales available in the literature to measure patient satisfaction in different settings. Different studies use different satisfaction scales and it is sometime difficult to compare the levels of patient satisfaction with one service in comparison to others. One review conducted by Sitzia J (1999) included 195 articles on patient satisfaction to assess the reliability and validity of the survey tools used in patient satisfaction surveys. The review found that a large proportion of studies had no evidence or little evidence of the reliability and validity of the tools used for measuring satisfaction. Therefore, findings of the patient satisfaction surveys should be understood in the light of the methodology of the surveys and the reliability and validity of the tools used in the study.

3.2.3 Why two centres?

GP WICs with different service models have started functioning in most of the primary care trusts in the UK. It was considered important to evaluate more than one model of GP WIC in order to help determine whether the findings were generalisable to other GP WICs or only applied to a particular type. Ideally, several centres might have been included, but for practical reasons it was only possible to study two centres. The two centres that were chosen were in Rotherham and Sheffield in South Yorkshire and had contrasting models of service provision. Although the primary objective was not to compare the performance of the selected centres, some comparisons were made to identify if there were any differences in satisfaction or any other performance indicator which might be due to the differences in the clinical model of the two centres or some other factors.

The reasons why these two particular centres were selected in Sheffield and Rotherham were their contrasting locations and services. It is a new centre and consists of GPs and nurse practitioner consultation services, health care advice services (smoking cessation, contraceptive, weight reduction programmes etc) and is open from 8am to 10pm, 365 days a year. On the other hand, the Rotherham centre was included in the study because it works in a different environment. The centre is located within the community health centre where a number of other health care services have been provided. The community health care centre had already been operational for a number of years. In this study, these two very different models of GP WIC were compared to identify which works better and whether or not there would be any difference in the use of such services by locating it into a community health centre or making an independent unit. Furthermore, the two GP Walk-in centres have been contracted by different health care providers. The one in Sheffield is operated by One-Medicare (which also runs a similar kind of centre in Derby) while the one in Rotherham is operated by Care-UK which is comparatively a bigger organization providing health care services in a large number of locations. Further details about the two centres are provided below.

Rotherham GP WIC

The GP WIC in Rotherham is located in the Community Health Centre. This is a newly constructed large building, opened in January 2009. The centre is run by a team of experienced GPs and nurses. The walk-in facility complements other NHS services by providing a range of treatments for minor illnesses and injuries. The walk-in facility is open every day from 8am - 9pm and offers a range of services, including health information, advice and treatment for a range of illnesses and minor injuries without having to make an appointment. However the GP walk-in service is only available until 8pm, and the last hour is only covered by nurses (though GPs are available under the same roof for providing out of hour GP services). Average turn-over of patients at this centre is around 100 per day with slightly larger numbers at weekends. This GP WIC is run on behalf of NHS Rotherham by Care UK, a leading independent provider of health and social care services. The services provided at the GP walk-in centre include treatment and advice for conditions such as coughs, colds and flu-like symptoms, cuts, wounds, bites, stings, constipation, stomach ache, vomiting and diarrhoea, childhood illnesses and fever, eye and ear problems, women's health problems – thrush, cystitis, menstrual advice, emergency contraception, skin complaints and minor burns, muscle and joint injuries – sprains and strains.

The centre also has diagnostic facilities including X-ray and blood, urine and other common laboratory tests. Furthermore, as the GP WIC is located within the community health centre, the community health centre also provides other services which includes physiotherapy, podiatry, speech & language therapy, audiology, contraception and sexual health services, community dental service, Phlebotomy Services (see separate entries for these services), the health advice centre/patient advisory liaison service (PALS), diagnostic services, primary ear care service.

Sheffield GP WIC

The GP WIC in Sheffield started in April 2009. The centre is near the city centre. The services that are provided at the centre include GP and nurse practitioner consultations, blood testing, pre-conceptual counselling, contraception and sexual health, holiday

vaccinations and travel health, diabetes care, asthma, cardiac diseases follow up (stroke / chronic heart disease), influenza vaccinations, childhood immunisations, cervical screening, smoking cessation, lifestyle advice, cholesterol testing, wound care, and ear syringing.

Initially there were plans for extending the services. A pharmacy service was also expected to start in the future as well as a diagnostic laboratory in the centre (all Darzi centres are recommended to have a pharmacy service as well as diagnostics). In addition, the NHS nurse led walk-in centre moved from the Royal Hallamshire Hospital to the Sheffield GP WIC in Broad Lane in April 2011. The centre is a GP supported walk-in centre where patients use a nurse led walk-in centre service but they are able to see GP in the same centre if referred by a nurse. Average turnover of patients at this centre is around 120 per day with slightly larger numbers at weekends.

The Sheffield GP WIC also run by a private GP surgery (One Medicare). Consultation is provided by GPs and trained nurses 7 days a week and the opening hours are 8am to 10pm. The centre is also open at Christmas and bank holidays. Target waiting time for consultation is 30 minutes. The centre also provides a registration service for new patients so both registered and unregistered patients present to the centre. If a patient consents to the retrieval of his/her medical records, the consultant is able to access his/her medical records even if the patient is registered elsewhere.

For certain chronic conditions where continuity of care is required such as asthma, and diabetes, the centre provides a service of blood tests and other necessary laboratory tests. The results are sent to the registered GP of the patient. As with other Darzi centres, the Sheffield City GP Health Centre is unable to deal with serious medical emergencies which pose an immediate threat to a person's health or life.

3.2.4 Approaching centres' managers for study approvals

The GP WICs were under contract to the Primary Care Trusts in their locations. It was decided to first approach the commissioner at the Primary Care Trust who was responsible for the commissioning of urgent care services. Urgent care managers in Sheffield and Rotherham were approached and the purpose of the study was described.

Managers in both of the PCTs were happy for the project to proceed and a meeting was arranged with the Sheffield GP WIC manager. He was happy to approve the project and to give permission to collect survey data from their premises. Similarly, the Rotherham GP WIC manager was approached and she also approved the project. Managers of both centres gave assurance that they would provide their support to data collection procedures by involving receptionists to distribute the survey questionnaire. In addition, both centres provided access to routine data during the survey period to validate the survey responses. It was important to retrieve the routine data from the centre to compare some of the variables in the survey responses with the routine data to ensure that the survey sample was truly representative of the patients attending GP WICs. During the process of meeting with the centres' managers, the project documents were submitted for ethical and R & D approvals. It took a few months to obtain all approvals, and before commencing the survey at these centres it was important to reconfirm their permission and finalise the data collect dates and the procedures. The centres' managers were again approached, although both centres had different managers by that time. The project details were explained again and after receiving their approvals, dates were finalised for the data collection.

3.2.5 Sample size

This research aimed to sample at least 400 patients from each centre to obtain statistically robust estimates of the proportions of patients reporting characteristics such as satisfaction with care. This sample size was calculated in order to estimate the proportions of patients reporting binary outcomes with 95% confidence intervals of less than +/- 5%.

3.2.6 Study period

The Survey was conducted over a 3 week period at the Rotherham GP WIC from 5th September 2011 to 25th September 2011. Similarly, the Survey at the Sheffield GP WIC was also conducted over a 3 week period which was started on 19th September 2011 and finished on 9th October 2011.

Initially 2 weeks at each centre was planned to achieve the required sample of 400 from each centre. It was realised from the initially data that some of the questionnaires were returned without filling in the post-consultation section (satisfaction). Therefore, to achieve the sample of 400 fully completed survey questionnaire, it was decided that the survey needed to be extended for one more week.

3.2.7 Study participants

All patients presenting to the GP WIC in Sheffield and Rotherham during the survey period were eligible to participate.

Inclusion criteria

Patients who attended the GP WIC during the survey period were eligible to be included. One potential problem was that of enrolling a patient twice in the research. It was not considered appropriate to refuse participation in the survey for a patient who visited the same centre more than once during the survey data collection period. In addition, since the questionnaire was anonymous it would not be possible to identify patients who attended the GP WICs more than once. However, I considered it appropriate to offer the survey questionnaire more than once to the same patient, considering that each visit would have its own satisfaction/dissatisfaction with the service and its own patient experience. If the same patient visited the centre with a different health care problem, he/she might have a different opinion about the centre on their second visit. Furthermore, as it was hypothesised that the centre might reduce patient load at the ED and other NHS urgent care services, that is all attendances or visits to these services, all visits to the GP WICs were important to help understand the effect of the opening of the GP WICs on other services.

Exclusion criteria

Those patients who were unable to read and understand English were excluded unless they were accompanied by a family member or friend who could read and understand English.

3.2.8 Survey method

The primary survey questionnaire was distributed by receptionists at the centres. A short training module was conducted for the receptionists to explain the study procedures and to achieve a good response rate (appendix 4, training module). The receptionists aimed to distribute the survey questionnaire to every consecutive patient attending the walk-in centre during the survey period. Questionnaires were also placed near the reception for patients to take, should the receptionist be unable to hand them out during very busy periods. A box was placed near the reception for patients to drop-in completed questionnaires. Self-addressed and prepaid envelopes for patients were also provided so that they could return the questionnaires by post if they preferred.

In the primary questionnaire, respondents were asked for permission to send them another short post-visit questionnaire to ask if they had had to use another NHS service after visiting the walk-in centre for the same problem. The post-visit questionnaire also inquired about compliance with the treatment or advice given at the centre and whether or not the problem was fully or partially resolved or not resolved at all. The post-visit questionnaire was sent 3-4 weeks after the visit, along with a self-addressed prepaid envelope.

3.2.9 Study tools

The survey was conducted in two parts; the main survey which was conducted at the GP WICs and a post-visit postal questionnaire survey 3-4 weeks after visiting the centre.

Primary survey

All participants received a pre-paid, self-addressed envelope along with the questionnaire which was to be completed in two stages, one before the consultation and one after. Two options were available to participants, either they could fill-in the questionnaire on site and return it in the box provided beside the reception or take the questionnaire home and to post it directly to the researcher in the envelope provided.

3.2.10 The primary survey questionnaire

The primary questionnaire consists of 4 sections (A – D) which include information about patients' demographics, reasons for visiting the centre, health problems, and a Likert scale regarding patients' satisfaction with the service (appendix 5). In addition there was a participant information sheet attached to every questionnaire. Most of the questions had optional answers to tick to ensure a better response rate. The primary survey questionnaire was developed and validated in a previous study (O'Cathain et al, 2009) on walk-in centres. However, it was initially designed for evaluating commuter walk-in centres so I had to make a few changes. For example, the modified questionnaire for GP WIC asked the survey participants how they came to know about the opening of the GP WIC. Some questions were deleted which were purely related to commuter walk-in centres such as the train station and work locations of the participants. In addition to the detailed participant information sheet (appendix 6), a covering letter on the front page was added to provide a quick overview of the project (appendix 7). Initially, time of visit and date were not recorded in the questionnaire. After a week, it was realised that the time and date of the visit would provide additional important information so the remaining questionnaires were labelled with small stickers on the top page to write down the date and time of the visit.

3.2.11 Participant information sheet

The information sheet was prepared according to the guidelines of the NHS Ethics Committee. It consisted of part A and part B. Part A was concerned with the details of the project and the procedures involved in the study. Part B was concerned with confidentiality issues, reassurance about data protection and the rights of the participants. Contact details of the researcher and the institute were provided for participants to obtain any further information about the project or to complain if anything went wrong. In addition to the information sheet, a short, one page covering letter was also prepared and used as the first page of every questionnaire. The covering letter provided concise details of the project to give some overview of the study. It was decided that written consent was not necessary for this study as the study involved self-report questionnaire surveys. Filling-in the questionnaire by the patient was

considered as consent. All documents were also reviewed by a user involvement group, the Consumer Research Advisory Group (CRAG), based in Barnsley (appendix 8).

3.2.12 Measures to increase response rate

The response rate needs to be as large as possible to minimize bias in survey research. However, response rates vary in different settings and for different projects. It depends on several factors such as how interesting the research topic is, how relevant it is to the research participants, where the study is going to be conducted, and how the questions are formulated in the questionnaire. Every research project needs to consider the expected response rate for the specified questionnaire on the basis of previous studies/surveys or other service evaluation questionnaires.

The response rates of patients attending a primary care setting vary. In this study it was expected that around 100 patients present to these centres every day and to achieve the sample of around 400 patients with an expected response rate of 33%, two weeks were required for data collection. However, when the survey started the duration of the survey needed to be increased to 3 weeks. The main reason for increasing the duration was to increase the number of questionnaires with section C completed (which needed to be filled in after the consultation). Around 20% of patients were returning the questionnaire without filling in section C. Therefore, around 500 participants were targeted in the study to obtain around 400 completely filled-in questionnaires.

In the light of the experience of the Rotherham centre manager, the response rate at GP WIC could be very low (less than 10%). Therefore, it was decided to take additional measures in this research to increase the response rate. Following literature search on improving response rates, it was decided to include a short covering letter in front of the questionnaire to provide quick useful information about the project in addition to the lengthy participant information sheet, to use coloured paper for the questionnaire, and to include a prize draw with three nominal prizes of £50, £30 and £20 Boots'

vouchers. It was also thought that direct contact with the patients at the centres to remind them to fill in the questionnaire while waiting for the consultation would help improve the response as the researcher could provide additional information about the project to the participants. This required the researcher's presence at the centre during the data collection period, and this was scheduled for half a day, seven days a week for two weeks at each centre. However, this needed additional changes in the ethical approval, and I had to submit an amendment to the ethics committee about the involvement of direct contact with patients to request them to fill in the questionnaire as well as the addition of the prize draw. It was also observed in the literature that university sponsored research projects receive a better response rate than other projects so I added to the front page that the project had been funded by the University of Sheffield. The boxes used to return the filled-in questionnaires were also made attractive by using university logos and the title of the project to create awareness regarding the purpose of conducting the survey at these centres. All of these measures were collectively thought to increase the response rate to a level which could give valid and useful data for this study.

Prize draw

During the meetings with the GP WICs' managers and PCTs, it was realised that the response rate from the participants might be very low. This was particularly worrisome for the Rotherham Centre as it was mentioned by the medical director of Rotherham that they had tried a few survey questionnaires to obtain patients' views on services but had received less than 10% of questionnaires back from the patients. Therefore, there was a discussion on how to increase the response rate such as using coloured questionnaires, simple questions and prepaid envelopes. A prize draw was another measure considered. There are studies on increasing response rates by adding lottery prizes (Deuskens, 2004). However, other studies that claim that no significant increase in the response rate can be achieved through lottery prizes in surveys (Ulrich, 2005; Roberts, 2004; Porter, 2003).

It was decided that even a small increase in response rate would improve the validity of the study even if the increase in the response rate was not statistically significant. It

was also important to decide what kind of prize might significantly increase the response rate such as cash prizes or vouchers, and how valuable the prize should be. Second, there was the question of whether one high value prize would increase the response rates better than a number of smaller prizes. It was decided that a number of smaller prizes giving higher odds of winning for the participants would result in higher response rates.

For this study, three nominal prizes worth £20, £30 and £50 of Boot's (Pharmacy shop) vouchers for each centre were offered. The prizes were mentioned in the participants' information sheet, on the covering letter, and also displayed on a small poster at the centres. During the training session for the GP WICs' staff and receptionists it was mentioned that if time allowed, the prize draw should be mentioned to the patient when handing over the questionnaire. Section D of the questionnaire asked whether or not the participant agreed to be included in the prize draw and asked for contact details to send vouchers. The prize draw was conducted at the Rotherham centre around a month after the survey in order to include all questionnaires which were returning by post. The draw was conducted in the presence of the centre manager and staff. All the names and addresses/email addresses of respondents who had agreed to be included were printed on slips of paper to be included in the draw. The centre manager and staff picked three papers one by one for the first, second and third prize. The winners' names were also given to the centre for their records. All vouchers were sent within a week to each winner along with a complement card for winning the prize. The draw was conducted on the same day that the preliminary study results were presented by the researcher to the centre manager and staff, and feedback received on the results. Similarly, the results were also presented to the Sheffield centre manager and staff around a month after finishing the survey. The chief operating officer of One Medicare which runs the Sheffield centre also attended the presentation. The prize draw was conducted after the presentation and winners were sent the vouchers on the next day.

Colour of the questionnaire

It has been shown in the literature that along with the content of the questionnaire, how it is presented to the participants is also important. Coloured questionnaires have been shown to slightly increase the response rate (Edwards, 2002). There are two aspects of

using colours in the questionnaire; either by making the text colourful using colourful ink or by using coloured paper for the questionnaire. Both coloured paper and coloured ink can have positive effects for increasing the response rate. Both coloured ink and coloured paper, however, may not be used together as they would not give a more formal look to the questionnaire. For this project, it was decided to use coloured paper as it is less costly than using coloured ink. First it was decided that green coloured paper would be used for the questionnaire. However, it was noticed that one centre was also using green paper for registration documents so using a similar colour scheme could perhaps cause confusion. After confirming that no centre was using a yellow colour for their documents, the questionnaire was finally printed on yellow coloured sheets, with slightly different shades for the two centres.

3.2.13 Plan of analysis

Data was entered and analysed in SPSS version 19. Descriptive statistics were presented with means and standard deviations for continuous variables and proportions for categorical variables. Variables were included to describe the characteristics of patients presenting to these centres and the timings when patients use these centres (day time/evening or working hours/out of working hours). Patient satisfaction data were in the form of Likert scale (1-5) responses and a comparison was made between different centres, patients with different kinds of health care problems, and different age groups. Moreover, variables related to patients' experience with the service were analysed such as convenience of the location of GP WICs, convenience of the opening hours, waiting time for treatment and the expectations of patients about the services. Satisfaction levels were compared for those who reported that they would have looked after the problem themselves in the absence of the GP WIC with those who would have gone to ED or another NHS service. Logistic regression on dichotomised patient satisfaction variables was used to estimate the influence of different factors on the satisfaction of patients with the service. The responses were dichotomised between those scoring 1-4 (not very satisfied) and those scoring 5 (very satisfied) as recommended (Collins et al, 2003). The term "highly satisfied" is used in this study which means the same as "very satisfied" and represented the score of 5 on the likert scale of 1-5. The regression model was developed using all factors which were likely to influence patient satisfaction. Those variables which appeared to be significantly

associated with the satisfaction such as age, location, and waiting time, were inserted into the final model to determine the difference in the satisfaction level, after controlling for any confounding effects. A separate analysis was also performed to determine if there was any difference in satisfaction levels between first time attendees and those who had attended the service in the past. Chi-square and t-test were applied for categorical and continuous data respectively. Frequencies, means and ranges are also reported in the tables where appropriate. Graphical representations were made using histograms, bar charts and pie charts where appropriate.

For the purpose of analysis, in hours were defined as 8am – 6:30pm, Monday to Friday and out-of-hours were defined as 6pm to 8am, Monday to Friday and all Saturday and Sunday.

3.2.14 Ethical approval

The project was submitted to the Yorkshire and Humber NHS Ethics Committee in September 2010 and received approval in December 2010 (appendix 9). I defended the project in the ethics committee meeting. There were a few minor concerns about the project such as using questionnaires in English only, not involving service users in the project, and dealing with children presenting to the GP WICs. I addressed the first issue using the example of previous walk-in centre surveys which showed that most of the patients presented at these centres had some ability to communicate in English or they were accompanied by someone who could understand and speak English. This approach was justified because consultation was also provided in English language at the centre. A second concern regarding user involvement was justified as I was using a validated questionnaire and service users were interviewed in developing the original questionnaire. In addition, the project documents were also sent to a Consumer Research Advisory Group (CRAG), based in Barnsley. All members of the committee approved the questionnaire and information sheet with some minor amendments on wording. Lastly, it was a concern of the Ethics Committee that if a child was brought to the centre by their parents whether his/her satisfaction about the service would be taken into consideration or would the parents' satisfaction be more important? It was

decided to consider parents' satisfaction as more important because of their better understanding about the quality of services.

In addition, there were two major concerns which needed resubmission; one was related to the participant information sheet which needed a few additions. Second, it was pointed out that secondary data access (for ED attendances one year before and one year after the opening of the GP WIC) was not clearly mentioned in the proposal regarding what kind of data would be needed for this project. After making these changes, the application was resubmitted and approved. The study also needed approvals by the relevant NHS Research and Development (R&D). Therefore, applications were submitted to Sheffield and Rotherham Research & Development for approval. After careful consideration of around two months, the project was approved by both Trusts (appendix 10). Initially, it was planned to collect data from the centres without having direct patient contact. I realised, however, that it was possible to achieve a better response rate if a person stood in the waiting area to answer any query from patients filling-in the questionnaire. Thus, the principal investigator needed to apply for an honorary contract with the trusts in order to have direct access to the NHS centres and to provide information to the patients presenting at the centre. I received letters of access from the trusts. In the meanwhile, I had meetings with the managers of the GP WICs and scheduled the data collection dates.

3.2.15 User involvement

Patient and public involvement (PPI) in research has increasingly become important in every discipline of health research (Arain et al, 2013a). It is particularly well established in health services research (Sleath et al, 2001). Involving patients and the public in research does not mean involving them as a research participant, but to involve as a partner or advisor (Royle, 2001). INVOLVE is a national institute for user involvement in research and it provides complete guidelines on how users can be involved in research. INVOLVE guidelines describe three levels of user involvement in research; the first level is involving users for document consultation such as reviewing information sheets, questionnaires, and protocols. The second level is involvement as a collaborator where users work with researchers as a collaborator in

research and give their feedback at every stage. The third level is user led research, where professional researchers only provide consultation and the research is mainly led by service users. The guidelines also suggest that two or more users should be involved to give feedback on a research project. For this particular project, a local consumer advisory group was consulted and their members (service users) were involved in reviewing participant information sheets, the survey questionnaire and the post-visit survey questionnaire. A few comments on the wording of some questions were given and amendments were made according to the comments. It was also pointed out that using the University of Sheffield name/logo is important to clarify who is conducting the research. The group was acknowledged for their contribution and notified about the changes made according to the comments.

3.2.16 Research cost

All research costs were covered by an NIHR senior investigator award made to Jon Nicholl. Around £5000 was spent on printing 2000 questionnaires (consisting of five pages in the main questionnaire and a four pages long information sheet) and 1000 post-visit questionnaires (consisting of 1 page). In addition, around £500 was spent on prepaid envelopes which were provided with each questionnaire to every survey participant.

3.2.17 Time scales

The project proposal was developed in March 2010 and a complete protocol had been developed by the end of July 2010, when the project was submitted to Leeds and Humber REC committee for ethical approval. Ethical approval was first obtained in December 2010. The protocol and other relevant documents also received approvals from R & D Sheffield and Rotherham. The survey data was collected at the Rotherham GP WIC from 5th September 2011 to 25th September 2011 and at the Sheffield GP WIC from 19th September 2011 to 9th October 2011. Data collection was initially planned for two weeks. However, to achieve the desired sample, it was necessary to continue the survey for the third week. Data entry was completed in March 2012.

3.2.18 Operational details of the survey

Rotherham centre

The survey started on Monday 5th September 2011 at the Rotherham centre. All questionnaires, information sheets and boxes were delivered to the centre a day before the survey started. It was noticed during the first week that fewer patients attended the centre in comparison to the expected number of around 100 patients a day. Later in the week, it was noticed that a very large number of patients attend the centre during the weekend period. There was a triage system in place which was based on the presenting complaint written by the patient on the registration form. At the reception, a triage nurse goes through all registration forms and decides which patients need to be seen first and which patients need to be seen by a GP or a nurse. It was written clearly at the reception that patients are not seen sequentially and the waiting time could be different for different patients. Some patients complained about the triage system because they expected to see a doctor but were seen by a nurse. It was certainly confusing for some patients whether the consultation would be given by a GP or a nurse. Some patients attend the service with the expectation that they would be seen by a GP as they might be looking for a second opinion.

The Rotherham Centre had a security officer available on site throughout the opening hours and the reception area was a closed room with a small window to talk to patients. In contrast, the Sheffield Centre had no security officer on site and the reception is open plan without any barriers. The waiting area at the Rotherham Centre was a common area for the community health centre so the space is usually enough for a large number of patients. There was a small children's playing area and a television for patients. Vending machines were also available in the waiting area while there is no vending machine or television available for patients at the Sheffield Centre. The Rotherham Centre has free on site car parking for patients.

By the end of the first week, around 150 questionnaires had been distributed at the Rotherham centre and 100 were received back. Although this was a satisfactory completion rate, in order to achieve the sample of 400 patients, it was decided that the duration of the survey needed to be extended for one more week. It was expected that with an estimated 100 questionnaires completed every week on site, three weeks would

achieve around 300 questionnaires filled in on site and questionnaires were also expected to be received through the post as self-addressed prepaid envelopes were provided with every questionnaire.

I visited the centres for 6 hours each day as scheduled and reminded the receptionists to hand over the questionnaires to every patient. The receptionists aimed to distribute the survey questionnaire to every consecutive walk-in patient attending the walk-in centre during the survey period. Questionnaires were also placed near the reception for patients to take if the receptionist was not able to hand them over during very busy times. All filled-in questionnaires were collected from the centre on daily basis. The number of questionnaires received was significantly higher during the weekends and on some evenings. There were very few occasions when the questionnaire was returned by the patient reporting an inability to read and understand English. However, there were occasions when a patient received the questionnaire and asked the receptionist to help with completion because of the lack of capability to fully read or understand English.

On one Saturday, it was noticed that the Centre was very busy and a number of patients returned after inquiring about the expected waiting time. It was also observed that a few patients left after waiting for a few hours and then cancelled their appointments. At weekends the usual waiting time reported by the receptionist to patients was 2 to 3 hours, although it was always mentioned by the receptionists that the patient could be seen earlier if the problem was serious as the triage system was also in place. It was also seen as a common practice that a few patients were taken from the Centre through ambulance to ED. One or more ambulances were usually available at the Centre to take patients with serious problems who needed urgent care.

As the centre was located within the Rotherham Community Health Centre, there was a separate reception for the GP WIC which located beside the entrance of the GP WIC consultation rooms. The centre has about 5 consultation rooms including three treatment rooms, 1 minor injury room and a multifunction room. The centre staff usually consisted of 1-2 GPs and 1-2 nurse practitioners, although the number of staff could be changed according the patients' load, for example increasing the number of nurse practitioners during the weekends. There was always at least one GP present on

site from 8 am to 8pm. The centre closed at 9pm so the last one hour was only covered by nurses. However, there were GPs present on site for the GP out-of-hours service which could be consulted by the nurse if needed.

The centre also registers patients at the practice. There was a banner and publicity material regarding the benefits of registering at the GP WIC. The centre also has its own patients' satisfaction survey instrument in the form of a small computer screen placed outside the reception. However, the centre manager reported that the survey monitor was rarely used by the patients.

Sheffield centre

The survey was expected to be started on the same day in Sheffield along as in the Rotherham Centre. However, the researcher was informed by the centre manager that the Primary Care Trust in Sheffield would be starting their own one week survey on the same day. Therefore, it was decided to start this survey two weeks later to prevent any confusion for the patients.

The survey started at the Sheffield GP Centre on 19th September 2011 and finished on 9th October 2011. The survey information was already provided to all staff and the questionnaires and information sheets were already delivered to the Centre. One box was provided for patients to return the filled-in questionnaire, similar to the Rotherham Centre. However, it was noticed that the centre structure is different and another box would be required for the questionnaires. The Sheffield Centre is an independent GP WIC which is based on two floors. The first floor is reserved for registered patients only and all the walk-in patients present to the reception on the ground floor.

There are always at least two receptionists working at the counter and during busy times, a third receptionist is also available. There are two corridors and each has a few consultation rooms. Therefore, to facilitate patients to return the survey questionnaires, each corridor had a box for patients to return the filled-in survey questionnaire when going out after having their consultation.

The Sheffield GP WIC seemed to have a greater patients' load in comparison with the Rotherham Centre. The waiting times for patients were also comparatively much higher than the Rotherham Centre. The car parking available on site is city council

charged parking which resulted in patients having problems when the waiting times were very long.

Survey questionnaires were delivered to the centre on every other day and the filled-in questionnaires were collected on a daily basis. It was noticed that a larger proportion of survey questionnaires were returned through the post as compared to the Rotherham Centre.

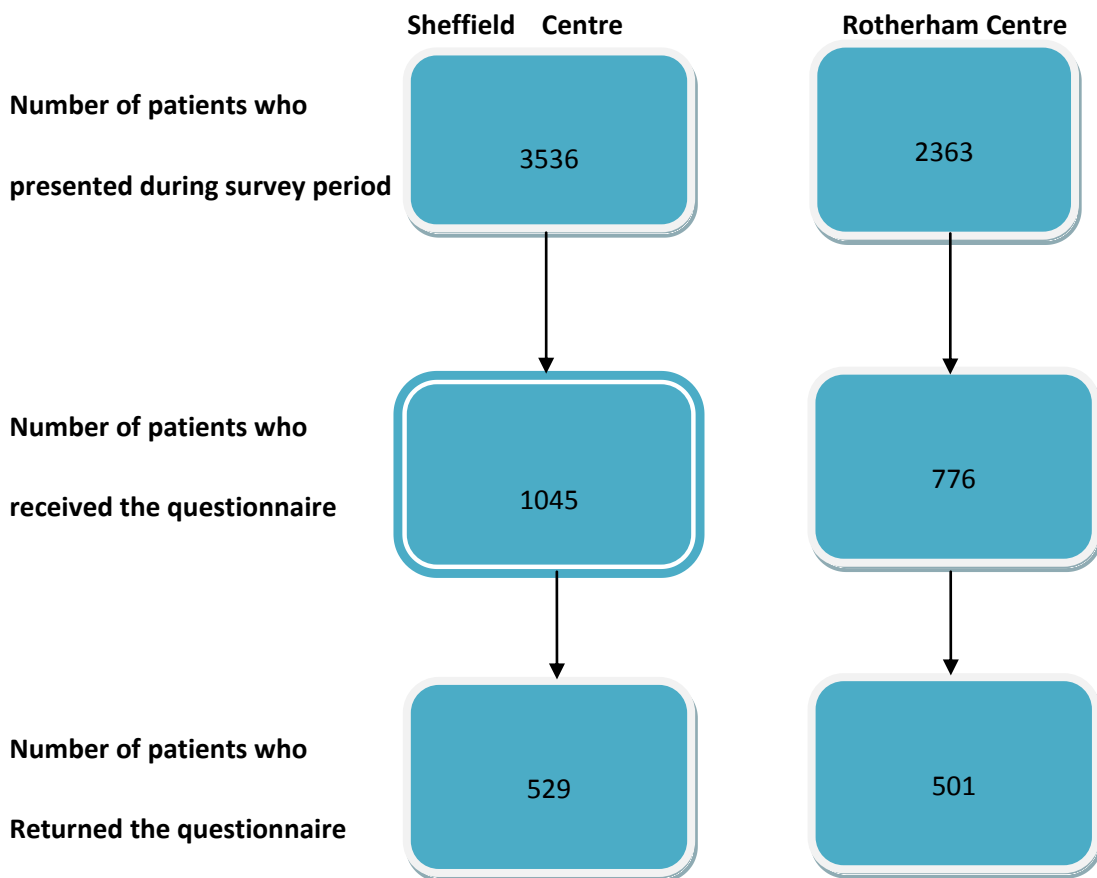
A nurse led walk-in centre was moved from the Royal Hallamshire Hospital to the Broad Lane Sheffield GP WIC in April 2011. Therefore, the patients included both types of patients; those which attended the service to get a nurse consultation and those who expected to see a doctor at the GP WIC. The Sheffield centre also had a triage system in place but it was different to the one in Rotherham. Patients are first assessed face to face by a nurse, and patients were only able to see a GP if the nurse referred the patient after assessment. At the Sheffield Centre, no patient was observed to be transferred to the ED by ambulance during the survey period. During the survey period, it was observed that a large number of patients complained about not having any vending machines and public telephones on site.

The survey finished on 9th October 2011 and results were presented to the Centre staff and manager for feedback during the first week of December 2011.

3.3 Results

A total of 1030 patients participated in the study (response rate 57%), 529 from the Sheffield GP WIC (response rate 51%) and 501 from the Rotherham GP WIC (response rate 65%) [Figure 3.1].

Figure 3.1 Response rates of patients to the primary survey

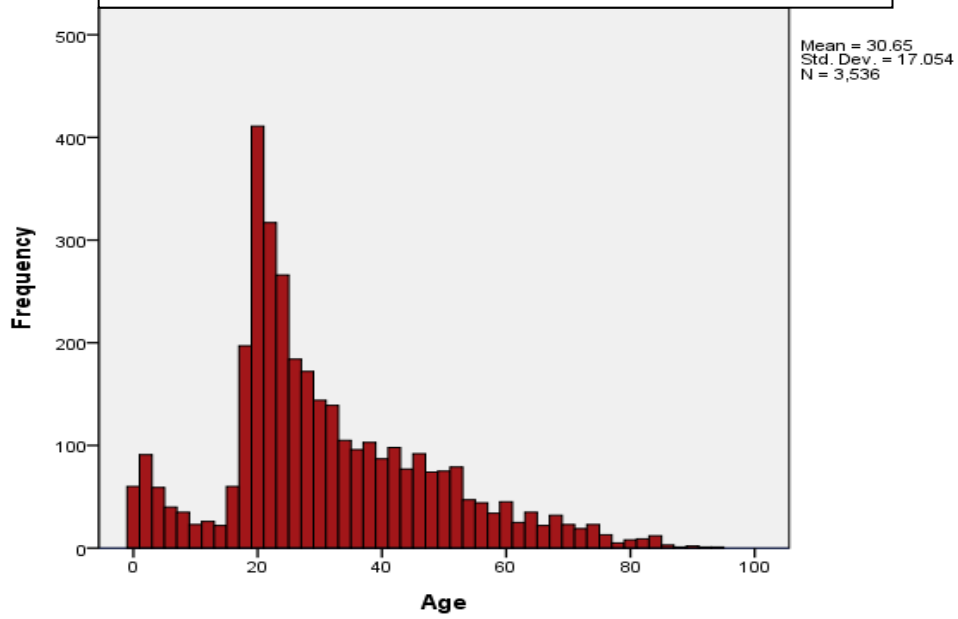


The survey sample was compared with the centres' routine data for the same period to examine the representativeness of the sample. No major differences were found regarding the average age, sex, or timing of attending the centre at the Sheffield GP WIC [Table 3.1]. The average age was also similar for the survey and routine data at the Rotherham GP WIC. However, survey respondents in Rotherham were more likely to be those who attended the GP WIC during out-of- hours (evenings/weekends) [Table 3.2]. No data were provided from the Rotherham GP WIC on the sex of the patients who attended the service during the survey period. In addition, it can be seen that the age distribution was also similar between the survey and routine data for both the Sheffield and Rotherham GP WICs [Figure 3.2, 3.3, 3.4 & 3.5].

Table 3.1 Comparison of routine data (for the same period as the survey) from the Sheffield Centre with the survey data				
	Routine data	Survey data	Test statistics	P-value
Sex				
Male n (%)	1481 (41.9%)	209 (40.2%)	0.54	0.25
Female n (%)	2055 (58.1%)	311 (59.8%)		
Age mean (SD)	30.65 (17.1)	32.14 (17.9)	1.78	0.08
Patients (n %) presented during;				
Office hours	1803 (51.0%)	226 (49.1%)	0.56	0.24
Out of hours (evening/weekends)	1733 (49.0%)	234 (50.9%)		
SD=standard deviation				

Table 3.2 Comparison of routine data (for the same period as the survey) from the Rotherham Centre with the survey data to determine representativeness of the survey participants				
	Routine data	Survey data	Test statistics	P-value
Age, mean (SD)	30.76 (21.2)	29.69 (22.1)	0.98	0.33
Patients (n %) presented during				
Office hours	654 (34%)	70 (18%)	38.38	<0.001
Out-of-hours (evenings/weekends)	1250 (66%)	314 (82%)		
Missing	458	114		
SD=standard deviation				

Figure 3.2 Age distribution of patients from the Sheffield Centre's routine data



Minimum age= 0 yr
Max = 93 yrs

Figure 3.3 Age distribution of patients participated in the Sheffield Centre's Survey

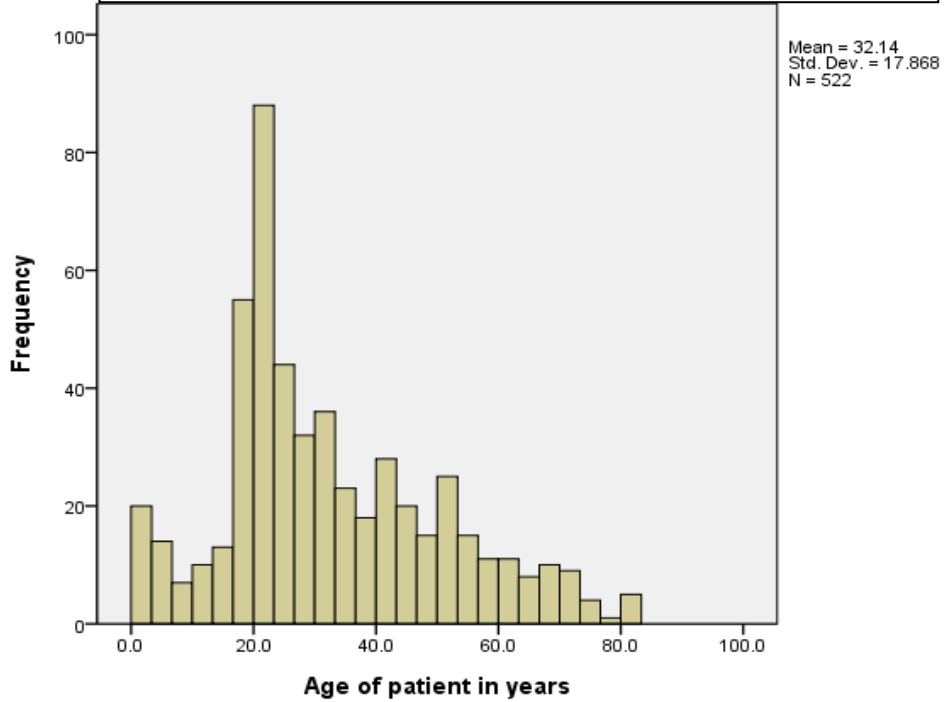


Figure 3.4 Age distribution of patients from the Rotherham Centre's routine data

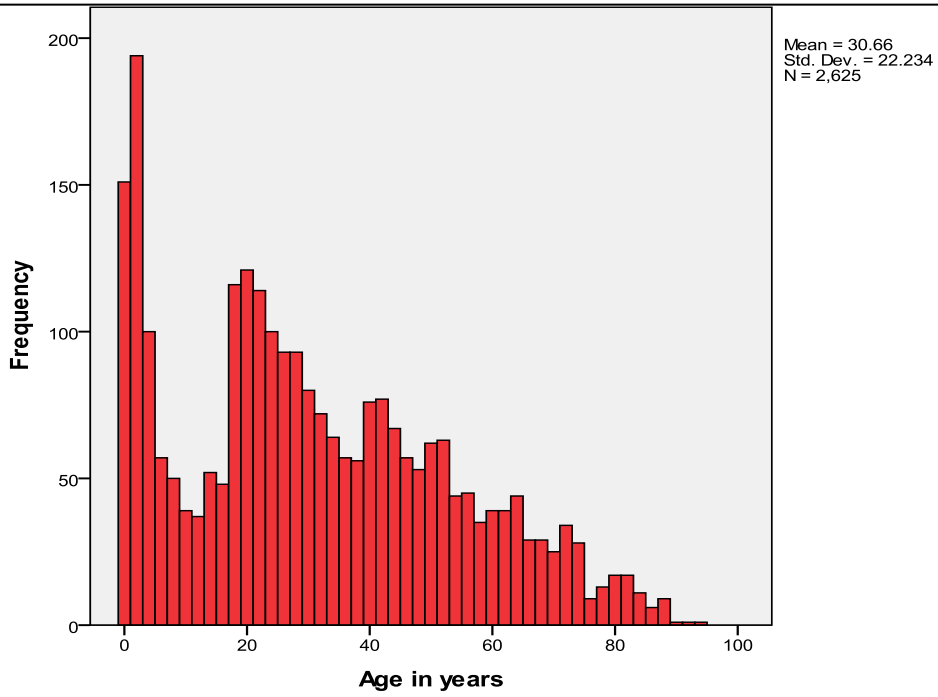
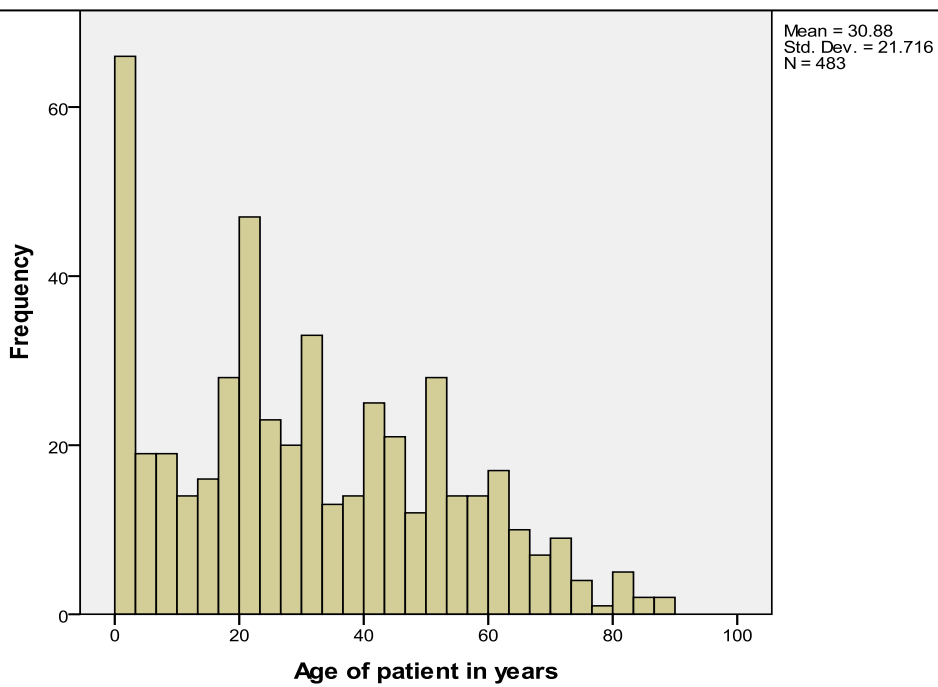


Figure 3.5 Age distribution of patients participated in the Rotherham Centre Survey



3.3.1 Demographics of the research participants

Most of the respondents visited the Sheffield GP WIC for their own health problem (84%) while 11% came with a child and around 4% with others such as friends or relatives. At the Rotherham GP WIC, 66% of patients attended the service for their own health problem, 27% with a child and around 7% with other relatives or friends. Most were female at both GP WICs with no difference between Rotherham (58.7% female) and Sheffield (58.8% female) [Table 3.3]. The average age of the participants was 31.5 (SD=19.8), again with no difference between the Rotherham patients (mean=30.1, SD= 21.7) and Sheffield (mean=32, SD=17.9) [t-statistics=1, P value=0.3].

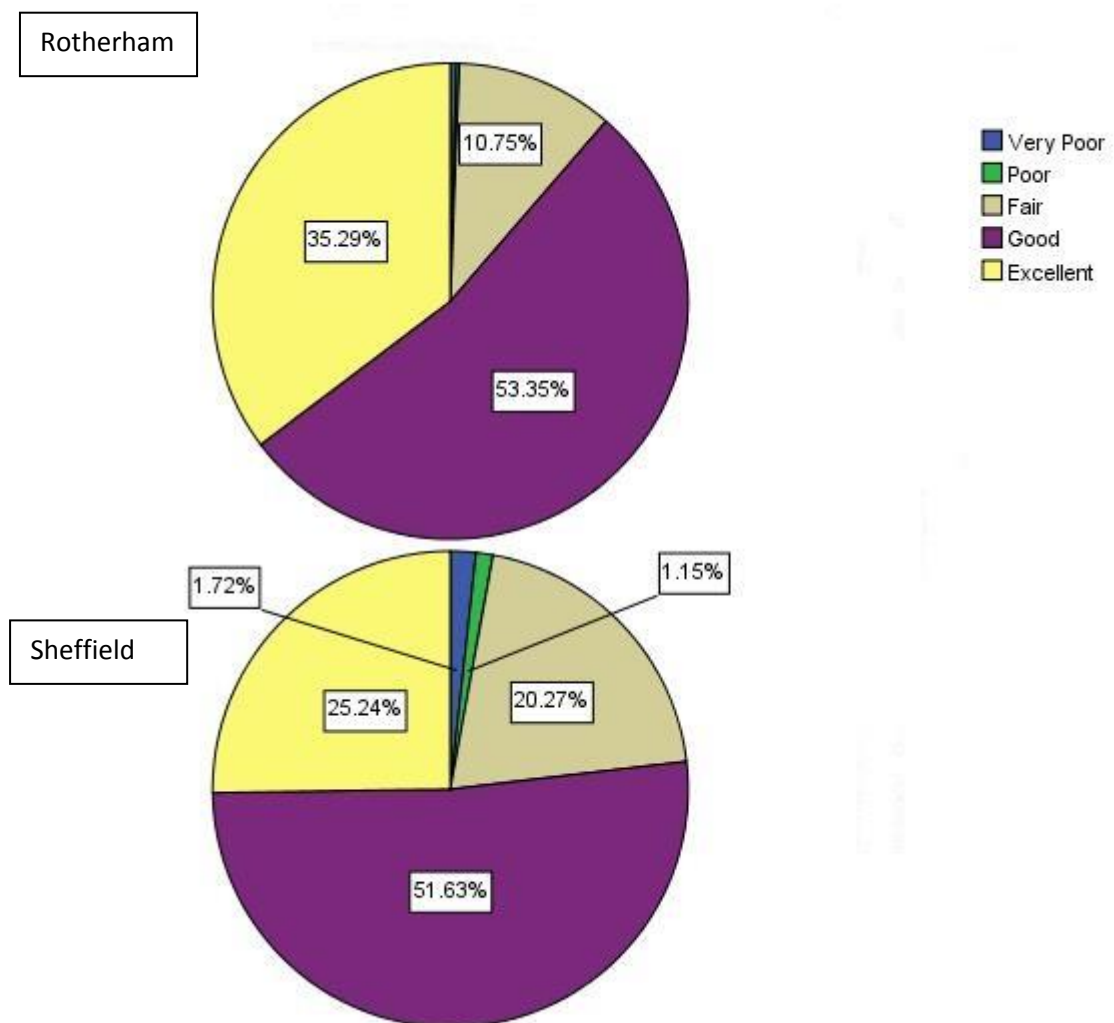
The percentage of first time attendees was significantly higher at the Sheffield GP WIC (52%) as compared to the Rotherham GP WIC (33%). There were some differences between the professions of the participants, such as the percentage of students which was significantly higher at the Sheffield GP WIC (28%) than the Rotherham GP WIC (17%), while that of pre-school infants was significantly higher at the Rotherham GP WIC (11%) as compared to the Sheffield GP WIC (2%), possibly because of the presence of a child ED located near the Sheffield GP WIC. Other professional groups were more or less similar at both GP WICs as shown in Table 3.3. Patients at the Sheffield GP WIC had a significantly more diverse ethnicity as compared with the Rotherham GP WIC. Around 89% of patients at the Rotherham GP WIC belonged to White ethnicity compared to 79% at the Sheffield centre [Chi²=32, df=1, P value=<0.001].

Table 3.3 Characteristics of patients presenting at the Sheffield and Rotherham GP WICs			
Demographic characteristics	Sheffield	Rotherham	Total
Age Mean ±SD, (Median) [Range]	32.1 ± 17.9, (27), [0, 82]	30.9 ±21.7, (28), [0, 89]	31.5± 19.8, (27), [0,89]
Sex % (n)			
Male	39.0 (188)	40.2 (209)	39.6 (397)
Female	61.0 (294)	59.8 (311)	60.4 (605)
Missing	19	9	28
First time user of the GP centre % (n)	52% (272)	33% (164)	43% (436)
Occupation % (n)			
1. Working full-time	35.3 (184)	37.0 (177)	36.2 (361)
2. Student	28.6 (149)	17.9 (86)	23.3 (235)
3. Working Part-time	10.4 (54)	8.6 (40)	9.5 (94)
4. Retired	8.7 (45)	8.7 (42)	8.7 (87)
5. Unemployed	7.9 (41)	9.6 (46)	8.7 (87)
6. Pre-school age babies	2.3 (12)	12.3 (59)	7.3 (71)
7. House wives	0.8 (4)	1.9 (9)	1.3 (13)
8. Other	6.0 (32)	4.0 (19)	5 (51)
Missing	8	23	31
Ethnicity % (n)		483	
1. White	80.0 (416)	92.5 (447)	86.2 (863)
2. Pakistani	4.2 (22)	4.2 (20)	4.2 (42)
3. Black African	3.1 (16)	0.6 (3)	1.9 (19)
4. Indian	2.1 (11)	-	1.1 (11)
5. Black Caribbean	1.5 (8)	-	0.8 (8)
6. Chinese	1.7 (9)	-	0.9 (9)
7. Bangladeshi	0.8 (4)	-	0.4 (4)
8. Black Other	-	0.4 (2)	0.2 (2)
9. Other ethnic group*	6.6 (34)	2.3 (11)	4.3 (45)
Missing	9	18	27
* Other ethnic group includes Mixed ethnicity, Afghani, Latin American/White, Burmese, Somalian, Arab, Slovakia, Vietnamese, Yemeni			

3.3.2 Convenience of the location

The convenience of the location of the Rotherham and Sheffield GP WIC is shown in figure 3.6. It can be observed that a higher proportion of patients (35%) reported the Rotherham GP WIC location as “Excellent” as compared with the Sheffield GP WIC (25%). The difference was statistically significant [$\text{Chi}^2=11.8$, $\text{df}=1$, $\text{P value}<0.001$]. The average scores were also higher for the Rotherham GP WIC (mean=4.2, $\text{SD}=0.7$) as compared to the Sheffield GP WIC (mean=3.9, $\text{SD}=0.8$) with a statistically significant difference [t statistics= 5.4, $\text{P value}<0.001$].

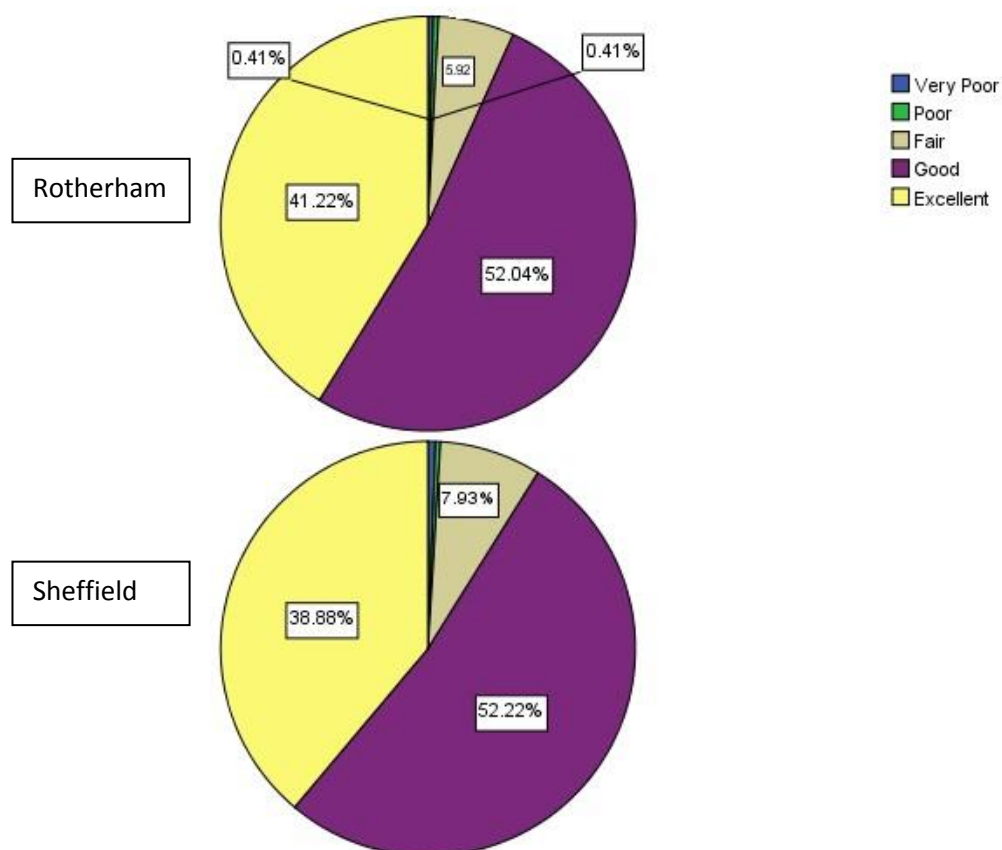
Figure 3.6 shows the rating of the convenience of the Sheffield and Rotherham GP WICs’ location



3.3.3 Convenience of the opening hours

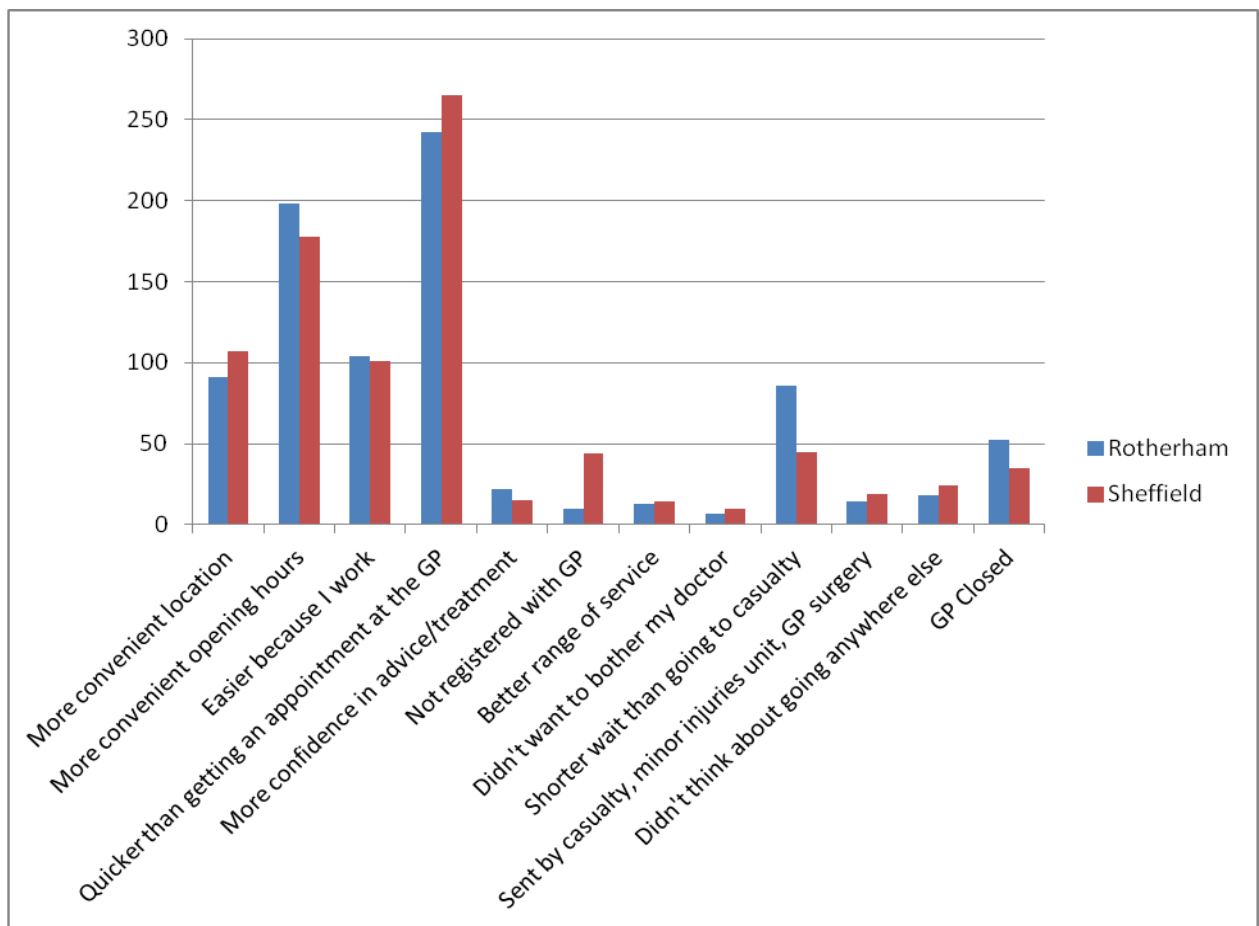
There was no significant difference in the rating for convenience of the opening hours of the Sheffield GP WIC and Rotherham GP WIC. Figure 3.7 shows both GP WICs had a large proportion of patients reporting the GP WIC's opening hours as "Excellent" [41% in Rotherham, 39% in Sheffield].

Figure 3.7 Rated Convenience of GP WIC's hours of opening



3.3.4 Why patients attend GP WICs?

Figure 3.8 shows the reasons for coming to the GP WIC in Sheffield and Rotherham



Note: Number of responses exceeds the number of participants as it was a multiple response question

There were a number of reasons why the participants decided to attend the GP WIC as shown in figure 3.8. The most commonly reported reason was “quicker than getting an appointment at the GP Surgery” which was true for both Sheffield and Rotherham GP WIC participants, followed by convenience of the opening hours of the GP WIC. Other common reasons included convenient location of the GP WIC, and in several cases, patients decided to come to the GP WIC because of an expected shorter waiting time as compared to ED. Most of the reasons for attending the GP WIC were similar between the Sheffield and Rotherham centres as seen in the figure 3.8. However, attending the service because of not being registered at any other service was more common among the participants in Sheffield, and attending the WIC because of a

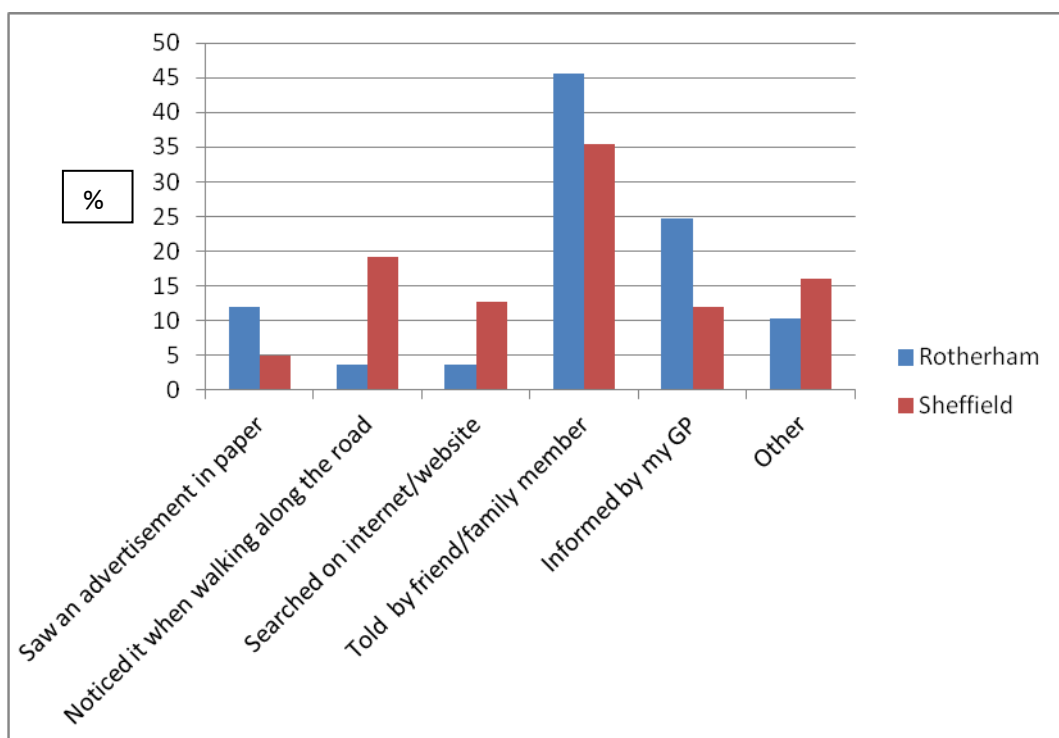
shorter waiting time than casualty was more likely to be reported by the participants of the Rotherham GP WIC.

The proportion of patients in different age groups reporting each reason for attending the GP WIC is shown in Table 3.4. It will be noticed that convenience of location was generally reported in higher proportion by younger age group patients while more confidence in treatment and shorter waiting time than going to ED were reported in higher proportion by above 65 year old age group patients. In addition, shorter waiting time than ED was also one of the important reasons reported by those who were attending the service with a child for child's health problem.

Reasons for attending the GP WIC	n (%) of all respondents in each age group (yrs) reporting that reason					X ² , df=4	P-value
	0-15	16-24	25-44	45-64	65+		
More convenient location	34 (10.7)	64 (16.1)	59 (11.8)	30 (8.3)	8 (7.6)	12.1	0.02
More convenient opening hours	80 (25.2)	93 (23.3)	111 (22.2)	64 (17.6)	20 (19.1)	7.5	0.11
Easy because I work	25 (7.9)	31 (7.8)	81 (16.2)	58 (16.0)	5 (4.8)	39.1	<0.01
Quicker than appointment at GP	90 (28.4)	117 (29.4)	145 (29.0)	117 (32.3)	33 (31.4)	4.9	0.29
More confidence in Advice/treatment	6 (1.9)	9 (2.3)	9 (1.8)	5 (1.4)	5 (4.8)	4.1	0.38
Not registered with GP	5 (1.6)	25 (6.3)	17 (3.4)	6 (1.7)	0	19.9	<0.01
Better range of service	4 (1.3)	1 (0.3)	13 (2.6)	5 (1.4)	3 (2.8)	9.7	0.05
Did not want to bother my doctor	2 (0.6)	0	4 (0.8)	8 (2.2)	3 (2.8)	13.6	0.01
Shorter waiting time than ED	34 (10.7)	18 (4.5)	30 (6.0)	32 (8.8)	15 (14.3)	20.6	<0.01
Sent by ED or Minor injuries Unit	5 (1.6)	12 (3.0)	4 (0.8)	9 (2.5)	2 (1.9)	6.5	0.17
Did not think of any other place	8 (2.5)	12 (3.0)	11 (2.2)	6 (1.7)	4 (3.8)	1.8	0.77
My GP was closed	24 (7.5)	16 (4.0)	16 (3.2)	22 (6.1)	7 (6.7)	11.2	0.02
Total	317 (100)	398 (100)	500 (100)	362 (100)	105 (100)	-	-

3.3.5 How patients learned about the centres

Figure 3.9 How participants came to know about the GP WICs (%)



The most commonly reported way respondents learned about the centres was that they were informed by their friends or family members about the centre, which is true for both Sheffield (35%) and Rotherham GP WIC (46%) [Figure 3.9]. It can be seen that the number of patients who noticed the GP WIC when walking along the road was much higher among the Sheffield Survey respondents (18%) as compared to Rotherham (3%). In addition, a larger number of participants from the Sheffield GP WIC (12%) survey reported an internet search as the source of information regarding the GP WIC services as compared to Rotherham (4%). On the other hand, respondents who were informed by their GPs were more common at the Rotherham GP WIC (20%) than at the Sheffield GP WIC (11%). Newspaper advertisements were also an important source of information for the Rotherham GP WIC patients (12%) but not the Sheffield GP WIC patients (4%).

3.3.6 Intention to visit other service if the GP WIC had not been established

Figure 3.10 Patients reporting what they would have done if the GP WIC had not been available

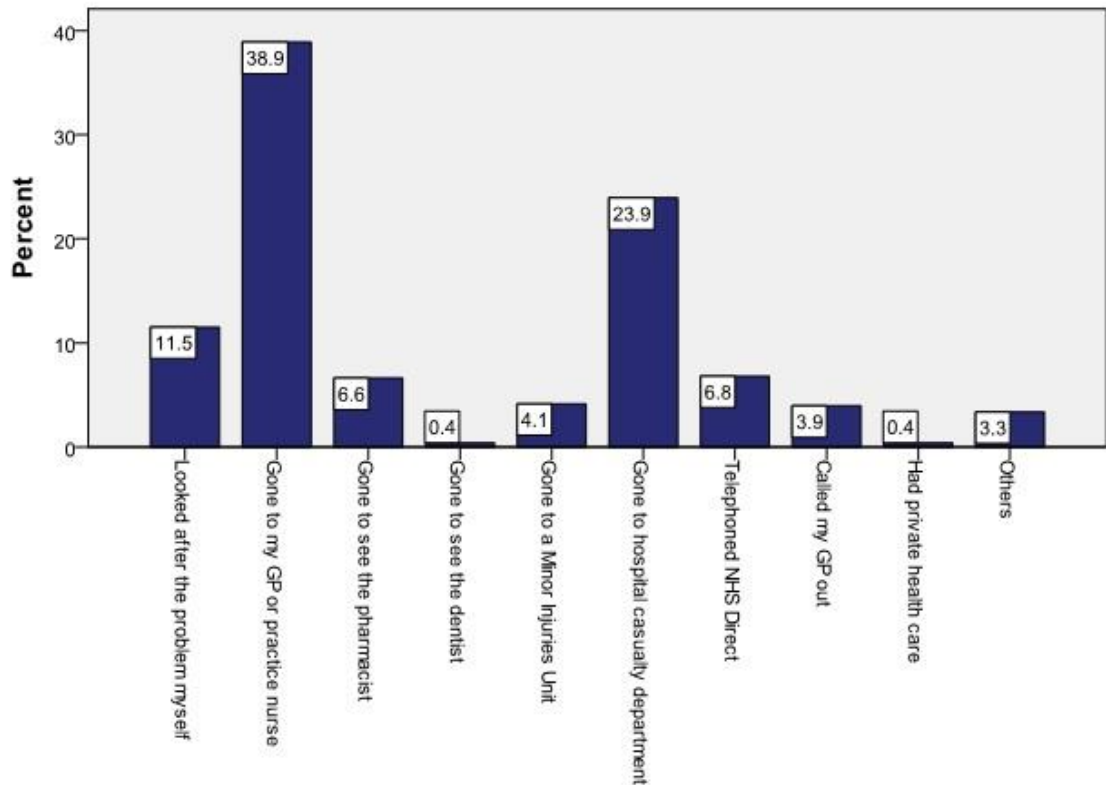


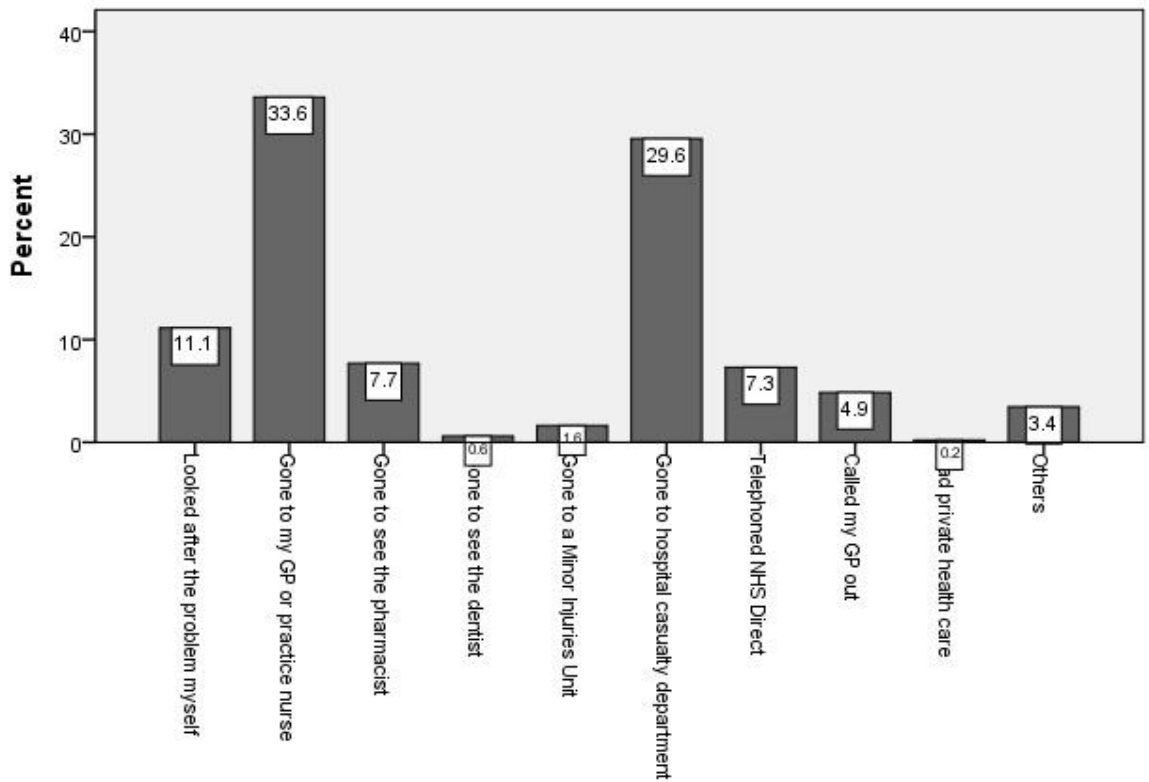
Figure 3.10 shows combined data from both centres and it reveals that a large proportion of patients (38.9%) reported that they would have gone to their GP practice if the centre had not been there. This was followed by 23.9% of patients who reported that they would have gone to ED if the centre had not been established. Around 12% of patients reported that they would have looked after the problem themselves. Other possible health care providers that might have been used if the GP WICs had not been established included Minor injuries unit, dentist, NHS direct, GP out-of-hours service and in some cases private health care providers.

There were some difference in the responses between the Sheffield and the Rotherham respondents. A higher proportion of Rotherham respondents (around 30%) reported that they would have gone to ED if the GP WIC had not been established while the

proportion of the participants who reported that they would have gone to their GP was higher at the Sheffield GP WIC [Figure 3.11 & 3.12].

Rotherham centre

Figure 3.11 Rotherham patients' reporting of what they would have done if the GP WIC had not been available



Sheffield centre

Figure 3.12 Sheffield patients' reporting of what they would have done if the GP WIC had not been available

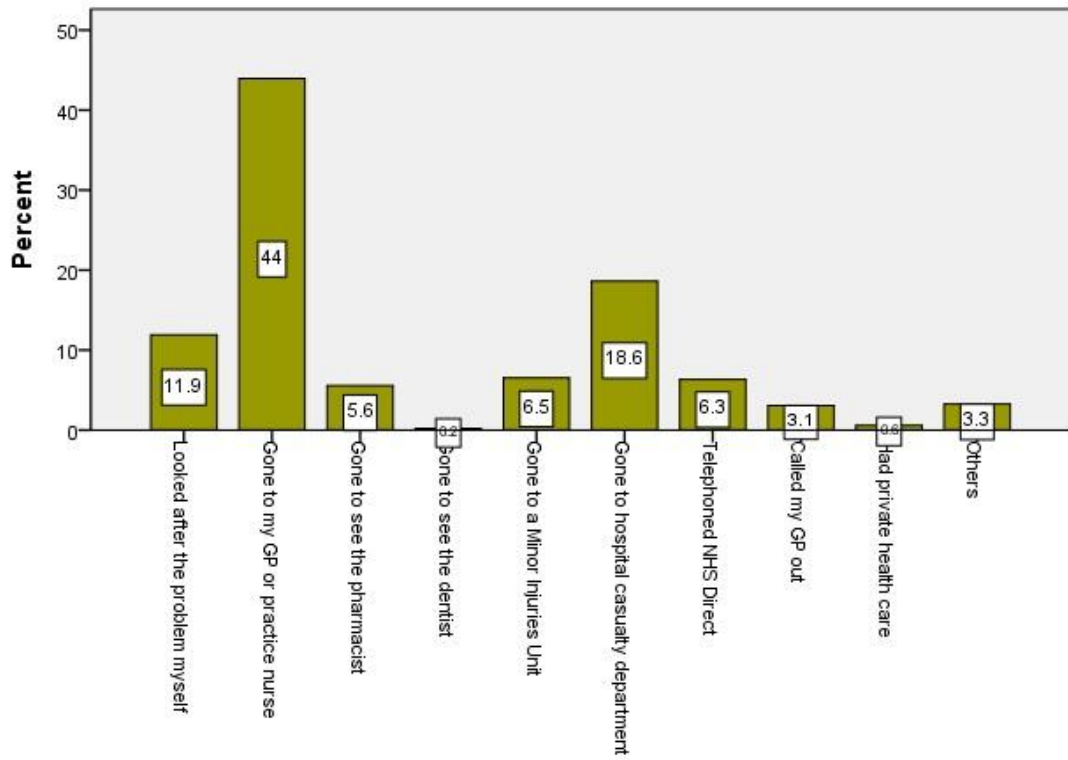
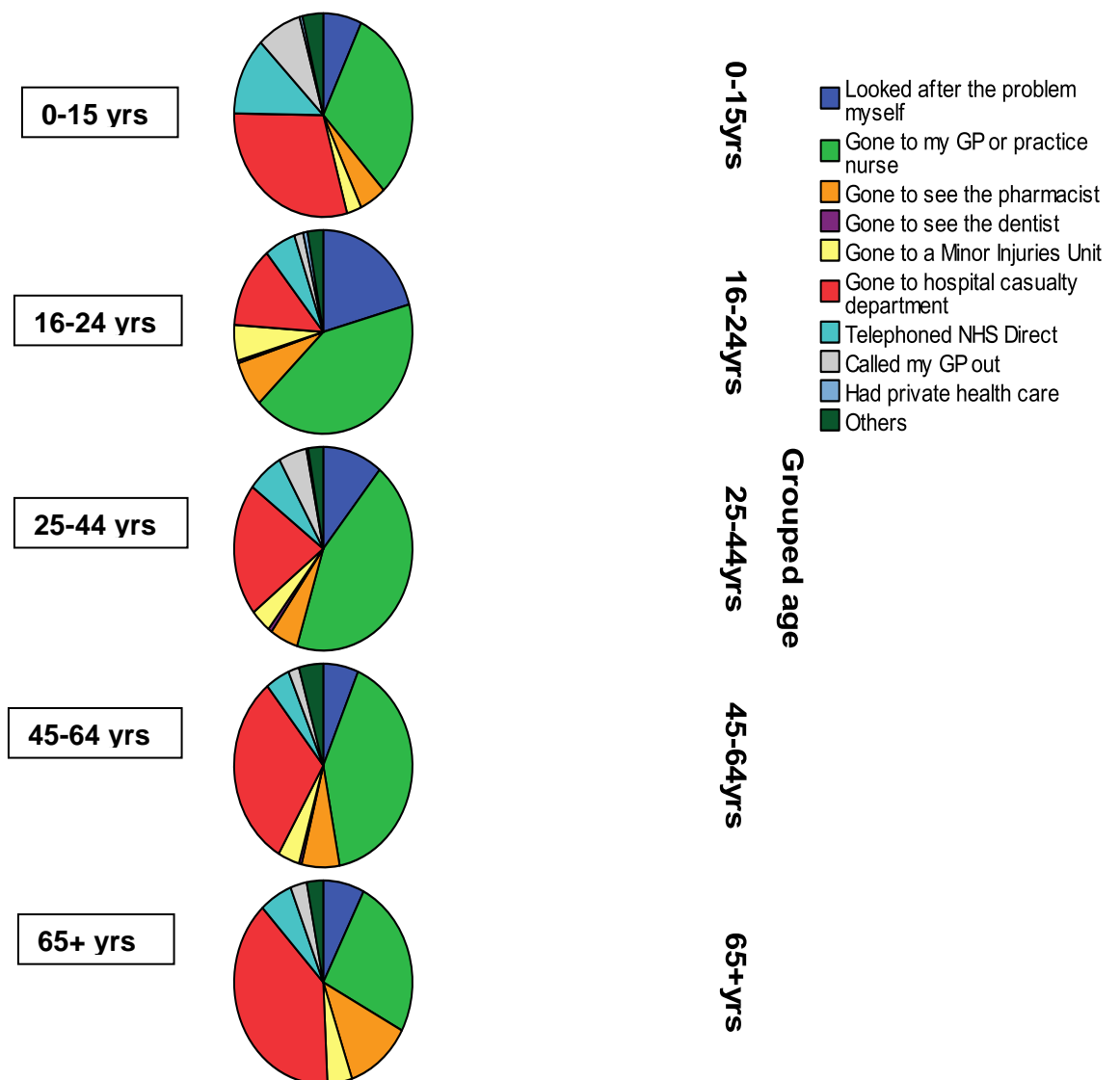


Figure 3.13 shows that there is slight variation in response to this question by different age groups with a very high proportion of patients reporting that they would have gone to their own GP or looked after the problem themselves in the age group 15-24 years, while a large proportion of patients reported that they would have gone to casualty in the age group above 65 years. It can be seen in the final regression model later in this chapter that satisfaction also varied significantly according to age group.

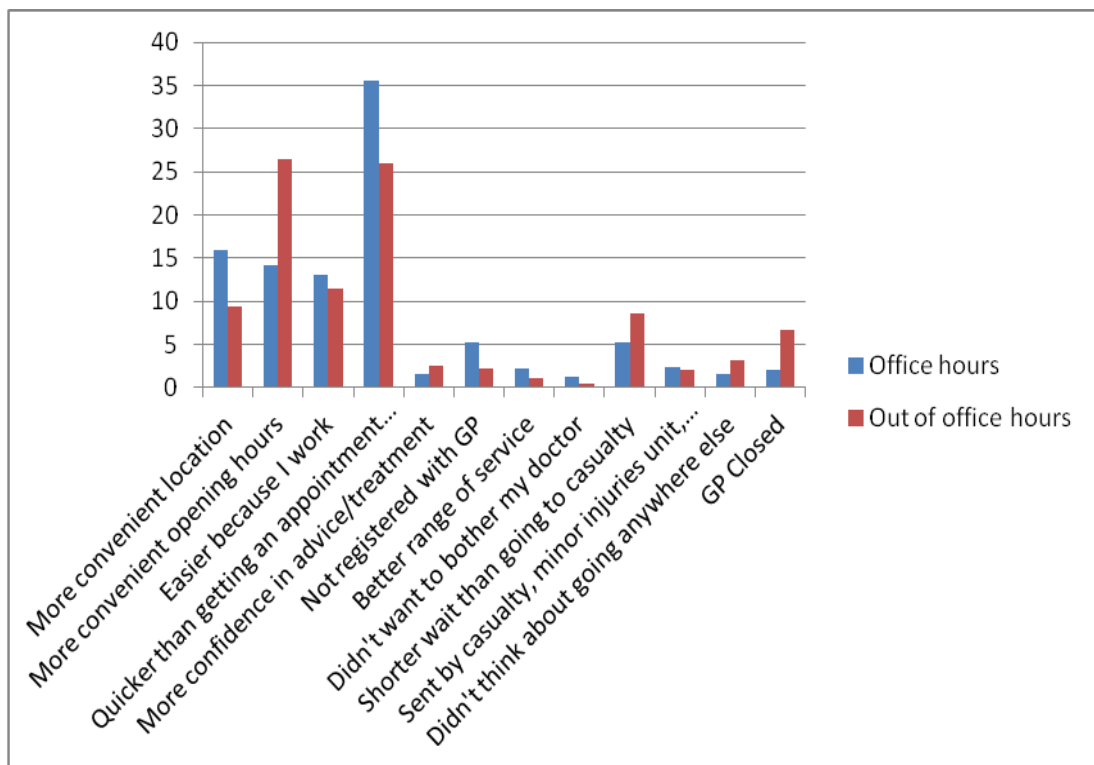
Figure 3.13 Proportion of patients reporting what they would have done if the GP WIC had not been available by age group



3.3.7 Attendances during office hours and out-of-hours

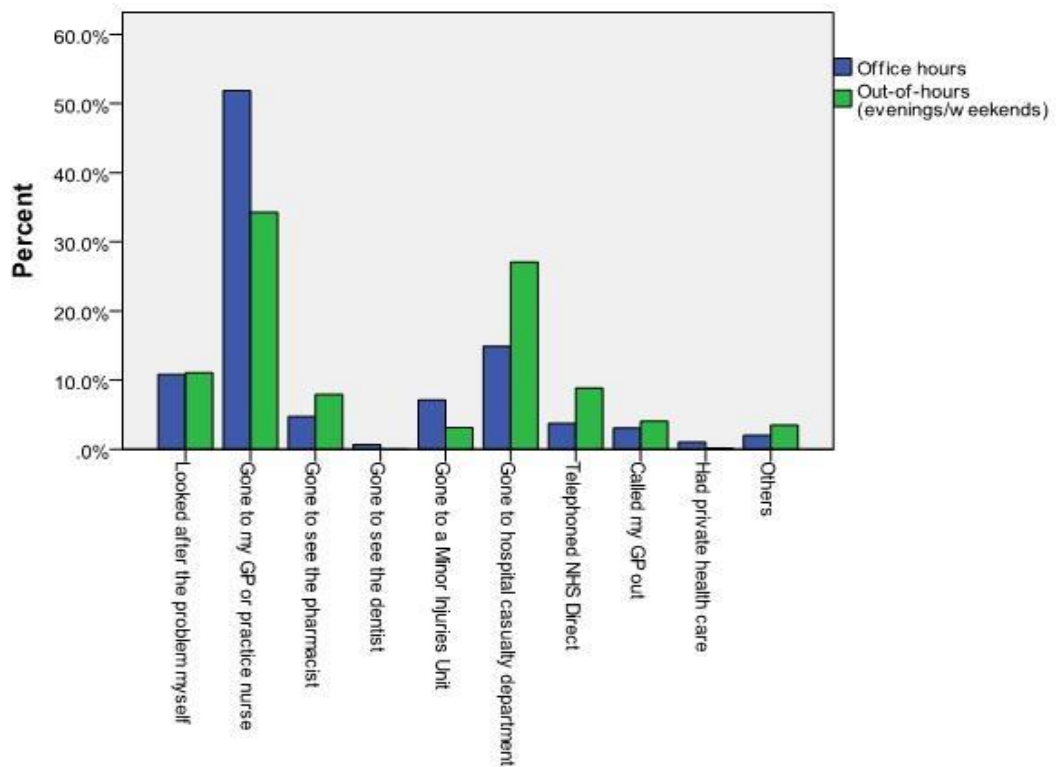
The reasons for attending the GP WIC were different for those who presented during office hours compared with evenings or weekends. A higher proportion of patients who presented at the centres out-of-hours than during office hours reported that their reason for visiting the GP WIC was because of better opening hours, or their GP was closed, or there was a shorter waiting time than at casualty [Figure 3.14]. Those who presented during office hours reported convenience of location and quicker than getting GP appointment in higher proportion than those who presented out-of-hours.

Figure 3.14 Reasons for attending the GP WICs for those who attended during office hours and those who attended out-of-hours (in percentages)



Most of the responses to the question of what patients would have done if the GP WIC had not been available were similar between office hours and out-of-hours attendees. Out-of-hours attendees were more likely to report that they would have gone to ED and also more likely to report that they would have called NHS direct, while office hours attendees were more likely to report that they would have gone to their own GP or a Minor Injuries Unit. There was no difference in the proportion of patients would have looked after the health problem themselves if the centre had not been available (figure 3.15).

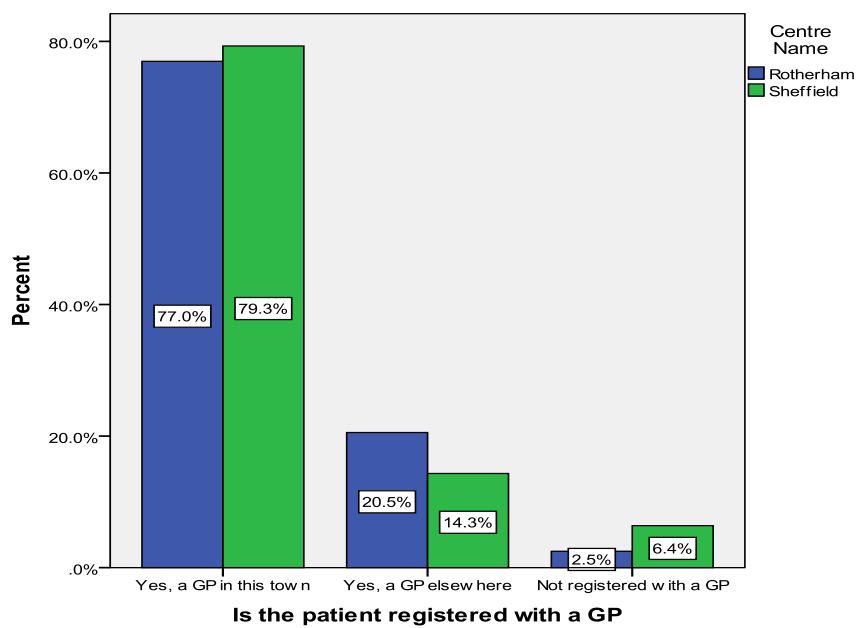
Figure 3.15 Comparison of responses between office hours and out-of-hours attendees to the question of what they would have done if the centre had not been available



3.3.8 Is the patient registered with a GP?

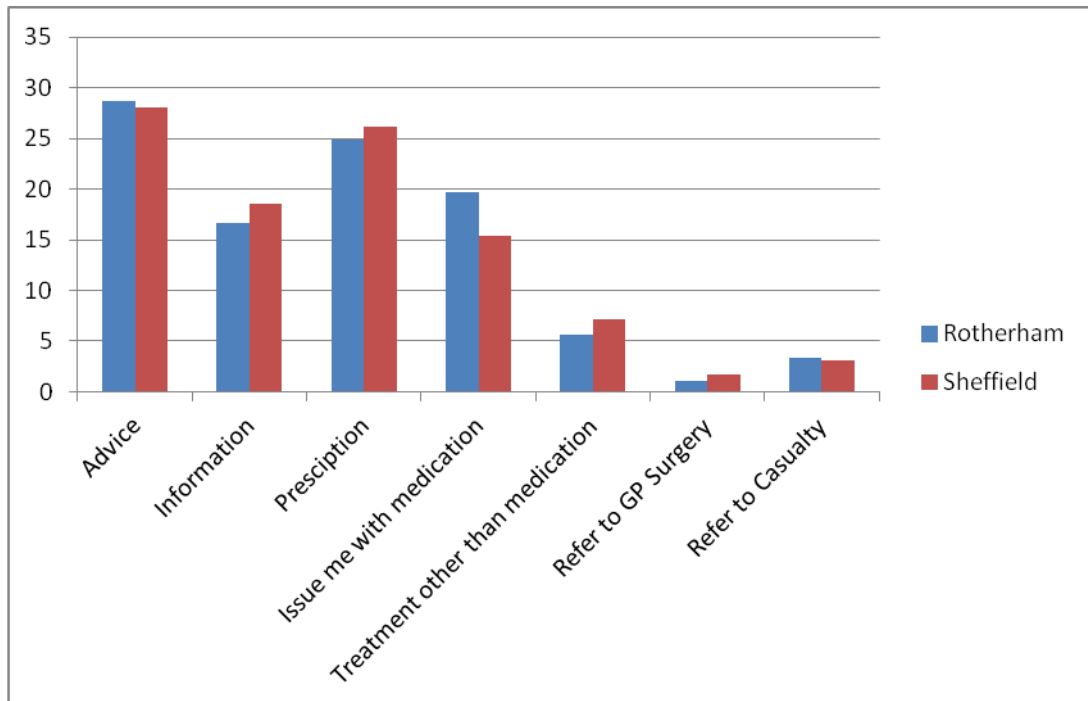
Figure 3.16 shows the proportion of patients registered with a GP in the town where the GP WIC is located, registered at some other place, or not registered with a GP in the UK. There were a larger proportion of unregistered patients at the Sheffield GP WIC (6.4%) as compared to the Rotherham GP WIC (2.5%) [Chi²=8.8, P value=0.003], possibly because of the larger number of students attending the Sheffield GP WIC.

Figure 3.16 The proportion of participants who were registered with a GP within the same town, registered at somewhere else, or not registered with any GP



3.3.9 Expectations of patients

Figure 3.17 Patient expectations with the GP WIC before receiving consultation (in percentages)



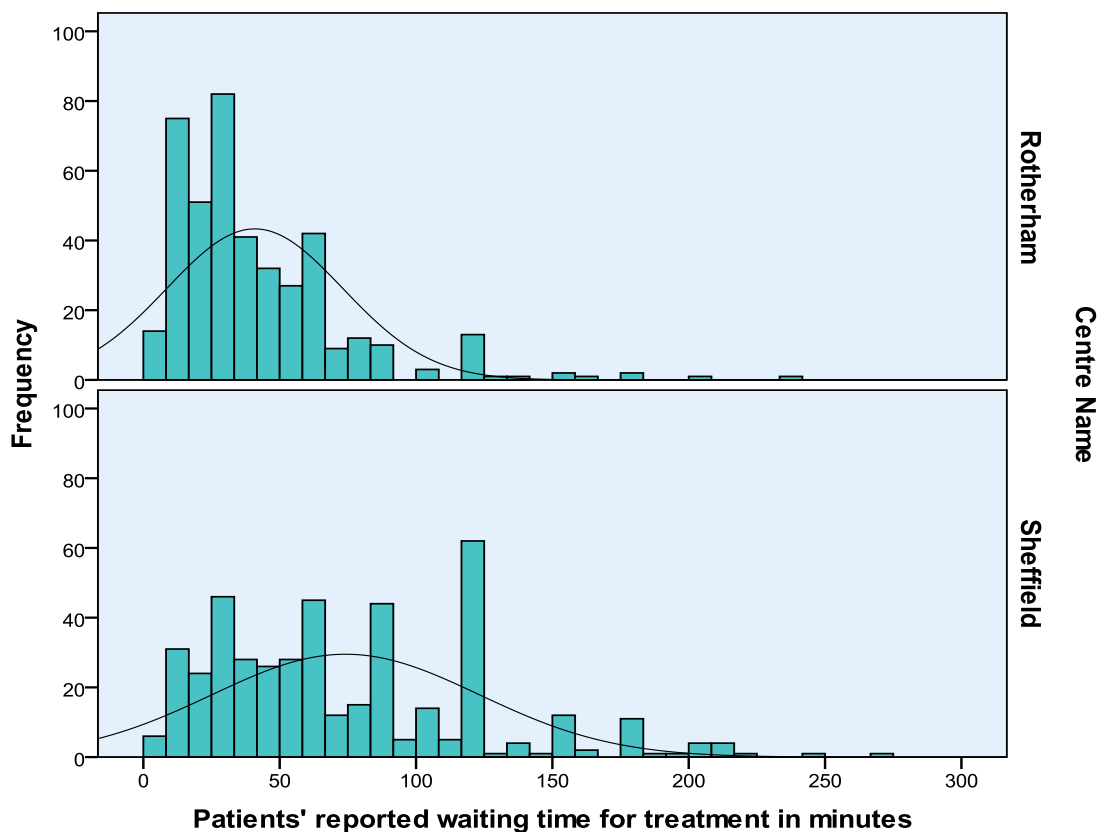
Most of the patients expected some advice, a prescription, or some medication from the GP WIC. Only a small number of patients expected the GP WIC to refer them to a hospital or a GP Surgery. No major difference was found between the expectations of patients in Sheffield and Rotherham [Figure 3.17].

Post consultation questions

3.3.10 Waiting time for treatment

The waiting time recorded in this study was patient reported and it was estimated in minutes from the time the patient entered the centre until they were seen by a health care professional who treated them. The average waiting time for treatment, reported by patients, was significantly higher at the Sheffield GP WIC (Mean=74.2 minutes, SD=49.0) in comparison to the Rotherham GP WIC (Mean=40.9 minutes, SD=32.2) [t statistic=11.8, P value<0.001]. The median waiting time for treatment was also different between the Sheffield GP WIC (60 minutes, range=269) and Rotherham GP WIC (30minutes, range=237; minimum=3, maximum=240). Around 53% of patients were treated within one hour of presenting at the Sheffield GP WIC while around 86% of patients were treated within one hour at the Rotherham Centre (Figure 3.18).

Figure 3.18 The distribution of patients' reported waiting time for treatment at Sheffield and Rotherham



3.3.11 Seen by one or more health care providers

Overall 44% (n=379) of patients were seen by a doctor, 39% (n=330) by a nurse and 17% (n=147) were seen by both a nurse and a doctor. The proportion of patients seen by more than one health care professional was significantly higher at the Sheffield GP WIC in comparison to the Rotherham GP WIC (Table 3.5).

The mean waiting time for treatment was also significantly higher for those seen by two or more health care professionals as compared to those seen by a GP or a nurse practitioner only [78.5mins, SD=54.6 versus 53.3mins, SD=41.6; $t = -5.1$, P value <0.001].

Table 3.5 The number of patients seen by one or more than one health care professionals at the Rotherham and Sheffield GP WIC				
	One health care professional	More than one health care professionals	Chi ² Statistics	P value
Rotherham n (%)	391 (92)	33 (8)	52	<0.001
Sheffield n (%)	318 (74)	114 (26)		

3.3.12 Satisfaction with the service

Overall satisfaction and satisfaction with a number of aspects of the service was measured on a 5 point likert scale from “not satisfied at all” to “highly satisfied”. The scale was dichotomised with the highly satisfied scoring 5 and other scoring (0-4).

There was no difference in the proportion of “highly satisfied” [P value=0.56; df=2, $\text{Chi}^2=1.2$] between those who visited the centre for their own health problem (highly satisfied=55.9%), for a child (highly satisfied=55.6%), or a relative or friend (highly satisfied=63.8%). There was also no significant difference between the proportions of men and women reporting that they were ‘highly satisfied’ overall ($\text{Chi}^2=0.1$, P value=0.3) as shown in figure 3.19.

Figure 3.19 The proportion of Highly Satisfied male and female participants

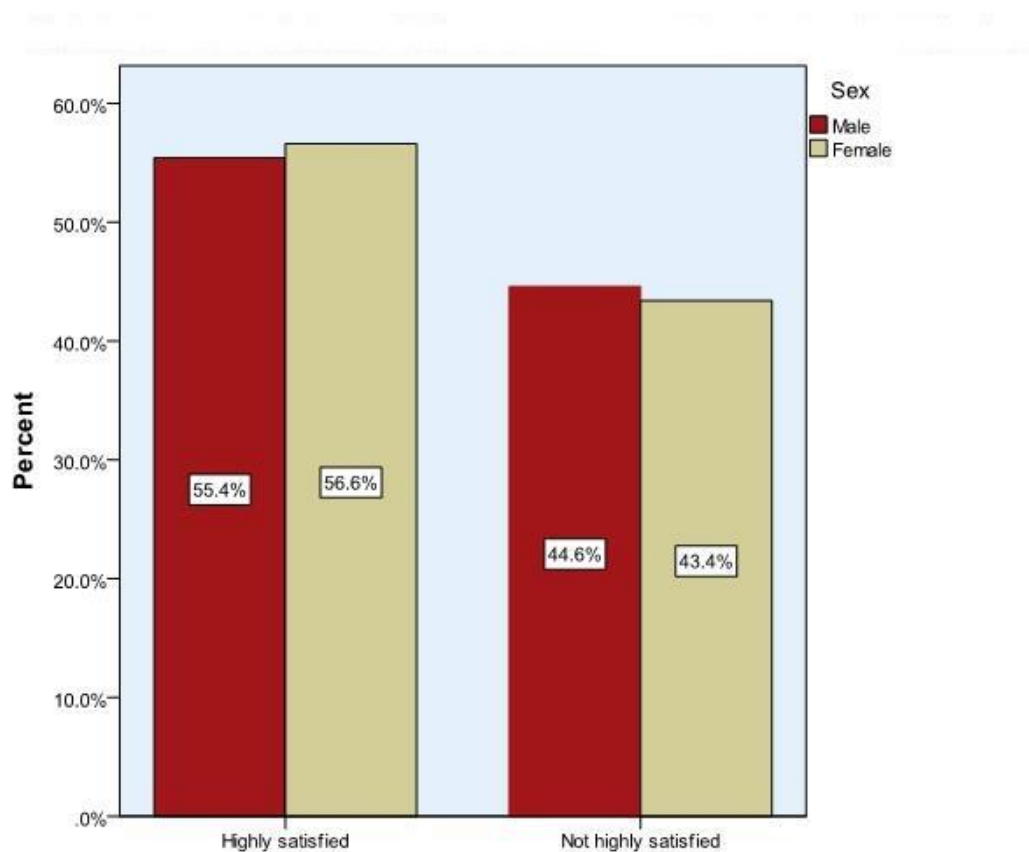
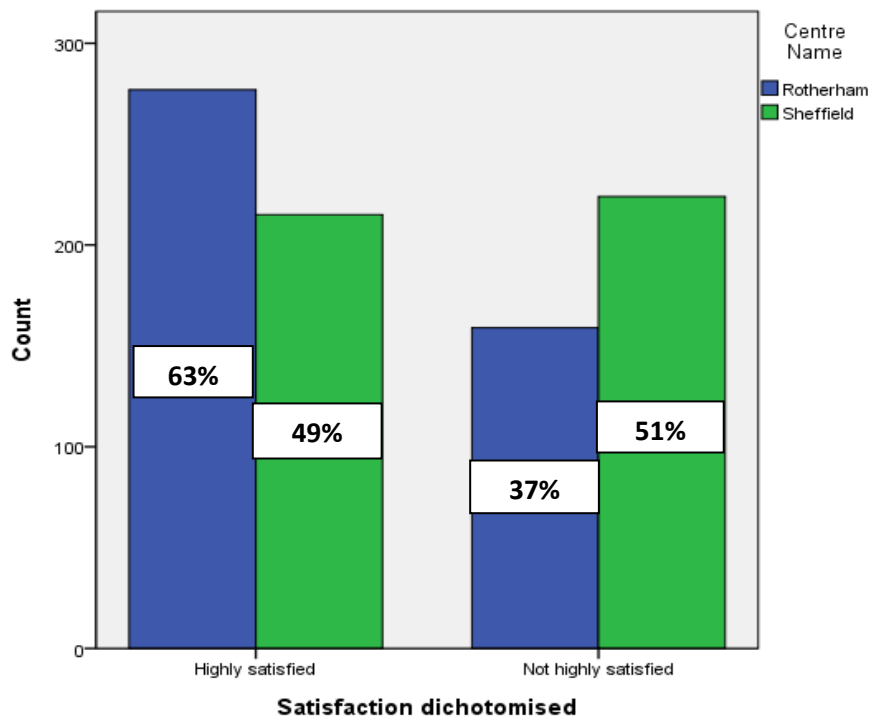


Figure 3.20 shows that 63% of participants at the Rotherham Centre were “Highly Satisfied” with the overall service (scored 5 on the Likert scale 1-5) while only 49% of participants were “Highly Satisfied” at the Sheffield GP WIC. The mean scores of the overall satisfaction were also compared between the two centres and showed a significantly higher score for the Rotherham Centre in comparison with the Sheffield Centre without controlling other factors.

Figure 3.20 The proportion of respondents reporting overall highly satisfied with the service



Satisfaction by reason for attending the service

There were only two reasons for attending the GP WIC which were different between the respondents of Sheffield and Rotherham as seen previously in figure 3.8. First, more patients came to the Rotherham GP WIC because of shorter waiting times. Second, more of the patients attending the Sheffield GP WIC came to the GP WIC because of not being registered with any GP in the UK. Tables 3.6 and 3.7 compare the “Highly Satisfied” participants in these groups. Not being registered with any other GP surgery did not affect satisfaction levels, while those who presented with the expectation of a shorter waiting time than at casualty were more likely to be satisfied with the GP WICs’ overall service [Table 3.6 and 3.7].

Table 3.6 Comparison of satisfaction between those who were not registered with any GP and those who were registered with a GP Surgery.		
Registered with a GP	Not highly satisfied	Highly satisfied
Yes n (%)	358 (44)	464 (56)
No n (%)	20 (45)	24 (55)
Pearson Chi ² =0.06; P value=0.46		

Table 3.7 Comparison of satisfaction between those who came to the GP WIC because of the expectation of a shorter waiting time than going to ED and all other reasons		
Shorter wait than going to casualty	Not highly satisfied	Highly satisfied
No	343 (46)	405 (54)
Yes	35 (30)	83 (70)
Pearson Chi ² =10.9; P value=0.001		

Satisfaction with location and opening hours

There is a small, but significant, positive correlation between the rating of convenience of the location and the overall satisfaction [Kendall’s correlation=0.46, P value<0.001] and also between the rating of the convenience of the opening hours and overall satisfaction [Kendall’s correlation=0.10, P value<0.001].

Satisfaction of office hours and out-of-hours attendees

There was no difference in the proportion of highly satisfied patients between office hours and out-of-hours attendees [Office hours=55%, out of hours=57%; $\text{Chi}^2=0.4$, P value=0.5].

Satisfaction between different groups according to their intention

Table 3.8 shows that there was no major difference in satisfaction levels between groups who reported different intentions about getting care if the GP WIC had not been available. Some of these categories where satisfaction seemed to be slightly higher included those who would have looked after their problem themselves and those who would have gone to casualty. So these were further analysed as an individual variable as seen below.

Table 3.8 What would patient have done if the centre had not been available by Satisfaction

		Satisfaction		Total
		Highly satisfied	Not highly satisfied	
What would you have done if the walk-in centre had not been available	Looked after the problem myself n (%)	60 (58)	43 (42)	103
	Gone to my GP or practice nurse	180 (53)	160 (47)	340
	Gone to see the pharmacist	39 (72)	15 (28)	54
	Gone to see the dentist	2 (100)	0	2
	Gone to a Minor Injuries Unit	21 (55)	17 (45)	38
	Gone to hospital casualty department	123 (61)	79 (39)	202
	Telephoned NHS Direct	34 (50)	34 (50)	68
	Called my GP out	18 (56)	14 (44)	32
	Had private health care	0	2 (100)	2
	Others	13 (43)	17 (57)	30
Total		490 (56)	381 (44)	871

Pearson Chi-Square=16.3, df=9, P value=0.06

Overall, 11% patients reported that they would have looked after their health problem themselves if the GP WIC was not established, without any significant difference in proportion between the Sheffield (11.9%) and Rotherham (11.1%) [$\text{Chi}^2=0.14$, P value=0.4]. Satisfaction levels were compared between those who reported they would have looked after the health problem themselves (highly satisfied=58.3%) and those who reported they would have used some other NHS service if the GP WIC had not been there (56.0%). There was no significant difference between these groups in the proportions reporting themselves highly satisfied ($\text{Chi}^2=0.2$, P value=0.3).

Additionally, an analysis was conducted to compare those who would have gone to casualty (ED) if the GP WIC had not been established and others. Those who would have gone to ED were slightly more likely to be “Highly Satisfied” with the service (61%) than others (55%) with a borderline significance [$\text{Chi}^2=2.3$, P value=0.07].

Expectations and satisfaction

The survey respondents who were expecting a GP referral were less likely to be highly satisfied than others, and those who were expecting medication at the centre were more likely to be highly satisfied [Table 3.9].

Table 3.9 Satisfaction between different group of participants according to their expectations with the service				
Expectations	Highly Satisfied n (%)	Not Highly Satisfied n (%)	Chi² statistics	P value
Advice Yes No	300 (58.9) 189 (52.9)	209 (41.1) 168 (47.1)	3.1	0.05
Information Yes No	169 320	141 236	0.8	0.21
Prescription Yes No	260 229	195 182	0.2	0.36
Issue Medication Yes No	188 301	123 254	3.1	0.04
Other treatment Yes No	59 430	57 320	1.7	0.11
Refer to GP Yes No	9 480	16 361	4.4	0.03
Refer to Casualty Yes No	28 461	30 347	0.2	0.12

Satisfaction levels in those who were seen by one health care professional or by more than one health care professionals

The proportion of respondents who were “Highly Satisfied” was greater in those who were seen by one health care professional (58%) in comparison with two or more (49%) [Chi²=3.5; P value=0.06]. However, after controlling for waiting time, there was no significant difference between the two groups as shown later in this chapter in Table 3.13.

Satisfaction levels in different ethnic groups

There was significant variation in the level of satisfaction between patients' belonging to different ethnic groups, with the least satisfaction in Indian patients (20%) and the highest proportion of satisfaction in Black Ethnic group patients (64%) as shown in Table 3.10. The satisfaction reported with the service was significantly different between the White Ethnic patients (58% reported highly satisfied) and others (44% reported highly satisfied) [$\text{Chi}^2=7.8$, $\text{df}=1$, $\text{P value}=0.005$].

Table 3.10 Satisfaction levels of different ethnic groups		
Patient ethnicity	Not Highly satisfied	Highly satisfied
White	315 (42%)	439 (58%)
Black Ethnicity merged*	9 (36%)	16 (64%)
Indian	8 (80%)	2 (20%)
Pakistani	15 (41%)	22 (59%)
Bangladeshi	2 (67%)	1 (33%)
Chinese	5 (71%)	2 (29%)
Other ethnic group	25 (76%)	8 (24%)
Pearson $\text{Chi}^2=24$, $\text{df}=6$, $\text{P value}=0.001$		
*Due to small number in each group, Black Caribbean was merged with Black African and other Black ethnicity		

Age and satisfaction

There was a small, but significant, positive correlation between age and overall satisfaction ratings (Kendall's correlation=0.10, $\text{P value}<0.001$). Kendall's correlation was used as one outcome was continuous and other was ordinal. In the model of satisfaction developed below, age was grouped into five categories to show the pattern of "Highly Satisfied" patients in different age groups.

Occupation and satisfaction

There were some variations in the satisfaction levels among different occupational groups [Table 3.11]. In general, students were least likely to report being “Highly satisfied” with the service (50%), while retired patients were most likely to be “Highly Satisfied” with the service (around 73%). The ‘Other’ occupation category included housewives (n=13), carers (n=2), disabled (n=4), not working because ill (n=3), and self-employed (n=4).

Table 3.11 Satisfaction according to the occupation of the participants

		Satisfaction		
		Not highly satisfied	Highly satisfied	
Patient's occupation	Student	Count	103	91
		% age	53.1%	46.9%
	Working full time	Count	129	191
		% age	40.3%	59.7%
	Working part time	Count	38	48
		% age	44.2%	55.8%
	Unemployed	Count	33	37
		% age	47.1%	52.9%
	Retired	Count	22	58
		% age	27.5%	72.5%
	Other	Count	21	25
		% age	45.7%	54.3%

Pearson Chi2=17.4, df=5, P value=0.004

Note Children and infants were not included in this analysis

Satisfaction levels in those seen by a doctor or a nurse

There was no significant difference in the proportion of “Highly Satisfied” participants between those who were seen by a doctor, by a nurse, or both a doctor and a nurse as shown in table 3.12.

Table 3.12 Satisfaction level of patients who were seen by a nurse, a doctor or both

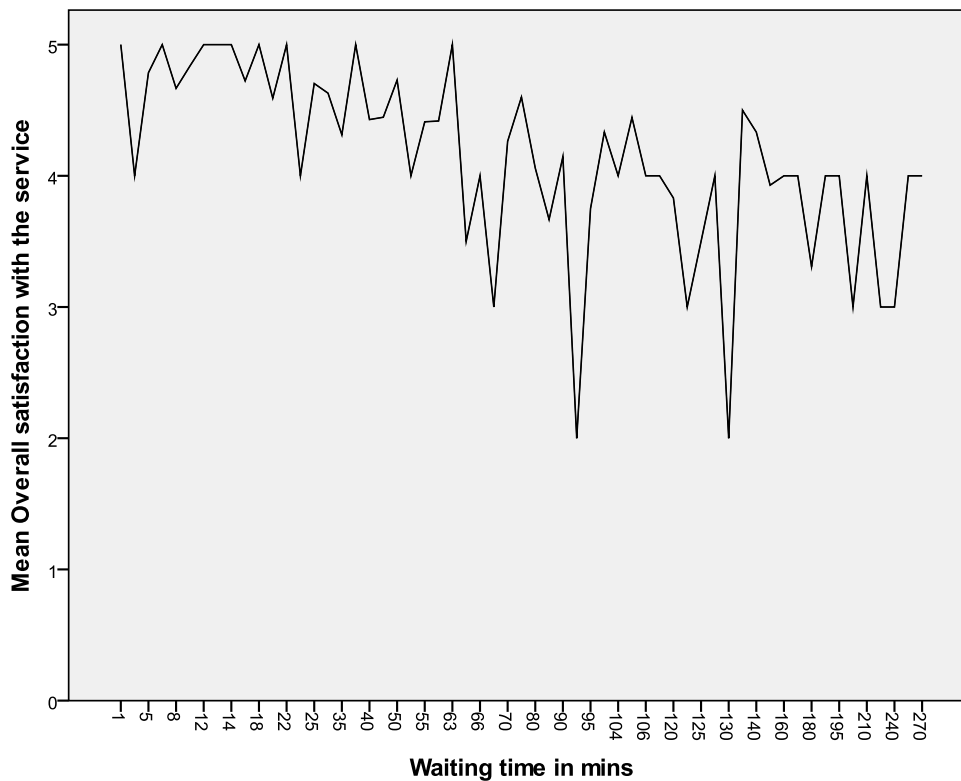
			Satisfaction	
			Not highly satisfied	Highly satisfied
Seen by	a doctor	Count	158	209
		% age	43.1%	56.9%
	a nurse	Count	133	191
		% age	41.0%	59.0%
	both a doctor and a nurse	Count	70	68
		% age	50.7%	49.3%

Chi²=3.8, df=2, P value=0.15

Satisfaction and the waiting time for treatment

The waiting time for treatment was found to be inversely correlated with the overall satisfaction scores [Kendall's correlation= -0.31, P value<0.001] which was true for both Rotherham GP WIC (Kendall's correlation=-0.31, P value<0.001) and Sheffield GP WIC (Kendall's correlation= -0.30, P value<0.001). Figure 3.21 shows a line graph of the relationship between the average overall satisfaction scoring and waiting time in minutes.

Figure 3.21 Mean overall satisfaction scoring and waiting time in minutes



Comparison of satisfaction scales between Rotherham and Sheffield

Table 3.13 compares the mean scores in Sheffield and Rotherham of each of the dimensions of satisfaction including attitude of receptionists, attitude of doctor/nurse, satisfaction with waiting time, satisfaction with the treatment given, and overall satisfaction with the service. It will be seen that all dimensions of satisfactions scored higher in the Rotherham GP WIC. After controlling for socio demographic factors (including age, sex, ethnicity, office hours or out-of-hours, first time user), but not quality related factors, there was still a significant difference for most of the dimensions of satisfaction.

Table 3.13 Comparison between Sheffield and Rotherham for each dimension of patient satisfaction (Rating 1-5)

Dimensions of satisfaction	Sheffield Mean (SD) n	Rotherham Mean (SD) n	P-value for raw scores¹	P value for adjusted scores²
Attitude of receptionist	4.36 (0.87) n=466	4.59 (0.67) n =449	<0.001	<0.001
Time you had to wait before saw a nurse or doctor	3.24 (1.34) n =449	3.99 (1.13) n =431	<0.001	<0.001
Attitude of nurse or doctor	4.56 (0.79) n =439	4.66 (0.67) n =434	0.053	0.071
Satisfaction with the explanation about problem by doctor or nurse	4.43 (0.88) n =430	4.6 (0.7) n =434	0.002	0.023
Treatment or advice	4.40 (0.9) n =430	4.52 (0.78) n =435	0.038	0.063
Overall satisfaction with the service (for this visit)	4.3 (0.97) n =439	4.5 (0.78) n =436	<0.001	<0.001
Overall satisfaction distribution (%)				
Rated 5 Very satisfied	49.0%	63.5%	<0.001	<0.001
Rated 4 Fairly satisfied	37.1%	29.8%	-	-
Rated 3 Uncertain	7.1%	3.0%	-	-
Rated 2 Not very satisfied	3.4%	2.3%	-	-
Rated 1 Not satisfied at all	3.4%	1.4%	-	-

¹ P-values calculated from t tests for a difference in the mean reported scores

² P values after controlling for the effect of other relevant factors including age, sex, ethnicity, office hours or out-of-hours, and first time user using a general linear regression model.

3.13 First time and repeat attenders

The mean rating on the Likert scale (1-5) for the convenience of the location of the WIC was significantly higher for participants who had previously attended the service than for first time attendees as shown in Table 3.16. The first time attendees were significantly less likely to report the location as “Excellent” (24%) as compared with those who had attended the service before (35%) ($\text{Chi}^2=12$, $\text{df}=1$, $\text{P value}<0.001$). However, the difference was only apparent for the Sheffield GP WIC (first time attendees=19% versus those who attended the service before=32%, $\text{Chi}^2=11.6$, $\text{P value}<0.001$) and not for the Rotherham GP WIC (first time attendees=33% versus those who had attended the service before=36%, $\text{Chi}^2=0.6$, $\text{P value}=0.2$), which probably points towards the better location of Rotherham GP WIC. The waiting time for treatment was also reported to be significantly higher by the first time attendees as compared to those who attended the service before. There were no statistically significant differences in any satisfaction component or the overall satisfaction levels between the two groups. As expected, those who attended the GP WIC previously were more likely to report that they would use the service again than those who were attending the service for the first time. The difference was only found to be statistically significant among the participants from the Sheffield GP WIC (mean scores=4.6 vs 4.1, $t=3.8$, $\text{P value}<0.001$). For the Rotherham GP WIC, there was no difference in the future intention of using the GP WIC service again between the first time attendees (mean=4.5) and those who attended the service before (mean score=4.6) [$t=1.6$, $\text{P value}=0.14$].

Table 3.14 Comparison of responses between first time attendees and those who had used the service before. Data include both Rotherham and Sheffield (N=1015, missing=15)

Items	First time attendees Mean (SD) (n=436)	Previously attended the service Mean (SD) (579)	Statistics	P-value
Convenience of the location (Likert Scale 1-5)	4.01 (0.78)	4.18 (0.73)	3.5	<0.001
Convenience of the opening hours (Likert Scale 1-5)	4.29 (0.61)	4.33 (0.69)	1.1	0.29
Patient reported waiting time (in mins)	62.1 (48.3)	54.3 (41.7)	-2.47	0.01
Attitude of receptionist (Likert Scale 1-5)	4.46 (0.81)	4.49 (0.78)	0.5	0.59
Time you had to wait before saw a nurse or doctor (Likert Scale 1-5)	3.52 (1.3)	3.69 (1.2)	1.8	0.06
Attitude of nurse or doctor (Likert Scale 1-5)	4.6 (0.76)	4.6 (0.71)	-0.35	0.73
Satisfaction with the explanation about problem by doctor or nurse (Likert Scale 1-5)	4.5 (0.8)	4.5 (0.8)	-0.399	0.69
Treatment or advice received (Likert Scale 1-5)	4.5 (0.86)	4.4 (0.84)	-0.68	0.49
Overall satisfaction with the service (Likert Scale 1-5)	4.37 (0.92)	4.39 (0.87)	0.31	0.75
Going to visit another service for the same problem	22%	20.4%	0.3*	0.32
Would you use this walk-in centre again in	4.29 (0.94)	4.55 (0.68)	4.55	<0.001
Actually visited another NHS service (response from post-visit survey) in %age (n)	41.2% (60)	40.5% (54)	0.01	0.5
* Pearson Chi ² statistics				

Multivariable analysis of factors affecting satisfaction

The overall satisfaction was dichotomised as explained earlier to make a binary outcome of “Highly Satisfied” (those who gave a score of 5 on the Likert Scale) and “Not Highly Satisfied” (those who gave a score of 4 or less on the Likert Scale). Logistic Regression was applied on this outcome and all relevant variables and the responses of multiple response variables which were significantly associated with this outcome were included in the model. The following variables were inserted in the model

- Rating of the convenience of the location of the centre
- Rating of the convenience of the opening hours
- Reasons for coming to the centre (only one response which was significantly associated with the outcome was included: shorter waiting time than going to ED)
- Age divided into five categories
- Sex
- Ethnicity
- Patient’s occupation
- Whether the patient was seen by one health care professional or more than one
- What the patient would have done if the centre had not been established (only one response which was significantly associated with the outcome was included: I would have gone to ED)
- Patient expectations (only three responses which were significantly associated with the outcome were included: expected advice, expected medication, expected referral to patient’s GP)
- The patient reported waiting time

Nagelkerke R square statistics showed that this model was able to explain around 31% of the variation in the outcome, which was acceptable in this case as there are many factors influencing patient satisfaction with a health care service.

The waiting time for treatment was the most important determinant of satisfaction. Table 3.15 shows that with each minute increase in waiting time, the probability of being “Highly Satisfied” reduces by around 2%. Other significant explanatory variables included the rating of the convenience of the GP WIC location and opening hours; both of them show that satisfaction increases with a better rating of the convenience of the location and opening hours. Those who were attending the service because of the shorter waiting time than ED were around 1.8times more likely to be Highly Satisfied than those who had other reasons to attend. The model also shows that ethnicity became insignificant after controlling for other factors. Younger age groups were less likely to be satisfied. No difference in terms of patient occupation or sex was found. Furthermore, first time users and repeat users had no difference in satisfaction levels. The variable regarding “what patient would have done if the centre had not been there” was also had no effect on satisfaction. The final model shows that there was no difference in satisfaction between Rotherham and Sheffield after controlling for all major factors [Table 3.15].

Table 3.15 Logistic regression of explanatory variables against the outcome of being “Highly Satisfied” (n=750) *Adjusted for other variables in the model.		
Variable in the Model	Effect size (B)	Adjusted odds ratio* (95% CI)
Centre: Sheffield Rotherham	-0.24	1 0.8 (0.5 to 1.1)
Reason for coming All other reasons Shorter waiting time than ED	0.57	1 1.8 (1.0 to 3.0)
Convenience of location (Likert Scale 1-5)	0.33	1.4 (1.1 to 1.8)
Convenience of opening hours (Likert 1-5)	0.61	1.8 (1.3 to 2.5)
Used the GP WIC previously Not used the centre previously	-0.27	1 0.8 (0.5 to 1.1)
Ethnicity White Black Ethnicity merged* Indian Pakistani Bangladeshi Chinese Other ethnic group		1 1.4 (0.5 to 5.1) 0.4 (0.1 to 2.6) 1.4 (0.6 to 3.1) 0.4 (0.1 to 4.5) 0.7 (0.1 to 4.3) 0.3 (0.1 to 0.9)
What patient would have done if no GP WIC All other responses Would have gone to ED	0.09	1 1.1 (0.7 to 1.7)
Male Female	0.15	1 1.2 (0.8 to 1.7)
Waiting time (in mins)	-.019	0.98 (0.97 to 0.98)
Occupation Student Full time working Working part-time Unemployed Retired Child/Infant Others		1 1.6 (0.8 to 3.0) 1.4 (0.7 to 3.1) 1.6 (0.7 to 3.4) 2.3 (0.8 to 6.6) 0.8 (0.4 to 1.8) 1.7 (0.7 to 4.4)
Expectations prior to consultation Expected advice Not expected advice Expected medication Not expected medication Expected referral to GP Not expected referral to GP		1 0.9 (0.6 to 1.2) 1 1.1 (0.8 to 1.5) 1 0.4 (0.1 to 1.0)
Age group 0 – 15 16 – 24 25 – 44 45 – 64 65 +		1 0.3 (0.2 to 0.6) 0.5 (0.2 to 1.0) 0.6 (0.3 to 1.4) 1.4 (0.4 to 5.0)
Seen by one health care professional Seen by more than one health care professional	0.1	1 0.9 (0.6 to 1.9)

3.3.14 Ability to look after the problem after consultation

After the consultation, 76% of patients reported that they would now be able to look after their health problem, without any difference between the Sheffield GP WIC (75.3%) and the Rotherham GP WIC (75.7%) as shown in table 3.16.

Table 3.16 Patients who reported to be able to look after the health problem after consultation in Sheffield and Rotherham GP WIC		
Able to look after the problem	Rotherham	Sheffield
Yes n (%)	330 (75.3)	329 (75.7)
No (%)	108 (24.7)	106 (24.3)
Chi ² =0.04, P value=0.4		

Of those patients who felt unable to look after their problem, most reported their intention to visit a GP (69%), followed by ED (18%) and other health care services (13%), without any major difference between the participants from the Sheffield GP WIC and Rotherham GP WIC as shown in Table 3.17.

Table 3.17 The responses of the participants who reported their intention to visit another service after receiving consultation at the GP WICs		
Intention to use other NHS service after receiving consultation	Rotherham n=100 % (n)	Sheffield n=105 % (n)
General Practitioner	67 (67)	70 (74)
Emergency Department	23 (23)	12 (13)
Another walk-in centre	4 (4)	3 (3)
Other NHS service	6 (6)	15 (15)
Chi ² =9.7, df=6, P value=0.1		

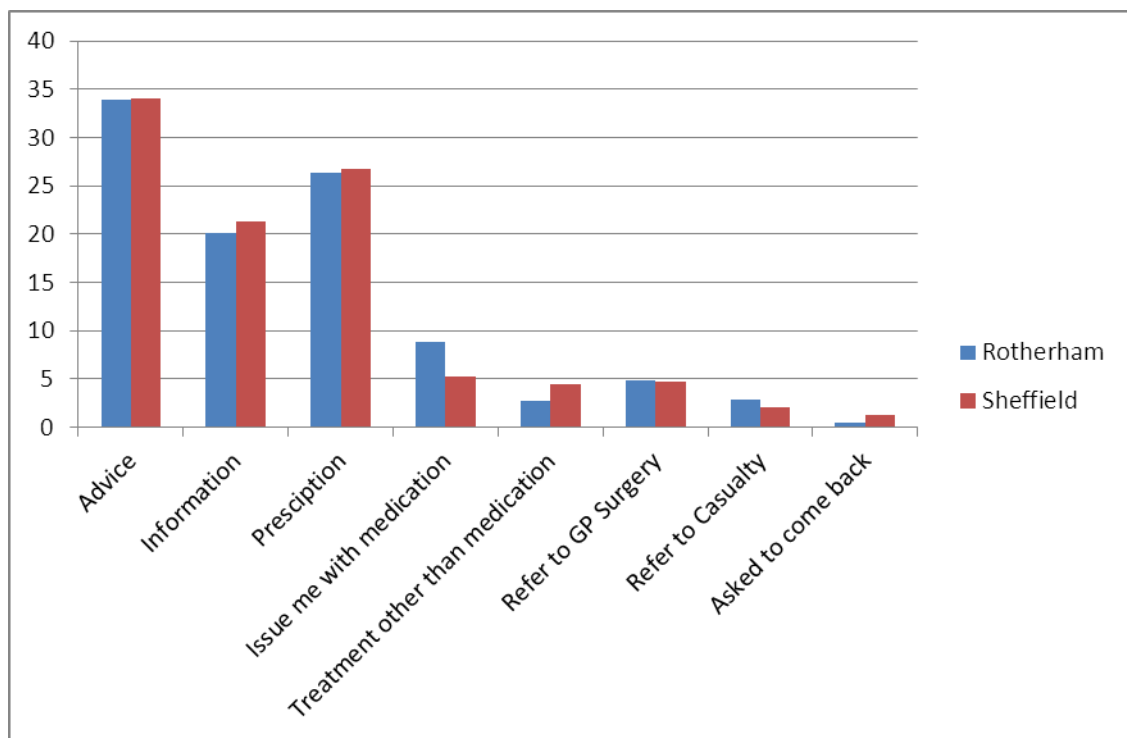
The proportion of patients who were “Highly satisfied” was higher (59.9%) for those who felt able to look after their problem after their consultation was significantly higher than those who were not able (43.6%) [See table 3.18].

Table 3.18 The proportion of “Highly Satisfied” between those who were able to look after the problem after consultation and those who intended to visit another service		
Able to look after the problem	Highly Satisfied % (n)	Not Highly Satisfied % (n)
Yes	59.9 (382)	40.1 (256)
No	43.6 (89)	56.4 (115)
Chi ² =16.5, df=1, P value<0.001		

3.3.15 Advice/treatment received at the GPWIC

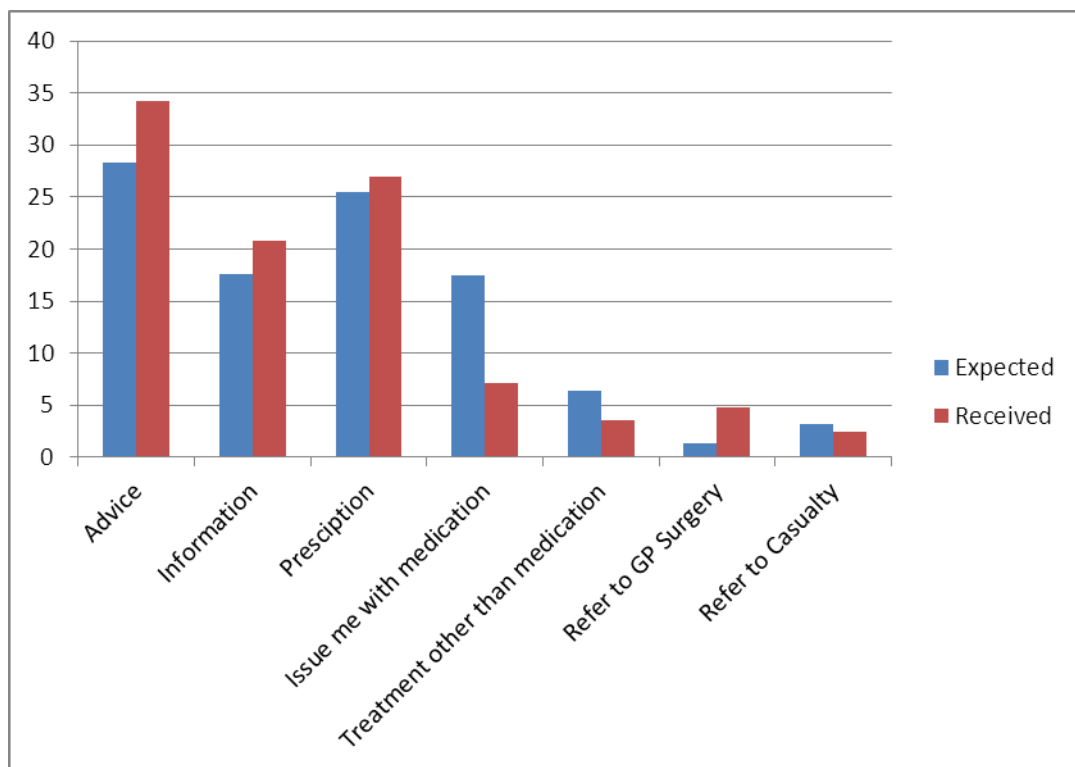
Most of the patients received some advice from the GP WIC and around quarter of the patients at each GP WIC also received a prescription. Only a small proportion of patients were referred to a GP surgery or to ED. There were no major differences in the proportion of any of the treatment/advice received between Sheffield and Rotherham (figure 3.23).

Figure 3.22 Comparison of advice/treatment received at the GP WICs in Sheffield and Rotherham (in percentages)



These outcomes were also similar to the expectations of patients before receiving the consultation at the service (Figure 3.24) which suggests that the GP WICs fulfil patients' expectations. There were, however, two exceptions; one was the expectation of receiving medication which was expected in a much higher proportion than actually received medication, and the other exception was getting a referral to a GP surgery which was expected in a lower proportion than got one.

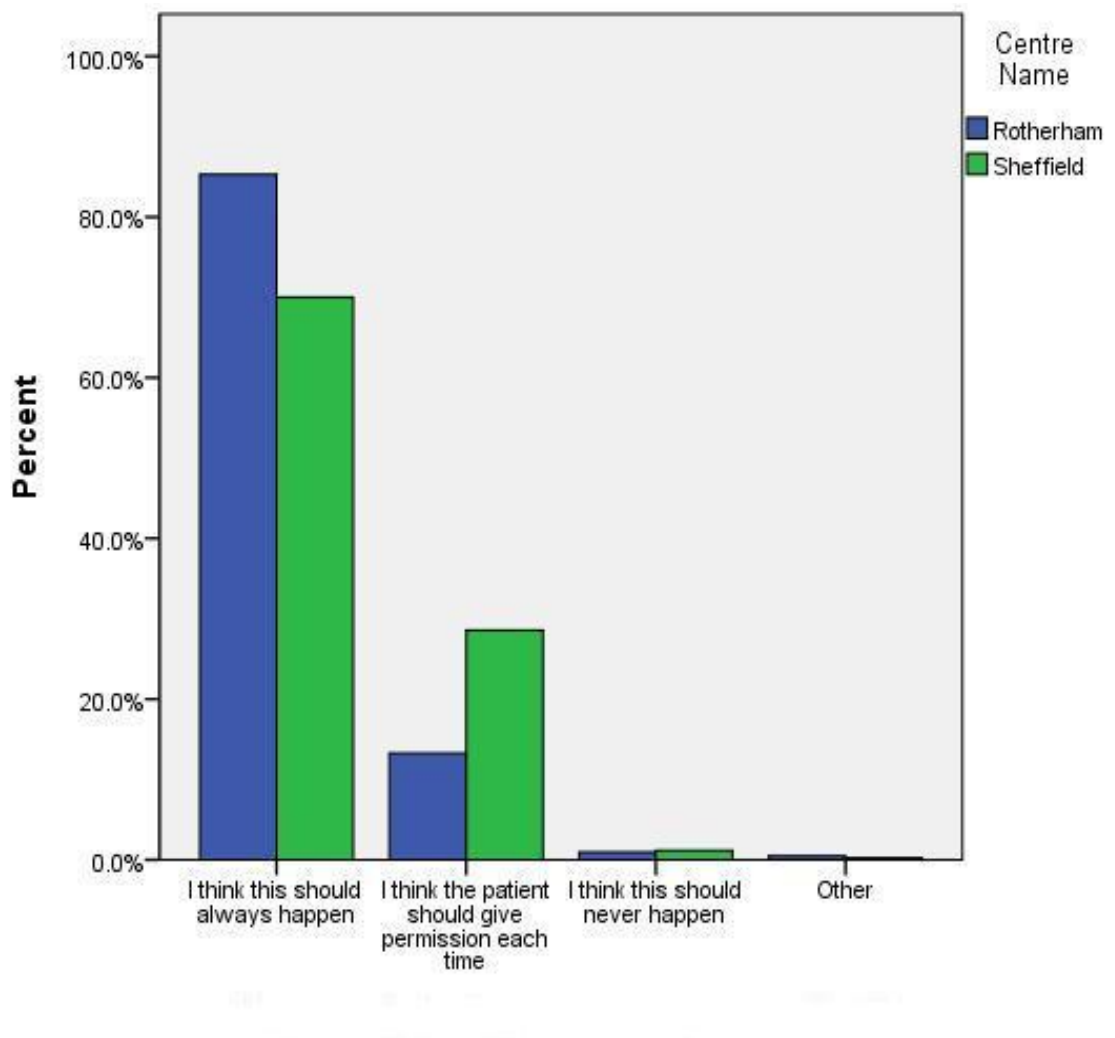
Figure 3.23 Comparison of patient expectations before receiving consultation and the actual treatment/advice received at the centres (in percentages)



3.3.16 Views on sharing GP WIC visit information with patient's GP

In the survey, patients were asked about their views on the walk-in centres sending information about their visit to their GP. Most of the patients agreed that the GP WIC should always send information to the patient's GP while other believed that the patient should be asked at each visit to the GP WIC. The latter was reported in a higher proportion of patients at the Sheffield GP WIC (figure 3.25).

Figure 3.24 The comparison of responses between Rotherham and Sheffield participants regarding their views on sharing GP WIC visit information with patient's own GP



3.4 Discussion

3.4.1 Survey data and Routine data

It is important in a survey to determine the representativeness of the sample selected in the survey. In this study, routine data from the centre were retrieved for the same duration as when the survey was conducted and some of the important variables were compared to determine the representativeness of the selected participants. The insignificant difference between the average ages of two data sets shows that the selected study participants belonged to similar age groups as in the routine data and selection bias was unlikely to affect the results. In addition, the patterns of the age groups were also very similar in the survey and the routine. Furthermore, the comparison of the survey and routine data for the patients attending the service at different times, either during working hours or evenings/weekends, was also a very important variable to determine the comparability of the results of this study. If a very high proportion of respondents were those who attended the service during evenings or weekends, there was a possibility of over estimating of the patient reported waiting time variable. It could also result in the appearance of lower satisfaction with the service than the actual level of satisfaction of the patients attending the service. On the other hand, if a higher proportion of respondents were from those who attended the service during working hours, the satisfaction level would appear to be higher in the presence of shorter waiting times. In this study, no difference was observed between the proportion of patients attending GP WIC in the evenings and weekends as observed in the routine data and the proportion in the survey data at the Sheffield.

The proportion of patients attending Rotherham GP WIC out-of-office hours was lower in the routine data as compared to the survey data. There are a few possible explanations for the differences between survey and routine data for the proportion of patients attending the Rotherham GP WIC during office hours and out-of-hours. First, the survey questionnaire was mostly filled in by the patients while waiting for treatments, so it is possible that office hours waiting time was markedly lower which did not allow patients time to fill in the survey questionnaire. Second, the time of visit was not recorded for a large number of patients in the centre's routine data (458

missing out of 2362; around 20%) which might have affected the percentages of patients attending the service out-of-hours.

However, it has been identified that there was no difference in satisfaction levels between those who attended the service during office hours and those who attended out-of-hours, which was the main outcome in this study.

3.4.2 Main findings

This study provides the first evidence in the UK about patient satisfaction and experiences of GP WICs. The GP WICs operate with longer opening hours than routine GP surgeries and open during weekends and bank holidays, have a GP at the centre along with nurse practitioners, and are able to retrieve patients' records to update any treatment or advice given at the centre (Sheffield GP health centre, 2012). The location and opening hours of these centres are highly satisfactory for the majority of the patients. Convenience of the Rotherham centre was reported as slightly higher, possibly because of the availability of free onsite car parking for patients. Studies have shown that patients use walk-in facilities because of easy access and much shorter waiting times as compared to GP practices (Salisbury, 2002a). Unregistered patients were in higher proportion at Sheffield GP WIC, possibly because of the higher number of students living in the location. No major difference was found in satisfaction levels with this service between registered and unregistered patients.

On the other hand, the findings showed that the number of patients who knew about the service because of noticing the GP WIC board while passing through the nearby roads was higher at Sheffield than that of Rotherham centre. This was possibly because the Sheffield GP WIC was located near the city centre, whereas the GP WIC was located in a relatively isolated place where patients could not see them on their ways. However, it can be seen that the newspaper and television advertisements seem to be better working in Rotherham than in Sheffield. It also shows that referrals from friends or families remain the most important source of information for choosing a health care service.

3.4.3 Why do patients attend walk-in service?

There are a number of reasons why patients decide to choose a walk-in service instead of using an ED or a GP surgery. Some of the factors identified in this survey include; unavailability of a GP appointment, convenient opening hours of the GP WIC, convenient location and in some cases unwillingness to attend an ED because of longer waiting times than at the GP WIC. If a patient needs an urgent appointment with a GP and is unable to obtain one with the registered practice, the GP WIC can be considered the most appropriate alternative than going to the ED to get reassurance from a doctor. On the other hand, if patient attends the centre for a problem which otherwise would be manageable at home then this use of centre use would be considered inappropriate. This probably creates additional demand on health care services which otherwise might not be needed. There is a large proportion of patients who reported that they would solve the problem themselves if the centre was not there. This shows that by publicising the existence of the GP WIC in public, many patients will use the service who otherwise would not use any health care service only because the service is there. Conversely, if the GP WIC is not publicised at all, then the centre may not be able to reduce patient load at other services due to the lack of knowledge. The NHS 111 service can possibly play the most important role in this regard and can possibly divert patient flow in the right direction. Furthermore, 111 can be publicised freely among the general public and in future it can become the first point of contact in case of urgent health problems.

The other most important reason to attend the GP WIC was the convenience of opening hours of the GP WIC. The majority of the patients reported that they would have gone to their own GP if the centre had not been established. This means that these were the patients who were using the service as an alternative to a GP surgery and not the ED. Nevertheless, the GP WIC can still be very useful for patients who had urgent health problems in the evening (or at weekends) and used this service as an alternative to a GP because a large proportion of patients presented were unable to reach their own GP. In these circumstances, the patients would either present at ED, wait for their own GP, or may have just ignored their health problem, which could possibly have led to presenting at ED at a later time. However, if a patient regularly uses the GP WIC instead of own GP surgery then that would an inappropriate use of the service.

A high proportion of patients attending the GP WICs were highly satisfied overall with the services. This was true for both first time users and repeat users and so is not just a type of ‘survivor’ effect due to dissatisfied patients subsequently using alternative services such as minor injuries units or ED. The satisfaction scale was dichotomised into “Highly satisfied” (score = 5) and “Not highly satisfied” (scoring 1–4) which is recommended as the most appropriate cut off for understanding patients’ satisfaction (Collis, 2003). The longer time to be seen at Sheffield centre, particularly during evenings and weekends, was of concern. This also affected patients’ satisfaction with the service. The results showed that the odds of reporting to be “highly satisfied” with the service reduce by around 2% with every minute increase in the waiting for treatment. After controlling for the effect of the waiting time there was no difference in the satisfaction level between the two centres. Studies show that waiting time is one of the important factors for evaluating emergency care services as it has significant impact on the quality of care and patients’ outcome (Beniuk, 2012; Bernstein, 2009). Another study has reported that waiting time is a very important determinant of satisfaction in primary care out-of-hours services (Van Uden, 2005). Patients seen by both a nurse and a GP had longer waiting times than those seen by one health care professional only. In addition, the proportion of “Highly Satisfied” were also higher in those who were seen by one health care professional (58%) in comparison with two or more (49%) [$\text{Chi}^2 = 3.5$; P value = 0.06]. However, after controlling for waiting time, there was no significant difference between the two groups. Sheffield GP WIC had a significantly higher proportion of patients seen by two health care professionals. The triage system at the two centres works differently, which might be responsible for the difference.

Previous studies have shown higher satisfaction rates with nurse led walk-in centres (79% reporting being highly satisfied) compared to the GP WICs I have studied (49% and 64%), though our results are comparable with reported patient satisfaction with GP practices (66%) (Salisbury et al, 2002a). The patient satisfaction levels observed in this study were also generally similar to those reported for other walk-in centres in London and outside London which ranged from 51% to 79% (Coster, 2009).

The data also shows that the activity of these centres is higher at evening and weekends than during office hours, and this is one of the signs of increasing patients' accessibility to GPs at times when their own GP is not available.

There are a number of important limitations to this study component. First, only two centres were included in the survey. Although the GP WIC services offered by these two models are typical of others across the NHS, but it is possible that their locations and patient populations are not. Most of the other GP walk-in centre services in the UK would be similar to one model or the other or lie somewhere between these two models. The core purpose of the GP walk-in centres is identical all over the UK, which is to offer GP access without appointment and available over weekends and evenings. Therefore, the findings of this study can be used to understand satisfaction and experiences with GP walk-in centre in the UK. Walk-in Centres have been established in the United States, Canada (Hutchison, 2003) and also introduced recently in Australia (Parker, 2012). In countries where services have just started or are being planned, it is very useful to refer to experiences with similar services in other countries. Thus, it is important to understand how these kinds of services work, what kind of patients attend these services and how effective they are in addressing patient needs. Therefore, the findings of this study can be extrapolated to other similar settings where GP access needs to be improved.

Second, the response rate to this patient survey was only 57%, and the response rate to the follow-up post visit survey only 50% of those who received the questionnaire. Furthermore, only around one third of the patients attending these services during the survey period received the questionnaire (an estimated 1821 out of 5899). In many surveys, the response rate is a major source of bias (Sitzia, 1998). There were a number of reasons why the questionnaire was not received by every patient attending the service. Firstly, the survey questionnaire was handed out by the receptionists, so during some very busy hours it was not always possible to hand over the questionnaire to every single patient due to the time required to describe the study. Secondly, the questionnaire was given to the patients along with the patient registration sheet which every patient receives when they present to a walk-in centre. If the patient returned their completed registration sheet along with a non-completed questionnaire, the receptionists sometimes redistributed the questionnaire to the next patient. In this case

it was not possible to keep a record of how many patients actually received the questionnaire. In addition, survey questionnaires were also placed in the waiting area to be accessible for every patient. Therefore, the estimates of the numbers receiving the questionnaire are based on the number of questionnaires known to have been distributed and the number of filled-in questionnaires returned to us. However, the number of patients who actually received a questionnaire may be larger than this. Studies have reported that patients' satisfaction systematically differ between patients with different characteristics including age, sex and ethnicity (Campbell, 2001; Salisbury et al, 2010). However, the comparison of the demographics of the survey respondents with routine centre data did not show any significant difference between the two populations, so it was expected that the sample is a true representation of the population.

Another limitation was the lack of recording the perceived health status of the patients in the survey. It has been reported that perceived health status is an important determinant of patient satisfaction (Danielsen, 2010; Crow, 2002). Therefore, it could have been incorporated to help explain differences in satisfaction levels for example between centres or age groups. Lastly, the questionnaire was not re-validated for the purposes of this study, although the satisfaction scale used in the study was exactly the same as used in previous studies (O'Cathain, 2009; Salisbury, 2002). It is possible that some of the dimensions of satisfaction with these services are missing in this scale. However, the main analysis was based on "overall satisfaction" which includes all dimensions of satisfaction. There is a systematic review which has questioned the reliability and validity of questionnaires used to measure satisfaction with out-of-hours health care services (Garratt, 2007). The review found that most of the published satisfaction questionnaires are not fully validated to measure satisfaction and need to be used with caution. The review, however, suggested that it is preferable to use published scales rather than those which have not been published. Thus, the use of the same satisfaction scale in this survey which has been used in similar health care settings by other studies enabled me to make comparisons with other satisfaction studies.

3.5 Conclusion

The survey was able to answer the research question regarding the use of GP WICs in Sheffield and Rotherham and patients' satisfaction with the services.

- Both GP WICs were utilized by the residences of their catchment area although the activity during office hours was relative low at the Rotherham Centre. Both of the GP WICs were particularly busy at weekends which showed that it improved patients' access to a GP when their own GPs were not available.
- It was identified that overall patient satisfaction was higher at the Rotherham Centre in comparison to the Sheffield GP WIC. However, after controlling for waiting time for treatment, the satisfaction levels were not significantly different. The waiting time for treatment was the most important determinant for satisfaction and in this study an odds of being in the "Highly Satisfied" category reduced by 2% with every minute increase in the waiting time. This is probably true for other urgent care services as well because of patients' expectation of a quick service in case of an urgent health problem.
- The locations and the opening hours were found to be appropriate although the Rotherham GP WIC was rated higher for its location as compared to the Sheffield GP WIC. No major difference was found between the ratings of the opening hours of these services.

3.6 Summary

This chapter reports on the primary patient surveys. Patient experience and satisfaction surveys were conducted at two GP WICs in Sheffield and Rotherham over three weeks in 2011. The response rate in the primary surveys was 57% with a slightly higher response rate at the Rotherham centre. Opening hours and locations were highly satisfactory for the patients attending these services. Most of the patients reported that they attended the GP WICs because of the unavailability of their GPs. One fifth of the patients reported that they would have gone to ED if the GP WIC had not been there. The findings showed that a majority of patients were satisfied with the services, with slightly higher satisfaction rates at the Rotherham centre which were insignificant after controlling for the waiting time for treatment.

Chapter four

Post-visit survey

4.1 Introduction

In this Chapter, the post-visit follow up or secondary survey will be discussed in relation to the primary survey which was discussed in Chapter three.

The post-visit survey was designed primarily to identify whether the patient had used another NHS service for the same health problem after visiting the GP WIC so that the potential impact of the introduction of GP WICs on demand for other services could be determined. In addition, it also helped in validating some patients' responses in the primary survey.

4.1.1 Objectives

- To determine if patients followed the treatment given at the GP WIC
- To determine if the patients' health problems were resolved after receiving their consultation/treatment at the GP WIC
- To estimate the proportion of patients who had to use another NHS service for the same problem after receiving consultation/treatment at the GP WIC
- To identify which other services patients use for their health problem if their problem is not resolved at the GP WIC
- To identify any important factors which may predict the use of another service after receiving consultation at the GP WIC

4.2 Methods

4.2.1 Study Design

This was a follow up cross sectional, postal survey linked to the primary on site surveys at the Sheffield and Rotherham GP WICs.

4.2.2 Study period

The postal survey questionnaire was sent 3-4 weeks after the patients visited the GP WIC. All questionnaires were sent between 1st Oct 2011 and 30th October 2011 sequentially to the patients who agreed to participate in the post-visit survey.

4.2.3 Study participants

The last section (section D) of the main survey questionnaire asked whether the participant would be happy to receive another, post-visit, questionnaire and if the patients agreed their contact details were requested. Only the primary survey participants who agreed to receive the post visit questionnaire were sent it.

4.2.4 The post visit questionnaire

The secondary survey or post-visit survey was a postal survey conducted 3-4 weeks after visit the GP WIC. The last section (section D) of the primary survey questionnaire asked whether the participant would be happy to receive another post-visit questionnaire and requested contact details if agreeable. Only the participants of the primary survey who agreed to receive the post-visit questionnaire were sent the questionnaire. If the participant agreed to receive the post-visit questionnaire but only provided an email address then the post-visit questionnaire was sent through the researcher's email address. In all other cases, the post-visit questionnaire was sent by post. No reminder was sent.

The primary survey questionnaire which was used in the main survey was adopted from previous research by O'Cathain et al, 2009. The post visit questionnaire only

included three questions about treatment compliance, resolution of the problem and use of other NHS services (Appendix 11).

4.2.5 Data collection procedures

The questionnaire was printed on a one sided A4 sheet with a covering letter. The unique serial number of the primary survey questionnaire that the participant had completed was entered on to the post visit questionnaire they were sent, so that the data from the post-visit survey could be matched with the primary survey. The survey questionnaire was sent around 3 to 4 weeks after the patient's visit to the GP WIC. A self-addressed, prepaid envelop was sent with every questionnaire. If the participant agreed to receive the post-visit questionnaire but only provided an email address then the post-visit questionnaire was sent by email from the researcher's university email address. In all other cases, the post-visit questionnaire was sent by post. None of the participants received the questionnaire through both email and post. No reminder was sent. I did not use reminders in this study because of ethical concerns as the patients had already been contacted by us twice for the study, first for the main questionnaire, followed by the post visit questionnaire. In addition, the post visit questionnaire was sent around 3-4 weeks after the visit, so if a reminder was sent a further 3-4 weeks later, it was less likely that patients would have remembered what actions they had taken up to 8 weeks earlier.

4.2.6 Data entry and analysis

Data were entered in SPSS version 19 and then linked to the survey data from the primary questionnaire using the serial number which was the same for the post-visit survey and the main survey questionnaire for each participant. A descriptive analysis was conducted to determine the demography of the respondents to the post-visit survey, and this was compared with the respondents of the primary survey. Treatment compliance and resolution of the complaint was described, and a comparison was made between the Sheffield and Rotherham participants. The proportion of patients who subsequently used another NHS service for the same health problem was also compared between the respondents of the Sheffield and Rotherham GP WIC. Post-visit survey data were also used to determine the proportion of patients who were referred to another service by the GP WIC. Logistic regression was used to identify predictors

for the use of another healthcare service (outcome). The possible predictors examined included age, sex, time of visit, ethnicity, occupation, treatment received at the GP WIC, treatment compliance, the reasons for attending the GP WICs, and satisfaction with the service.

Responses in the post-visit survey about the use of another service were used to examine the validity of patient reported intentions to visit EDs in surveys.

The results of the post-visit survey were presented to managers and staff at the GP WICs in Sheffield and Rotherham to receive feedback and validate our findings.

4.2.7 Ethical approval

No additional ethical approval was required for this component as it was agreed with the ethics committee in the approval for the primary survey that patients would receive another questionnaire if agreed in the main questionnaire. No written consent was required as it was a self-report questionnaire and consent was considered given if a patient filled in the questionnaire and sent it back.

4.3 Results

4.3.1 The response rate

Around half of the patients (258/538, 48%) who agreed to receive the post-visit questionnaire responded to the post-visit postal survey [Figure 4.1].

4.3.2 Characteristics of respondents

The demographics of the participants of the post-visit survey were slightly different from the respondents of the main survey in terms of age and ethnicity. The mean age of the respondents of the post-visit survey was significantly higher [Table 4.1]. The respondents of the post-visit survey were more likely to be white ethnic patients. There was no difference in the proportion of male and female respondents between the main survey and the post-visit survey. Figure 4.2 shows the age distribution of the main survey respondents and the respondents of the post-visit follow up survey. Table 4.2 shows further description of the characteristics of the respondents from the Sheffield and Rotherham GP WICs.

4.3.3 Survey results

The post-visit survey showed that almost all patients who responded followed the advice completely (90%) or partially (around 9%) without any significant difference between the two GP WICs (Table 4.3). A little over half the post visit survey respondents reported that the health problem they had attended the GP WIC for was completely resolved and 33 (13%) said that their problem was completely unresolved. The reported health problem resolution rates between the two Centres were similar. A large proportion of patients at both centres reported the use of other NHS services for the same problem after visiting the GP WICs (n=114) [Table 4.3]. Figure 4.3 shows the proportion of patients who visited different health care services after visiting the GP WIC. Around 64% of patients in Sheffield and 68% in Rotherham, visited their own GP after visiting the centre. Around 14% of those who had to attend another NHS service visited ED, both in Sheffield and Rotherham.

Figure 4.1 Response rates of patients to the post-visit follow up survey

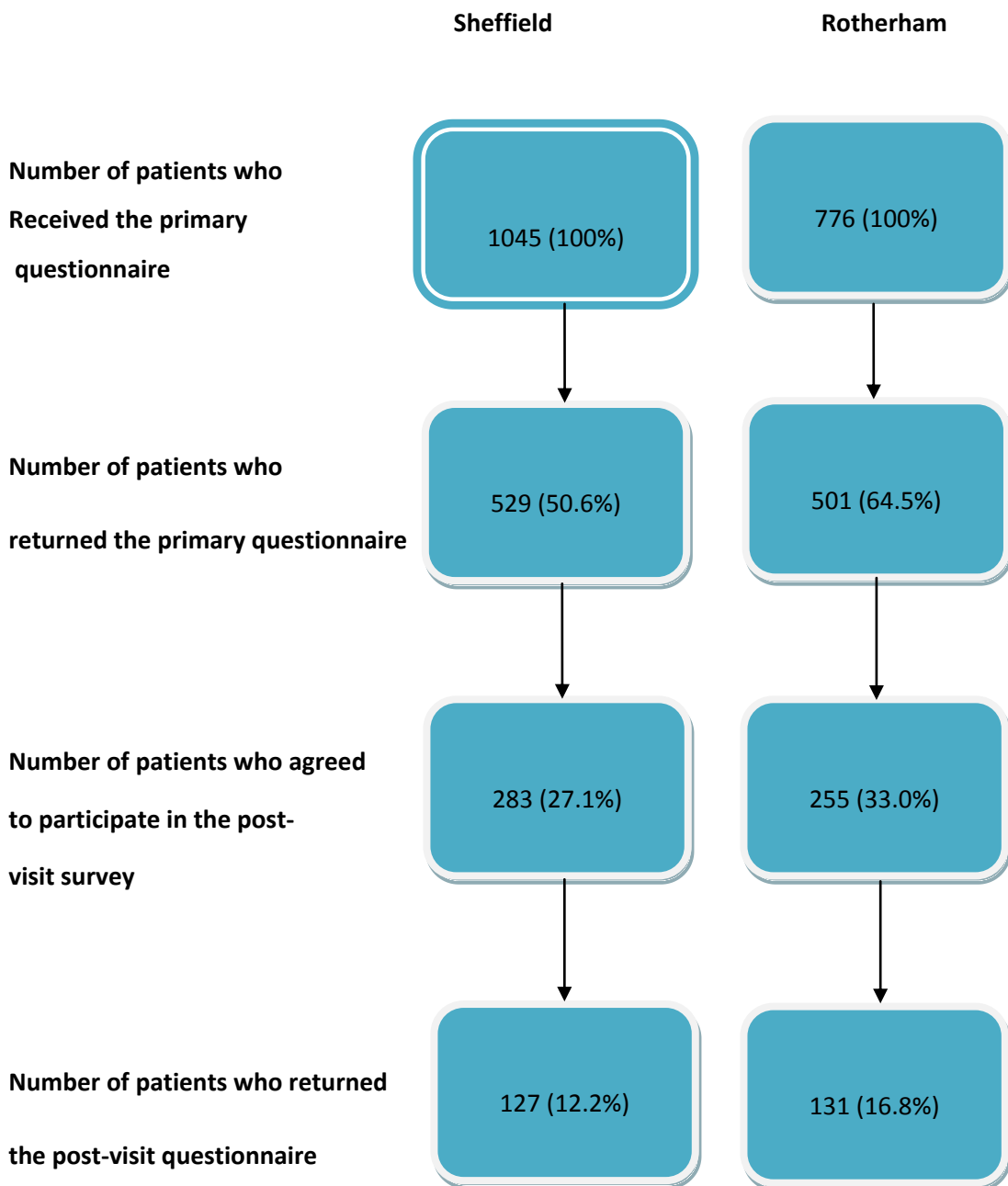


Table 4.1 Comparison of the characteristics of post-visit survey respondents and the respondents of the primary survey

Variables used for comparison	Primary survey participants who did not respond to the post-visit Survey N =	Post-visit survey N =	t-test	P value
Age in years (SD)	28.9 (18.5)	38.9 (21.5)	-6.6	<0.001
Age groups				
0 – 15	18.7%	18.3%	77.1*	<0.001
16 – 24	29.5%	10.1%		
25 – 44	31.0%	25.7%		
45 – 64	16.0%	33.1%		
65+	4.7%	12.8%		
Sex				
Male	40.6%	36.7%	1.2**	0.15
Female	59.4%	63.3%		
Ethnicity				
White	83.8	93.0	16.9***	0.009
Black (merged) [@]	3.2%	2.0%		
Indian	1.1%	1.2%		
Pakistani	4.8%	2.3%		
Bangladeshi	0.4%	0.4%		
Chinese	1.2%	0.0%		
Others	5.2%	1.2%		

* Pearson Chi² statistics; df=4 , ** Pearson Chi² statistics; df=1, *** Pearson Chi²; df=6

[@] Due to small number in each group, Black Caribbean was merged with Black African and other Black ethnicity

Figure 4.2 shows the age distribution of the respondents of the primary survey and the respondents of the post-visit survey

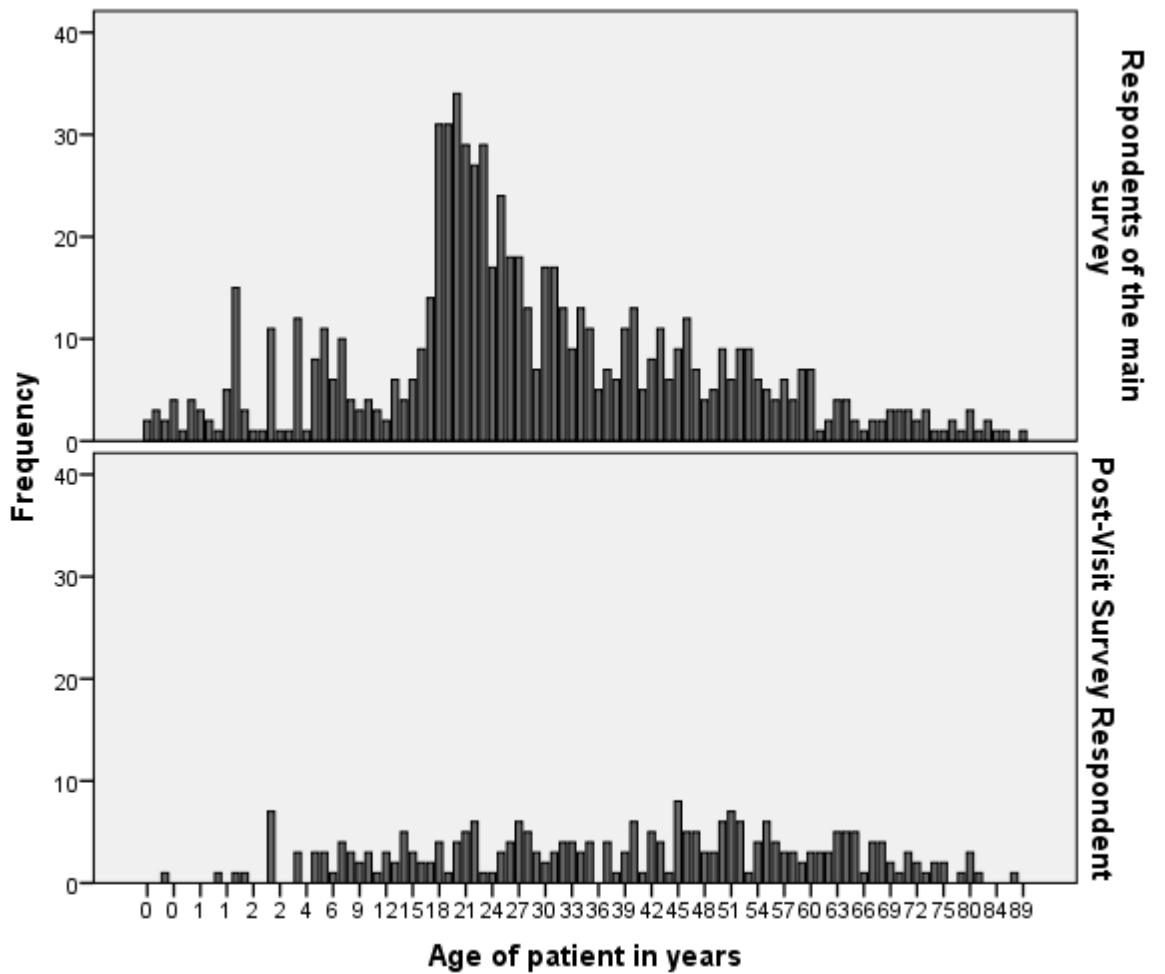


Table 4.2 Characteristics of the respondents of the post-visit follow up survey in Sheffield and Rotherham		
Demographic characteristics	Sheffield GP WIC	Rotherham GP WIC
Age in Mean \pm SD	39.4 \pm 19.2	38.5 \pm 23.6
Sex in %age (n)		
Male	38.1 (48)	35.4 (46)
Female	61.9 (78)	64.6 (84)
Occupation %age (n)		
1. Working full-time	36.2 (46)	38.8 (40)
2. Student	15.7 (20)	20.8 (27)
3. Working Part-time	16.5 (21)	11.5 (15)
4. Retired	17.3 (22)	20.0 (26)
5. Unemployed	6.3 (8)	4.6 (6)
6. Pre-school age babies	2.4 (3)	7.7 (10)
7. Other	5.5 (7)	4.6 (6)
Ethnicity		
1. White	88.8 (111)	96.9 (127)
2. Pakistani	3.2 (4)	1.5 (2)
3. Black African	2.4 (3)	0.8 (1)
4. Indian	2.4 (3)	-
5. Black Caribbean	0.8 (1)	-
6. Chinese	-	-
7. Bangladeshi	0.8 (1)	-
8. Black Other	-	-
9. Other ethnic group*	1.6 (2)	0.8 (1)
* Other ethnic group includes Latin American/White, Somalian and Slovakian		

Table 4.3 Comparison of responses to the post-visit survey questions between Sheffield and Rotherham (n=258)				
Survey questions	Centre Sheffield % (n)	Centre Rotherham % (n)	Chi ² statistics	P-value
Follow the advice (treatment)				
Completely followed	90 (113)	90 (118)		
Partially followed	9 (12)	8 (11)	0.39	0.8
Not followed	1 (1)	2 (2)		
Health problem resolved				
Completely resolved	61 (78)	57 (75)		
Partially resolved	24 (30)	32 (42)	2.80	0.3
Not resolved at all	15 (19)	11 (14)		
Visited another NHS service after visiting the walk-in centre	39.7 (56)	41.4 (58)	0.09	0.8

Figure 4.3 Services which patients had used for the same health problem after visiting the GP WICs (n=114; Sheffield Centre=56, Rotherham Centre=58)

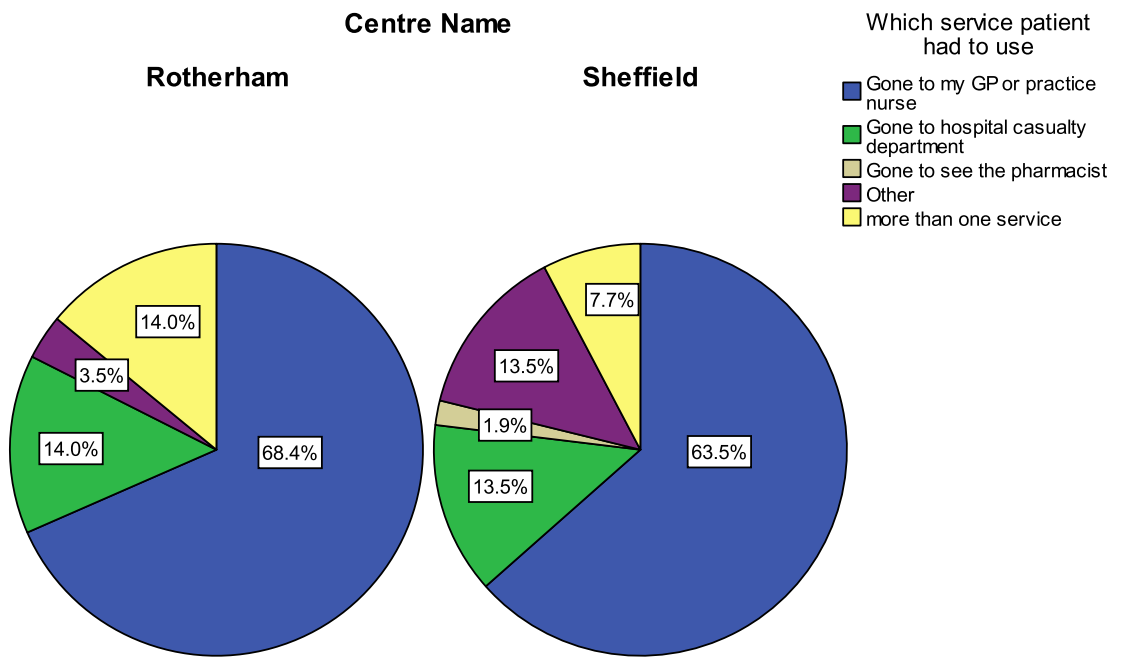


Table 4.4 Comparison of the ED referrals at the GP WIC and the actual use of ED services by patients after attending the GP WICs			
Referred to ED by the GP WIC	Attended ED services for the same problem		Total
	Yes	No	
Yes	11	8	19
No	3	227	230
Total	14	225	

Table 4.4 looks at the post visit survey respondents by whether they reported in the primary survey at the time of consultation whether they were referred to ED, and their subsequent use of ED for the same health problem. There were 3 patients who were not referred to ED by the GP WIC but visited ED for the same health problem after visiting the GP WIC. Eight patients who reported in the primary survey that they were referred to ED by the GP WIC did not attend any ED service.

Table 4.5 Comparison of the GP referrals at the GP WIC and the actual use of GP services after attending the GP WICs			
Referred to GP by the GP WIC	Attended GP services for the same problem		Total
	Yes	No	
Yes	15	8	23
No	58	168	226
Total	73	176	

Table 4.5 shows that only a small proportion of patients (23/249) received a GP referral from the GP WIC, but the number of patients who used a GP service after visiting the centre was much higher (73/249).

Table 4.6 Comparison of patient intention to visit another service after receiving consultation at the GP WIC and the actual use other services			
Reported intention to visit other service after consultation	Attended another services		
	Yes	No	
Yes	53	8	61
No	55	135	190
Total	109	86	

The post-visit survey responses were also used to determine whether those who stated in the primary survey that they intended to visit another NHS service after the consultation actually did so. Table 4.6 compares patient intentions to visit another NHS service (after the consultation at the GP WIC) and the actual use of other service (as identified in the post-visit survey). 109 patients visited another service, although only 61 reported their intention to visit another service in the primary survey questionnaire.

Thus, based on the data of the primary survey questionnaire and post-visit questionnaire, a positive predictive value of 86.8% (53/61) (CI=76.6%, 93.7%) and negative predictive value of 71.1% (135/190) (CI=64.3%, 77.2%) was calculated of the survey question regarding patient's intention to another NHS service after attending the GP WICs. Here, positive predictive value shows that that the proportion of patient who use another service of those who report their intention to use another service whilst negative predictive value shows the proportion of patients who did not use another service of those who reported their intention not to use another service in the survey question. This was calculated to determine the predictability of the patient intention questions used in the survey.

Table 4.7 Comparison of satisfaction level reported in the primary survey to the post-visit survey and between those patient who had to use another NHS service subsequently				
	Highly Satisfied	Not highly Satisfied	Chi² statistics	P value
Participant of the primary survey who did not respond to post-visit survey (n=628)	53.0%	47.0%	9.3	0.001
Post-visit survey respondents (n=247)	64.4%	35.6%		
PV respondents who used another service (n=98)	57.1%	42.9%	3.6	0.04
PV respondents who did not use another service (n=148)	68.9%	31.1%		

There was a significant difference in the proportion of “Highly Satisfied” patients among the post-visit survey respondents and the other respondents to the primary survey questionnaire [Table 4.7]. In addition, amongst the post-visit survey respondents, the proportion of “Highly Satisfied” patients was higher for those who did not use another service after visiting the GP WIC than for those who did use another service.

Table 4.8 Levels of treatment compliance and problem resolution, and use of other NHS services				
	Did you visit another service		Chi ² test for trend*	P value
	Yes	No		
Patient followed the treatment/advice				
Yes completely (n=230)	38.7%	61.3%	3.6	0.06
Yes (Partially) (n=23)	60.9%	39.1%		
No (n=2)	50.0%	50.0%		
Patient's health problem had resolved after visiting GP WIC				
Fully resolved (n=153)	17.0%	83.0%	79.3	<0.001
Partially resolved (n=71)	74.6%	25.4%		
Not resolved at all (n=32)	81.3%	18.8%		
* Linear by linear Associations at df=1				

Table 4.8 shows the association between use of other NHS services after visiting the GP WIC and both treatment compliance (whether the treatment was followed completely, partially or not at all) and whether patients reported that their health problem was resolved (fully resolved, partially resolved or not resolved at all) using a Chi² test for trend. As expected, the association with self-reported problem resolution was highly significant, showing that those patients who reported that their problem was fully resolved were least likely to visit another service as compared to other patients. Similarly, there was some weak evidence that those who completely followed the treatment/advice given at the GP WIC were less likely to visit another service than others.

Table 4.9 Comparison of the use of other services according to the patient expectations with the GP WIC (n=255)

What patient received at the GP WICs	Did you visit another service		Chi ² statistics (df=1)	P value
	Yes	No		
Expected advice Yes (n=158) No (n=97)	40.5% 41.2%	59.5% 58.8%	0.01	0.50
Expected to receive information Yes (n=92) No (n=163)	44.6% 38.7%	55.4% 61.3%	0.85	0.21
Expected to receive a prescription Yes (n=141) No (n=114)	37.6% 44.7%	62.4% 55.3%	1.33	0.15
Expected to receive medication Yes (n=91) No (n=164)	41.8% 40.2%	58.2% 59.8%	0.06	0.46
Expected treatment other than medication Yes (n=30) No (n=225)	46.7% 40.0%	53.3% 60.0%	0.49	0.31
Expected to referral to GP Yes (n=7) No (n=248)	42.9% 40.7%	57.1% 59.3%	0.01	0.59
Expected to referral to Casualty (ED) Yes (n=15) No (n=240)	60.0% 39.6%	40.0% 60.4%	2.44	0.09

Note: Only those participants were included who responded to both the main survey questionnaire and the posit-visit survey

There was no difference in the use of another service after visiting the GP WIC between patients reporting different expectations of the care they would receive when they attended the GP WICs [Table 4.9]. On the other hand, there is a significant difference in the use of other services according to the treatment/advice received by the patients at the GP WIC [Table 4.10]. Those who received a prescription or medication at the Centre subsequently used other NHS services in a significantly smaller proportion compared to those who did not receive a prescription or medication.

Table 4.10 Comparison of the use of other services according to the advice/treatment/referral received at the GP WIC				
What patient received at the GP WICs	Did you visit another service		Chi ² statistics (df=1)	P value
	Yes	No		
Received advice				
Yes (n=180)	42.2%	57.8%	0.98	0.38
No (n=68)	35.3%	64.7%		
Given information				
Yes (n=113)	37.2%	62.8%	0.86	0.37
No (n=135)	43.0%	57.0%		
Given a prescription				
Yes (n=158)	34.2%	65.8%	6.83	0.01
No (n=90)	51.1%	48.9%		
Issued with Medication				
Yes (n=29)	17.2%	82.8%	7.27	<0.01*
No (n=219)	43.4%	56.6%		
Treatment other than medication				
Yes (n=16)	18.8%	81.3%	3.31	0.11
No (n=232)	41.8%	58.2%		
Referred to GP				
Yes (n=23)	69.6%	30.4%	9.01	<0.01**
No (n=225)	37.3%	62.7%		
Referred to Casualty (ED)				
Yes (n=19)	84.2%	15.8%	16.47	<0.01
No (n=229)	36.7%	63.3%		
Note There was another category of “Asked to come back at the GP WIC”; only 2 patients reported this option and neither reported attending any other service.				
*Actual value=0.008; **Actual value=0.004				

4.3.4 Characteristics of patients attending another NHS service after visiting the GP WIC

A model was developed to identify the factors which predict the use of other services after visiting the GP WIC. Logistic Regression was applied to the binary outcome of use of any other services reported in the post-visit survey and all relevant variables or those which were significantly associated with this outcome were included in the model.

The following variables were inserted in the model.

- Time of attendance (office hours/out-of-hours)
- Whether the patient attended the Sheffield GP WIC or the Rotherham GP WIC
- Reasons for coming to the centre (only the one which was important was included i-e a shorter expected waiting time than going to ED)
- Age grouped into five categories
- Sex
- Ethnicity (due to small numbers in some categories, ethnicity was divided into White Ethnicity and Others)
- Patient occupation
- Treatment received, only three responses were included which were significantly associated with the outcome (received advice, given a prescription, received medication)
- Whether or not patient fully complied with the treatment or advice given at the GP WIC.
- Whether or not the patient was highly satisfied with care at the GP WIC

Nagelkerke R square statistics showed that the model was only able to explain 15% of the variation in the outcome. Predicted values showed that the model could correctly predict around 66% of cases. Omnibus tests of the model coefficients showed that the model was significant ($\text{Chi}^2=24.7$; P value=0.03).

Satisfaction with the GP WIC was an important determinant of the outcome of the use of another NHS service. Those who were not Highly Satisfied (reported score of 5 on the Likert scale 1-5 in the primary survey) were twice as likely to attend another NHS service after visiting the GP WIC as those who were Highly Satisfied with the service.

Those patients who did not receive a prescription were also twice as likely to visit another NHS service. Similarly, those patients who were not issued with a medication were around 4 times more likely to visit another service. There was no difference in terms of age, sex, ethnicity and time of attendance. With all the variables in the model there was no evidence of any difference between the two GP WICs in terms of their patients visiting another service after visiting the GP WIC [Table 4.11].

Table 4.11 Logistic regression of explanatory variables for the outcome of attended other service or did not attend any other service after visiting the GP WIC (n=209)		
Variable in the Model	P value	Adjusted odds ratio* (95% CI)
Centre Sheffield Rotherham	0.09	1 1.8 (0.91 to 3.56)
Satisfaction with the GP WIC services Highly Satisfied Not Highly Satisfied	0.04	1 1.9 (1.01 to 3.82)
Ethnicity White Other ethnic group	0.17	1 0.34 (0.07 to 1.56)
Male Female	0.28	1 1.5 (0.74 to 2.95)
Occupation Student Full time working Working part-time Unemployed Retired Child/Infant Others	0.33	1 0.99 (0.15 to 6.47) 0.42 (0.06 to 3.12) 2.0 (0.32 to 12.93) 0.7 (0.07 to 6.37) 1.2 (0.20 to 7.02) 2.3 (0.27 to 19.09)
What patient received at the GP WICs Received advice Yes No Received a prescription Yes No Received medication Yes No	0.62 0.05 0.04	1 1.2 (0.59 to 2.44) 1 1.9 (0.99 to 3.71) 1 3.8 (1.02 to 14.41)
Treatment compliance Fully complied Not fully complied	0.37	1 1.69 (0.54 to 5.39)
Reason for attending GP WIC Shorter waiting time than ED Others	0.55	1 0.76 (0.31 to 1.85)
Age group 0 – 15 16 – 24 25 – 44 45 – 64 65 +	0.64	1 1.4 (0.34 to 5.86) 1.27 (0.16 to 10.05) 2.1 (0.28 to 16.32) 3.9 (0.35 to 44.52)
*Adjusted for other variables in model.		

A similar regression model was run on the outcome of “attended another service” or not but only for those who filled in the main survey questionnaire and returned it on site. The model only included 124 patients (table 4.12). This model explained 14% of the variation in the outcome and was able to correctly predict the outcome in 80%. Possibly because of the smaller sample, none of the predictors was significantly associated with the outcome. Only treatment compliance was at borderline significance showing that those who did not fully comply with the treatment were around 4 times more likely to visit another service.

Table 4.12 Logistic regression of explanatory variables for the outcome of attended other service or did not attend any other service after visiting the GP WIC (n=124 who completed the primary survey on site)

Variable in the Model	P value	Adjusted odds ratio* (95% CI)
Centre Sheffield Rotherham	0.57	1 1.3 (0.51 to 3.42)
Satisfaction with the GP WIC services Highly Satisfied Not Highly Satisfied	0.42	1 1.4 (0.60 to 3.43)
Ethnicity White Other ethnic group	0.81	1 0.8 (0.15 to 4.29)
Sex Male Female	0.99	1 0.99 (0.42 to 2.36)
What patient received at the GP WICs Received advice Yes No Received a prescription Yes No Received medication Yes No	0.71 0.28 0.63	1 1.2 (0.45 to 3.23) 1 1.6 (0.68 to 3.77) 1 1.4 (0.35 to 5.67)
Treatment compliance Fully complied Not fully complied	0.05	1 3.95 (0.97 to 15.97)
Reason for attending GP WIC Shorter waiting time than ED Others	0.55	1 0.8 (0.21 to 3.08)
Time of attendance Office hours Out-of-hours	0.37	1 0.67 (0.28 to 1.62)
Age group 0 – 15 16 – 24 25 – 44 45 – 64 65 +	0.41	1 2.5 (0.54 to 12.34) 1.3 (0.31 to 5.28) 2.5 (0.65 to 9.69) 3.7 (0.65 to 21.33)
*Adjusted for other variables in model. Note: Occupation has not used in this model as it could not be fitted because of empty categories		

4.4 Discussion

4.4.1 The response rate

Overall 25% of patients who completed the primary survey returned a post-visit questionnaire. Amongst those who agreed to be sent a post-visit questionnaire, the response rate was around 50% which is comparable with other postal surveys conducted in health care settings. One of the measures which were used in this study to improve the response rate was to place the tick box for agreeing to receive the post-visit questionnaire on the same page as the tick box for agreeing to enter into the prize draw. Although the prize draw included all those participants who filled in the main survey questionnaire and agreed to participate in the draw regardless of whether they agreed to receive the post-visit follow up survey, agreement to both was highly correlated.

Studies have identified that patients with white ethnic background are more likely to be satisfied with a health care service in comparison to other ethnic groups (Campbell, et al, 2001 and Salisbury et al, 2010). Moreover, satisfaction levels increase with an increase in the age of patients. Age and ethnicity have been reported as independent predictors of satisfaction with a primary care service (Campbell, et al, 2001). In the post-visit survey a higher proportion of respondents were white ethnic patients and their mean age was significantly higher than the respondents of the main survey. It would be expected then that respondents to the post-visit survey were a group of patients who were more likely to be satisfied with the service and this was found to be true. The satisfaction scores were compared between the post-visit respondents and the main survey respondents and it was found that the average scores were higher for those who also responded to the post-visit survey. Furthermore, a higher proportion of patients in this group reported they were “Highly Satisfied” with the service. Hence, it can be concluded that the post-visit survey respondents were, in general, more satisfied with the service than all patients attending the GP WICs. This study also found that patients who were satisfied with the GP WIC were less likely to subsequently use another service than patients who were not satisfied. So it is likely that the actual overall proportion of patients who attend a GP WIC who subsequently attend another

service could be even higher than I have found. Although most of the patients who used another service after visiting the GP WIC visited their own GP, and only a small proportion of patients were actually referred to their GPs by the GP WIC, the frequent use of other services for the same problem is a concern. This concern was discussed with the GP WIC managers and operating officers and it was argued by the managers that the GP WIC only provides treatments for urgent health problems and if patients go back to their GPs after urgent treatment, then it cannot be seen as duplicating a health care service. In fact visiting their own GPs after treatment for the urgent phase of a problem could improve continuity of care.

The GP WIC can be seen as an alternative to a GP only when a GP appointment is not available and a patient cannot wait until the next available appointment. Additionally, those patients who could visit an ED for a health care problem can attend the GP WIC if the health problem is not very severe. However, this raises the problem of how to enable patients to select the right health care service for an urgent health problem, and whether patients are able to assess their own health condition to make a decision on choosing the right health care service is still debatable (Latimer et al, 2010). There are some leaflets available locally for the general public to understand the available urgent health care services and to decide to visit an appropriate service according to the health problem [Appendix 12]. These leaflets have been placed at various health care services such as GPs, Minor Injuries Units, EDs, and Dental Practices. The leaflets have also been translated into other languages according to local needs [Appendix 13]. GP WICs also have their own publicity and there are several publicity materials which have been used to create awareness in the general public regarding the availability and appropriate use the GP WIC services.

4.4.2 Post-visit survey response to validate patient reported intentions to visit other service in the primary survey

There are many health care surveys which rely on patient reported intentions to assess the impact on other services (Salisbury et al, 2002a). Therefore, it is useful to understand whether such surveys correctly identify an impact on the basis of patient reported intention to visit other services such as EDs. In this study, it was found that

around 15% of patients over report their intention to visit others services. However, it is important to consider the limitations of the predicted values calculated in this study which were based on a small sample. Furthermore, there is another limitation of this kind of validation that it is based on the assumption that patient conditions are the same at the time of reporting the intention to visit another service and the time when the patients actually decided to visit another service. There might be a number of patients who were correctly reporting their intention at the time of filling in the survey questionnaire but a change in their health condition might be the reason for not doing what they had reported in the survey. Therefore, the results should be interpreted with caution.

4.4.3 Why patients visit other services

There are a number of reasons why patients may need to visit other services after visiting a walk-in health care facility. Some patients may present to a GP WIC only for advice/treatment out-of-hours when their own GP is closed and then visit their own GP as soon as their GP is available. Other patients may visit their GP to get some reassurance regarding the treatment/advice received at the GP WIC. There are some chronic conditions such as diabetes and asthma for which patients need continuous follow up so that after presenting to the GP WIC for care for an acute exacerbation they return to their own GP for follow up. In addition, some of the patients might not intend to visit another service after visiting the GP WIC but their health problem becomes worse and needs further investigation or treatment.

The GP WIC staff and managers felt that subsequent use of other services for the same health problem was only a concern if patients visited ED after attending the service since it is sometimes very useful for patients to visit their own GP to maintain continuity of care. On the other hand, it might be a concern for the PCT if there are two visits (to the GP WIC and then to the GP) rather than one (to the GP) as the PCT has to pay for each GP WIC visit whilst if a patient directly visits their own GP there is no additional cost. The PCT provides money to every GP according to the number of registered patients at the practice whilst the GP WICs receive money for the number of

visits by patients at each GP WIC. Furthermore, the cost to the NHS also depends on what the patient would have done if the GP WIC had not been established. For example, if the patient would have gone to the ED the cost is reduced since the cost of ED attendance even for a minor health problem is much higher than the per visit cost of the GP WIC. However, if the patient would have looked after the problem themselves or waited until their own GP was available, the cost of the GP WIC visit would be considered as an additional and probably unnecessary cost. Chapter three has provided some estimates from the main survey regarding the potential impact on other NHS services by analysing patient intentions to use other NHS services. Chapter five will discuss the impact of the GP WIC on EDs in further detail to provide some estimates regarding the number of patients who diverted from ED to GP WIC for a minor health problem.

It can be seen in the results section [Table 4.9] that several patients visited another NHS service despite the fact that they reported that their problem was fully resolved after visiting the GP WIC. This shows that some of the patients may only be looking for some reassurance from their own GP regarding the urgent health problem they faced. Some patients might also be looking to inform their own GP about the urgent health problem for which they attended the GP WIC, particularly those with chronic health problems. In this case the GP WIC can play a role by communicating clearly to patients that the centre would be able to send updates to patients' GPs about their visit to the GP WIC. In addition, for those cases where the health care providers at the GP WIC are confident it can be communicated to the patients that the patient does not need to visit any other service unless the patient's condition deteriorates.

4.4.4 Satisfaction and use of other services

Satisfaction is an important quality assurance measure of a health care service. Alternative urgent care services need to provide highly satisfactory services to patients if they are to divert patients away from other services such as EDs. In this study, it was found that those who were less satisfied with the GP WIC were more likely to use another health care service. Studies have shown that a high level of patient satisfaction

is particularly important for out-of-hour services and patients are likely to be less satisfied if receive out-of-hours care outside their own GP practice (Leibowitz R, et al, 2003). As discussed in the previous chapter, there are a number of factors which determine patient satisfaction with a primary health care service. In this study the waiting time for treatment was the most important determinant of patient satisfaction with the service, as discussed in chapter three. Addressing some of the important factors in determining patient satisfaction could help improve patient satisfaction with these services and decrease the unnecessary use of other NHS services after visiting the GP WIC.

There could be an argument that those who filled in the main questionnaire on site would report satisfaction differently to those who posted the questionnaire afterwards. This could be possible because those who had to use another service and then filled in the primary questionnaire might not have reported as being highly satisfied with the service. Therefore, to understand whether reported satisfaction is a good predictor of subsequent use of other services it could be argued that only those who filled in the main questionnaire on site should be included in the model. To explore this, the same model was fitted just for those who filled in the questionnaire on site and the results showed no significant association for any of the selected predictors. Those who did not fully comply with the treatment given at the GP WIC were around 4 times more likely to visit another service, with a borderline statistical significance. There are a few possible reasons why the results obtained from the two models were different. First, it could be that the argument is true that those who had to use another service responded differently on the survey questionnaire if they filled it in and returned it after the GP WIC visit. Second, the different results could have been obtained because the sample size for logistic regression modelling decreased from 210 to 124 after removing the data of the questionnaires received by post. To examine this, the proportions of “Highly Satisfied” were also compared between those who sent the questionnaire by post and those who filled it in on site, which did not show any difference between the proportions of Highly Satisfied patients among the two groups. This shows that the results of the first model including both those who filled in the questionnaire on site and those who posted the primary survey questionnaire may be more reliable because of the larger sample.

There was an association between treatment compliance and the use of other services. The results showed that those who were not complying with the treatment given at the GP WIC were around 4 times more likely to attend another NHS service. This can be explained in three different ways. First those patients who had to use another service might have ignored the treatment provided at the GP WIC so reported non-compliance with the treatment. Second, those who didn't think they had received the right treatment or advice at the GP WIC may not have complied and gone to another service for a second opinion. Third, there is a possibility that they did not follow the treatment so the condition got worse and they had to visit another service. There is a limitation to this data that it cannot explain the timeframe when the patient actually used another service, whether straight away or after a few days. If this information was available, it could further explain the association of treatment compliance with the use of other services.

The other interesting finding in this study regarding the use of other services after visiting the GP WIC revealed that those who did not receive a prescription or medication were more likely to visit another NHS service. In general, it might have been expected that those who did not receive a prescription would have less serious illness and so would be less likely to need other services. The results suggest that patients often felt they needed a prescription and so there might be a possible role for the use of placebos in this situation to stop patients from unnecessary visits to other NHS services. Although the use of placebos in an urgent care service would be highly controversial; studies have shown that GPs often use placebos in their routine practice (Howick J, et al 2013). This could be one of the important benefits of having GPs at walk-in centres as it would need rigorous assessment to rule out any serious condition before prescribing a placebo.

In addition to the factors found in this study to explain the use of other services after visiting the GP WIC, it is important to understand the age distribution of the post-visit survey respondents and the respondents of the primary survey questionnaire as shown in figure 4.2. The respondents to the primary survey questionnaire contain a large proportion of young people, which is commonly found for walk-in services as reported

in other studies (O'Cathain et al, 2009; Desborough et al, 2012). On the other hand, the age distribution of the post-visit respondents did not show any specific pattern. Age group has been found as an independent predictor for the use of ED services (Gunther et al, 2013). Although in the regression model age group did not explain the use of other services, it is possible that the effect was there but was not found because of the small sample size. Other studies have also found that age is an important factor in determining the use of unscheduled care; children under five years are twice as likely to seek unscheduled care as other age groups (O'Cathain et al, 2007b). Therefore, it is important to recognize the structure of the population to understand the dynamics of the use of health care services.

Overall, the findings of the post-visit survey were useful and identified that a large proportion of the users visited another service after visiting the GP WICs which is essentially a duplication of the existing services. However, only a small proportion of patient used an ED after visiting the GP WIC.

4.5 Limitations

This study component had some limitations.

- First, the survey was based on a self-reported questionnaire and the response rate of the post-visit survey was low. Only three questions were asked in the post-visit survey and the questionnaire was not validated. However, the questions asked in the post visit survey were based on facts rather than perceptions. For example it was asked if patient used another service or not. So I thought that the validity of tool was less important for the post-visit questionnaire. It can be argued that some additional information could have been collected such as future intentions to use GP WICs and whether they used another NHS service on the same day or after a few days. The main reason to keep the post-visit survey questionnaire short was to achieve an appropriate response rate. Furthermore, it was considered that patients had an opportunity

to comment on the service in the primary survey questionnaire and this post-visit survey was only a follow up survey to determine if patients had used another service for the same health problem.

- There was a limitation of the regression model used to predict the use of other services after visiting the GP WIC. A few important predictors were missing such as distance of patients' location to the NHS service used and severity of illness.
- It was not asked in the post-visit survey whether the patient later on decided to register with the GP WIC. The new GP WICs are unique in that patients can register with the practice and take advantage of the longer opening hours of GP WIC, although this is not the purpose of establishing these centres.
- No incentives were used for the post-visit survey questionnaire which could potentially have increased the response rate.
- Finally, the sample size for this survey was small; hence, results need to be interpreted with caution.

4.6 Strengths

- This component of the study provided some very useful information in relation to the potential impact of the GP WIC on other services.
- The comparison of intention to visit another NHS service and the actual use of another service provided important information regarding the validity of patients' responses in intention surveys.
- The analysis of the satisfaction levels with the GP WIC also revealed that those who were less satisfied with the overall service at the GP WIC were more likely to visit another service. This information has an important implication as it can be expected that to reduce unnecessary patient load at ED, it is very important to provide highly satisfactory services at the GP WICs.

4.7 Conclusion

In this chapter it has been shown that patients followed the GP WIC treatment/advice. A large proportion of patients reported that their problem was either fully or partially resolved. However, around half of the patients reported the use of another NHS service for the same health problem after visiting the GP WIC. Nevertheless, most of the patients visited their own GP and only a small proportion of patients visited ED after visiting the centre. Those who were less satisfied with the service, did not receive a prescription and did not receive medication as reported in the main survey were more likely to visit another NHS service for the same health problem.

4.8 Recommendations

- This method of conducting a follow up survey was very useful and can be recommended for future patient satisfaction surveys. It was found to be a very effective and cost effective way to determine patients' visits to other services. The methods followed in this survey can be replicated where the impact on other services needs to be determined. However, further measures to improve response rate in a postal survey such as giving small incentives or telephone calls may possibly improve the reliability and validity of the results.
- It is important to improve patient satisfaction at the GP WIC to prevent any duplication services as the use of another NHS service was highly associated with patient satisfaction with the GP WIC. As discussed in the earlier chapter three, satisfaction can be improved significantly if the waiting time for treatment is reduced at the GP WICs. Furthermore, if more patients receive prescriptions (within the standard guidelines), the chances of patients using another service will be reduced as seen in the results of this study.
- A number of patients may have visited their own GP to get some reassurance about their conditions. However, in the presence of trained nurses and GPs at the GP WIC, the centres may need to provide more assurance to their patients that they might not need to visit their GP if their health problem is resolved. A GP WIC is also able to communicate information about the patient visit to their GPs which can be very helpful to maintain continuity of care.

4.8 Summary

This chapter discusses the post-visit follow up survey, which was conducted to determine whether or not patients had had to use another service for the same health problem after attending the GP WICs. A short survey questionnaire was posted around 4 weeks after their visit to the GP WICs to 500 patients who agreed in the primary survey to receive another questionnaire. Around half of them returned the questionnaire. The survey found that half of the patients used another service for the same health problem after visiting the GP WICs. Most of them visited their own GP. An analysis to find the reasons for using another service revealed that those who were less satisfied, those who were not issued with a prescription, and those who were not issued with medications were more likely to visit another service.

Chapter five

Impact on Emergency Departments

5.1 Introduction

In the previous two chapters, levels of patient satisfaction with the GP WIC services were discussed and whether or not patients used another NHS service after visiting the GP WIC. In this chapter, the impact on Emergency Departments and Minor Injuries Units as a result of the opening of the GP WICs in Sheffield and Rotherham will be discussed. Studies (Penson et al, 2012) have shown that the rate of attendances at EDs are continuously on the rise and every year the number of patients attending ED services increases at a much higher rate than the rise in the size of the local population. Many studies have reported that a large proportion of patients attending ED consist of patients with minor illness who could be seen by a health care provider in a primary care setting (Penson et al, 2012; Coleman et al, 2001). There is some evidence that increases in these visits are one of the drivers for the overall increase in ED attendance (Lowthian ,et al, 2011). One of the purposes of the opening of the GP WICs in the UK was to decrease patient load at other services and provide care for minor health problems at a primary care setting in the presence of a GP. However, the impact on ED is only expected to be on the proportion of patients who present with a minor health problem. Therefore, this study aimed to determine if there was any decline in patients attending ED for a minor health problem after the opening of the GP WICs in Sheffield and Rotherham. This chapter will also discuss the impact by considering the geographical location of the patients attending GP WICs in these two localities.

Expected Impact on Emergency Department

Many patients in need of urgent care think firstly about going to the ED. This is common because of the 24 hours opening and the availability of a full range of staff and services at ED. This often results patients who could have been treated in other health care setting being treated at ED. Therefore, one of the main purposes of opening

any parallel urgent care service is to decrease the work load for ED which might also help in reducing waiting times at ED. In addition, such a parallel urgent care service which has the potential to treat patients who otherwise would present to ED may also result in reducing health care delivery costs for the NHS. The opening of a GP led Walk-in centre has the potential to reduce patient load at EDs because of the following important reasons;

1. Presence of GPs and trained nurse practitioners
2. Longer opening hours
3. Providing care without prior appointments or registration
4. Potentially shorter waiting times as compared to EDs

However, establishing just one centre for a large population may not be able to produce a visible impact on the patient load at ED even if the centre is diverting some patients from ED. In addition, the impact may be different for child EDs and adult EDs as different proportions of adults and children present at GP WICs. Therefore, both the children's ED and the adult ED in Sheffield were included in the study. In Rotherham, the ED is combined, so for the purpose of analysis ED attendances were divided into adult cases (>15 years) and child cases to determine the impact on the two populations separately.

Expected impact on the MIU

The minor injuries unit (MIU) in Sheffield is located at the Hallamshire hospital, separately from the adult ED located at the Northern General Hospital and the children's ED located at the Children's hospital. It opens 8am to 8pm 7 days a week. This Unit provides services to patients with less serious injuries which can be looked after by trained nurses in a smaller setting. The Unit only provides treatments for adult patients; children with injuries present directly to the nearby ED in the children's hospital. Patients can present to this service without prior appointments or registration. The cases which usually present at the MIU include sprains, cuts and grazes. The unit does not treat major injuries that require hospital admission. In comparison to ED, waiting time is much shorter at the MIU in the presence of a team of trained nurses.

The GP walk-in centres also provide care to minor injury patients and are able to deal with children's injuries as well. In the presence of GPs and Nurse practitioners, GP WICs are likely to be able to deal with more minor injuries cases than MIUs. Therefore, it was expected that with the opening of another urgent care service in Sheffield demand for the minor injury unit could be affected along with the ED.

5.1.1 Aims and objectives

The specific aims objectives of this component of the study were

1. To determine if there was any change in patient attendance at EDs and MIUs, one year before and one year after the opening of the GP WICs in Sheffield and Rotherham.
2. To estimate the number of patients who were diverted from EDs to the GP WICs as a result of the opening of the Centres in these localities.
3. To identify if the GP WIC only attracts patients residing in the nearby locations or if the centre fully covers its catchment area.

5.2 Methodology

5.2.1 Study design

An interrupted time series design was used to determine the impact of the opening of the GP WICs on other services. The analysis in this study component is primarily conducted using secondary (routine) data received from the EDs and Minor Injuries Units. Some of the analysis required the use of the main survey data to understand the dynamics of patients diverting from ED to the GP WIC or in the opposite direction.

5.2.2 Study settings

This study was conducted using routine data accessed from the EDs of the Sheffield adult ED, the Sheffield children's hospital, the Sheffield MIU and the Rotherham ED

(combined for children and adults). A geographical analysis of the location of residence of respondents to the primary survey who attended the GP WICs was also conducted in these two locations, Sheffield and Rotherham.

5.2.3 Study period

The study period was from April 2008, one year before the GP WICs opened, to March 2010, one year after.

5.2.4 Routine data access

To understand the impact of GP WICs on other health care services which surround the centres, activity data from other urgent care services were needed. Access to patient level data was requested from the PCTs of Rotherham and Sheffield on the use of these types of service in order to understand the impact of the opening of the GP WICs on the use of other services by different types of patients and at different times. I requested individual level records of contacts including information such as when the contact was made (date and time of contact with the service), who made it (age, sex, possibly ethnicity) and the post district from where they came (i.e. just first three characters of the postcode of residence) without any personal patient level confidential information. In addition, information on the seriousness of the contact (such as ambulance priority code, ED triage code) was also requested.

Sheffield data

Data was received from Sheffield PCT for the requested period for contacts with the Northern General Hospital adult Emergency Department, the Sheffield Children's Hospital and the Royal Hallamshire Minor Injury Unit. The variables included in the data were time of attendance, age, sex, postal district (first three digits of the residential post code) and ED tariff. The ED tariff included the HRG codes denoting whether the attendance was minor, standard or high cost.

For the purposes of this research, only cases with V08 tariff codes or standard category patients with V06 codes were included (that is patients who were discharged or referred without any investigation or only a low cost investigation). The GP WIC was expected to produce an impact only on these kinds of patients, who attend ED although

their problem could be resolved at a primary care setting without needing advanced investigations or admission to hospital.

There is much debate about labelling some ED attendances as “Minor cases” because it is a subjective term and difficult to interpret. Some people label minor attendances as “inappropriate” which is again debatable as it may not be an inappropriate attendance according to the patient who attended ED. It depends on how a patient feels about their condition and how serious it is considered by an attending health care professional. Unnecessary attendance is another term which has often been used for those ED attendances which could have been seen in a primary care setting. This term has a greater degree of objectivity since it is possible to assess whether a patient had any treatments or investigations only available in ED and not in primary care settings. Therefore, in this study the most appropriate outcome found was according to the tariff data which is objective rather than based on perceptions. The impact was determined on those patients who presented at EDs but were actually discharged without any need for investigation or only a low cost investigation.

Rotherham data

Rotherham PCT was not able to supply any activity data for their services and the same outcome variable was not available for the Rotherham ED data and another outcome had to be created to determine the effect on minor ED attendances in Rotherham.

Data for attendances at Rotherham ED were available at ScHARR from Hospital Episode Statistics (HES). There are three HES datasets which contain details of hospital admissions, outpatient appointments, and ED attendances at NHS hospitals in England. HES data is designed for secondary use, such as administrative purposes and for non-clinical purposes to monitor patient needs, to assess effective delivery of care and to evaluate trends over time (Hospital Episode Statistics, 2013). HES data is collected monthly. The data is available to local commissioning organisations, providers, researchers and service users (patients/carers). The data was accessed in 2010 after receiving NHS ethical approval.

Using HES A&E data, the outcome that was assessed for Rotherham ED was attendances by those patients who presented at ED without needing an ambulance transfer and were discharged without needing to be admitted.

Sheffield data retrieval

The information department of the Sheffield Primary Care Trust was contacted to retrieve data on the following variables from April 2008 to April 2010, one year before and one year after the opening of the Sheffield GP WIC: Date of attendance, time of attendance, patient age, sex, post district (first three digits of postcode), A&E tariff codes for categorising each case into one of the designated codes shown in Table 5.1.

Table 5.1 Sheffield 2009/10 A&E tariff code classification

code	name	A&E tariff name
U06	Attendance disposal Invalid for grouping	No Payment
DOA	Dead on Arrival	Standard
V01	High cost imaging (Died / Admitted)	High
V02	High cost imaging (Referred / Discharged)	High
V03	Other high cost investigation (Died / Admitted)	High
V04	Other high cost investigation (Referred / Discharged)	High
V05	Low cost investigation (Died / Admitted)	Standard
V06	Low cost investigation (Referred / Discharged)	Standard
V07	No investigation (Died / Admitted)	Minor
V08	No investigation (Referred / Discharged)	Minor

5.2.5 Sheffield outcome used to define minor cases

V08 (No investigation, and referred or discharged) and V06 (Low cost investigation, and referred or discharged).

Rotherham data retrieval

The following variables were retrieved from HES A&E data for Rotherham:

date of attendance, time of attendance, patient age, sex, post district (first three digits of postcode), way of presenting at ED (Ambulance, air ambulance, others), disposal from ED (Discharged, admitted, referred, died).

5.2.6 Rotherham outcome used to define minor cases

Those patients who were not brought in by ambulance (walked in) and were discharged or referred from ED after assessment/treatment (walked out) were labelled as minor cases.

5.2.7 Data format

The data was supplied in MS Excel file as individual cases. The data was transferred into SPSS version 19 and aggregated monthly counts of 'minor' attendances were obtained. A new variable was developed according to the time of attendance to categorise each attendance as during the opening hours of the GP WIC or outside the opening hours.

5.2.8 Data analysis

SPSS version 19 was used for the secondary data analysis. For Sheffield, a General linear model (GLM) was used to fit a 'regression discontinuity model' to the monthly counts of attendances to determine the effect of the opening of the GP walk-in centre on patient attendances at the EDs and MIU. A regression discontinuity model was used instead of time series as autocorrelations between the residuals from the monthly counts were negligible. Seasonal effects (fitting a categorical variable with 6 annual values representing each two consecutive months) and a linear time trend were fitted, and then a step change in the trend for before and after the opening of the GP WIC. The analysis was repeated using night time attendance counts, outside the opening hours of the Sheffield GP WIC, as a control.

Similar model was applied on the Rotherham data. The Rotherham ED is combined for adult and child patients, so in this analysis, the model was applied for combined data as well as separately on the child patients and adult patients. For the Rotherham data, only 10 months data were available for the period after the opening of the GP WIC and 14 months for the period before.

Arc GIS version 10 was used to produce geographical mapping of the location of residence of those who participated in the survey. The data was used from the primary survey. The reason why maps were included in this chapter was that the geographical location of GP WICs' patient would further help in understanding any potential impact of GP WICs on other services.

5.3 Results

5.3.1 Impact on Sheffield NHS services

A total of 92355 patients with the defined outcome (minor cases) attended the Northern General Hospital ED (adult ED) in Sheffield from April 2008 to March 2010 (After the opening of the GP WIC=45304; before=47051). 3138 cases were excluded because of missing information regarding the time of attendance. The age and sex distribution is shown in Table 5.2. During the same period and for the same outcome for minor cases, 66816 patients attended the Sheffield Children's Hospital ED (Before=32280; after=34536). 1402 patients were excluded as a result of missing information about the time of attendance. Further information about the children's hospital ED data is shown in table 5.3. Similarly, at the Sheffield Minor Injuries Unit, 24223 patients attended the service (Before=12389; after=11834). The time of attendance was not needed because the MIU is only open at times that the WIC is open. The age and sex distribution of patients is shown in table 5.4.

Table 5.2 Comparison of the Sheffield adult ED data before and after the opening of the GP WIC			
	Before the opening of GP WIC n (%age)	After the opening of GP WIC n (%age)	Total n (%age)
Average monthly counts Mean (SD)			
Day time attendances	2758.4 (190)	2616.8 (159)	2687.6 (186)
Night time attendances	1031.6 (73)	1027.9 (58)	1029.7 (65)
Age group			
<25	26.1%	25.4%	25.8%
25-44	38.5%	38.1%	38.3%
45-64	22.1%	22.5%	22.2%
65+	13.3%	14.0%	13.7%
Sex			
Male	53.7%	53.0%	53.4%
Female	46.3%	47.0%	46.6%
Time of attendances			
Day time (opening hours of the GP WIC)	33101 (70.4)	31402 (69.3)	64503 (69.8)
Night (closing hours)	12379 (26.3)	12335 (27.2)	24714 (26.8)
Missing	1571 (3.3)	1567 (3.5)	3138 (3.4)
Post district			
Patients from post districts surrounding the GP WIC			
S1	504 (1.1%)	471 (1.0%)	975 (1.1%)
S3	1786 (3.8%)	1750 (3.9%)	3536 (3.8%)
Patients residing in other postcodes	42723 (90.8%)	41227 (91.0%)	83950 (90.9%)
Residents from outside Sheffield	2023 (4.3%)	1857 (4.1%)	3880 (4.2%)

Table 5.3 Comparison of the Sheffield children's ED data before and after the opening of the Sheffield GP WIC			
	Before the opening of GP WIC n (%age)	After the opening of GP WIC n (%age)	Total n (%age)
Time of attendances			
Day time	25804 (79.9)	27159 (78.6)	52963 (79.3)
Night (closing hours)	5845 (18.1)	6606 (19.1)	12451 (18.6)
Missing time variable	631 (2.0)	771 (2.2)	1402 (2.1)
Average monthly counts Mean (SD)			
Day time attendances	2150.3 (298)	2263.3 (269)	2206.8 (284)
Night time attendances	487.1 (74)	550.5 (83)	518.8 (84)
Age groups			
0 – 4 years	18015 (55.8)	19509 (56.5)	37524 (56.2%)
05 – 09 years	6867 (21.3)	7580 (21.9)	14447 (21.6%)
10 – 14 years	6224 (19.3)	6212 (18.0)	12436 (18.6%)
15+ years	1174 (3.6)	1235 (3.6)	2409 (3.6%)
Sex			
Male	18187 (56.3)	19308 (55.9)	37495 (56.1%)
Female	14092 (43.7)	15228 (44.1)	29320 (43.9%)
Patients from post districts surrounding the GP WIC			
S1	85 (0.3)	92 (0.3)	177 (0.3)
S3	1345 (4.2)	1486 (4.3)	2831 (4.2)
Patients residing in other Sheffield postcodes	30182 (93.5)	32257 (93.4)	62439 (93.5)
Residents from outside Sheffield	646 (2.0)	691 (2.0)	1337 (2.0)

Table 5.4 Comparison of the Sheffield Minor Injuries Unit data before and after the opening of the Sheffield GP WIC			
	Before the opening of WIC	After the opening of GP WIC	Total
Average monthly counts Mean (SD)	1032.4 (97)	986.2 (123)	1009.3 (111)
Age groups			
<15 years	13 (0.1)	5 (<0.1)	18 (0.1)
15 – 24 years	3119 (34.7)	2885 (33.2)	6004 (34.0)
25-44	4595(37.1)	4297 (36.3)	8892 (36.7)
45-64	3050 (24.6)	3061 (25.9)	6111 (25.2)
65+	1612 (13.0)	1586 (13.4)	3198 (13.2)
Sex			
Male	6930 (55.9)	6442 (54.4)	13372 (55.2)
Female	5459 (44.1)	5392 (45.6)	10851 (44.8)

The monthly count of minor cases at Sheffield adult ED, children’s hospital ED and Minor Injuries Unit are shown in figure 5.1, 5.2 and 5.3. Night time attendances are also shown which were used as a control arm for adult and child ED. There was no control arm for the Sheffield Minor Injuries Unit. These figures also show the point when the Sheffield GP WIC started functioning in Sheffield.

Figure 5.1 Sheffield Children’s Hospital Emergency department monthly patient count (minor attendances), one year before and one year after the opening of the GP WIC. The red line shows the month of the opening of WIC.

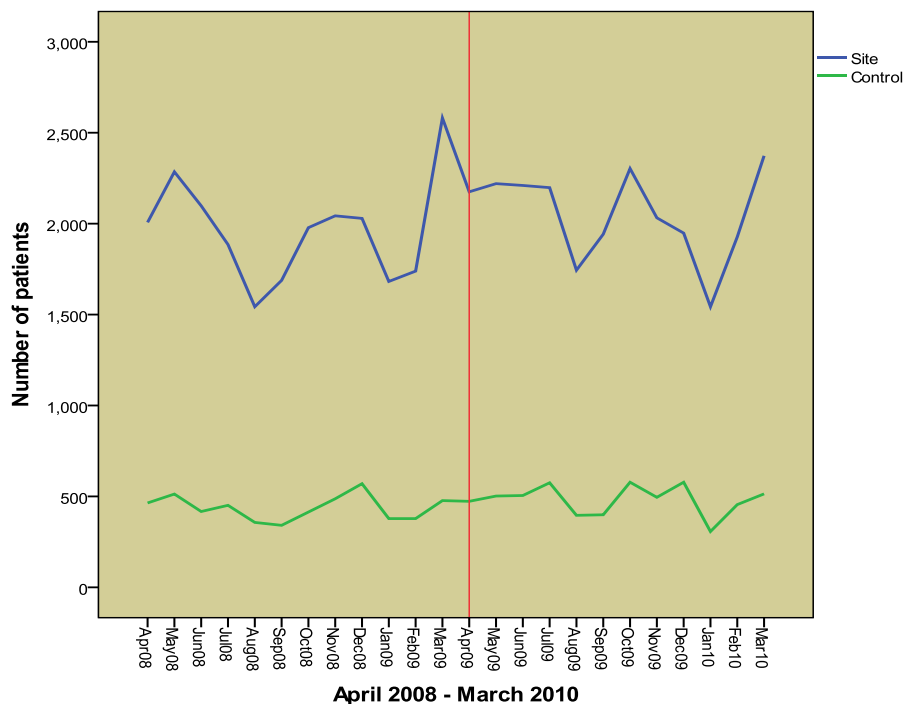


Figure 5.2 Sheffield Northern General Hospital (adult Emergency Department) monthly patient count, one year before and one year after the opening of the GP WIC. The red line shows the opening of the WIC.

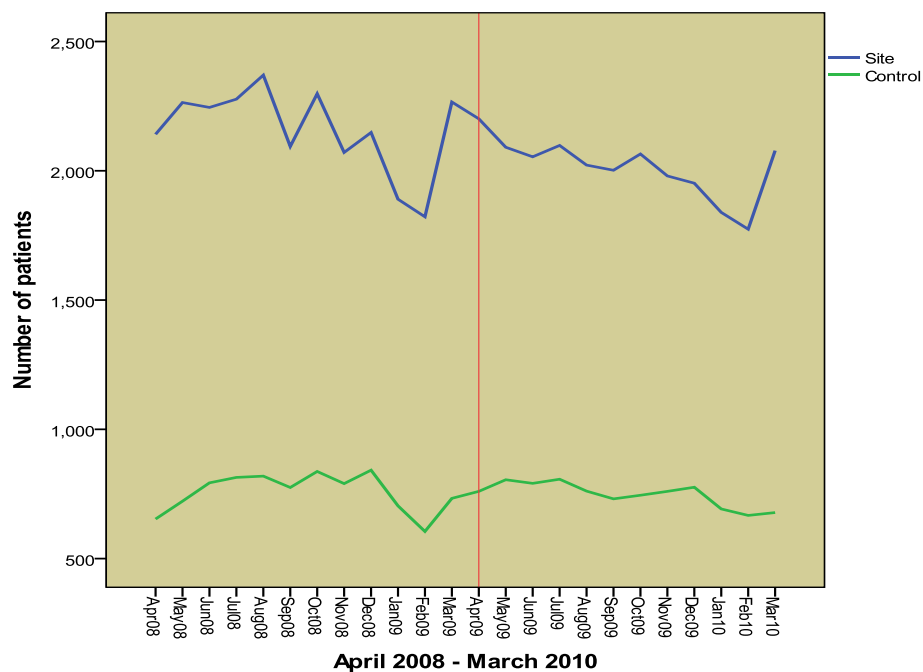
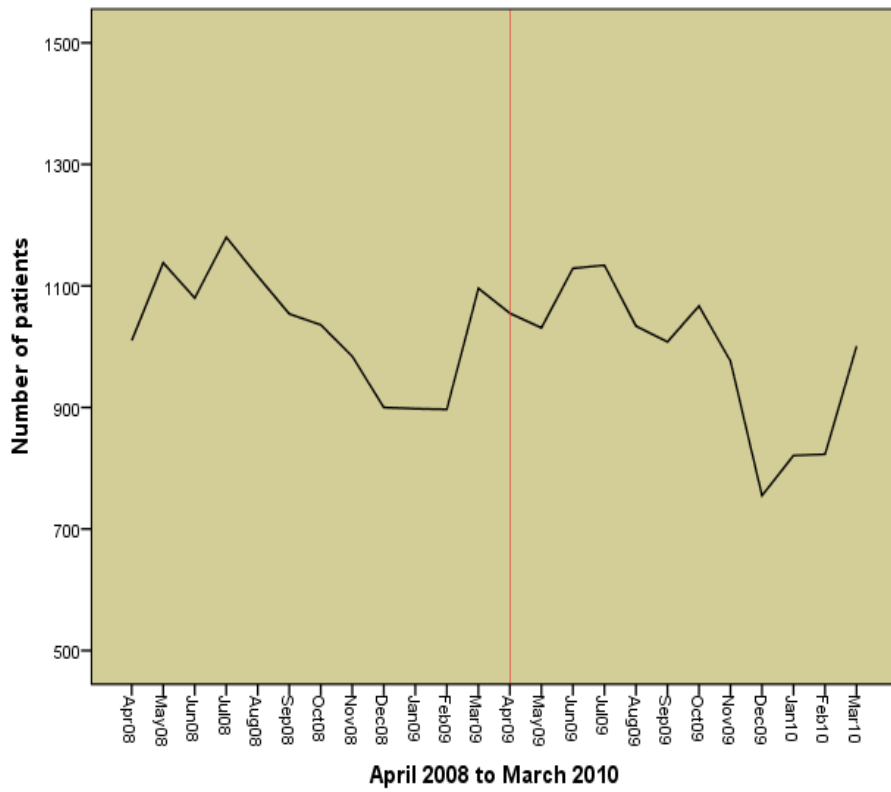


Figure 5.3 Sheffield minor injury unit monthly patient count, one year before and one year after the opening of the GP WIC. The red line shows the opening of the WIC. Controls were not obtained for this service as the service opens during the same hours as the GP WIC



Estimation of impact on Sheffield NHS services

Using survey data from chapter three, it can be seen that around 18% (n=80, 65 adults and 15 children under 16 years) of the patients in the Sheffield survey said that they would have gone to ED if the GP WIC had not been there, but only 3.6% (n=16) reported their intention to attend ED after their consultation. Thus the net number of patients in the sample of respondents potentially diverted from ED as a result of the establishment of the GP WIC was 64. Based on the average number of patients presenting at the GP WIC each month and the average monthly counts of minor illness/injury patients presenting to the EDs, the expected reductions in minor attendances at the Sheffield children's ED and the Sheffield adult ED were 6.7% and 20.6% respectively.

Table 5.5 shows monthly counts of patient attendances at the Sheffield Children's Hospital ED, adult ED and the minor injury unit over the period of two years, from 2008 to 2010. The two year period included monthly counts at these services one year before and one year after the opening of the GP walk-in centre. Based on the effect sizes from the regression discontinuity analysis, without controlling for night time attendances, the estimated reduction in the monthly patient count of day time minor attendances was 14% for the children's hospital ED, 8% for the adult ED and 4% for the minor injuries unit. However, a statistically significant reduction was only seen for the adult ED (P value=0.03).

It is notable that using night time attendances as a control, there was an opposite effect of a 2% rise in minor day time attendances at the children's ED after the opening of the GP WIC as compared to before, pointing to the fact that night time attendances also decreased during the same time period. On the other hand, there was again a significant reduction of 5% at the adult ED (P=0.02) if night time attendances were used as a control.

Parameter estimates from the GLM models for each of the included service are shown in tables 5.5a, 5.5b and 5.5c.

Table 5.5 Mean monthly count one year before and one year after the opening of the GP WIC. P-values obtained from a model allowing for seasonal variations and trend for the Minor Injuries Unit, Adult ED and Children ED						
Services	Before the opening of GP Walk-in Centre	After the opening of GP Walk-in Centre	Effect size1*	P-value	95% Confidence Interval	Effect size2**
Sheffield Children's ED Mean (SD)	2150.33 (297.6)	2263.25 (269.4)	-322.1 ¹	0.19	-814.5, 170.4	49.5
Sheffield adult ED Mean (SD)	2758.42 (189.9)	2616.83 (159.3)	-230.9 ²	0.03	-438.9, -21.9	-137.9
Sheffield Minor injury unit [@] Mean (SD)	1032.42 (96.9)	986.17 (122.8)	-44.6 ³	0.51	-184.0, 94.9	
<p>*Effect size1 were obtained by applying GLM after controlling for seasonal variation and time trend. Seasonal effect was modelled using a categorical variable of bimonthly counts</p> <p>** Effect size2 is the effect size if night time attendances were taken as a control along with controlling the seasonal variation and time trend</p> <p>¹ R² = 0.64, ² R² = 0.85, ³ R² = 0.81</p> <p>Note: 95% Confidence Intervals and P-values are shown for effect size1</p> <p>[@] Night time attendance were not available for the MIU as it only opens during the day time</p>						

Table 5.5a Parameter estimates from adult ED data, one year before and one year after the opening of the GP WIC using a General Linear model controlling for seasonal variation, time trend, and using night time attendances as a control

Dependent Variable: Monthly patient count						
Parameter	B	Std. Error	t	P value	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	999.41	66.31	15.072	<0.000	865.17	1133.64
Day time monthly counts	1726.83	39.31	43.927	<0.000	1647.25	1806.41
Night time monthly counts	0 ^a	-	-	-	-	-
Time trend	2.60	6.06	0.429	0.670	-9.67	14.88
Season Jan/Feb	-188.70	49.65	-3.801	0.001	-289.21	-88.18
Season March/April	52.20	49.65	1.051	0.300	-48.31	152.71
Season May/June	87.85	60.35	1.456	0.154	-34.32	210.04
Season July/August	117.40	53.91	2.178	0.036	8.25	226.55
Season Sept/Oct	22.82	49.65	.460	0.648	-77.68	123.34
Season Nov/Dec	0 ^a	-	-	-	-	-
After	-34.88	82.72	-.422	0.676	-202.35	132.59
Before	0 ^a	-	-	-	-	-
Effect size (effect on day time attendances in relation to the night time attendance)	-137.91	55.59	-2.481	0.018	-250.46	-25.37

a. This parameter is set to zero because it is redundant.

Table 5.5b Parameter estimates for children’s ED data (minor day time attendances), one year before and one year after the opening of the GP WIC using a General Linear Model controlling for seasonal variation, time trend and night time attendances as a control.

Dependent Variable: Monthly patient count						
Parameter	B	Std. Error	t	P value	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	368.65	119.22	3.092	0.004	127.30	610.01
After	-173.77	148.74	-1.168	0.250	-474.88	127.33
Before	0 ^a	-	-	-	-	-
Day time monthly counts	1663.25	70.68	23.532	<0.000	1520.16	1806.33
Night time monthly counts	0 ^a	-	-	-	-	-
Season Jan/Feb	-272.28	89.27	-3.050	0.004	-453.00	-91.56
Season March/April	147.15	89.27	1.648	0.108	-33.56	327.87
Season May/June	178.72	108.51	1.647	0.108	-40.95	398.39
Season July/August	-71.31	96.93	-.736	0.466	-267.55	124.92
Season Sept/Oct	-42.59	89.27	-.477	0.636	-223.31	138.12
Season Nov/Dec	0 ^a	-	-	-	-	-
Time trend	19.76	10.90	1.812	0.078	-2.31	41.84
Effect size (effect on day time attendances in relation to the night time attendance)	49.50	99.95	.495	0.623	-152.85	251.85

a. This parameter is set to zero because it is redundant.

Table 5.5c Parameter estimates for Sheffield MIU, one year before and one year after the opening of the GP WIC using a General Linear model controlling for seasonal variation, and time trend.

Dependent Variable : Monthly patient count					
Parameter	B	Std. Error	P value	95% Confidence Interval	
				Lower Bound	Upper Bound
Intercept	928.1	53.468	0.000	814.7	1041.4
After	-44.6	65.785	0.508	-184.0	94.8
Before	0 ^a
Season Jan/Feb	-43.7	41.920	0.312	-132.6	45.1
Season March/April	136.5	41.920	0.005	47.6	225.3
Season May/June	189.9	50.956	0.002	81.9	297.9
Season July/August	211.7	45.519	0.000	115.2	308.1
Season Sept/Oct	137.2	41.920	0.005	48.356	226.1
Season Nov/Dec	0 ^a
Time trend	-0.1	5.121	0.979	-10.9	10.7

a. This parameter is set to zero because it is redundant.

Location of residence of patients

Figure 5.4 shows the location of residence of the patients who presented at the GP walk in centre during the survey period. It shows that patients came from diverse areas of Sheffield and Rotherham, and a few came from Barnsley and Derbyshire. A total of 19% of patients were resident within one mile of the GP WIC, but the geographical spread was wider on weekdays than at the weekends. Figure 5.5 shows a closer view of the four urgent care services included in the analysis to show the distance between different urgent care services. It can be seen that children's ED is located within a mile radius of the Sheffield GP WIC whilst the adult ED is further from the GP WIC (around 3 miles by road distance). Figures 5.6 and 5.7 show residence locations of patients who presented during weekends and during weekdays respectively, during the survey period.

Figure 5.4 The location of residence of patients who attended the Sheffield GP WIC during the survey period

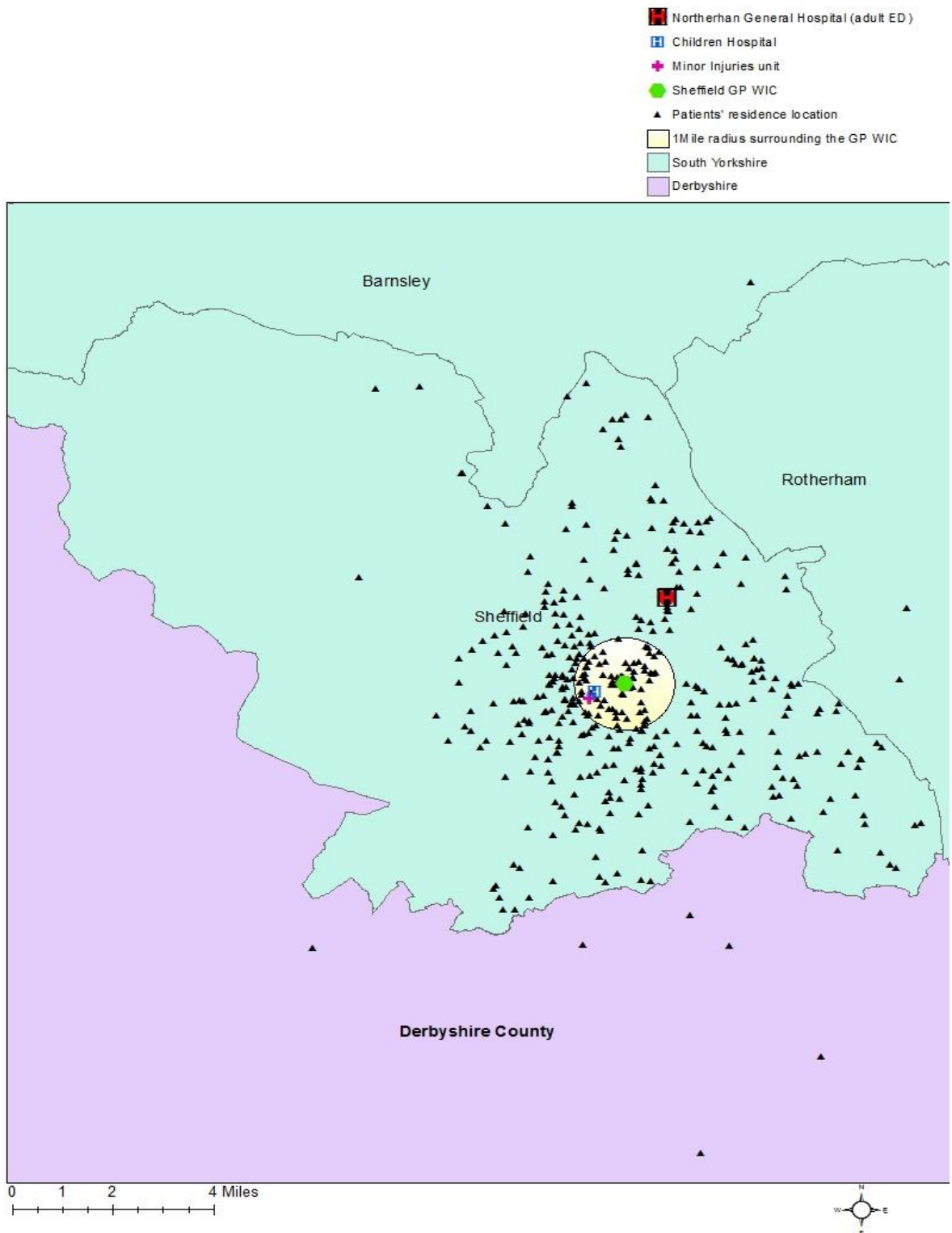


Figure 5.5 The locations of the urgent care services which were included in the analysis of this study.

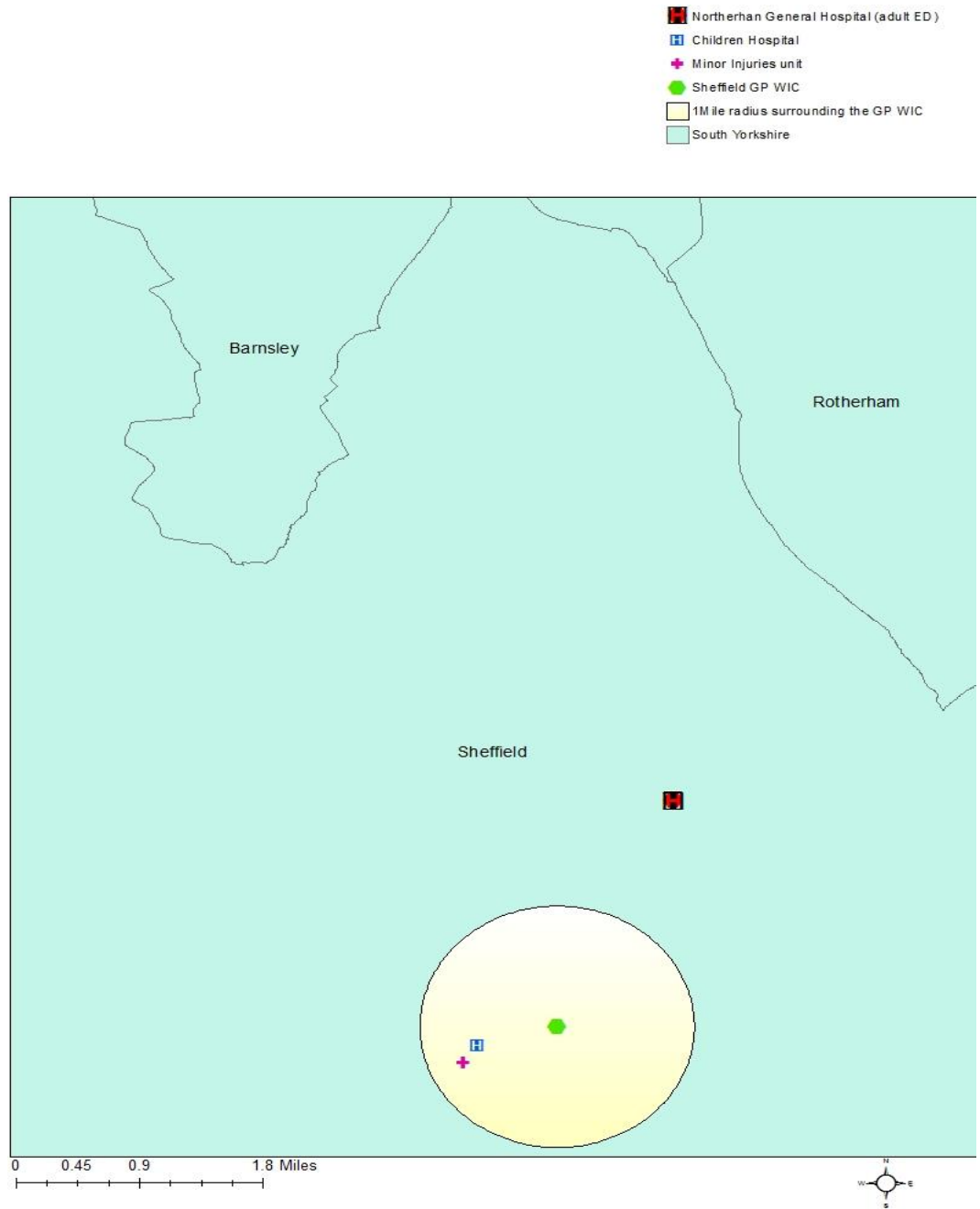


Figure 5.6 The location of residence of patients who attended the Sheffield GP WIC during the weekends of the survey period

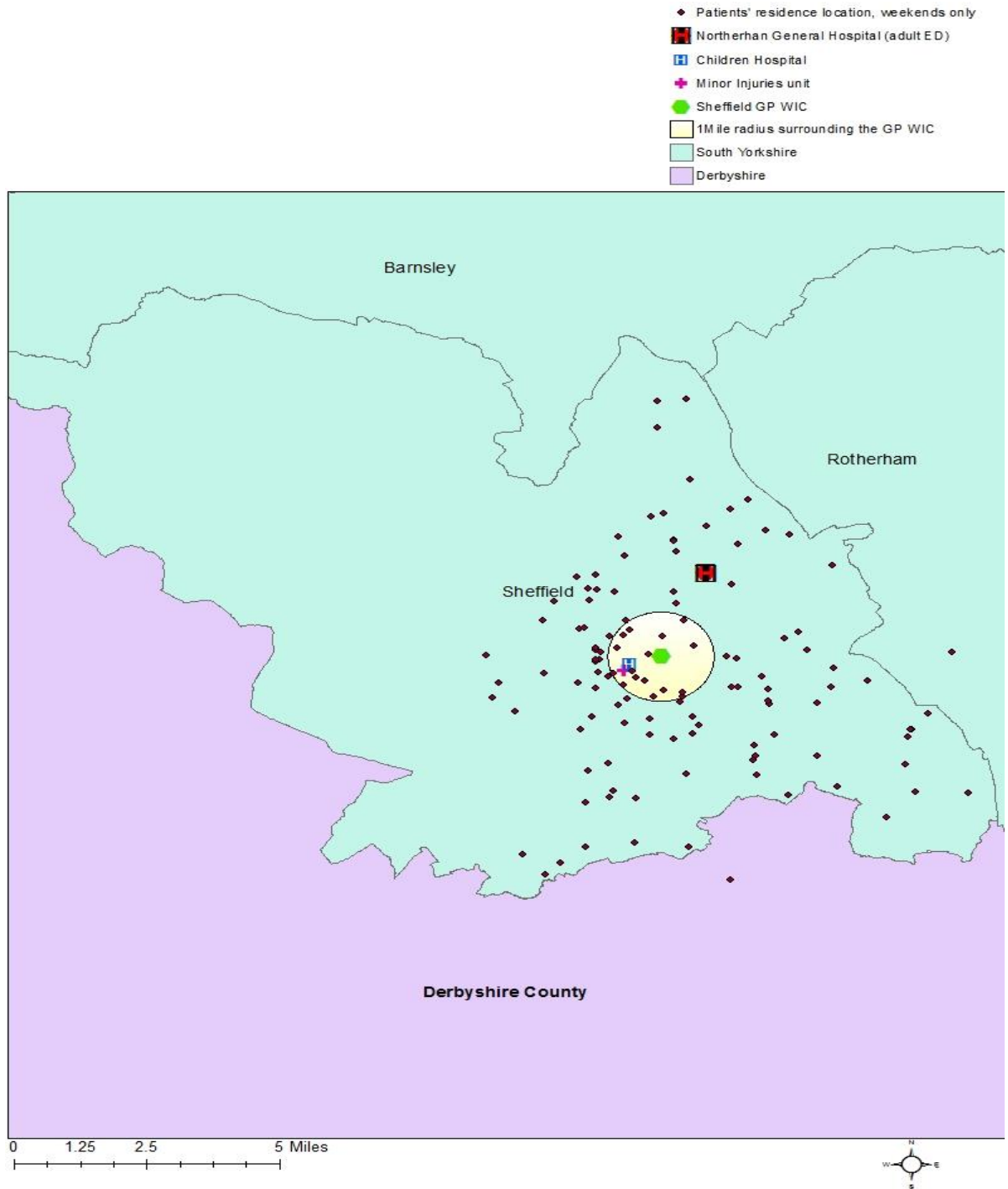
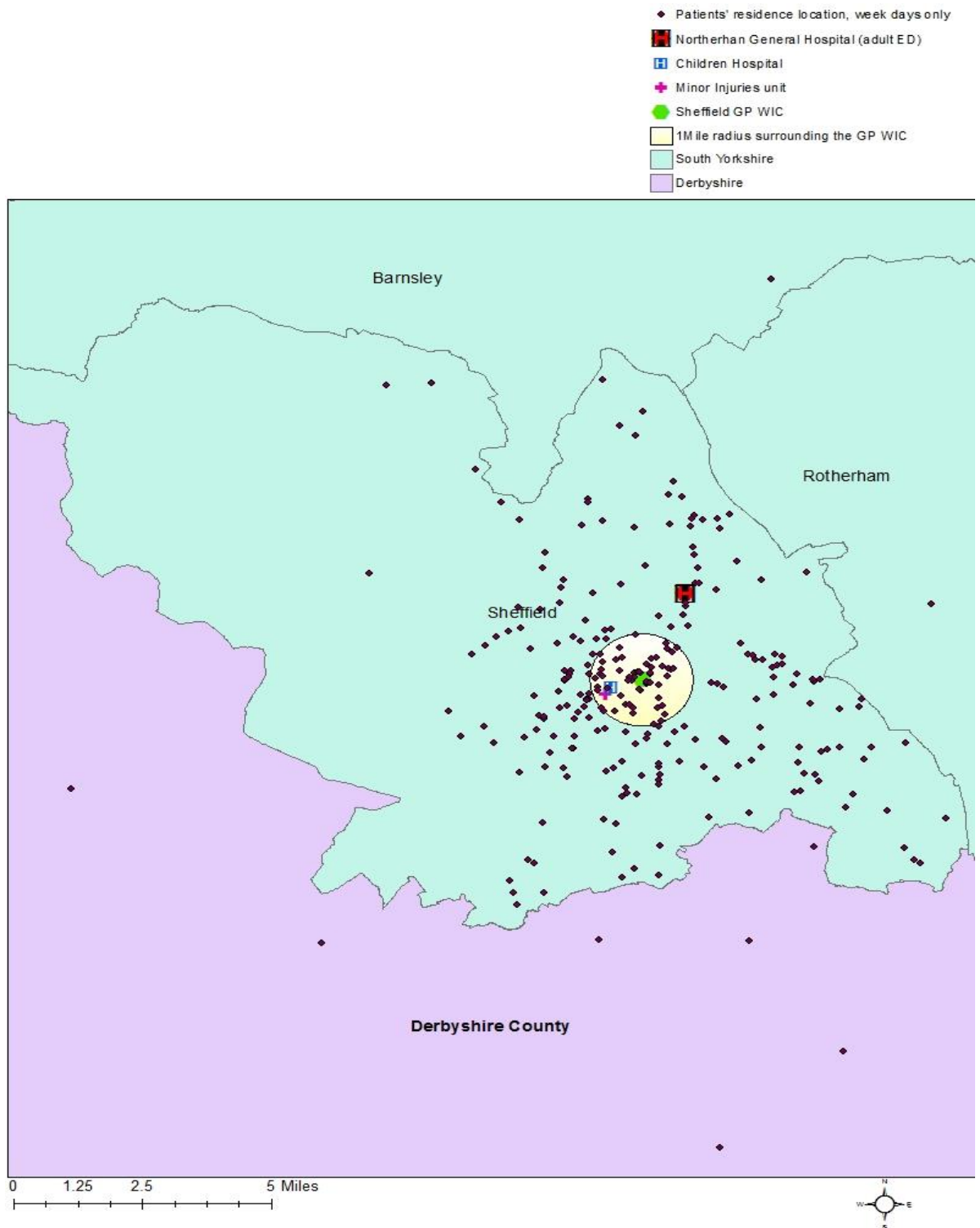


Figure 5.7 The location of residence of patients who attended the Sheffield GP WIC during the week days of the survey period



5.3.2 Impact on Rotherham ED

A total of 30641 minor cases were included in the analysis of the impact of the opening of the Rotherham GP WIC on the ED, which was 26% of the total Rotherham attendances at the Rotherham ED. The dataset included 14 monthly counts before the opening of the Rotherham GP WIC and 10 monthly counts for after the opening of the GGP WIC. The average monthly count of day time minor attendances before the opening of the Rotherham GP WIC was 1057 (SD=134.7) and 1046 (SD=130.9) after the opening of the centre [Table 5.6]. The age and sex of the attenders are also shown in table 5.6.

Figure 5.8 shows the monthly patient count at the Rotherham ED before and after the opening of the Rotherham GP WIC. Figures 5.9 and 5.10 show the monthly counts for adult and child attendances at the Rotherham ED separately.

Figure 5.8 Total monthly counts for adult and child data combined of attendances at Rotherham ED from April 2008 to March 2010.

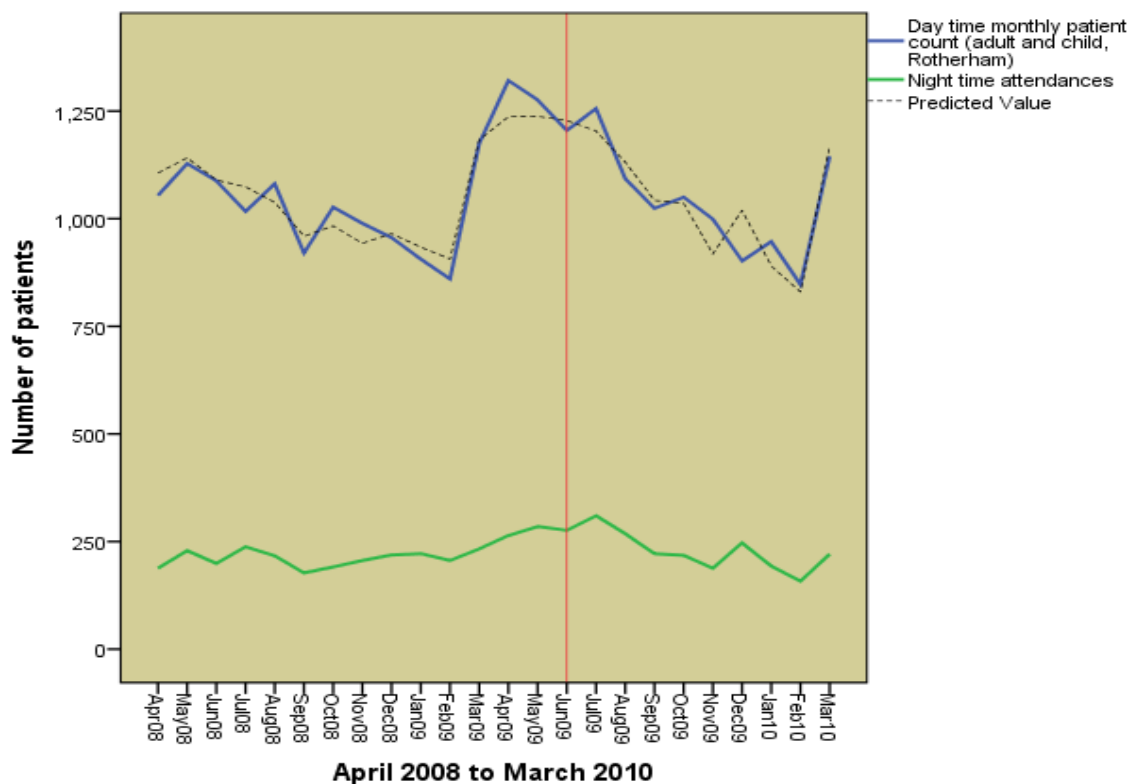


Figure 5.9 The monthly counts of adult patient attendances at Rotherham ED from April 2008 to March 2010.

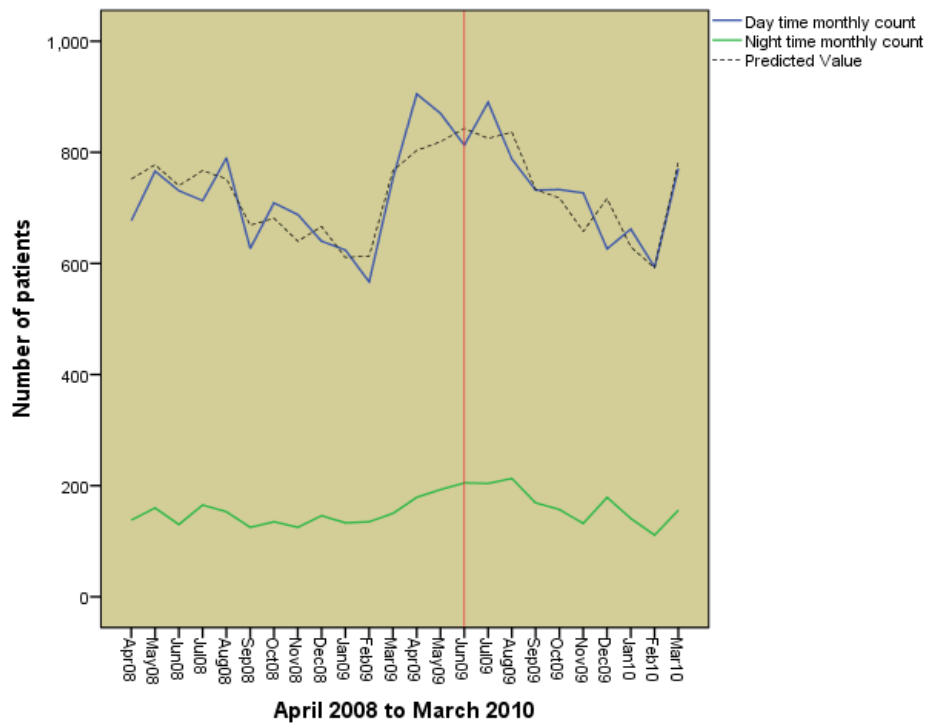


Figure 5.10 The monthly counts of child patient attendances at Rotherham ED from April 2008 to March 2010.

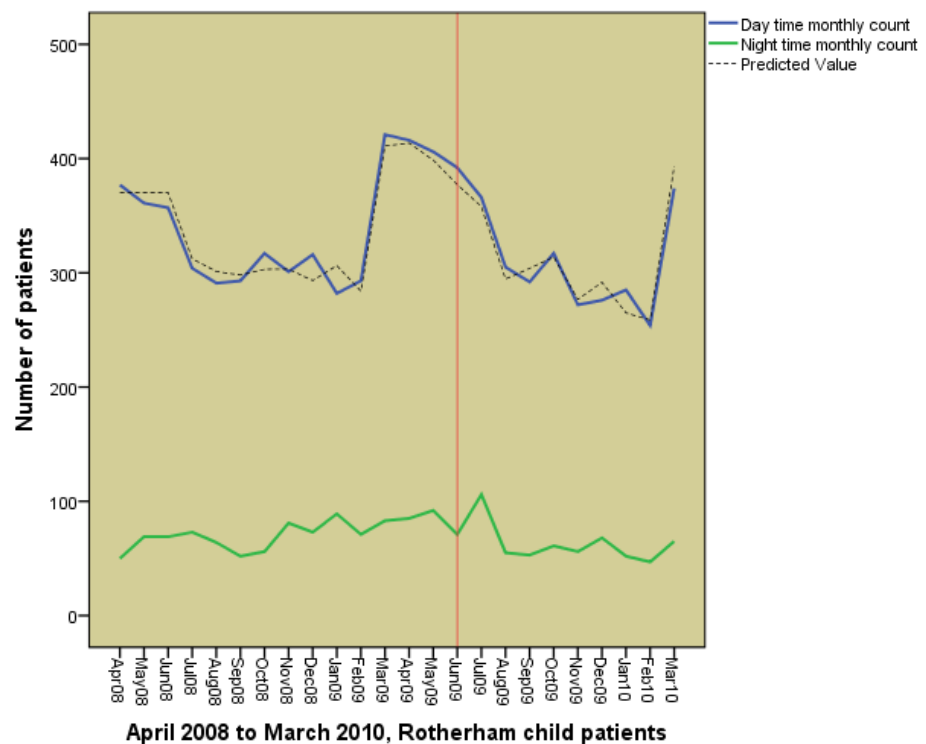


Table 5.6 Comparison of the Rotherham ED data before and after the opening of the Sheffield GP WIC

	Before the opening of GP WIC 14 months	After the opening of GP WIC 10 months	Total
Time of attendances			
Day time (opening time of the GP WIC) n (%)	14798 (82.8)	10468 (82.0)	25266 (82.5)
Night (closing hours) n (%)	3074 (17.2)	2301 (18)	5375 (17.5)
Average monthly counts Mean (SD)			
Day time attendances	1057.0 (134.7)	1046.8 (130.9)	1052.7 (130.3)
Night time attendances	219.6 (29.5)	230.1 (45.8)	223.9 (36.6)
Age n (%)			
Child patient <15 yrs	5742 (32.1)	3767 (29.5)	9509 (31.0)
Adult patient	12127 (67.9)	9002 (70.5)	21129 (69)
Sex n (%)			
Male	9733 (54.5)	6980 (54.7)	16713 (54.5)
Female	8125 (45.5)	5778 (45.3)	13903 (45.4)
Missing	14 (0.1)	11 (0.1)	25 (0.1)
Time of attendances n (%)			
Day time (opening time of the GP WIC)	14798 (82.8)	10468 (82.0)	25266 (82.5)
Night (closing hours)	3074 (17.2)	2301 (18)	5375 (17.5)

Estimated impact on Rotherham ED

At the Rotherham GP WIC, 29% (n=146) of the survey respondents reported that they would have gone to ED if the service was not there, but only 5.2% (n=23) of the respondents expressed an intention to visit ED after receiving their consultation at the centre. Of these 5.2%, 3% (n=13) were referred to the ED by the centre (either after Triage or after the consultation). Using these numbers 123 of the respondents presenting to the centre were diverted from going to ED as a result of the establishment of the Rotherham GP WIC. Based on this number and the total number of patient attendances at the Rotherham GP WIC, an estimate of around 163.8 patients per month were diverted from Rotherham ED. This equals to around 15.4% reduction in monthly minor attendances at the Rotherham ED.

Table 5.7 shows that the estimated changes from the regression discontinuity models for the Rotherham ED average monthly attendance were negligible (around 0.5% rise in minor attendances) for total minor attendances, adult attendances and child attendances. Parameter estimates for all three datasets (adult ED attendances, child attendances and combine attendances) are given in table 5.8a, 5.8b and 5.8c.

Table 5.7 Mean monthly count (minor attendances), one year before and one year after the opening of the GP WIC at Rotherham ED. P-values obtained from a model allowing for seasonal variation and taking night time attendances as a control					
Services	Before the opening of GP WIC	After the opening of GP WIC	Effect size	P-value	95% Confidence Interval
Rotherham ED attendances (adult and child combined) Mean (SD)	1057.0 (134.7)	1046.8 (130.9)	-20.73 ¹	0.62	-104.84, 63.38
Rotherham ED attendances of Children (<15) Mean (SD)	338.2 (50.3)	313.3 (47.8)	-16.39 ²	0.34	-50.33, 17.568
Rotherham ED attendances of adult patient (>15) Mean (SD)	718.6 (94.3)	733.5 (89.2)	-4.13 ³	0.89	-62.45, 54.20
¹ R ² = 85.9% , ² R ² = 93.6%, ³ R ² =71.9%					

Table 5.8a Parameter estimates of total monthly patient count at Rotherham ED controlling for the effect of seasonal variation and using night time attendances as a control						
Dependent Variable: Monthly patient count						
Parameter	B	Std. Error	t	P value	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	84.54	42.92	1.97	0.056	-2.35	171.43
Season Jan/Feb	-62.98	36.19	-1.74	0.090	-136.24	10.27
Season March/April	109.46	36.05	3.03	0.004	36.46	182.45
Season May/June	154.30	37.44	4.12	0.000	78.50	230.10
Season July/August	130.96	38.24	3.42	0.001	53.55	208.38
Season Sept/Oct	32.48	36.19	0.89	0.375	-40.77	105.74
Season Nov/Dec	0 ^a	-	-	-	-	-
After	-67.71	52.16	-1.29	0.202	-173.30	37.86
Before	0 ^a	-	-	-	-	-
Day time monthly counts	837.42	26.82	31.22	<0.000	783.13	891.72
Night time monthly counts	0 ^a	-	-	-	-	-
Time trend	8.55	3.56	2.39	0.021	1.33	15.77
Effect size (effect on day time attendances in relation to the night time attendance)	-20.73	41.55	-0.49	0.621	-104.84	63.38
a. This parameter is set to zero because it is redundant.						

Table 5.8b Parameter estimates of adult patient count at Rotherham ED controlling for the effect of seasonal variation and time trend using night time attendances as a control

Dependent Variable: Monthly patient count						
Parameter	B	Std. Error	t	P value	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	54.57	29.765	1.83	0.075	-5.68	114.82
Time trend	6.18	2.473	2.49	0.017	1.17	11.18
Season Jan/Feb	-49.48	25.096	-1.97	0.056	-100.29	1.31
Season March/April	59.72	25.005	2.38	0.022	9.10	110.34
Season May/June	101.82	25.964	3.92	<0.000	49.20	154.38
Season July/August	106.34	26.518	4.01	<0.000	52.66	160.03
Season Sept/Oct	27.86	25.096	1.11	0.274	-22.94	78.66
Season Nov/Dec	0 ^a	-	-	-	-	-
After	-41.49	36.169	-1.15	0.259	-114.70	31.73
Before	0 ^a	-	-	-	-	-
Day time counts	570.93	18.599	30.69	<0.000	533.27	608.58
Night time counts	0 ^a	-	-	-	-	-
Effect size (effect on day time attendances in relation to the night time attendance)	-4.13	28.813	-0.14	0.887	-62.45	54.20

a. This parameter is set to zero because it is redundant.

Table 5.8c Parameter estimates of child patient monthly count at Rotherham ED controlling for the effect of seasonal variation and time trend using night time attendances as a control						
Dependent Variable: Monthly patient count						
Parameter	B	Std. Error	t	P value	95% Confidence Interval	
					Lower Bound	Upper Bound
Intercept	30.02	17.32	1.73	0.091	-5.05	65.09
Day time monthly counts	266.28	10.82	24.59	<0.000	244.36	288.20
Night time monthly counts	0 ^a	-	-	-	-	-
After	-26.26	21.05	-1.24	0.220	-68.88	16.36
Before	0 ^a	-	-	-	-	-
Season Jan/Feb	-13.50	14.60	-0.92	0.361	-43.07	16.07
Season March/April	49.63	14.55	3.41	0.002	20.17	79.10
Season May/June	52.38	15.11	3.46	0.001	21.79	82.98
Season July/August	24.62	15.43	1.59	0.119	-6.62	55.87
Season Sept/Oct	4.50	14.60	0.30	0.760	-25.07	34.07
Season Nov/Dec	0 ^a	-	-	-	-	-
Time trend	2.37	1.43	1.65	0.107	-0.53	5.28
Effect size (effect on day time attendances in relation to the night time attendance)	-16.38	16.77	-0.97	0.335	-50.33	17.56

a. This parameter is set to zero because it is redundant.

Figure 5.11 shows that the location of residence of respondents to the survey who presented at the Rotherham GP WIC during the survey period. Only 10% of patients who attended the centre during the survey period were residing within a mile radius of the Rotherham GP WIC. The other patients came from different locations in Rotherham and a few came from Sheffield, Barnsley, Doncaster and Nottinghamshire. The distribution was similar for weekend patients [figure 5.12] and weekday patients [figure 5.13].

Figure 5.11 The location of residence of patients who attended the Rotherham GP WIC

-  Rotherham General Hospital
-  Rotherham GP WIC
-  Patients' residence location
-  1Mile radius surround the GP Rotherham GP WIC
-  Nottinghamshire
-  Derbyshire
-  South Yorkshire

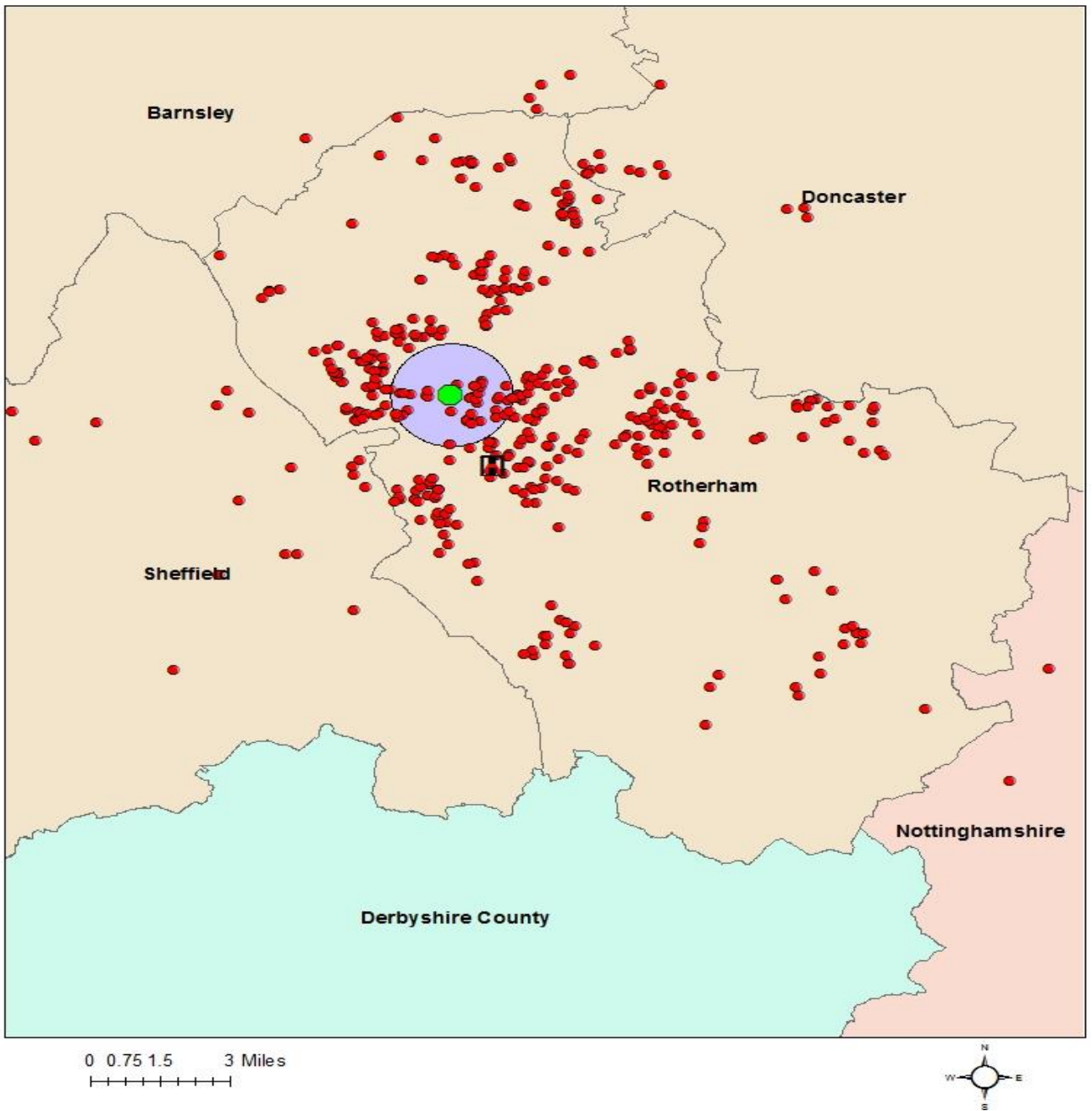


Figure 5.12 The location of residence of patients who attended the Rotherham GP WIC during the weekends of the survey period

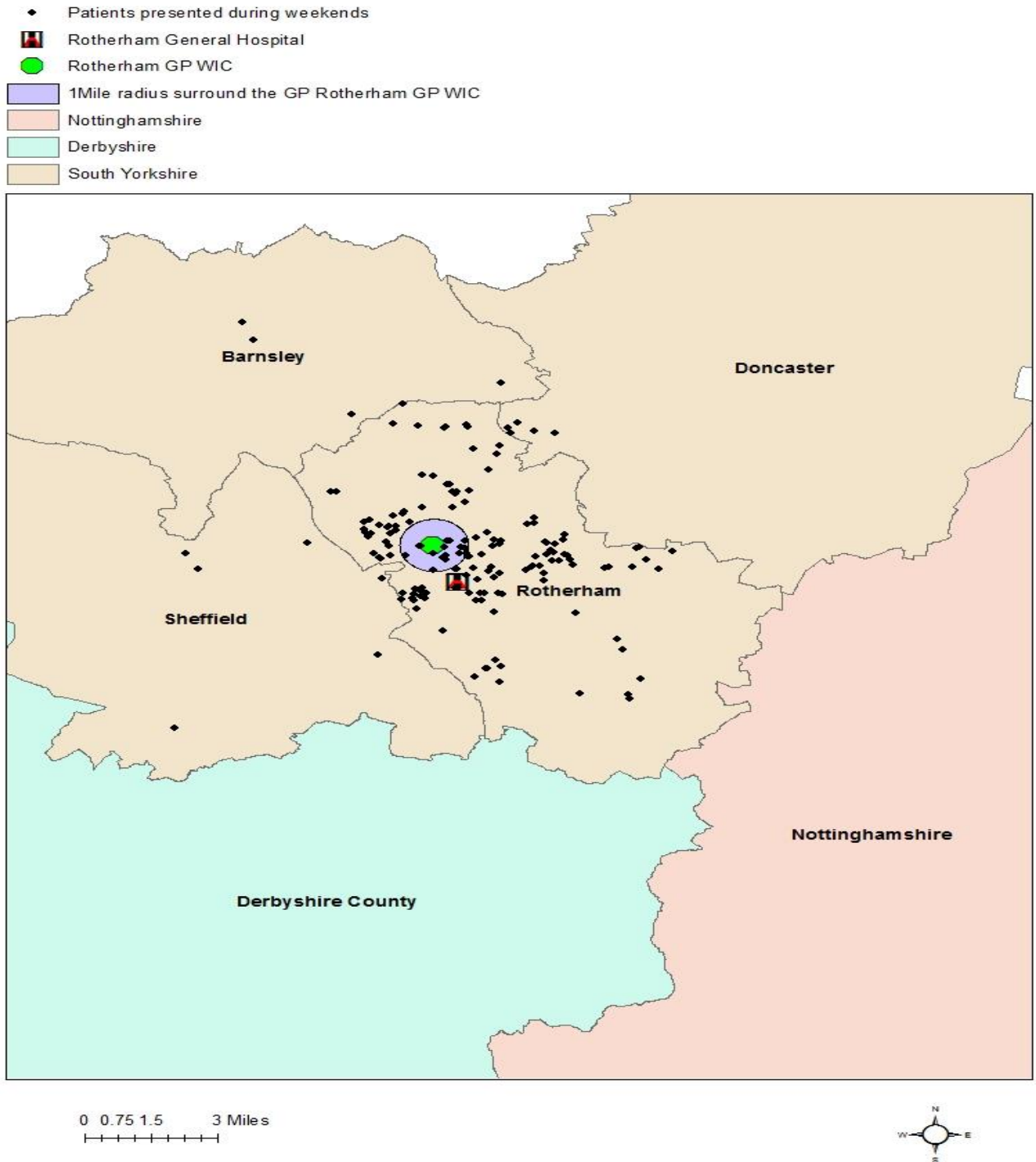
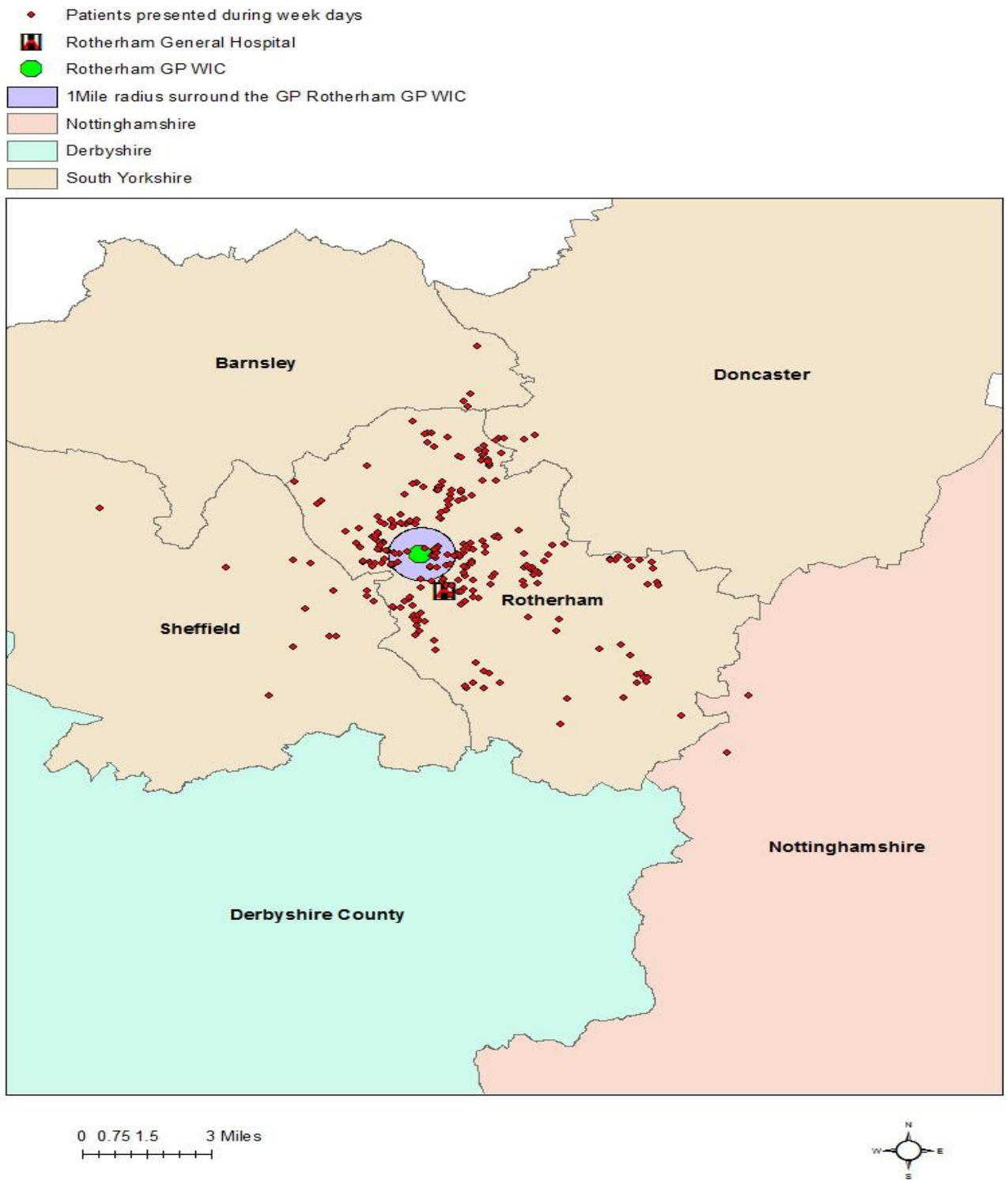


Figure 5.13 The location of residence of patients who attended the Rotherham GP WIC during the week days of the survey period.



5.4 Discussion

This is the first study to date which has evaluated the impact of a GP WIC on other local NHS services. Studies have been conducted previously on NHS walk-in centres (which were mostly led by nurses), commuter walk-in centres (nurse led or GP led), and the impact of NHS walk-in centres co-located with ED has also been studied (Pope et al, 2005, Salisbury et al, 2007c; Chalder, et al 2003; O’Cathain et al, 2009). None of the studies have shown any impact of walk-in centres on the attendance rate at other local NHS services. There are a few possible explanations of why this study has shown a small but statistically significant reduction in one location which was not seen in other studies. First, as explained earlier, all the other studies were conducted on nurse led services and this study has been conducted on GP led walk-in centres. As discussed earlier in Chapter one, GP WICs provide the facility of registration at the service, they have at least one GP present all the time along with nurses so patients can see a GP if needed, and are usually located near the centre of the city/town. Thus, the impact on other services might be more visible because of the wider range of services available at GP WICs as compared to other NHS walk-in centres. Second, the outcome examined in most of the other studies was the reduction in the total number of ED attendances. In contrast, this study has used minor attendances at EDs as an outcome to determine the impact of GP WICs. It was considered that “Minor” cases should be taken as the outcome because the GP WIC may not be able to produce an impact on the ED attendances rate of patients with serious health problems which need urgent attention. In addition, the issue of the high rates of ED attendance is mostly concerned with “minor” or unnecessary attendances. If the overall ED attendance rates increase because of serious health problems, more attention is needed to explore the causes further rather than an attempt to divert these patients from ED to a primary care setting.

There are also arguments about how a case is labelled as a minor case at ED. There are different definitions of minor attendances. Some researchers label them as inappropriate attendances or unnecessary attendances rather than a minor case attendance. In all cases, researchers agree that an attendance can be labelled as a Minor case if the particular health care problem could have been seen in a primary care setting rather than in an ED. In Sheffield this study has used ED tariff data to filter out

minor attendances of patients at ED. All those patients who were admitted or died (either after low cost or high cost investigation) were also excluded because these were expected to be serious cases. However, ED tariff data was not available for the Rotherham ED attendances so the outcome used was patient attendances of those who went to the hospital without needing an ambulance and were discharged without needing admission. Using this outcome, Rotherham ED attendances did not show any reduction in the monthly patient count either for adults or for children.

There could be many possible explanations of the differences in the impact on ED attendances for Sheffield and Rotherham. One possibility is the different outcome used for the Rotherham and Sheffield ED data which might explain why no impact on Rotherham ED attendances was found. The other possibility is differences in the proportion of adults and children attending the GP WICs in Sheffield and Rotherham. There was a higher proportion of child patients at the Rotherham GP WIC (as shown in chapter three) than at Sheffield which might have diluted the effect on Rotherham ED attendances. The Rotherham ED is combined for both children and adults whilst in Sheffield there is a separate ED for children. Therefore, the effect seen at Sheffield adult ED was possibly more concentrated. Another possibility is the distance of these services from ED; although both GP WICs are located near the city centre area, the Sheffield adult ED is around 3 miles away from the Sheffield GP WIC whilst the Rotherham GP WIC is closer to the ED (around 1 mile). Therefore, for Sheffield residents, access to the GP WIC could be much easier than accessing adult ED.

Analysis of routine data on minor attendances at the adult ED showed that there was a significant change or 'interruption' in the time series at the time the GP WIC opened. It is possible of course that this was coincidental and that some other external change caused this interruption. However, night time attendance over the same time period and for similar kinds of cases (minor attendances) was used as a control. The major purpose of using night time attendance as a control was to control for any external changes such as the closure of a local ED department which would increase night time as well as day time attendance. If I found the same decrease in minor attendances at night as in the daytime I would certainly take this as weakening the evidence that the WIC had had an effect. However, this was not the case, and therefore, it showed that

the effect was likely to be as a result of the opening of the GP WIC. Nevertheless, there is a possibility of some other interventions during the same period of time which might have only influenced day time attendances and were responsible for the decline in ED attendances instead of the GP WIC.

Studies have shown that the accessibility of a health care service is a very important determinant for the use of services (Turnbull et al 2008). Health care professionals report that urgent primary care services can be more effective if co-located with EDs (Pope et al, 2005). On the other hand, when comparing the impact on the Sheffield adult ED and the Rotherham ED in this study, it may be hypothesised that these GP WICs would have a greater impact on ED if they are located away from EDs, but in an area of easy access for the residents. This hypothesis can be further reinforced because no impact was seen on the Sheffield Minor Injuries Unit or the Sheffield Children's ED, both of which are located near to the Sheffield GP WIC.

5.4.1 Survey estimates and impact on ED attendances

The survey questions regarding the patient's intention to visit ED before consultation and their intention to visit ED after consultation were used to determine how many patients each GP WIC might have diverted away from EDs. These estimates were used to determine the potential impact on ED attendances. However, the results in this study showed that patients' reported intentions may show an exaggerated impact on the reduction in ED attendances. The actual impact was much lower than the survey estimates. This might have occurred because a large proportion of patients perceive their conditions as serious and report their intention to visit ED if the GP WIC had not been established; although in reality they could probably have dealt with the problem themselves or would have waited for a GP appointment. Another possible explanation of the discrepancy between the routine data and survey data is that patients are sometimes confused between WICs, MIUs and EDs in questionnaire surveys of the use of urgent care services (O'Cathain et al, 2011).

This study further explored the validity of the patient reported intentions after consultation in the patient satisfaction survey. A positive predictive value (PPV) and a negative predictive value (NPV) were calculated for those who reported their intention to visit ED after the consultation by comparing their intentions with what they actually did as shown in their post-visit survey response. This revealed that 86% of those who reported their intention in the primary survey after consultation actually did use an ED (PPV) and 99% of those who reported their intention not to visit ED did not actually attend any ED.

5.4.2 Impact on the Minor Injuries Unit

There model estimated that there was a reduction in the minor injuries unit's patient count after the opening of the GP WIC in Sheffield but the effect was not statistically significant. This could possibly be because of the lack of a control arm for estimating and comparing the impact on the minor injuries unit. For ED data, night time attendances when the GP walk-in centre was not open were used as a control. This assumes that any external changes which might have affected the day time attendances would also have affected the night time attendances. The minor injuries unit's opening hours were similar to the opening hours of GP WIC, hence, there was no control arm available for this service. Another possible reason is that patients with injuries prefer to attend the minor injuries unit rather than GP WIC because of the availability of X-ray and other diagnostics facilities which are not available at the Sheffield GP WIC. Studies have shown that patients prefer to use a service where a relevant diagnostic service is available, which is particularly true for x-rays (Rassin, et al, 2006). Although GP WICs claim to be able to deal with minor injuries, the core purpose of the GP WIC is not to divert patients from a minor injuries unit which has specialised care available for injuries.

5.4.3 Mapping locations

The location of residence of patients showed that patients from a wide spread of residential areas use the GP walk-in centres and there is only a small gravitational effect seen on the nearby residents who may use this service. It has also been observed for ED that patients living closer to an ED are more likely to use the ED service for

unscheduled care (Coleman et al, 2001). Therefore, it is an important finding about the GP WIC that its users come from a wide catchment area. It could be argued that this is because patients working near the GP WIC might be using the GP WIC, but this couldn't be checked directly because the postcodes obtained in this study were only residential post codes. However, as described in chapter three, a large proportion of patients (51% in Sheffield and 63% in Rotherham) used the centre out-of-hours (evenings/weekends). These patients were less likely to come to the centre because of their work location being near to the GP WICs. To explore this further, separate location maps were made for patients who attended the service during week days and for those who attended during the weekends, which showed a similar pattern in Sheffield and Rotherham.

5.5 Strengths

- Previous studies have looked at the function of nurse led walk-in centres and some studies have also looked at the impact of nurse led walk-in centres on ED attendances and waiting time. This is the first study to assess the impact of GP WICs on EDs.
- This study was particularly useful for producing estimates of the number of patients who divert from EDs to GP WICs for minor health problems. This information is useful for policy makers and commissioners to help determine the cost effectiveness of these services and to assess if GP WICs are achieving one of the aims of establishing these services.
- The geographical distribution maps are also useful to determine whether the patients attending GP WIC services come from widely distributed areas or whether they only have a local impact.
- The calculation of the validity of the “intention to visit ED” question was a unique findings in this study component.

5.6 Limitations

- The outcome for minor cases was different for the Sheffield ED data and Rotherham ED data. One of the main reasons may have been that the sources of retrieving ED data were different; for Rotherham HES A&E data was available in appropriate form to be used in this study, while for Sheffield the data was retrieved through the information department of the Sheffield PCT. Hence, the variables available in the two data sets were different.
- For the minor injuries unit, no control arm was available as the control arm used in this study was night time attendances. The minor injuries unit opens during similar hours as the GP WIC so it was not possible to obtain an appropriate control arm.
- There are other urgent care services available in Sheffield and Rotherham such as GP out-of-hours services, emergency dental care, health care for asylum seekers, and late night pharmacies. It is possible that the opening of the GP WICs had an impact on some of these services as well which we were unable to evaluate because of the unavailability of data. It would certainly be useful to determine for which other service there was an impact due to the opening of the GP WICs. However, the core purpose of this study was to determine the impact on EDs. As mentioned in the literature, it can be seen that the initial policy papers mentioned that one of the purposes of the creation of GP WICs was to decrease unnecessary patient load at EDs.
- No cost effectiveness analysis could be conducted for this study because of the commercial sensitivity of the information about the cost involved. However, this report has produced some useful information about the number of patients which the GP WIC is potentially diverting from EDs. This information can be used by the policy makers, commissioners to determine the cost benefit of these services in relation to the cost of ED attendances.

- The locations of the patients were mapped according to the location of patient residence. The GP WICs are located near the city centre area and there is a possibility that many patients would be using the centres because of their location near to their work rather than home. Thus, the association of the use of the service and patient locality could be more appropriately studied if their work location was also available. However, it was observed that high proportions of patients were using the GP WICs out-of-hours rather than in working hours, and the geographical location of residence of patients was quite similar for weekends and weekdays.

5.7 Conclusion

It is important to consider the impact on the demand for health care when health policy makers choose to open a new service or close an existing service. The opening of a new service may help in meeting unmet needs of the population but at the same time it may also create new demand for health care. Once the demand has been created, it may cause significant impact on patient load in the ED and other services, as well as on cost, especially if the new service has to be closed in the future.

There was a significant reduction of minor attendances at the adult ED in Sheffield possibly attributed to the opening of the GP WIC. However, the reduction was smaller than estimates from the survey responses. There was no significant effect on the minor injury unit or the children's ED in Sheffield. Similarly, there was no reduction in ED attendances at Rotherham ED. The Sheffield GP WIC may need to introduce some specific children's services if it is to reduce minor attendances at the Children's ED.

Our data also suggest that self-reported intentions in survey questionnaires may not be reliable, and can greatly exaggerate the impact on EDs. Thus, the actual flow of patients at EDs and other services is a more appropriate measure to determine the impact of a newly established service.

5.8 Summary

This chapter assesses the impact of the GP WICs on ED. The impact of the GP WICs on EDs in Sheffield and Rotherham was assessed by using routine data from these services, one year before and one year after the opening of the GP WICs. Datasets were retrieved from the PCT for Sheffield and from HES data for Rotherham. There was a significant reduction in minor attendances at the adult ED in Sheffield. There was no reliable evidence of changes in attendances at the Sheffield children's hospital, the Sheffield Minor Injuries Unit, or the Rotherham ED as a result of the opening of the GP WICs. An analysis of the geographical distribution of patients using the GP WICs showed that residents from a widespread area use them.

Chapter six

Perceptions of health care professionals regarding the GP WICs; A qualitative study

6.1 Introduction

In the previous chapters, quantitative data sets have been used to determine the effectiveness of the GP WICs in Sheffield and Rotherham. This chapter will focus on the perceptions of health care professionals regarding the Sheffield GP WIC; particularly those who are directly or indirectly involved in delivery the GP WIC services and those who are likely to be affected by the opening of the Sheffield GP WIC.

The process of service evaluation needs multi-dimensional data sources to obtain useful results. Important information can be overlooked by only considering quantitative data (Green and Britten, 1998). In this project, secondary data were retrieved from the NHS services in addition to the patients' experience survey data. However, the views of service managers, staff working at the centre and PCT commissioners who were involved in establishing this service are also important. Therefore, a mixed method approach was adopted to use both data sets to identify findings in one data set and compare them with others. In addition, the outcome of mixed method research may allow a further or deeper analysis and interpretation of the data (Bryman, 2008). Thus, it was anticipated that the addition of a qualitative component would be useful to provide a comprehensive understanding about the role of the GP WIC in the urgent care system and to understand the role of the GP WIC in providing urgent care services in the future.

6.1.1 Objectives

The objectives of the qualitative component were:

- To identify the perceptions of health care providers regarding the services provided at the Sheffield GP WIC.
- To identify staff perceptions regarding the impact of the GP WIC on outpatient load in other NHS services such as EDs and Minor Injuries Units.
- To identify staff perceptions regarding the effectiveness and cost effectiveness/value for money of the service.
- To identify staff perceptions regarding the future role of the GP WIC service in the NHS.

6.2 Methods

6.2.1 Research design

A qualitative exploratory study was designed to determine the perceptions of healthcare professionals (GPs, ED consultants, Nurses, Managers) about the impact of the GP WIC on the NHS services. Qualitative methods were considered as an important tool in this study in identifying their perceptions about the GP WICs.

6.2.2 Study period

Semi-structured qualitative interviews were conducted from August 2012 to December 2012.

6.2.3 Study settings

Qualitative interviews were conducted with healthcare providers at the adult emergency department in Sheffield, Sheffield children's Hospital, Sheffield minor injuries unit, the GP WIC, GPs from surrounding surgeries and GPs from an Academic Unit of Primary Medical Care.

The Sheffield GP walk-in centre has now become GP supported walk-in centre after the NHS nurse led walk-in centre moved to this service. The centre is now essentially nurse led, where the majority of consultations are provided by nurse practitioners but at least one GP is always present on site to provide support.

6.2.4 Study tools

Semi-structured interviews were conducted using an interview guide (appendix 14) based on a search of themes in existing literature (Pope et al, 2005) and after informal discussions with the PCT and GP WICs' managers. The interview guide covered the following topics:

- Introduction: Participants' role in the NHS and any role in relation to the GP WIC were discussed.
- Perceptions about the services provided at the GP: This was to obtain some overview on the perceptions of the participant regarding the services provided at the GP WIC. The differences between traditional walk-in centres and GP WICs were also covered in this section.
- Effectiveness of the GP WIC: Perceptions about whether or not the GP WIC was currently working effectively were required. Effectiveness was defined in terms of whether or not the centre was achieving what it aimed for when it was established in 2009.
- Impact of the GP WIC: In this section, questions were asked in relation to the perceived impact of the opening of the GP WIC on other NHS services. In particular, it was asked whether or not the centre had had any impact on the service in which the participant worked. In addition, perceptions about the potential of the GP WIC to have an impact on EDs were also discussed.
- Public awareness: Finally, questions were asked regarding the awareness of the general public about the GP WIC service and the possible ways of promoting the service.
- Furthermore, questions were asked in relation to the future role of the GP WIC in the urgent care system.

All interviews were digitally recorded and then transcribed into word format.

6.2.5 Rationale for data collection method

Semi-structured interviews provide richer and in-depth data in comparison to structured interviews (Smith, 1995). In qualitative interviews, researchers aim to discover the participant's own interpretations about the topic. Semi-structured interviews are conducted in a way that the researcher starts a topic by posing a question but deviation is possible to make the interview more meaningful and giving opportunity to participants to express their views freely (Britten, 1995). The focus group method is also a good way of extracting information from multiple participants (Kitzinger, 1995). However, there were important reasons why a focus group was not an appropriate method of data collection in this study. All participants were professionals in this study and belonged to different institutes so it would be very difficult to manage a common time and place to arrange a focus group. Secondly, the perspectives of different professionals may be different about GP WICs. For example, the managerial group may have a very different perspective than GPs and doctors. Focus groups may be particularly useful where there is a group of similar participants (Kitzinger, 1995). So participants in a focus group in this study might not have been comfortable in expressing their views about the GP WIC. Therefore, semi-structured interviews were considered as the most appropriate approach for data collection.

6.2.6 Sampling

Purposive sampling was used to identify the research participants from each of the selected NHS services and the GP WIC. Only one GP WIC location was included in this study. The sampling was planned to achieve diversity in terms of professional group. Nurse practitioners and consultants, GPs, ED consultants, ED registrars, PCT and centre managers were included in the sample.

6.2.7 Study sample

- Two PCT managers
- Two GPs (one was working in a GP surgery within a mile radius of the GP WIC and the other from the group of GPs working in a unit within a hospital)
- One GP surgery manager working within a mile radius of the GP WIC

- One of the managers working for a private health care provider which operates the GP WIC.
- Two nurses working at a minor injuries unit.
- Three doctors working at Emergency Departments

6.2.8 Procedures

- Participants were contacted through the centre manager (in case of GP WIC), through the GP surgery manager (for GPs and nurse practitioners working in the nearby GP surgery) and directly via email for the centre managers and the PCT managers to arrange semi-structured interviews at a location convenient for the participant (in the offices of the participants).
- Consent forms and information sheets (appendix 15) were provided to the participants in advance and written consent was obtained on the interview day before starting the interview.
- Each interview lasted for approximately 30 – 45 minutes
- Interviews were recorded on a digital recorder and transcribed.

6.2.9 Methods of analysis

A number of potential methods for qualitative data analysis were considered including grounded theory, framework analysis and thematic analysis. Grounded theory could be used to generate a theory from the data. Grounded theory uses in-depth analysis of the interviews and compares and contrasts views to generate a theory out of the qualitative data (Strauss and Corbin, 1998). The development of theory was not a key objective in this study. Framework analysis was also considered. Framework analysis is a five step process including familiarisation, identifying a thematic framework, indexing, charting, mapping and interpretation (Ritchie & Spencer, 1994). The reason why framework analysis was not used was because I wanted to explore the data without a prior structure to develop themes iteratively from close reading of the data. Therefore, thematic analysis was considered as the most appropriate method in this study to identify key themes in the interviews via an iterative process of reading and re-reading the interview transcripts to describe the perceptions of the participants regarding the

GP WIC role in Sheffield. Thematic analysis is widely used in health care research (Braun and Clarke, 2006). Braun and Clark (2006) described it as a six stage process including familiarizing with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing a report

6.2.10 Analysis plan

Data were coded using thematic analysis to identify recurring themes (Mason, 2002). Each interview was read line-by-line to identify ideas or concepts within the text. Similar ideas or concepts across the transcripts were brought together and given a descriptive code. Each code was then further examined to develop themes and subthemes within the data set. A thematic diagram was developed to illustrate relationships between the themes. When all themes were finalised, the data within each code was re-checked for consistency of coding within each transcript and across all the transcripts. The coding was primarily carried out by the student, with input from SB to discuss emerging codes and data within each theme.

6.2.11 Ethical approval

Ethical approval was obtained from the NHS Ethics Yorkshire and Humber REC. Amendments were submitted for the qualitative component of the study in early 2012. Informed written consent was obtained from all participants (appendix 15). An information sheet was also designed which was sent along with the invitation to all participants. The interviewees had an opportunity to look at the interview guide before the interview. Anonymity of the participants was maintained throughout the data collection and analysis. The results were reported in a way that no individual participant was identifiable.

6.3 Results

A total of 11 participants were interviewed in this study. The 11 participants of this study were broadly from two categories; health care professionals (consultants, GPs, nurses) and managers (GP WIC managers, PCT managers). All the participants from the managerial group were either directly or indirectly involved in managing or commissioning the GP WIC services whilst the health care professionals were those who were likely to notice the impact of the GP WIC on other NHS services. Two health care professionals were from a minor injuries unit, two GPs from the surgeries near the GP WIC and a GP practice manager working within a mile radius of the GP WIC and three doctors from the Emergency Department. Table 6.1 provides the characteristics of the participants.

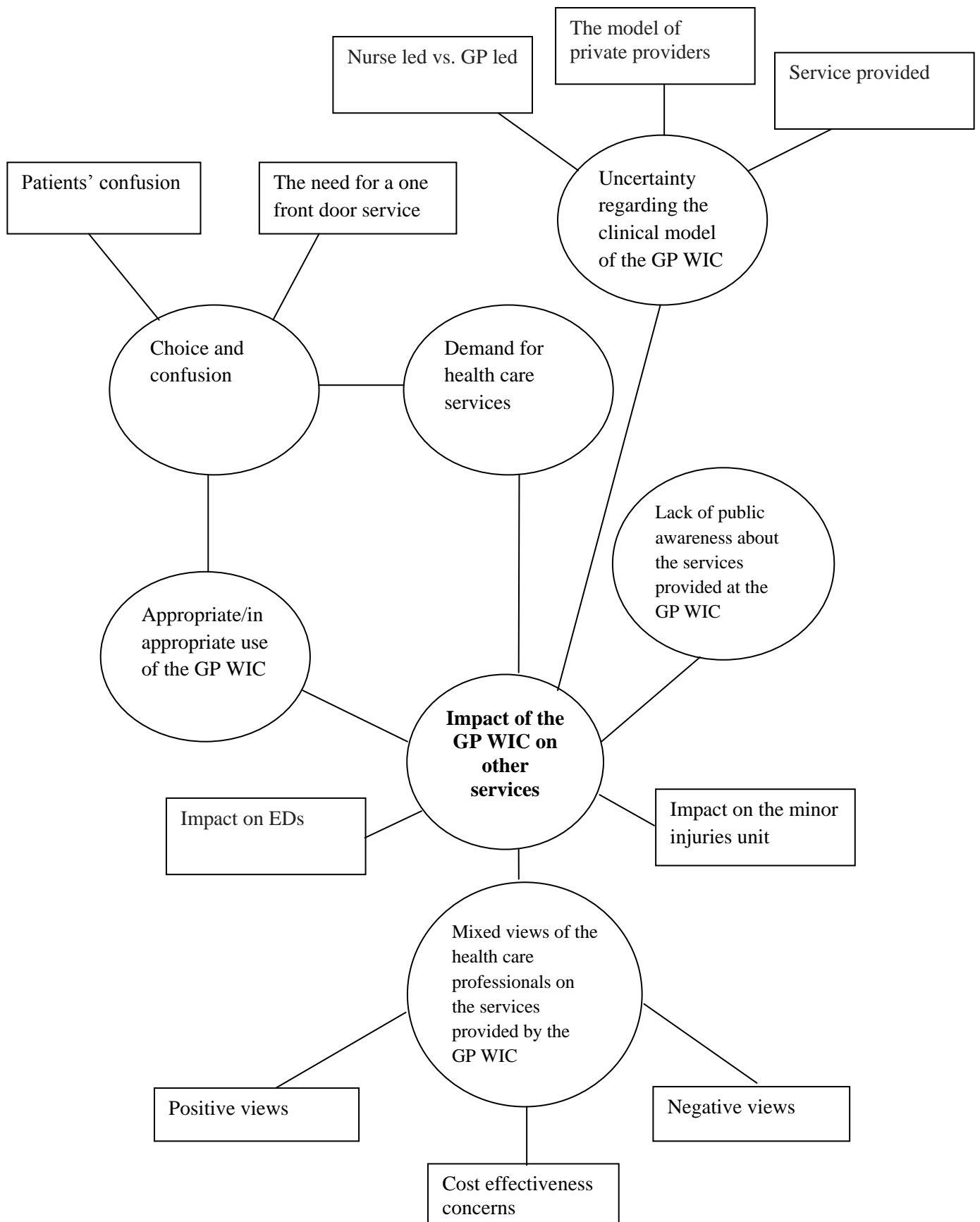
Interviewees	Organisation of work	Gender	Role in the organisation	Years of experiences (categories)	Direct involvement in GP WIC services	Groups
2× Nurses	Minor injuries unit	2×Females	Nurse practitioners	>10	No	ED nurse
3× ED doctors	Emergency Department	3×Males	1× Registrar 2×Consultants	1× (5 –10) 2× (>10)	No	ED doctor
3× Managerial group	1× GP WIC 2×Primary care trust	1×Female 2× Males	1× GP WIC operational manager 2×Urgent care services commissioners	1×0-5 2×5 - 10	Yes	Manager group
3× General practitioners	General practitioners	2×Males 1× Female	2× GP 1×Practice manager	2×0-5 1×>10	No	GPs

Analysis of the data provided useful insights regarding the role of the GP WIC in the urgent care system. Seven key themes were identified (Table 6.2). The thematic map also shows the relationship between themes and sub themes (Figure 6.1). Some quotes have been subject to minor editing to clarify the meaning of the extracts and to maintain the anonymity of the participants. Furthermore, the quotations have been referred to only by the group to which the participant belonged in order to preserve anonymity. The following four groups were used to refer to the quotations; ED nurses, doctors, GPs and managers. The practice manager of a GP surgery near the GP WIC was also included in the group of GPs because the views of the practice manager were more in line with the views of the other GPs rather than the views of the participants in managerial group.

Table 6.2 Key themes identified in the data

- | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none">1. Uncertainty regarding the clinical model of the GP WIC2. Lack of public awareness about the services provided at the GP WIC3. Concerns regarding the appropriate use of services4. Uncertainty regarding the impact of the GP WIC on other NHS services5. Increased demand for health care services6. Choice and confusion7. Mixed views of the health care professionals on the services provided by the GP WIC |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Figure 6.1 Thematic map shows seven major themes and subthemes



1. Uncertainty regarding the clinical model of the GP WIC

The participants had differing views about the existing model of the GP WIC and the future model that should be developed.

Nurse led vs. GP led

Some participants reported their perceptions that the GP WIC was typically nurse led and only used GP referrals when needed, whilst others believed that the triage nurse decides if a patient is going to see a doctor or a nurse. One participant reported that the payment received by the GP WIC was to run a nurse led service. However, if nurses were unavailable the service provider provides GPs without adding any extra cost to the Primary Care Trust.

“There are some GPs there but my understanding is that predominantly GPs are there because they can’t get sufficient numbers of nurses to work there so they get GPs. We used to commission GPs and nurses but now we only commission nurses, although the company themselves provide GPs if they haven’t got nurses.” (*manager*)

On the other hand, another manager reported his perception that the centre is GP led and at least one GP must be working at the centre all the time.

“I mean this is a GP led one so we ought to have a GP on site. We always get support throughout, 14 hours support from GP on site” (*manager*)

The manager also highlighted that all patients should be triaged and only those requiring to see a GP should be seen

“The patient is not allowed to request a GP. All patients triaged by an advance nurse practitioner. One who will automatically go to GP; pregnancy related will always go to GP but anything else would be up to the front line assessment.” (*manager*)

One GP reported confusion being created after the nurse led walk-in centre moved to a GP led WIC.

Many of the GPs participants seemed unclear about the services at the GP WIC and whether it is GP led or Nurse led.

“You can go to GP WIC 365 days a year and be seen by a GP; that’s what I understood in the beginning but now the [nurse led] WIC has moved in, which confuses things greatly. Now you walk into the WIC and you see a nurse and who then might refer you to a GP” (*GP*)

Service provided

Many of the participants viewed the walk-in centre as a GP service with some extended hours.

“It provides walk-in service to patients who are not registered with GPs but they also have their own register of patients” (*Nurse*)

GPs perceptions about the service were also that the GP WIC provided services just like a standard GP with extended hours.

“They [the GP WIC] usually provide GP services. So all the general GP services really.... but walk in....in a sense that really they are there for people who don't have access to GP whether because of problems with their appointments or by virtue of whether they are within or they are not within reach of GP” (*Doctor*)

Another participant from the nurse group reported

“I think they [the GP WIC] are providing a walk in service for people with minor illnesses... potentially with some long standing chronic problems for which they can't get their own GP for, some people feel they don't want to go and see their GP, cause they don't want to bother them” (*Nurse*)

The centre was originally created with the aim of providing all urgent care services along with a pharmacy at the centre. So many healthcare providers were unaware of whether the centre is an urgent care centre or a GP provider with extended hours. The triage process at the GP WIC was also reported to be working differently than how it was originally planned by the PCT.

“The original set up was that there would be an integral pharmacy in the building and the people would be shuffled off to the pharmacy if the senior clinician or decision makers would feel it was appropriate. The pharmacy has never opened up, and it is never likely to be opened. They have never put a senior clinical decision maker at the front desk.” (*Manager*)

The model of private providers

The centre is operated by a private healthcare provider and many participants were unhappy about the service being provided by the private company. A nurse practitioner was concerned that the centre was a money oriented service.

“I think NHS services taken on by private industry are destined to then become money oriented.” (*Nurse*)

Another staff member similarly mentioned that

“It [the GP WIC in Sheffield] is provided by a private company and I do get a sense of finances being a motivating factor for them in delivering some of their services” (*Nurse*)

The participant added

“I don’t think these services should be provided by private companies really. I just don’t think their motivation is the same as somebody who works for the NHS.” (*Nurse*)

Similarly, amongst the group of GPs there was concern about the services being provided by the private company.

“For patients who are not sure where to obtain the right health advice or treatment, they [GP WIC] should have a comprehensive sign posting role to advise where to go. But that can only work if it’s completely unbiased and non-party and not linked to a private organization.” (*GP*)

2. Lack of public awareness about the GP WIC

The GP WIC has advertised its services in several places such as newspapers, magazines, flyers and radio. However, many participants reported that the publicity was not enough to create awareness in the general public about the use of the right urgent care service in case of urgent health problems.

“It takes a long time to get the public to understand which services are available at different times” (*Nurse*)

Another participant emphasised the need for a national campaign to create awareness amongst the general public.

“We need to do a national campaign of what a walk in centre does and who needs its services, and I don’t even think the NHS 111 advertising which is currently going through is enough to highlight it.” (*manager*)

In contrast, other participants believed that advertising is not optimal for creating awareness in the general public regarding the appropriate use of urgent health care services.

“I just think the public..... people in general tend not to look at leaflets that come through the door until they need them” (*Nurse*)

“I think nobody reads the back of buses or reads pamphlets” (*Doctor*)

The GPs’ role was mentioned to be important in terms of creating awareness in the general public to use the right service in case of an urgent health problem.

“I think GP surgeries certainly have a role in educating people about what services are appropriate” (*GP*)

A participant from ED did not agree with the concept of having several alternative services and then providing information to patients on choosing the right service. He preferred the traditional system of health care delivery where the patients used to either attend a GP or an emergency department.

“The idea of providing information to help patient decide which of those facilities is appropriate, I think become in itself inherently quite bewildering. So you go back ten or fifteen years, patients decided between these two things emergency department and general practitioner. Now that person is having to decide between four five facilities in the same city” (*Doctor*)

3. Uncertainty regarding the impact on other NHS services

Impact on EDs

The participants were unclear about any impact of the GP WIC on reducing patient load in EDs. Some of them viewed that the centre would have more impact on GPs, if any, rather than on EDs.

“We don’t see any decline in patient attendances (at ED). Those problems are increasing year by year and I suspect these [minor cases at EDs] are increasing year by year around the country. We in our department see more of these problems with relatively minor complaints.” (*Doctor*)

Another participant reported that

“It is still a problem even if the Darzi centre [the GP WIC] has reduced it [unnecessary patient load at ED] which I don’t know. It has certainly not oversubscribed ED attendance because the problem is still there.” (*GP*)

However, participants from the managerial group reported that the centre must have an impact on most of the unscheduled care services.

“[it has] probably a combination of impact..... on other GP practices and their out-of-hours GP services and the A&Es.” (*Manager*)

Managers were also concerned about the increase in patient load if the GP WIC closed down in the future.

“The ED buildings are not big enough to cope with the numbers. Remember the GP WIC has around 200 patients per day, that’s an awful a lot of extra people for A&E waiting rooms.” (*Manager*)

Other participants also perceived that closing down the centre and not having any alternative might increase patient load on other services. One ED consultant believed that it might increase patients at ED but he did not consider that as an issue because the money would be saved by closing down the GP WIC so a little increase in ED attendances could be acceptable. Another ED consultant described that some patients might come to ED if the centre is closed down. However, the more likely outcome would be that patients would just wait for GP appointments. So the perception was that

if the GP WIC closed down, there would be little effect on ED and patients would be using their own GPs.

“I think if you take it out then they will have no choice but to go and see the GP! Obviously some might come here [ED] and some might see the Children’s Hospital but I think some of them just will do what we ask people to do.... have a bit common sense and look after self-limiting conditions by themselves, you know” (*Doctor*)

In contrast, another participant reported that patients would go to another urgent care service if the GP WIC closed down because patients perceived their problems as urgent.

“My experience of 23 years in the NHS is that when patients decide they want to be seen, they want to be seen then and there” (*Nurse*)

Participants were asked how big a decrease in the patient load on ED attendances as a result of the opening of the GP WIC would be considered as significant. Health care providers as well as managerial staff believed that around 10% reduction in minor ED attendances would be considered as a significant reduction.

“We expected to see a reduction of somewhere between 10% to 20% drop off in number of minor attendances at ED, but I don’t think there has been that much drop off in minor AE attendance. However, there is no substantial increase.” (*Manager*)

In addition to the discussion regarding the impact on ED attendances, the data describes perceptions regarding the impact on surrounding GPs. GPs were particularly concerned about their list size of patients because of the opening of the GP WIC. GPs believed that the centre offered registration service to the patients so many of their patients transferred from their practice to the GP WIC or the centre might be attracting new patients in the area which otherwise would have registered at their GP surgeries.

“It [the GP WIC] had a negative effect on us. I mean certainly, for our surgery X, the numbers are getting lower. The PCT have established a health care provider within a 150 meter radius of the one which is there for 30 years. Patient can also register there. It definitely has an effect on our registration. Our registration has gone down, which means our overall income has come down.” (*GP*)

Another GP reported that

“I think that it unfairly disadvantages the medical centres in the nearby city centre.”
(GP)

Impact on the minor injuries unit

The role of the GP WIC in treating minor injuries seemed to be a grey area.

Participants were unclear about whether or not the GP WIC provided care to patients with minor injuries.

One participant from the managerial group was unclear about the policy regarding where patients should go in case of a minor injury.

“I suppose they [GP WIC] would see some minor injuries like sprains etc. I suppose some people would go to the minor injuries unit and some people go to GP WIC.” (Manager)

It was a concern that the GP WIC deals with some minor injuries cases although a separate minor injuries unit exists where specialised facilities are available for minor injuries patients. A participant from the managerial group reported that the GP WIC deals with some minor injuries.

“GP WIC can do some minor injuries but if they need x rays and things like that they [patients] have to go to the minor injuries unit or to A&E.”
(Manager)

“In my department [ED], there is no minor injuries unit so the GP WIC out there provides that service. (Doctor)

Some participants perceived that the centre had no expertise to deal with minor injuries and all injuries cases should be referred.

“I would say they haven’t got the expertise to deliver an injuries service.”
(Nurse)

Another participant mentioned that the GP WIC may not be able to deal with injuries.

“I would predominantly think their service is to deal with minor illnesses rather than injuries as I know they do not have any x-ray facility down there and I don’t think they have much access to wound closure” (*Nurse*)

Participants also were concerned that some cases of minor injury were referred to the minor injuries unit after patients had waited and seen a health care professional at the GP WIC. This created an additional cost of the visit to the PCT and also reduced patient satisfaction with the NHS.

“We [minor injuries unit] do have people who have gone there clearly with injuries, with cuts, lacerations which needed treatment and they have gone there and waited there and then been sent here.” (*Nurse*)

One participant was concerned about the referral system at the GP WIC.

“Their [GP WIC] receptionists don’t refer. I think if someone clearly comes in with bandage around their finger and says they caught the finger then I don’t see why their receptionist can’t say actually you are in the wrong place. We had patients that were quite frustrated that they waited an hour and a half to be told that they can’t see them” (*Nurse*)

Another reason for a potential impact on the minor injuries unit was the shifting of the nurse led walk-in centre from the local hospital, where it was co-located with the minor injuries unit, to the GP WIC.

“I think there was probably a decrease in the amount of patients we saw because if they [Nurse led walk-in centre] were next door it was easy for them to send them to us.” (*Nurse*)

It was also reported that moving of the traditional nurse led walk-in centre to the GP WIC was inappropriate.

“The co-location of the nurse led centre with [GP WIC] in my view is undesirable and I think it had a negative effect.” (*GP*)

4. Increased demand for health care services

One concern mentioned by several participants was regarding the possibility of an increase in the demand for health care services as a result of the opening of alternative services such as the GP WIC. Participants perceived that the GP WIC might have created a demand and would only be fulfilling the demand it created rather than meeting unmet needs.

“I think one of the problems that occurred over the last ten or fifteen years is that the demand of services has increased with the aim of increasing patient choice. I think there has been a significant rise in confusion towards seeking health care. *(Doctor)*

Another participant mentioned patient demand as the reason why no impact on ED attendance would be seen as a result of the opening of the GP WIC.

“A&E has not seen any reduction in their patients. If there is a service patient will use it, you could have three walk in centres in the cuty and all three would be used and you may still not see any dropping in A&E counts.” *(Manager)*

Other GPs also considered the service just an additional choice for patients

“It is just another option whether or not it is appropriate use or not.” *(GP)*

One ED consultant mentioned that

“I think it is very sad that we have set-up things like urgent care centres, walk in centres to deal with that [unnecessary demand]. Most people accessing urgent care don't need it but what they do have is the perception of need. So they [patients] feel they need instant health care they feel they need instant access to nurses, doctors and so on but actually for most of them there is no physiologically need whatsoever but we live in a society with thoughts of instant gratification.” *(Doctor)*

Another ED consultant mentioned that

“It creates an artificial need and probably does more harm in long term in terms of blurring.... you know the line between which service is appropriate and which isn't.” *(Doctor)*

Participants from GPs considered that patients sometimes use the centre only for a second opinion.

“I think when our patients tend to use walk in centres, sometimes it’s for a second opinion. They have been told that it’s viral and they come in and see us next day not necessarily realising that we have the notes.” (GP)

Another GP reported that

“Patients use the walk in centre to try and obtain their medication or may be even the second opinion out-of-hours when their GPs are closed.” (GP)

Similarly, it was reported that the GP WIC only duplicates the services which were already there at general practices.

“I think it probably duplicates what a general practice, urgent surgery or emergency surgery would see and what the GP out-of-hours would see.” (Doctor)

5. Concerns regarding appropriate use of the service

Most of the participants reported that it is difficult to label a patient visit as an appropriate or inappropriate attendance. It might be appropriate use of the GP WIC service if a patient was diverted from ED to the GP WIC whilst it is inappropriate if the patient could have managed the problem without going to any service but only used the GP WIC because it was there.

“You have got to make a judgement, there is nothing written down [about] what is appropriate and what is inappropriate” (Manager)

One participant mentioned that patients of middle age probably use the GP WIC who may not be able to attend their GP because of their working hours.

“I get the notes when people have been to the walk in centre, it’s mainly younger people so not so many children or not many elderly people so probably working age, probably mainly people who are in work and people who don’t tend to come to the GP very often.” (GP)

However, participants also described cases where patients clearly used the GP WIC inappropriately. For example, when a patient’s own GP was available but the patient did not inquire about that and preferred to use the GP WIC. A participant gave an example that it is an inappropriate use of GP WIC in a case where a GP practice runs a walk-in clinic in the morning but a patient does not wait and goes to the GP WIC. Another participant mentioned examples of patients attending the centre for ear

syringing which is not an appropriate problem to be presented at the GP WIC for two reasons; first, it might not be an urgent problem. Second, the PCT already pays GPs for this service and the PCT would have to pay twice for the same thing if a patient attends GP WIC for ear syringing.

“I have heard of patients turning up to the GP WIC wanting ear syringing which is not something the walk-in bit does” (*Manager*)

There were similar concerns about patients presenting inappropriately to the ED. However, participants had different views of underlying causes of this. ED consultants were concerned about a very high proportion of inappropriate patients with minor problems at the Children’s Hospital in comparison with the adult ED.

“Children’s Hospital see a lot more inappropriate or primary care attendances. So we [adult ED] have 10% inappropriate attendances and they [child ED] probably approach 50%.” (*Doctor*)

Some participants suggested that some inappropriate ED attendance happens because migrants or students from other countries do not have primary care services in their country so they might not realise the difference.

“European countries don’t have primary care services. So we think that’s one of the reasons why these populations in Sheffield tend to go to hospital when they don’t need to” (*Manager*)

Another participant mentioned that students might not realise the appropriate use of NHS services in the UK.

“A&E tends to get hit very badly by students in a lot of cases as there are students who have never been away from home and don’t really know what is there for them.” (*Manager*)

6. Choice and confusion

Patient confusion

Many health care participants perceived that patients get confused about choosing the right health care service for their urgent health problems. They described that for unscheduled care, often there is more than one service available and sometimes it is very difficult for a patient to decide which service is appropriate for the particular health problem.

One GP reported that

“I think it’s often confusing and difficult for people to decide what service they need; they need some assistance with that.” (*GP*)

Another health care provider from an emergency department said

“I am in the health business and my wife was unwell probably six months ago and I found it confusing where she should go and you know I have been working within the NHS for eighteen years and I find it confusing. So I have got a lot of sympathy with patients who face it” (*Doctor*)

Managers also believed that patients’ confusion is a problem. However, they considered it as a national problem and not linked to having a local walk in centre

“Patients I think remain confused because we have a number of different services in [city] and this is a common national problem as well. We do have some communications and marketing material but I would say patients are still confused about which service to go to at what time and what services will be provided there.” (*Manager*)

The need for a one front door service

The interviews with the study participants revealed that almost all health care providers were in the favour of moving all urgent care services to one place and having a “One front door” service. This would mean that all urgent care services should be at one place and patients could be streamed into an appropriate service such as primary care or minor injuries. One participant from the minor injuries unit said that

“I personally would like to see one front door in A&E and patients filtered into primary care stream, minor injury stream or the main A&E department” (*Nurse*)

Another doctor mentioned that it would be useful if all services moved to the Emergency Department. If all facilities are available at the hospital, it would be easy to manage and the issue of patients’ confusion about choosing the right service could be resolved.

“If they [patients] go to one single place, they can be dealt with because of the availability of nurses, doctors, x-rays, blood tests all that kind of thing.

I personally would advocate a single place, one door and one single point of access.” (*Doctor*)

Another participant from the nurse group favoured all services moving to the hospital (adult ED).

“I think you need to position the services where patients go rather than try and change behaviour and that’s based on my certainly fifteen years of experience in this A&E department” (*Nurse*)

In contrast, participants from managerial group were more pragmatic about the issues with establishing a one front door service in Sheffield. The issues they mentioned were related to the availability of space at the main Hospital, car parking issues and issues of overcrowding. Moreover, in the city studied, the Emergency Department is divided into adults and children and located at two different sites. Therefore, even if all alternative services are moved to the adult ED, there would still be issues of alternative emergency care services for children, unless another similar one front door service is developed for the children’s hospital as well, which essentially means doubling the cost. Furthermore, it was reported that the ED may not be a pleasant environment for taking children compared to the GP WIC which provides a General Practitioner’s Clinic-like environment, placed in the centre of the city.

“A lot of people are concerned about taking children to A&E departments because particularly at night times there are drunk people, there is fighting sometimes, the police are there. [it is] Potentially a difficult environment to wait in.” (*Manager*)

A manager who was also not in the favour of moving all services to the ED mentioned an example where co-location of a walk-in service with ED didn’t work well and needed to be moved away from the ED.

“Manchester did have a walk in centre attached to their A&E and then moved it! Sheffield is another strange one because you have an A&E department for adults only and an A&E department for children. You wouldn’t be able to have a walk in centre for both. So I think in Sheffield you wouldn’t be able to co-locate because you would end up doubling the resource” (*Manager*)

The GPs also understood the possibility of overcrowding if all services move to one single site. One GP mentioned that

“This one front door, I can see would just create a very busy probably unpleasant area and possibly a long waiting time. Also the [hospital] is very much on one side of the city and actually maybe keeping something centrally is better.” (*GP*)

Moreover, a participant from EDs was also unsure about the benefits of moving all services to the adult ED from the centre of the city.

“Certainly there is no good evidence that suggests that it works better in the city centre or co located (with an ED). There is no evidence at all.” (*Doctor*)

7. Mixed views of the GP WIC

Health care providers had positive as well as negative views about the GP WIC service but a common perspective was that the service should not continue in the future in the same way.

Positive views

Healthcare providers believed that the GP WIC improved access because of its convenient location.

“I think it is easier for patients who are living here [near city centre] to go to the GP WIC than to go to the GP collaborative which is at the Northern General hospital and is less preferable for patients.” (*GP*)

The location was also reported to be convenient because of the availability of car parking at the centre.

“Parking is a lot better at the GP WIC. There is no question about it and easy for students.” (*Manager*)

One of the ED consultants also believed that the centre provides a good alternative to an ED because if a patient does not have an access to their GP, A&E would be the only option to go to.

“If someone has no access to the GP then automatically they come here (A&E) because this is a 24 hours service. If there is GP walk in centre then most patients probably should go there first and then A&E should be a kind of secondary/tertiary referral centre” (*Doctor*)

The centre was also perceived to have some positive impact on the local EDs.

“Obviously there would be patients who historically would go to an A&E are now going to the GP WIC. I couldn’t get appointment for my daughter and I know she doesn’t need to go to the children’s A&E for conjunctivitis so I chose to go to the GP WIC.” (*Manager*)

Negative views

Healthcare providers had different reasons for having negative views about the GP WIC. GPs, for example, reported that they would like to see a service which would complement GP services by providing a walk-in only service but not a service where patients can register. Health care professionals at the minor injuries unit preferred that the GP WIC should be clearer about the policy that the centre should not be treating minor injury cases. ED doctors were clearly in the favour of closing down all alternative services and bringing all urgent care services to the ED

One consultant mentioned the need for closing down the service as it was complicating service provision

“The service [GP WIC] should not be continuing in the future. I think for several reasons, mainly in the interest of simplifying access to unscheduled care (*Doctor*)

GPs based at practices further from the centre were particularly unhappy about the advertising of the GP WIC.

“If a patient comes to the walk in centre and asks where they can register with a GP I think they should be able to be told about any of the GPs nearby and in practice the walk in centre only tells them about their own practice and they declined permission to keep any practice leaflets” (*GP*)

They believed that the GP WIC had a negative effect on their business.

“It [GP WIC] definitely has an effect on our registration. Our registration has gone down, which means our overall income has come down.” (*GP*)

On the other hand, participants from the managerial group reported that other healthcare providers were unaware of the services provided at the GP WIC so they

might not be aware of the benefits of the service. It was mentioned as a major concern and a barrier in promoting information about choosing the right service.

“The difficulty is.... if primary health care themselves don't know what we do, how do the general public understand what we do? Because GP practices are not clear on what we do.” (*Manager*)

One participant provided an example showing the lack of understanding of GPs about the services provided at the GP WIC.

“GP practice sent a patient here for some blood results on a Saturday; we have people sending for ear syringing, those kind of things which are not appropriate for a walk in setting” (*Manager*)

Concerns about cost-effectiveness

Many of the health care professionals had concerns regarding the service in terms of value for money - what the service was achieving and the cost involved. One GP mentioned that

“I think that it's [GP WIC] a very expensive service and as far as I understand it, they are paid on a sort of a patient contact or arrived on service basis, which means every time a patient walks in they receive a payment for that which is very different to GPs paid in primary care. I think the income per patient or expenditure per patient for patients who attend the walk in centre is significantly higher than it is for GPs. I don't think it provides good value for money.” (*GP*)

Another participant described a serious concern about the cost involved in the establishment of the service which he considered unnecessary.

“I think it is a terrible waste of money, ridiculous waste of money and as a UK tax payer, removing my medical background, as a UK tax payer I think it is ridiculous. What has happened is the creation of a service which essentially was unnecessary.” (*Doctor*)

The participant had the view that by bringing all alternative services under one roof it would create a better value for money service.

“I think if using our own city as an example that place was shut down and all cost was bumped here to the Hospital with the idea of co locating general practitioner facilities here, maybe some nurse practitioners, minor

injuries services, I suspect the value for money would be much better.”
(*Doctor*)

However, other professionals were unsure about the cost effectiveness of the service as a whole.

“I am not sure about that and I say that because I am not sure whether they are providing unmet need or whether patients are just going there because it’s convenient, I don’t know I haven’t seen any statistics” (*Nurse*)

“I do not know the data. If we found out 60% to 70% of patients with cough and colds are going then probably it’s not value for money.”
(*Manager*)

The health care professionals also mentioned that the GP WIC was opened without any prior consultation which could be one of the reasons why the service was considered as unnecessary. The health care professionals did not feel their involvement in the development and the operation of the GP WIC.

“I think the consultation was not widespread, if any. I don’t feel that the PCT have considered all the important issues. It continues to have a negative effect on some aspects of primary care provided by other GPs.
(*Doctor*)

Another participant mentioned the issue of the lack of consultation before establishing the service.

“I don’t think there was any consultation before it was established in the city.” (*Doctor*)

6.4 Discussion

The examination of the views of the healthcare professionals provide insight into the perceived effectiveness and model of care provided by WICs. Seven recurring themes were identified in the data relating to the impact of the GP WIC on other services and its role in the urgent care system.

There were some discrepancies between the managers and health care professionals regarding the usefulness of the GP WIC in the current urgent care system. The

perception of many managers was that it is an important service which needs to be continued in the future to prevent any additional burden of patients on EDs. Many health care professionals, however, particular those working in EDs, were not in support of the idea of alternative urgent care services. Previous studies have shown that alternative services in the UK have failed to produce any impact on reducing unnecessary patient load at ED (Chalder et al, 2003; Munro et al, 2000). It has also been reported that alternative urgent care services confuse patients and patients may not be able to decide which service to choose in case of an urgent health problem. (Lattimer et al, 2010).

The health care professionals in the study reported in this thesis were clearly in favour of a “one front door” service which would move all unscheduled care services to the emergency department of the main hospital. This model has been used elsewhere in the UK and has been shown to divert patients with minor problems from ED to the co-located walk-in centre (Lattimer et al, 2004). This could possibly reduce unnecessary patient load at ED instead of having an alternative urgent care service at a place other than at ED. However, the study did not aim to measure the impact on EDs. Other studies have shown that co-location of walk-in centres with ED does not reduce patient load at EDs (Salisbury et al, 2007c).

The present study found that the clinical model of the GP WIC was not clear to participants. For example, the PCT reported that the payment they provide is for nurse consultations only. However, the centre has its own practice within the same building so they can switch GPs from one service to another. Thus, while it was not mandatory for the GP WIC to have GPs at the centre all the time, the services provided at the centre included services which can only be provided by a GP, such as health problems related to pregnancy. The centre reported that they always send those patients directly to a GP instead of triage.

Another area of confusion highlighted in this study was the lack of policy about patients with minor injuries. The WIC claims to be able to see some cases of minor injuries whilst the centre also refers some cases to the minor injuries unit. This means the PCT is essentially paying for two services for minor injuries cases.

The majority of the participants were unsure about the impact of the GP WIC on EDs because of the lack of availability of data whilst others were sure there was no reduction in patient load at ED as a result of the opening of the GP WIC. Many of the healthcare providers perceived that if a service is established in the centre of the city, patients would use it regardless of whether or not they really needed to. There are a number of studies which have shown that alternative services may not be able to reduce patient load at ED (Munro et al, 2005; Penson et al, 2010; Coleman et al, 2001). However, in chapter five of this study, it has been shown that there was a small, but significant reduction in minor attendances at the adult ED after the opening of the GP WIC. Nevertheless, no significant impact was seen in the children's ED or the ED in a neighbouring town. Therefore, it remains unclear in which situations a GP WIC is able to produce a positive impact on EDs and in which conditions it fails to have any impact.

Studies have reported the lack of awareness of the alternative services as a major reason for not having an impact on patient load at ED. One study has reported that only a few patients at ED were aware of the alternative urgent care centre co-located with ED (Land and Meredith, 2013). Another has shown that around half of the patients at an ED were unaware of the existence of the GP out-of-hours or walk-in centre services (Penson et al, 2012).

This brings up another question of whether or not the GP WIC should continue in the future even if there is no impact on ED. In terms of cost effectiveness, the answer may be straight forward: the service should not continue if it cannot reduce patient load at ED. One report suggested that around 25% of the walk-in centres have already been closed down because of the budget cuts in 2012 (Wheeler, 2012). However, in terms of improving patient access, the GP WIC has improved access to GPs for those who would need to visit a GP out of working hours. The geographical mapping of patients (chapter three) has also shown that patients from wider areas use the GP WIC service. Moreover, the average age of the patients attending GP WIC is different; more patients in the working age group use the GP WIC, than those who attend a standard GP.

Health care professionals were unaware of the activity data at the GP WIC and most of them were unsure about how many patients visit the GP WIC every day. Many of them were also unaware of the role of the GP WIC in the urgent care services. There are two possible reasons for this: first, communication is not up to an optimum level between the GP WIC and other health care providers regarding the services available at the centre. Second, the GP WIC does not have an active role in the urgent care service provision in Sheffield which is why most of the health care professionals were unaware of their services. Studies have shown that GPs are mostly against the concept of walk-in centre services (Pope et al, 2005). Most of them believe that it only duplicates the GP services and may not have any role in urgent care services provision. Other studies have also reported the possibility of some duplication in health care services because of the establishment of the walk-in centres in England (Maheswaran et al, 2007). In addition, all of the participants reported that some patients use the GP WIC inappropriately: for example, for a problem which could be self-limiting or the patient could wait for a GP appointment. Participants also had a concern about the service being provided by the private sector. In NHS England, there are many healthcare services provided by a private company, whilst NHS Scotland did not accept the concept of introducing the private sector into primary healthcare service delivery (BBC News, 2008). Moreover, GPs were clearly against the walk-in service model where patients can also register. It was claimed that a registered service at the GP WIC also gets promoted because of the advertisement of the GP WIC. It was proposed that walk-in services should not be co-located with a GP surgery which offers a registration service. It is understandable that if a patient repeatedly attends a GP WIC and realises that GP registration is also available for extended hour's surgery, opening in the evening and weekends, it is a possibility that that patient might decide to register at that service. Therefore, it was also a thought among the participants that an alternative urgent care service like GP WIC increases the demand for the health care services. However, it was mentioned by the participants that it can be a serious risk to the system if the GP WIC closed down without finding an alternative service, even if the centre has created an artificial demand.

In the UK, an appointment with a GP is necessary to visit a GP whilst it is possible to visit a GP without needing a prior appointment in several other countries. Studies have shown the need for improving patient choice for GPs' appointment in the UK (Salisbury et al, 2007b). One study revealed that around 16% of the patients attending an ED reported that unavailability of an appointment with their GP was the main reason for visiting the ED (Penson et al, 2012). This could be one of the factors which necessitates the existence of GP WIC services. One possible intervention would be to operate a walk-in clinic at every GP practice along with the facility to have a prior appointment. This could possibly divert those patients back to their own GP who were using the GP WIC instead of their own GP. Studies have shown that being able to obtain preferred GP appointments is associated with a reduction in hospital attendances (Purdy, 2010 and Gunther et al, 2013).

6.5 Limitations

There were some limitations of this study

- Firstly, the qualitative interviews were only conducted in one city and therefore may not be applicable to other health service locations. However, the findings may resonate with other similar settings as the interviews focused more on the general use of GP WICs rather than a specific centre.
- Secondly, only health care professionals and GP WIC staff were included in the qualitative study and did not extend to patients attending these services. The reasons for including health care professionals rather than including patients were; firstly, it was considered that the other components of this evaluation, in particular the survey element were fully focused on patients and the perceptions of patients about the GP WIC services. Secondly, the qualitative study was intended to focus more on questions related to the perceived impact of the GP WICs on other services which could be better understood by interviewing those who observe patient flow at one or more health care services such as staff and health care professionals. Finally, in the

new structure of the NHS (implemented in April 2013), GPs have an important role in commissioning healthcare services; therefore, it is very important to understand their perceptions about the existing GP WIC services.

- Thirdly, only GPs from a surgery near the GP WIC were included in the study and other health care professionals such as dental practices and urgent dental care services were not. It was possible that they would have had useful views about the GP WIC services and the effect on the use of dental practice. Initially it was planned in the study to include dental practices by considering some overlap services such as oral ulcers which can be treated at either dental or general practices. However, after discussion with PCT managers, it was realised that any impact on dental practices was less likely as the GP WICs were more likely to attract patients from the GPs. Moreover, the GP WIC did not aim to produce any impact on dental practices or urgent dental care services. Therefore, it was less important to include those services in this particular research.
- Although an operational manager from the GP WIC was interviewed for this study, no GP from the GP WIC could be interviewed as none of them accepted the invitation to participate despite several reminders

6.6 Strengths

- The GPs who were working in the two nearest practices were included in the study. This was very useful as one would expect the GP WIC to have the greatest impact on their practices.
- This study component discovered important findings which were not identified in the other study components such as how the GP WIC affects surrounding GPs and how the location of a GP WIC is important to have an impact on ED attendances.
- Interviewing PCT commissioners who were directly involved in the GP WIC's commission was very important in this study because it discovered the main purpose of establishing these services and how these services fit into urgent care service delivery in Sheffield.

6.7 Conclusion

Participants reported that they had not noticed any decline in the demand for ED after the opening of the GP WIC in the locality. Most of the health care professionals believed that the GP WIC duplicates the existing health care services. There were concerns about the provision of minor injuries care at the centre in the absence of any specialised care and the lack of diagnostic facilities. The provision of the service by a private healthcare provider was also a concern. It was a common belief of the health care professionals interviewed that the public has poor awareness of existing urgent care services and most of the time it is difficult for a patient to decide which health care service to go to when they need urgent care. Available leaflets and publicity materials were perceived as insufficient to fully educate the general public about the existence and role of the GP WIC.

Moving all urgent care services under one roof was the most favourable solution given by the health care providers to eliminate patients' confusion. However, it needs to be considered that moving all services under one roof at the ED might create a very busy place and it is likely to be less accessible than having an alternative urgent care service in the centre of the city.

There is a need to have a better communication system between the GP WIC and other health care providers working in the same region. Other health care providers should be informed about the services available at the GP WIC which might bring a very positive change in the use of GP WIC for urgent health problems by the general public.

6.8 Recommendations

- There is a need to have a better communication system between the GP WIC and other health care providers working in the same region. Other health care providers should be informed about the services available at the GP WIC which can bring a very positive change in the use of GP WIC for urgent health problems by the general public.
- Most of the information about the use of the GP WIC should be publicly available or at least to the concerned health care providers, unless it is highly confidential. It would be encouraging for other health care professionals to know what the patient load at the GP WIC is and to understand how the centre is helping other services and about the cost involved. It is a common matter of concern that if the cost of this service is as high as ED then it is difficult to justify the existence of a parallel urgent care service to the emergency department. On the other hand, if the GP WIC is offering a very competitive per visit cost then the service is more likely to be acceptable to other health care professionals. Hence, if other health care professionals are aware of the cost involved then other health care professionals will have an opportunity to decide whether or not they should be supporting these services in their locality.
- Publicity material about the urgent care services might need some improvement and be made available to a wider population. In addition, the material could clearly indicate the purpose of establishing the GP WIC.
- There is a grey area regarding the service providers at the GP WIC and some health care professionals believe that it is essentially a nurse led service whilst

other believes that the service is led by both nurses and GPs. Particularly since the move of the nurse led walk-in centre to the GP centre. Therefore, it is important to be clear about the services provided at the centre and who provides treatment to the presenting patients. It might be more convincing for other health care professionals if the centre clearly states that the GPs are also available to pick up fairly serious health conditions which need immediate referral to EDs.

- Measures need to be taken to prevent any decline in the number of registered patients in the surrounding GP surgeries. The GP WIC providers are also well aware of the fact that the purpose of the service is not to attract patients from the surrounding GPs but only to provide temporary care in an urgent health condition. Yet, the concerns of the surrounding health care professionals need to be resolved carefully.
- Although there are discussions about “one door service” to bring all urgent care services under one roof in different parts of the UK, I feel that in the city under study that may not be a very wise decision as ED services are located at two different locations for children and adults. Therefore, moving the GP WIC to one ED might negatively affect the use of the service by the patients belonging to the other age group. Instead, moving all alternative services, such as minor injury services and nurse led services, to a central place like the GP WIC would prevent some confusion. Patients would only have two options to choose from; ED or the alternative urgent care centre.

6.9 Summary

This chapter explores the views of local health care providers through qualitative interviews with key informants. The interviews were conducted in Sheffield with ED doctors and nurses, PCT commissioners, local GPs, and the GP WIC manager. It was found that most of the healthcare providers believed that the GP WIC was an unnecessary service and duplicates existing services. It was also found that these key informants believe that all alternative urgent care services, including GP WICs, create confusion and patients are unable to decide about the right health care service to use when they have an urgent health problem. Staff at the GP WIC and the PCT believed that the GP WIC is an important service and if the centre is closed down there will be a rise in ED attendances.

Chapter seven

Discussion and Future Research

7.1 Introduction

This chapter will focus on the integrated results from each of the study components, both qualitative and quantitative. Chapters three and four focused on the patient experience and satisfaction with the GP WICs in Sheffield and Rotherham. Chapter five mainly focused on the impact of the opening of the GP WIC on local EDs through the analysis of secondary data sets. The focus of chapter six was to explore the views of healthcare professionals regarding the role of the Sheffield GP WIC in the delivery of urgent care through qualitative interviews.

This chapter will discuss the overall results, and the conclusions from the study with some recommendations for the GP WICs and policy makers. In addition, the proposed direction of future research will be discussed in this chapter.

7.2 Integration of results from all three studies

Triangulation was used to integrate the results from the multiple methods used to answer the research questions in the study. Triangulation is one of the three commonly used methodologies for answering research questions addressed from different aspects (O’Cathain et al, 2010). However, the term “Triangulation” has been criticised because it implies that in theory different methods should converge to produce similar findings. In practice, it is a possibility that different methods produce completely different findings. Therefore, the term “Crystallization” is often used instead, which allows each method to produce different findings and combining the different methods means we can look at a problem from different aspects and find different information from each methodology.

The study focused more on quantitative approaches to answer the research questions using surveys and secondary data from EDs. However, qualitative data was also

collected to address those aspects which would not be answered through the quantitative approach only.

A total of 1030 patients participated in the primary survey at the Sheffield and Rotherham GP WICs. At 57% the response rate to the surveys was reasonable for this sort of study. The results of the patient experience and satisfaction surveys at the GP WIC showed a high level of patient satisfaction with the services. Around 56% of participants were highly satisfied with the services of GP WICs. The satisfaction was higher with the Rotherham GP WIC mainly because of the shorter waiting times.

The survey showed that 23% (207/871) of participants reported that they would have gone to ED if the GP WIC was not established in Sheffield and Rotherham. However, the analysis of the EDs' routine data for two years spanning the opening of the GP WICs did not show any reduction in minor attendances at Rotherham ED or at the Sheffield children's hospital as seen in chapter five. However, there was a statistically significant reduction of 5% in minor attendances at the Sheffield adult ED. The magnitude of reduction was smaller than expected. The qualitative interviews with managers and health care professionals in Sheffield revealed that a reduction of 10% to 20% in minor ED attendances was expected when these centres were established. However, the participants in the qualitative study did not perceive any reduction in patient load at ED as a result of the opening of the GP WIC.

The primary patient surveys also showed that around 4% (n=23) of patients intended to use the ED after receiving consultation/treatment at the Rotherham GP WIC and 3% (n=13) at Sheffield. A large number of patients (50.5% of those who responded to post-visit survey) visited their own GP after visiting the GP WICs. This probably confirms the concerns of the health care providers regarding the duplication of the services because of the opening of the GP WICs as shown in chapter six. The health care providers also mentioned that the GP WICs mostly attract patients who would have gone to a GP rather than those who would have gone to an ED.

The qualitative study also revealed that health care professionals believed that the establishment of an alternative service like the GP WIC can increase the demand for

health care services. This could be another reason why despite the high use of the GP WICs' service, no impact was produced on the Rotherham ED and the Sheffield children's ED.

On the other hand, accessibility to the healthcare services has been increased as a result of the opening of the GP WIC. Patients from widespread areas used the centres as shown in chapter five and the major proportion of patients attended the service out-of-hours. Chapter three (survey) also showed that the modal age group of the patients attending GP WICs was 30 years – 40 years. Interviews with healthcare professionals (chapter six) also revealed that whilst the patients of working age groups were more commonly attending GP WIC, patients presenting to standard GP surgeries are usually the elderly and children. This is one of the indicators which shows that the GP WICs improved GP access for those local workers who otherwise were less likely to be able to access their GPs because of their working hours.

The findings which were obtained in common through all three study components are that:

- There is some duplication of the services because of the opening of the GP WICs
- The GP WICs improve patient access to GPs

The three study components produced different results about the impact of GP WIC on the local EDs

- The surveys showed a very high potential of the GP WICs to divert patients from ED to the GP WICs.
- The analysis of routine ED data showed impact on one local ED but not on others.
- Interviews with health care professionals showed that the GP WICs are unable to reduce patient load at EDs.

7.3 Discussion

In this mixed method evaluation, I used multiple methods to evaluate the GP WIC services including surveys, interrupted time series analysis and qualitative interviews with the key informants. The primary objectives were to describe the characteristics of patients who attend GP WICs, understand why patients attend these services, measure the impact of GP WIC on other services, and assess the views of local health care providers regarding the GP WIC services. In addition, there were a number of secondary outcomes in the study which originated from the data and helped in understanding the overall role of the GP walk-in centres in the current urgent care system.

In this GP WIC evaluation, the mixed method approach was used in order to have a broader understanding about the role of the GP WIC in the current urgent care system. There are several advantages of using mixed methods. However, there are some drawbacks which limit its use, particularly when few resources are available.

Some of the key methodological issues in mixed methods are mentioned in Creswell et al (2011) and Teddlie & Tashakkori (2009). These include utilisation of more time and resources in planning and conducting mixed method research and sometimes researchers need to work with different teams to have expertise in more than one method. Sometimes, there are discrepancies in the findings from different methods and no clear answer how to address the discrepancies in the interpretation of the findings. Interpretations based on integrated results may also be difficult sometime if researcher emphasis was unequal on each datasets. In addition, there are conceptual stances in mixed methods research such as the issue of moving from one paradigm to another. Moreover, there is an issue of publishing mixed methods studies in journals as these studies tend to be lengthy. However, there is increase in the number of mixed methods journal in the past few years. Also, researchers sometime choose to publish qualitative and quantitative findings in separate journals for different audiences (Truscott et al, 2010).

The mixed methods approach used in this study unveiled some of these issues as it took longer than expected to conduct the study. I needed to learn both qualitative and

quantitative data analysis skills to analyse qualitative and quantitative data in this study. In addition, there were some discrepancies in the findings from the quantitative and qualitative part. Some of the positive findings in the quantitative part pointed towards the importance of GP WIC in the provision of urgent care service. On the other hand, the qualitative part revealed that the role of the GP WICs is unclear in the existing urgent care system and most of their services only duplicate other primary care services such as GP surgeries.

This study provides the first evidence in the UK about the effectiveness of GP WICs. The GP WICs work for residents by providing longer opening hours and being open on weekends and bank holidays, by having a GP present at the centre along with nurse practitioners, and being able to retrieve and update patients' records about any treatment or advice given at the centre. Patients come from a widespread area to attend the centres in case of urgent health problems (Arain et al, 2013b). Most of the patients are satisfied with the services. The location and opening hours of these centres are highly satisfactory for the majority of the patients. The convenience of the Rotherham centre was reported as slightly higher than Sheffield, possibly because of the availability of free onsite car parking for patients. Studies have shown that patients use walk-in facilities because of easy access and much shorter waiting times as compared to GP practices (Salisbury et al, 2002b).

The estimation of the number of patients getting diverted from ED to the GP WICs is an important finding of this study to help policy makers calculate the cost-effectiveness of establishing GP WICs. The GP WICs have a potential to reduce unnecessary patient load at EDs, as seen in the Sheffield adult ED, but are unlikely to fully resolve the issue of minor ED attendance. The GP WICs essentially provide primary care services like a standard GP, but with extended opening hours. National and international literature has shown reductions in patient load at local EDs in the presence of better primary care services (Gunther, 2013; Van Uden et al, 2005; Christakis, 2001). On the other hand, other international literature shows a lack of evidence for a reduction in ED attendances as a result of the establishment of alternative primary care services (Oterino et al, 2007), possibly because additional services can increase demand as well as redirect it. In the UK, studies showed that NHS nurse led walk-in centres were unable to reduce patient load at ED (Salisbury et

al, 2003; Chalder et al, 2003). There were two major differences observed between the traditional nurse led walk-in centre and the GP WIC; first, the GP WICs have GPs available at the centre all the time so a wider range of services are available at these centres in comparison with the nurse led walk-in centres. Second, the GP WICs are usually located in the centre of the city. Although some of the nurse led walk-in centres were also located in the city centre areas, establishment of GP WICs in the city centre areas was one of the main characteristics of the GP WICs.

Health care professionals believe that GP WICs are unable to produce any impact on the ED. Most of the health care professionals believed that alternative services such as GP WIC and nurse led walk-in centres only confuse patients, and patients are unable to decide which service is appropriate in case of an urgent healthcare problem. Lattimer et al (2010) emphasised the complexity of the current urgent care system, particularly during out-of-hours, where the general public face confusion about choosing the right urgent care service. GPs and other local health care providers are also concerned about continuity of care and duplication of services in the presence of alternative services like walk-in centres (Pope et al, 2005).

There are several reasons why patients still attend EDs for minor problems instead of using alternative services. EDs are open, and are known to be open, 24 hours seven days a week and are able to deal with all kinds of health problems. Perceived need for having an X-ray or other investigation has also been shown to be associated with the use of ED (Land et al, 2013; Rassin et al, 2006). The Sheffield GP WIC does not have an X-ray facility, and patients may not know that the Rotherham centre does, and this could further explain the reason for not having a high impact on ED attendances. In addition, many countries offer GP access without needing a prior appointment whilst in the UK it is almost always mandatory to have a prior GP appointment. In such a case, if a quick appointment is not available, patients are likely to attend some other service. Studies have shown that 16% of patients at an ED reported that their reason to attend ED was because they were unable to obtain an appointment with their GP (Penson et al, 2012).

This research study has sought to understand more about patients' needs and satisfaction with such walk-in facilities. During out of hours, patients do not usually

have quick access to see a doctor, and if needed, they are left with no option but to visit an ED. In the UK, primary care trusts were until recently responsible for the quality and accessibility of primary health care services and most of the primary care is delivered by GPs who are responsible for 24 hours care. However, GPs can opt out of providing 24 hours care, and can delegate this to GP out-of-hour services which typically operate from 6pm to 8am during week days and for 24 hours at weekends (Huibers et al, 2009), and are staffed by nurses and GPs. GP WICs are an easy way to access a GP without prior appointment. The GP WICs have increased patients' access to GP services as seen in the results. A large proportion of patients presented to the centre because they were unable to reach their own GP and in some cases they were not registered with any GP at all. In these circumstances, the patients would either present at ED, waited for their own GP, or may have just ignored their health problem, which could possibly lead to presenting at ED at a later time. These centres are now co-located with traditional Nurse led walk-in centres. Studies have shown high patient satisfaction with nurse led walk-in centre in the past (Salisbury et al, 2010; Salisbury et al, 2002a).

This study reported patient experiences and satisfaction with the GP WICs. Although satisfaction was measured in the study using a validated scale, the inherent issues with measuring patient satisfaction and its limitations need to be understood. The measurement of patient satisfaction depends on multiple factors such as the response rate of the survey, the characteristics of the patients and satisfaction scales used in the study. This study had a reasonable response rate which was comparable with other studies that used the similar self-report survey questionnaire (Coster et al, 2009). However, the results are likely to suffer from non-response bias and sampling bias. For example, the survey questionnaire was not distributed to every patient so if the receptionist did not hand over the questionnaire during very busy times then selection bias might have been introduced the results. In addition, the differences in satisfaction levels between the two centres might have been appeared only because of sampling and non-response bias.

There is widespread criticism of patient satisfaction research, yet patient satisfaction surveys have been frequently used in the past 20 years. The critiques say that most of the surveys tend to report high levels of satisfaction and only few express

dissatisfaction (Wilkin et al, 1992). Satisfaction is highly subjective, has large ceiling effects, and is known to be very high regardless of topic, so the association between satisfaction and quality of care is questionable.

One review identified that around 80% of survey participants express satisfaction for any survey tool (Fitzpatrick et al, 1991). Another study reported that patients' reported satisfaction is lower if a questionnaire is completed at home rather than at a general practitioner's surgery (Kinnersley et al, 1996). Carr-hill (1992) recommended that dissatisfaction rates should be given importance than satisfaction rates.

In the GP WIC study, I used a patient satisfaction scale to determine the satisfaction levels with the consultation/treatment received at the centre. The results were likely to have suffered from the same problem of over reporting of satisfaction. However, some of the patient experience measures were associated with satisfaction. For example, waiting time for treatment was inversely related to the patient satisfaction, pointing towards the fact that some of the findings were correlated with patient experiences, which are relatively more objective measures. Studies suggest that questionnaires should aim to measure patient experience and then determine how such experiences are related to satisfaction (Cleary et al, 1992; Jenkinson et al, 2002).

In this study the outcome was dichotomised into very satisfied and not very satisfied to determine the predictors of being very satisfied with the service. This might give better interpretation of satisfaction levels as patients may not be able to understand the exact scoring and accurately differentiate between score 4 (satisfied) and 5 (very satisfied) on a Likert scale of 1 to 5 (Collins et al, 2003). Although it might seem likely that patients can distinguish better between the highest level of scoring (very satisfied) and anything less than the highest score of 5, if for example they found something was missing in the service provided, there is evidence that patients who report being very satisfied with services might still have problems with them (Williams et al, 1998).

The findings from the two centres in this study showed that there were differences in the satisfaction levels between the two centres which may indicate that the instrument was able to detect differences. However, as reported earlier, there was a difference in

the response rate at the two GP WICs which might have accounted for the difference in the satisfaction scores.

Another limitation of measuring satisfaction in this study was the lack of some important variables in the questionnaire, such as perceived health status and previous experience with the service, which are known to be associated with patient satisfaction (Crow et al, 2003). Secondly, as mentioned previously, satisfaction is also related to patient's age; older patients are likely to be more satisfied with services (Crow et al, 2003). A large proportion of the users of the GP WICs were of a younger age group in comparison to patients attending general practitioner surgeries which also needs consideration when comparing the satisfaction levels of GP WIC patients with other primary care services. Therefore, the results should be interpreted with caution and the satisfaction levels can only be comparable with other settings where a similar satisfaction scale had been used on a similar group of patients.

One of the important purposes of establishing walk-in centres was to improve access to healthcare services (Salibusry et al, 2002). Access to health care services is not equal in relation to ethnicity, socio-economic status, age and gender in the UK (Goddard & Smith, 2001). There is slightly higher utilization of health services by socially disadvantaged groups which is associated with greater needs (Baker and Hann, 2001), but generally the inverse care law applies and use in disadvantaged groups does not increase as fast as need (Payne and Saul, 1997) Satisfaction in ethnic minority groups regarding access to healthcare services is low, particularly for specialised services such as cancer (Conway et al, 2014). There are issues of cultural accessibility and barriers for ethnic minority groups to have equal access to healthcare facilities such as cultural health beliefs, difficulties in communicating with health care providers and perceptions of stigma (Salisbury et al, 2007b; Gardner & Chapple, 1999). In the GP WICs, the language barrier has been addressed by providing the facility of language translation for patients who are unable to speak or read English. Moreover, the publicity flyers for the GP WIC have also been available in multiple languages for different communities.

Variation in the use of general practice is well recognised in different age and sex groups (Office for National Statistics, 2005). However, it was noticed in the GP WIC

study that the age distribution of attenders was slightly different than those at GP surgeries. The attenders at the GP WICs were more likely to be of working age. Jackson et al (2005) also reported that a major proportion of users of walk-in centres are young, between the ages of 17 and 45 years. Whether this is because of difficulty of access to WICs for the elderly, or ease of access for workers is not certain.

In addition, distance from a health care service is inversely related to its utilization (Asthana et al, 2004). Although the geographical mapping of the patients attending GP WICs showed that patients from a widespread area of the city were using the service, it is likely that some of those were working near the GP WIC. This was one of the limitations of the study that the study only recorded home addresses of the patients and there was no information about work locations or educational institutes in case of student patients.

In 2002-3, the Government created a Primary Care Access Fund of £168m and about one third of it was to improve primary care access (Salisbury et al 2007b). The remainder was to increase capacity in the health care system by developing more walk-in centres and enhanced nursing teams. However, speedy access needs to be balanced with patients' choices and preferences to make the health care system more responsive to the public needs (Rubin et al, 2006). Speedy access to primary care is probably more important for patients with straightforward needs, while for those with more serious problems, continuity of care and trust in the health care service is more valued (Baker, 2007).

Rapid access to GP appointments has been shown to improve over time but the problem has not been eliminated (Salisbury et al, 2007; Boyle, 2011). The NHS Plan stated that patients would be able to see a primary care professional within 24 hours and a GP within 48 hours (Boyle, 2011). The target has not been fully achieved yet. In the 2008-9 GP Patient Survey, 89% of patients reported they were able to see a GP within 48 hours and about 83% of patients said they were satisfied with the opening hours of their practice (Boyle, Appleby & Harrison 2010). Quick access to GPs in terms of appointment availability is one of the important factors for patient satisfaction (Campbell et al, 2013). The GP WIC provides quick access to healthcare service by providing same day consultation without needing a prior appointment. Moreover, the relationship between waiting time for treatment and patient satisfaction was also found

in this study which showed that even if a patient gets same day access to healthcare through GP WIC, the satisfaction level decreases with an increase in the duration of waiting time for treatment.

Improved access to health care has been shown to decrease unnecessary hospital admissions for patients with chronic disease (Bindman et al, 1995). Thus, it could be anticipated that the improved access to primary care services would reduce patient visits to emergency departments. However, other studies have shown that the use of emergency care is not associated with access to primary care (Harris et al, 2011). This ecological study evaluated 68 general practices in North London in terms of their patients' use of emergency departments. No significant variation in use of ED related to GP access was found between the practices. The only significant variable found was the Index of Multiple Deprivation (IMD). The study concluded that with every unit increase in IMD score of the GP practice, there would be an increase of 6.13 (95% CI = 4.56, 7.70) per 1000 patients per year in emergency department attendances (Harris et al, 2011).

This evaluation study identified that GP WICs can potentially improve patient access to urgent care services. Along with walk-in centres, the NHS has undertaken several measures to improve health care access such as NHS 111 (O'Cathain et al, 2013) and advanced patient access. Advanced access at GP surgeries aimed to improve access through telephone triage and consultations. Murray (2005) described advanced access as 'Doing today's work today by offering a same day appointment to all patients who call'. Advanced access aimed to provide same day appointment by ensuring there is sufficient capacity to meet the demand (Murray and Tantau, 1999). The NHS 111 has shown to be acceptable for the general public and patient satisfaction is high (O' Cathain et al, 2013). However, the evaluation of the pilot NHS 111 sites has not shown any decline in the use of ambulance services or ED (Turner J et al, 2013). In fact, the study reported a possible increase in ambulance use as a result of the introduction of NHS 111.

In case of GP WICs, access to direct contact with a healthcare provider has been improved. The centres are located in the centre of the city/town so the geographical access to healthcare services might have improved. It was also shown that patients

from a widespread area were using the service and the majority of the survey participants rated the centre location as excellent or very good. In addition, functional accessibility has been improved as a result of longer opening hours. Moreover, the opening of the centres on weekends and bank holidays improved accessibility for those who otherwise were less likely to access their own GPs.

Most of the healthcare professionals now believe that multiple urgent care services at different places only confuse patients and do not achieve their objectives. Thus, the concept of one front door service appeared which means that all services should be under one roof and patients can be streamed according to their needs. The “one front door” service is also a good idea in the sense that the issue of patient confusion will be resolved if patients know that there is only one service available out-of-hours which they could attend (Salisbury, 2010). However, if that “one front door” service is established next to the ED and the GP WIC is closed down at the current location, it will decrease access for a large population who would prefer to access a service in the centre of the city. A “one front door” service should ideally be for all alternative services such as minor injuries unit, walk-in centres and GP out-of-hours, all in the centre of the city. With this arrangement there would be just two places for urgent care, ED and an integrated “one front door” alternative service. Patients would only need to decide between ED if they consider their condition to be serious and the centre for alternative services. At the moment, in Sheffield for example, patients have more than five available options including a minor injuries unit, GP out-of-hours, GP WIC, calling 111 or NHS Direct, and two Emergency Departments (child and adult). The establishment of a “one front door” alternative service could dramatically reduce patient confusion about the services and could possibly lead to a reduction in ED attendances, especially if the system runs for a longer period of time since one of the major reasons for patient confusion is also the rapid changes in urgent care services. Moreover, the “alternative one front door service” should only provide a walk-in service without having an opportunity to register with a GP because of the number of issues discussed in chapter six about the concern of local GPs. The service could be provided by a private company, as with several other NHS services, under continuous monitoring for quality control.

7.4 The new NHS structure in 2013 and the GP WICs

In 2013, the NHS structure went through the biggest changes since its creation. The PCTs have been abolished in the new structure of the NHS and 211 Clinical Commissioning Groups (CCGs) took over the commissioning of health care services. The CCGs are made up of local GPs, a representative doctor from a hospital, a nurse and a member from the general public who will take decisions about the commissioning of health care services based on local community needs. Strategic health authorities and topic networks have also been abolished in March 2013. There were 32 topic networks in NHS England including cancer networks, diabetes networks, stroke networks and comprehensive local research networks. In the new structure, academic health science networks have been developed to support research and innovations into practice and improve engagement of healthcare providers into research activities. All of these changes can have direct or indirect effects on the GP WICs.

In terms of the effect of the new NHS structure on GP WICs, there are opportunities as well as challenges for the GP WICs. In the new structure, GP WICs can take an integral place in urgent care provision if the CCGs have sufficient evidence about the effectiveness of their role in the provision of urgent care services. On the other hand, there is a major conflict of interest in commissioning GP WIC services by CCGs in the future. In many parts of England, the GP WICs are operated by private companies (Nowotny, 2009; Heins et al, 2009), and the providers of the GP WICs included in this study were also private companies. So there are two major issues in commissioning GP WIC services in the future. First, GPs are generally against the introduction of private companies into primary health care service delivery (Ellins et al, 2009; Salisbury, 2008). This is because if a private company runs a practice, GPs are employed by them and their motivation is different than if they are running their own practice and involved in patient care. Second, a GP WIC may attract patients away from the surrounding GPs and this would have a negative effect on the list size of the GPs and their income (Ashcroft, 2009). This is a direct conflict of interest and competition in business. One GP reported that it is not possible for a practice to

compete with GP led walk-in centres because the centres receive higher funding than a routine practice and their opening hours are longer so patients would obviously prefer to register at a GP walk-in service (Ashcroft, 2009).

In a recent example, one CCG in Barking and Dagenham has already planned to close down the walk-in centre and divert patients to the local GPs under the 'surge' plan (Madlen, 2013). The plan intended to reduce ED attendances by enabling GPs to be prepared for 50000 more appointments every year. In the pilot six month phase, 25000 new appointments were arranged at GPs. The 'surge' project also planned to introduce GP weekend services. The aim was to reduce those ED attendances that do not result in investigation or significant treatment. The local GPs, however, were unsure whether or not the intervention would reduce ED attendances. One GP said

'This new scheme, it looks as if it should work, but I know it won't. I'm not enthusiastic about it, and none of the other GPs I've spoken to are.'

The GP added that patients prefer to go to ED because although a patient can wait four hours at ED they would prefer not to wait four hours at a GP.

Another GP has explicitly reported that Darzi centres (GP WICs) must go as the centres have not shown any improvement in patient load at other services (Sell, 2011).

Monitor, which is the investigating body in the NHS, launched an investigation in May 2013 regarding the closure of GP WICs. Monitor stated that it is in the interest of the public to investigate the reasons why GP WICs are closing down in the UK (Torjesen, 2013).

Thus, in some regions GP WICs face severe resistance from the local GPs, and some are already closing. A report from House of Commons (2013) also mentioned the need to improve primary care delivery through improved GP services. Walk-in centres were reported to be inefficient in reducing any patient load in EDs (House of Commons, 2013). Therefore, the future of the GP WICs is unclear in the UK in the new NHS structure.

7.5 Conclusion

This evaluation study has found some important evidence regarding GP WICs. The GP WICs provide easy and quick access to patients with minor illnesses. Overall, most of the patients are satisfied with the services of the GP WICs studied. The largest proportions of patients who attend GP WICs are those who report they are unable to secure an appointment with their own GP.

Health care professionals also believed that the GP WIC is an easy place to access for urgent health care problems. However, it was identified in the interviews with key informants that the opening of alternative urgent care services like a GP WIC can increase demand for health care services. Patients sometimes inappropriately use these centres such as for health conditions which can be self-managed by the patients or which could wait for a GP appointment. Therefore, the centres may be treating demand which was created by the centre itself and so may not produce any impact on ED services.

This study identified that there was a small (5%) but statistically significant reduction in minor attendances at one adult ED as a result of the opening of the local GP WIC, but there was no significant effect at the other EDs. However, a high attendance rate was observed at both the WICs studied which might be the result of an increased demand for healthcare services. Therefore, if the GP WICs had to be closed down without finding an alternative in other primary care settings, it is likely that attendances would rise at other existing NHS services including ED.

7.6 Strengths

- GP led WICs have only recently been established in the UK and this is the first study to assess their effectiveness.
- GP WICs are still evolving and it has not been fully established which model works best. This is one of the reasons that services are rapidly changing at these centres. The new NHS structure will also have a considerable effect on

the future model of GP WICs in the UK. Therefore, this was a timely evaluation to generate robust evidence regarding the appropriateness or inappropriateness of the services in the changing urgent healthcare system.

- The structure of the NHS has changed in 2013 and further changes are expected to appear with time. This year will probably see the most far-reaching changes in the NHS structure since its creation. The changes relevant to GP WICs include the abolition of PCTs which were the commissioning body for GP WICs. Clinical Commissioning Groups (CCG) have taken over the role of commissioning GP WICs along with other primary, secondary and tertiary care services. The future strategy of the CCGs is unclear especially regarding the GP WICs. Thus, this study may help CCGs in deciding the future role of the GP WICs.
- In June 2013 NHS Monitor started investigating the closure of walk-in centres in the UK. The reports produced from this thesis have been included in the literature reviewed by NHS Monitor.
- Multiple approaches were used in the study including patient surveys, qualitative interviews with health care professionals, and the use of routine ED data to assess impact. Therefore, the findings are based on multiple methods taking different aspects on the services into account. Each aspect of the study was, independently, a significant piece of work and contained important information.
- The perspective of the health care professionals, who are directly or indirectly related to or affected by the GP WICs, could only be achieved through the qualitative component of the study. The information produced in the interviews revealed a different perspective which could not be discovered through the other two components of the study. Similarly, the survey produced valuable information about patient experiences and satisfaction with the services of the GP WICs. Finally, the retrieval of routine ED data revealed the pattern of minor attendances at the EDs before and after the opening of the GP WICs. These three components have been brought together to make a comprehensive assessment of the benefits of GP WICs. For example, the routine data was

analysed in the light of responses from the survey data to determine whether the impact produced at the ED was in accordance with the patient intentions reported in the survey. The results showed that a much higher proportion of patients reported their intention to visit ED if the centre had not been open than were actually diverted from the ED service to the GP WIC.

- The inclusion of two centres, working in two different settings and covering different population structures in terms of demographics and socioeconomic status, provided a comparison of GP WICs. The two centres were also different in the types of services they provided and were operated by different providers.
- The findings of the surveys at the GP WICs were presented to the staff at each centre and this gave them the opportunity to give their feedback. Furthermore, Sheffield and Rotherham PCTs were involved in the study planning and the results were also shared with the PCTs. The results were also sent to Rotherham R&D (on request).
- The survey data was compared with the routine data of the centres for three variables (age, sex, time of attendance) and no major differences were found. This strengthened the findings of the study since the participants in the study were considered to be a representative sample of patients who use these services.
- The patient satisfaction analysis of the survey data was conducted separately for both first time users and repeat-users. Similar high levels of satisfaction were found in both groups, and it is not, therefore, a type of ‘survivor’ effect due to dissatisfied patients subsequently using alternative services.
- The post-visit survey in the study was very useful in terms of determining the impact of the centre on the subsequent use of other services. Thus, the reliability of patient intentions was also determined using these findings.
- The use of Geographical Information System tools provided a distribution of the place of residence of patients who use these GP WICs. Only one GP WIC is located in each PCT. Thus it is important to understand if these centres provide access to all residents living in the catchment areas.

7.7 Limitations

The following are some important limitations of the study:

- Only two GP WICs were included in the study from one region of the country which may raise the question of the generalizability of the results for all GP WICs in the UK. In an ideal situation, a larger number of centres would have been included in the study but that would have required more time and resources. In the given time and resources, it was decided to include only two centres which were chosen because they differed markedly in the range of the services provided.
- This evaluation study did not include an economic evaluation of the cost effectiveness of the services provided at the GP WICs. However, the study provided some useful information for policy makers about the effectiveness of the centres in terms of patient access and impact on EDs.
- The study tools included self report surveys, interviews, and secondary data. In self-report questionnaire surveys, data quality is dependent on the response rate. The response rate in the survey was comparable with other similar studies. However, there is a possibility that non respondents had different characteristics, different experiences, and different levels of satisfaction. Secondary data also inherit some limitations as the data were initially collected for other purposes. So overall, it was an observational study and there vulnerable to bias and confounding.
- During the study period, the NHS went through a major transition of its structure and the results of this study might reflect these structural changes. However, most of the data was collected before the transition in April 2013. The GP WIC in Sheffield also went through some organizational changes during the study period and the centre became a GP supported walk-in centre rather than a GP led walk-in centre in April 2011.
- Another limitation of the whole study is that it was conducted shortly after the GP WICs opened. New services, and particularly new urgent care services,

may take time to evolve and reach their full potential in terms of public awareness, co-ordination with other services, facilities and services provided, levels of use, and effectiveness.

7.8 Future Research

- This evaluation has provided a basis for looking at GP WIC services in terms of their operation, impact on other services, patient satisfaction, and patient experiences with these services. This was, however, a doctoral thesis which has limitations of time and resources and could not include a large number of centres. Future research should be conducted at a larger number of GP WICs in the UK. This might enable some additional analyses such as the effect of different localities of GP WICs, and the effect of having different services available (X-rays, laboratories), on activity rates and impact on other services, patient experiences and patient satisfaction.
- A future concurrent survey at GP WICs and EDs could produce a deeper understanding of the reasons why some patients with minor health problems attend ED whilst others attend a GP WIC. The factors which will be identified in such research could help develop a targeted educational intervention for specific patient groups to help decrease unnecessary patient attendances at EDs.
- Geographical information about patients plays an important role in understanding the use of services. As mentioned in the limitations of the survey, only the location of residence of the patients was asked for and not the location of their work. Future research could be more focused on the geographical location of patients in terms of work as well as residence. Calculation of the distances to alternative urgent care services, including ED as well as GP walk-in services, might help explain how demand, and hence the impact of new services, varies with relative accessibility.

- This study has interviewed GPs and staff in GP practices working in the surrounding area to determine their views about the GP WIC. It did not, however, look at any quantitative data from GPs working in the surrounding area. Some of the concerns mentioned by the GPs were about a decline in the number of registered patients at their practices. It is highly recommended that future research in this area should take that into account and examine the impact of GP WICs on surrounding GPs.
- This study did not aim to provide any cost-effectiveness analysis. The future research could model the cost-effectiveness of the diversion of patients from EDs to GP WICs.
- There were some methodological limitations in this study which could be overcome in future research such as the small number of post-visit survey participants, which produced wide confidence intervals for the results. The response rates from this study can be used to calculate the sample size which would give a higher number of participants in a future post-visit follow up survey.
- Some important variables were identified during the research process which could be included in future research in this area. This includes the perceived health status of patients on the day they fill in the questionnaire. Studies have shown this to be related to the reported satisfaction with the service. Another important variable not recorded in this study was the number of visits patients had made to the GP WIC in the past. Although the questionnaire asked whether the patient had used the service before or not, the number of previous visits was not collected. It was pointed out by one of the GP WIC's managers that some patients routinely use the GP WIC as a walk-in patient instead of using their GPs. This would be interesting data to determine the proportion of such patients and possibly the reasons why they regularly visit a walk-in service instead of a GP. Although many studies have been done of frequent attenders at ED, this has never been studied at other urgent walk-in services. In addition, some information about whether or not the patient had visited ED in the previous 6 months could further help in predicting their use of ED after visiting

the GP WICs. Finally, the inclusion of a question about the means of travel which the patient used to come to the centre would possibly give further clarification regarding the rating of the GP WICs' location. It was seen that the Sheffield GP WIC is located close to the city centre in comparison to the Rotherham GP WIC, and a higher proportion of Sheffield patients reported that they noticed the existence of the GP WIC while passing through, which probably shows it has better visibility. Yet, the overall rating of the convenience of the centre's location was significantly higher for the Rotherham GP WIC, which possibly points towards the fact that, unlike Sheffield, free onsite parking is available at the Rotherham GP WIC and many patients use private transport to attend these services.

7.9 Recommendations

Sheffield GP WIC

- The GP WIC in Sheffield appears to have caused a small reduction in adult ED attendance, but has not had any impact at the children's ED, even though the walk-in centre can deal with children's health problems. This points to a need to increase awareness amongst the public, and at the children's ED, about the services and skills available at the walk-in centre for children. In addition, it is particularly important to target areas where parents are involved, such as primary schools, nurseries and leisure centres. This may facilitate a reduction in unnecessary patient numbers at the child ED. It is also very important to improve links between the child ED and the GP WIC and to advise parents to take children with minor health problems to GP WIC services in future. However, the staff working at the child ED might need reassurance about the capacity of the GP WIC to deal with child health problems. The consultants working at the children's ED might be involved in providing additional training for the GP WIC staff to improve satisfaction with the service.

- The location of the GP walk-in centre is appropriate and the possibility of moving the GP walk-in centre under one roof with the ED should not be considered in Sheffield. There are two important reasons which make the current location the most appropriate. First, EDs in Sheffield are based in two separate locations for children and adults and so cannot be co-located with both. The second reason which indicates that co-location of the walk-in centre with ED may not make any difference to its impact is that in its current location about 3 miles from the adult ED it has had a small effect, but has had no effect on the children's ED which is only about half a mile away. This shows that probably what is more important is easy access to a service rather than being located with ED.
- It might address some of the concerns of the surrounding GP services if the GP WIC was reserved only for walk-in services and did not provide for patient registration with the centre. This would achieve the main purpose of the Centre to meet patient needs in case of urgent health problems without affecting the number of patients registered at the surrounding GP practices.
- The triage system at the Centre may need some amendment to reduce the high proportion of patients who need to see two health care providers; first by a nurse and followed by a GP. This might also significantly reduce the waiting time for the patients as the data has shown that the average waiting time was significantly higher for those patients who needed to be seen by more than one consultant. A symptom based triage system, similar to the one used at Rotherham GP WIC, could be used in which a nurse at reception can triage patients by observing their presenting complaints. Furthermore, this system may help in preventing any confusion for patients regarding whether their consultation was with a nurse or a GP. The triage nurse at the reception might clearly inform the patient whether they are going to see a GP or a Nurse after assessing their complaint.

Rotherham GP WIC

- The Centre is located at an appropriate location with availability of onsite free parking making it accessible to the general public. However, activity at the centre is low during weekdays which might be due to the lack of publicity aimed at the general public.
- It is often difficult for the patients attending the service to understand if they will be seen by a nurse or GP. Clarity regarding this would prevent any confusion for the patients.
- The Centre has advertised the benefits of registering at the service. In the future, this could lead to higher proportions of registered patients as compared to walk-in patients attending the service. This might detract from the actual purpose of the centre which is to serve walk-in patients. In addition, the surrounding GP practices might be affected as a result of the establishment of the GP WIC in Rotherham. An ideal situation would be for the service to provide walk-in consultation only for urgent health problems and not offer registration at the GP WIC.

Recommendations for policy makers

- GP WICs improve patient access to a GP out of hours and in the case of an urgent health problem when the patient is unable to obtain a GP appointment at the GP practice where the patient is registered. However, GP WICs might be better accepted and supported by other health care professionals if the service only provided a walk-in service without offering patient registration.
- GP WICs do have a potential to reduce unnecessary patient load at the ED. It is important to consider interventions to reduce patient load at ED by children as a large proportion of children present to ED with conditions which can be treated at the GP WIC.
- The issue of patient confusion about choosing the right urgent care services can be resolved to some extent by bringing all alternative urgent care services under one roof. This will leave the patient with only two options; either the

Emergency Department if the problem is serious or the centre for all alternative urgent care services.

- The future research may also be an educational intervention for the GPs and other health care professionals regarding the use of walk-in services. As noticed in this study, there is a clear gap in the communication between the staff/providers of the GP WIC and other health care professionals working in the surrounding NHS health care services such as GPs, ED consultants, nurses. Most of the health care professionals are unaware of the role of GP WICs in the urgent care system and the services provided at these centres. A research trial to overcome this hurdle may produce a very useful outcome in relation to the appropriate use of GP WICs' services and reduction in minor attendances at EDs. Moreover, the future research needs to involve the newly developed clinical commission groups to understand their perceptions about the GP WICs.

7.10 Summary

This chapter summarises the findings, discusses the strengths and limitations of the study, identifies future research needs, and makes some recommendations for improvements in GP WIC services. GP WICs were found to improve patient access to health care services, and to have a small impact on patient load at ED. Most of the patients use the service as an alternative to their GP surgeries. The local health care providers believe that the services are not worthwhile and should be provided by the NHS and not by private companies. Future research is required to address the limitations of this study and, in particular, to determine the cost effectiveness of GP WICs.

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Appendix 1

Research paper one

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RESEARCH ARTICLE

Open Access

Patients' experience and satisfaction with GP led walk-in centres in the UK; a cross sectional study

Mubashir Arain^{1*}, Jon Nicholl² and Mike Campbell³

Abstract

Background: GP led walk-in centres were established in the UK in 2009. Around 150 such clinics were initially planned to open. Their purpose is to provide a primary health care service to complement the urgent care services provided by Emergency Departments (ED), to reduce unnecessary patient attendance at ED, and to increase accessibility of health care services. The objectives of this study were to determine patient satisfaction and experiences with GP led walk-in centres in the UK.

Methods: A survey was conducted in two GP led walk-in centres in the North of England over three weeks during September and October 2011. A self reported, validated questionnaire was used to survey patients presenting at these centres. A short post visit questionnaire was also sent to those who agreed. Ethical approval for the study was obtained from an NHS ethical review committee.

Results: Based on a sample of 1030 survey participants (Centre A = 501; Centre B = 529), we found that 93% of patients were either highly or fairly satisfied with the service at centre A and 86% at centre B. The difference between centres was due to the longer reported waiting times which were seen in centre B. There was no difference in satisfaction between first time users and repeat users (P value = 0.8). Roughly 50% ($n = 507$) of patients reported that their reason for using the walk-in centre was having GP access without an appointment, and 9% ($n = 87$) reported that their GP surgery was closed. A further 20% of patients ($n = 205$) reported that they were not able to see their own GP because of their working hours.

In the post visit survey ($n = 258$), nearly all patients reported complying with the advice given (around 90% at both study centres), and most of the patients (86%) reported their problem had resolved a few days later. In addition, 56% of patients at centre B and 58% at centre A reported that they had also visited another NHS service for the same problem, mostly their own GP (66%).

Conclusions: The GP led walk-in centres increased access to GP care and most of the patients were satisfied with the service.

Keywords: Health services, Urgent care services, Primary care service, Health care centre, Walk-in centres, NHS, England

Background

General Practitioner (GP) led walk-in centres were established in England in 2009 to increase GP accessibility and to decrease unnecessary attendance at Emergency Departments (EDs). The centres were set up after a report by the Department of Health which identified a need to improve accessibility to urgent care services [1]. Each primary care trust (PCT) was expected to set up one

centre to cover the needs for the residents to see a GP without prior appointment in case of urgent need. The GP led walk-in centres aimed to improve health care accessibility for the general public by making GPs available during evening times as well as at weekends. The centres provide a number of health care services such as nurse practitioner consultation (and GP consultation if needed), repeat prescriptions, vaccination services, and health care advice. The centres are able to refer patients to the Emergency Department in case of a serious problem.

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Nurse led walk-in centres were first established in the UK in 2001, and consultations were predominantly provided by nurses (nurse practitioners, advanced nurse practitioners, or consultant nurses). One postal survey of GPs revealed that around one third believed that walk-in centres increased patients' expectations, and they were also concerned with continuity of treatment and patient safety [2]. There was also a concern about the need for better communication between these service providers and the registered GPs. On the other hand, another survey showed that patient satisfaction with the quality of service was greater in walk-in centres as a result of easy access and much shorter waiting times as compared to GP practices [3]. Recently, Australia also adopted the model of nurse led walk-in centres and some of the centres are already functional [4]. However, a recent paper suggested that these walk-in centres would be more beneficial if there was a doctor available [4]. In Canada, walk-in clinics are mostly run by doctors and studies have shown a high satisfaction with these clinics [5].

In the UK, Primary Care Trusts are responsible for the quality and accessibility of primary health care services. Most primary care is delivered by GPs who are responsible for 24 hours care. However, GPs can opt out of providing 24 hours care, and can delegate this to GP out-of-hours services which typically operate from 6pm to 8am during week days and for 24 hours at weekends [6], and are staffed by nurses and GPs. Alongside the GP service, most areas now have walk-in centres led either by nurses or by GPs where patients can turn up without an appointment. Other than a GP, patients can see a pharmacist or call NHS Direct (a national telephone based service), in addition to the option of visiting an ED. EDs in the UK (formerly known as Accident and Emergency Departments) can deal with all urgent health problems and most are open 24 hours/day. However, EDs are not recommended to be used if a problem is not urgent or can be managed in a primary health care setting.

GP led walk-in centres in the UK provide nurse and GP consultations, and hence are expected to address some of the above concerns about nurse led walk-in services, where consultations are only provided by nurse practitioners. We have sought to determine patients' experiences and satisfaction with GP led walk-in centres to help clarify the role of these services in improving primary health care provision.

Patients' experiences with a service are a self reported record of different aspects of the processes of care experienced while using a service such as how accessible the service was for the patient, the waiting time, and the availability of appointments [7]. On the other hand, a patient's satisfaction with a service represents their response to those experiences and this may be directly related to their prior expectations and a number of other

factors which can influence the satisfaction level. Patients' reported experiences are considered to be less subjective than their reported satisfaction [8] and a patient may be satisfied with a service, although the reported experience was suboptimal [9]. So although there is usually a significant association between patient experiences and global satisfaction with a service [10], it is recommended that patient experiences with the service rather than satisfaction should be used for monitoring purposes [11]. We expected that a survey questionnaire including both patient experience questions as well as questions related to satisfaction would provide a better understanding about the quality of the service than questions about either alone. However, the main focus of this paper is patient satisfaction with the GP led walk-in centre services.

We aimed to survey patients attending GP led walk-in centres to identify whether they addressed the patients' needs. In addition, we were interested in looking at the impact of the opening of GP walk-in centres on ED services. We conducted two surveys, one on site, and the other a post-visit survey 4 weeks after visiting the GP walk-in centres to determine whether or not patients had had to use another NHS service for the same problem. This paper is about patient satisfaction and experience with the service.

Methods

We conducted a mixed method evaluation that consisted of a cross-sectional survey, ED routine data analysis, and qualitative interviews. However, this paper only presents the first component of the study which is the cross-sectional survey of patients, a subsequent paper will report the impact of the GP led walk-in centre on the NHS.

Patients were enrolled from two GP walk-in centres in the North of England (Centre A and Centre B). The two centres represent two different models of GP walk-in centres. Centre A was built in a community health centre alongside a number of other primary care services such as a sexual health service, physiotherapy, a diagnostic laboratory and a pharmacy. Centre A was in a large town with a population of around 250,000. Centre B was built as an independent GP led walk-in centre which provides consultations for minor health problems, and is located in the centre of a large student city with a population of around 500,000.

The survey was conducted from September 2011 to October 2011 at these GP walk-in centres. A self-report, validated questionnaire [Additional file 1: Appendix I] was used to determine what kind of patients used these services, how satisfied they were with the location and opening hours of the centre, what they would have done in the absence of the GP walk-in centre service, their experience of waiting, satisfaction with the service, and referral information to other NHS services. For a child

patient, the questionnaire was filled-in by the accompanying adult. The questionnaire was originally developed and piloted in 2002 by Salisbury et al. [3] for evaluating nurse led walk-in centre services and their validity data showed a high level of internal consistency for different questions. Another study used the same tool with some amendments to enable it to be used for commuter walk-in centres [12]. The satisfaction scale used in this study was exactly the same as used in these previous studies [3,12] to enable comparisons to be made between different models of care. The questionnaire was not re-validated in this study. There were some differences in other questions such as location of the centre but the satisfaction scale used in all these studies was the same. All patients who presented to the centres during the study period were potential study participants and the only patients excluded were those in whom language was a barrier since the questionnaire was only available in English. Patients with serious health conditions were offered the survey questionnaire but clearly informed that the questionnaire could be filled-in later on and posted using a prepaid envelope provided.

We aimed to sample at least 400 patients from each centre to obtain statistically robust estimates of the proportions of patients reporting characteristics such as satisfaction with care. This sample size was calculated in order to estimate the proportions of patients reporting dichotomous outcomes with 95% confidence intervals of less than $\pm 5\%$.

The survey questionnaire was distributed by receptionists at the centres. The receptionists aimed to distribute the survey questionnaire to every consecutive patient attending the walk-in centre during the survey period. Questionnaires were also placed near the reception for patients to take if the receptionist was not able to hand them over during very busy times. We placed a box near the reception for patients to drop-in completed questionnaires. We also provided self addressed, prepaid envelopes for patients to return the questionnaire by post if they preferred. Three nominal prizes were offered at each centre for patients randomly selected from those who returned a questionnaire and agreed to participate in the draw.

We also offered to send respondents a short post visit questionnaire [Additional file 2: Appendix II] to ask if they had used another NHS service after visiting the walk-in centre for the same problem. The post visit questionnaire also enquired about compliance with the treatment or advice given at the centre and whether or not the problem was fully or partially resolved or not resolved at all. The post visit questionnaire was sent 3–4 weeks after the visit, along with a self-addressed prepaid envelope.

Data was entered and analyzed in PASW statistics 18. Logistic regression on a dichotomised patient satisfaction

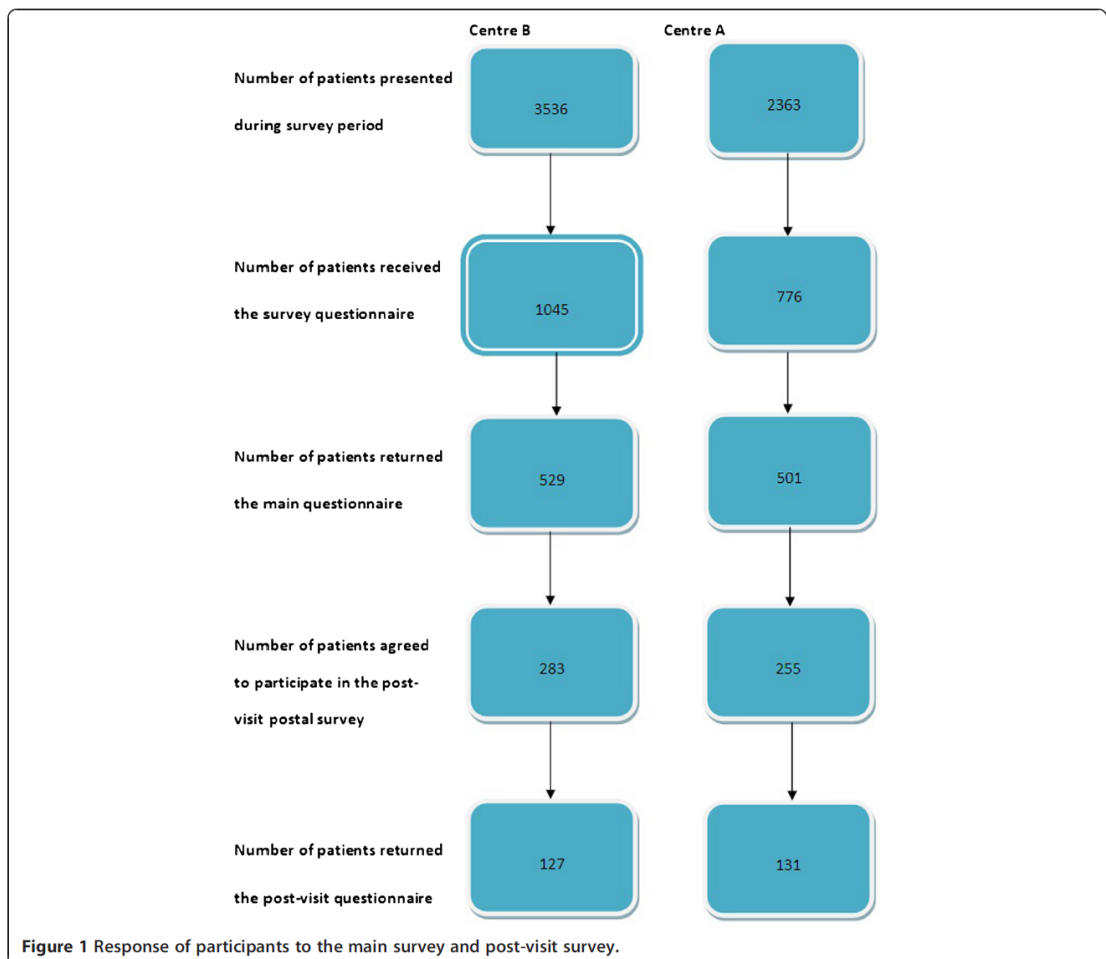
variable was used to estimate the influence of different factors on the satisfaction of patients with the service. The model was developed using all the factors available which were likely to influence patients' satisfaction. Those variables which appeared to be significantly associated with the satisfaction such as age, location, and waiting time, were inserted into the final model to explain any difference in satisfaction between centres, after controlling for any confounding effects. Chi-square and t-test were applied for categorical and continuous data respectively. Frequencies, means and ranges are also reported in the tables where appropriate.

Ethical approval of the study was obtained from an NHS ethical review committee (REC reference number 10/H1304/31). Every patient received a patient information sheet, approved by the NHS ethics committee and the project was reviewed by the Consumers Research Advisory Group (CRAG). We reported back the results to each centre to explain our findings and obtain their feedback. We also retrieved routine data from each centre to compare with our respondents to establish whether the survey participants were a true representative sample of the patients attending these GP walk-in centres. We compared the mean age and the age distribution, sex, and time of presentation at the centre between those who responded to our survey and the routine data to help validate our results.

Results

A total of 1030 patients participated in the study (response rate 57%), 529 from centre B (response rate 51%) and 501 from centre A (64%) [Figure 1]. A majority of patients were female (59%) and the mean age of the patients was 31.5 years (range = 0 – 89yrs) [Table 1]. The survey sample was compared with the centres' routine data to examine the representativeness of the sample and no significant difference was found for age distribution, sex, or time of attending the centre. However, the respondents at Centre A were in higher proportion of those who attended the service during evenings and weekends.

Most of the patients used the centres as a walk-in service and only 4% of patients had made a prior appointment. 50% (n = 507) of patients reported the reason for coming as having quick GP access without an appointment and an additional 9% (n = 87) reported their GP surgery was closed. A further 20% of patients (n = 205) reported that they were not able to see their own GP because of their working hours, and 5% (n = 54) were not registered with any GP. There were a significantly higher proportion of unregistered patients at centre B (n = 44) as compared to centre A (n = 10); P value < 0.001. About 13% (n = 131) reported shorter waiting times than in ED as a reason for coming. Only 4% (n = 33) were referred from other NHS services.



Around 65% (n = 548) of patients presented during out-of-hours periods.

At centre A most of the patients (64%) were highly satisfied overall with their visit to the service and a further 30% reported themselves to be fairly satisfied [Table 2]. The mean satisfaction score was 4.5 on a five point Likert scale. Most patients rated the opening hours as excellent (41%) or very good (52%), without any significant difference between first time attendees and those who had use the service before (P value = 0.6); 35% rated the centre's location as excellent and 53% rated it as very good [Table 3]. 54% of the patients were seen by a GP only, 38% by a nurse practitioner only, and 8% by both a GP and a nurse. The patients' reported mean waiting time was 40.9 minutes (SD = 32mins, range 3mins to 240mins) with a small difference between office hours and out-of-hours (evenings and weekends), [office

hours = 33.5, SD = 27.4 versus out-of-hours = 42.2mins, SD = 32.3; P value = 0.06].

At centre B, 49% were highly satisfied with the overall service provided at the centre and the mean satisfaction score was 4.2 on the Likert scale, which was significantly lower than the average satisfaction score at centre A. However, the difference was not significant after controlling for the effect of waiting time. Most of the patients were either highly satisfied (39%) or fairly satisfied (51%) with the opening hours of centre B. 25% reported the location of the centre as excellent and 52% reported it as a good, but those who had used the service before were more likely to report the convenience of the centre's location as excellent (score = 5) than first time attendees [32% vs 19%, P value = 0.01]. 38% of the patients at centre B centre were seen by a nurse practitioner only, 35% by a GP only, and 26% by both a GP and a nurse.

Table 1 Characteristics of patients presenting at the GP walk-in centres

Demographic characteristics	Centre B n = 529	Centre A n = 501	Total n = 1030
Age (years) Mean ± SD, (Median) [Range]	32.1 ± 17.9, (27) [0, 82]	30.9 ± 21.7, (28) [0, 89]	31.5 ± 19.8, (27) [0, 89]
Sex % (n)			
Male	37.5 (188)	39.5 (209)	38.5 (397)
Female	58.7 (294)	58.8 (311)	58.7 (605)
Missing	3.8 (19)	1.5 (9)	2.5 (28)
First time user of the GP centre % (n)	52% (272)	33% (164)	43% (436)
Occupation	% (n)	% (n)	% (n)
Working full-time	34.8 (184)	35.3 (177)	35.0 (361)
Student	28.2 (149)	17.2 (86)	22.8 (235)
Working part-time	10.2 (54)	8.0 (40)	9.1 (94)
Retired	8.5 (45)	8.4 (42)	8.4 (87)
Unemployed	7.8 (41)	9.2 (46)	8.4 (87)
Pre-school infants	2.3 (12)	11.8 (59)	6.9 (71)
Homemakers	0.8 (4)	1.8 (9)	1.3 (13)
Other	6.0 (32)	3.8 (19)	5.0 (51)
Missing	1.5 (8)	4.6 (23)	3.0 (31)

The reported mean waiting time for the patients was 74mins (SD = 49mins) with a significantly longer duration during evenings and weekends as compared to office hours on week days [85.1mins, SD = 54.3 vs 62.4mins, SD = 39.4; P value <0.001]. The waiting time was also significantly higher for those seen by two health care professionals as compared to those seen by a GP or a nurse practitioner only [85.3mins, SD = 53.3 versus 69.5mins, SD = 47.4; P value <0.001].

The post-visit, postal questionnaire asked about compliance with the treatment or advice given, resolution of the problem and whether or not the patient had had to visit another NHS service [Table 4]. Most of the patients (90%) followed the treatment/advice completely and there was no significant difference between the centres regarding the patients' reported compliance for the treatment/advice. Similarly, there was no difference between the responses of patients about resolution of their health problem after visiting the centre. In addition, 56% of patients at centre B and 58% at centre A reported that they had also visited another NHS service for the same problem, mostly their own GP (66%). Those who did not use any other service were more likely to report that their health problem was fully resolved than those who had had to use another service for the same health problem (84% versus 25%, P value <0.001).

Table 5 shows the regression model for the patient's satisfaction variable. The satisfaction scale was dichotomised

Table 2 Patient satisfaction scale (Rating 1–5), comparison between the centre A and B

Survey questions	Centre B Mean (SD)	Centre A Mean (SD)	P-value*
Attitude of receptionist	4.4 (0.87) n = 466	4.6 (0.67) n = 449	<0.001
Time you had to wait before seeing a nurse or doctor	3.2 (1.34) n = 449	4.0 (1.13) n = 431	<0.001
Attitude of nurse or doctor	4.6 (0.79) n = 439	4.7 (0.67) n = 434	0.07
Satisfaction with the explanation about problem by doctor or nurse	4.4 (0.88) n = 430	4.6 (0.7) n = 434	0.02
Treatment or advice	4.4 (0.9) n = 430	4.5 (0.78) n = 435	0.06
Overall satisfaction with the service (for this visit)	4.3 (0.97) n = 439	4.5 (0.78) n = 436	<0.001
Overall satisfaction distribution (%)	4.3 (0.97) n = 430	4.5 (0.78) n = 435	<0.001
Rated 5 Very satisfied	49.0%	63.5%	-
Rated 4 Fairly satisfied	37.1%	29.8%	-
Rated 3 Uncertain	7.1%	3.0%	-
Rated 2 Not very satisfied	3.4%	2.3%	-
Rated 1 Not satisfied at all	3.4%	1.4%	-

* P values are obtained after controlling the effect of other relevant factors including age, sex, ethnicity, office hours or out-of-hours, first time user.

into highly satisfied (scored 5 on the Likert scale) and not highly satisfied (scored 4 or less on the Likert scale). The most significant factor affecting satisfaction, responsible for the difference in the patients' satisfaction at the two centres, was the patient reported waiting time. After inserting this factor into the model there was no statistically significant difference in the satisfaction levels between the two centres. The other significant variable was the age group which showed that the least satisfied were those aged 15-24years and the most satisfied were those aged above 65years. The convenience of the GP walk-in centre's location had also a significant association with the overall satisfaction.

Discussion

This study provides the first evidence in the UK about patient satisfaction and experiences of GP led walk-in centres. The GP walk-in centres operate with longer opening hours than routine GP surgeries and open during weekends and bank holidays, have a GP at the centre along with nurse practitioners, and are able to retrieve patients' records to update any treatment or advice given at the centre [13]. The location and opening hours of these centres are highly satisfactory for the majority of

Table 3 Comparison of responses between the patients of the Centre A and B on the main survey at the centre (n = 1030)

Survey questions	Centre B n = 529	Centre A n = 501	P-value*
Convenience of the location mean Likert scale (1–5) score (SD)	3.9 (0.80)	4.2 (0.67)	<0.001
Convenience of the opening hours mean (SD)	4.3 (0.67)	4.3 (0.64)	0.58
Patients' reported waiting time in minutes mean (SD)	74.2 (49)	40.9 (32)	<0.001
Expressed intention to visit another service for the same problem % (n)	24.7% (108)	24.3% (106)	0.47
First time user of the GP walk-in centre % (n)	52% (272)	33% (164)	<0.001
Would you use this walk-in centre again			<0.001
Rated 5 Definitely Yes	51% (222)	67% (292)	
Rated 4 Probably Yes	37% (164)	27% (119)	
Rated 3 Uncertain	7% (30)	4% (16)	
Rated 2 Probably Not	4% (16)	1% (5)	
Rated 1 Definitely Not	2% (8)	1% (4)	

* P values are obtained after controlling the effect of other relevant factors including sex, age, ethnicity, office hours or out-of-hours attendance.

the patients. Convenience of centre A was reported as slightly higher, possibly because of the availability of free onsite car parking for patients. Studies have shown that patients use walk-in facilities because of easy access and much shorter waiting times as compared to GP practices

Table 4 Comparison of responses between the patients attending centre A and B who responded on the post-visit, postal survey (n = 258)

Survey questions	Centre B % (n)	Centre A % (n)	Chi ² statistics	P-value
Follow the advice (treatment)				
Completely followed	90 (113)	90 (118)		
Partially followed	9 (12)	8 (11)	0.39	0.8
Not followed	1 (1)	2 (2)		
Health problem solved				
Completely resolved	61 (78)	57 (75)		
Partially resolved	24 (30)	32 (42)	2.80	0.3
Not resolved at all	15 (19)	11 (14)		
Visited another NHS service after visiting the walk-in centre	39.7 (56)	41.4 (58)	0.09	0.81

Table 5 Logistic regression of explanatory variables against outcome of being "Highly Satisfied"

First model, all variables	Adjusted odds ratio* (95% CI)
Centre: A	1
B	1.1 (0.71 to 1.66)
Office hours	1
Out-of-hours	1.1 (0.76 to 1.72)
First time user	1
Used the centre before	0.84 (0.58 to 1.21)
Patient reported waiting time (mins)	0.98 (0.97 to 0.98)
Convenience of the location mean Likert scale (1–5) score	1.8 (1.26 to 2.43)
Seen by one health care professional	1
Seen by more than one health care professional	0.9 (0.58 to 1.61)
Sex	
Male	1
Female	1.1 (0.74 to 1.54)
Age Group	
0 – 15	1
16 – 24	0.4 (0.24 to 0.75)
25 – 44	0.8 (0.48 to 1.41)
45 – 64	1.4 (0.77 to 2.46)
65 +	3.4 (1.36 to 8.46)

*Adjusted for other variables in model.

[3]. Unregistered patients were in higher proportion at centre B, possibly because of the higher number of students living in the location. We found no major difference in satisfaction levels with this service between registered and unregistered patients.

Our study has sought to understand more about community needs and satisfaction with walk-in facilities. This is important because some of these centres have been closed because of lack of evidence of having any beneficial effects for the NHS [14]. Studies have shown that patients prefer to see a GP for unscheduled care instead of using other parallel services [15]. A large proportion of patients presented to the GP led walk-in centre because they were unable to reach their own GP (either the GP surgery was closed or the patient's working hours did not allow them to see a GP) and in some cases they were not registered with any GP at all. In these circumstances, the patients would either present at ED, wait for their own GP, or may have just ignored their health problem, which could possibly have led to presenting at ED at a later time. Some GP led centres are now co-located with traditional nurse led walk-in centres. Studies have shown high patient satisfaction with nurse led walk-in centres in the past [3,16]. Thus, the model of combining two services, a nurse led walk-

in centre and a GP centre, could be more effective than completely replacing one service with another.

We found that a high proportion of patients attending the two centres we have studied were very satisfied overall with the services. This was true for both first time users and repeat users and so is not just a type of 'survivor' effect due to dissatisfied patients subsequently using alternative services such as minor injuries units or ED. The satisfaction scale was dichotomised into "Highly satisfied" (score = 5) and "Not highly satisfied" (scoring 1-4) which is recommended as the most appropriate cut off for understanding patients' satisfaction [17]. The longer time to be seen at one centre, particularly during evenings and weekends, was of concern. This also affected patients' satisfaction with the service. The results reported in Table 5 show that the odds of reporting to be "highly satisfied" with the service reduce by around 2% with every minute increase in the waiting for treatment. After controlling for the effect of the waiting time there was no difference in the satisfaction level between the two centres. Studies show that waiting time is one of the important factors for evaluating emergency care services as it has significant impact on the quality of care and patients' outcome [18,19]. Another study has reported that waiting time is a very important determinant of satisfaction in primary care out-of-hours services [20]. Patients seen by both a nurse and a GP had longer waiting times than those seen by one health care professional only. It was also observed in the analysis that the mean satisfaction score was significantly higher for those seen by one health care professional in comparison with two or more (Mean = 4.43, SD = 0.83 versus Mean = 4.22, SD = 1.02; P value = 0.02). In addition, the proportion of "Highly Satisfied" were also higher in those who were seen by one health care professional (58%) in comparison with two or more (49%) [$\text{Chi}^2 = 3.5$; P value = 0.06]. However, after controlling for waiting time, there was no significant difference between the two groups. Centre B had a significantly higher proportion of patients seen by two health care professionals. The triage system at the two centres works differently, which might be responsible for the difference.

Previous studies have shown higher satisfaction rates with nurse led walk-in centres (79% reporting being highly satisfied) compared to the GP led walk-in centres we have studied (49% and 64%), though our results are comparable with reported patient satisfaction with GP practices (66%) [3]. The patient satisfaction levels we observed were also generally lower than those reported for nurse led commuter walk-in centres in London and outside London which ranged from 51% to 79% [21].

Our results show that most of the patients had very high compliance with the treatment/advice given at the centre and a large proportion of patients reported that their problem was fully resolved after visiting the centre.

This suggests that the centres are important in fulfilling local community needs particularly at times when other services are not accessible. Our data also shows that the activity of these centres is higher at evening and weekends than during office hours, and this is one of the signs of increasing patients' accessibility to GPs at times when their own GP is not available. However, it was also observed that a high proportion of patients visit their GPs soon after visiting the walk-in centre which suggests there is a risk of potentially duplicating the existing services. Though it would still be a useful service if patients would have otherwise gone to ED in times when their own GP was not opened. It was asked in the questionnaire that what patient would have done if the GP walk-in centre had not been established, which showed that around 23% of patients would have gone to ED; the proportion was higher (27%) for those who attended the service during evenings or weekends than those who attended during office hours (15%).

There are a number of important limitations to this study. First, we have only looked at two centres in the UK. We believe that the services offered by these two models are typical of others across the NHS, but it is possible that their locations and patient populations are not. Most of the other GP walk-in centre services in the UK would be similar to one model or the other or lie somewhere between these two models. The core purpose of the GP walk-in centres is identical all over the UK, which is to offer GP access without appointment and available over weekends and evenings. Therefore, the findings of this study can be used to understand satisfaction and experiences with GP walk-in centre in the UK. Walk-in Centres have been established in the United States, Canada [5] and also introduced recently in Australia [4]. In countries where services have just started or are being planned, it is very useful to refer to experiences with similar services in other countries. Thus, it is important to understand how these kinds of services work, what kind of patients attend these services and how effective they are in addressing patient needs. We believe the findings of this paper can be extrapolated to other similar settings where GP access needs to be improved.

Second, the response rate to our patient survey was only 57%, and the response rate to our follow-up post visit survey only 50% of those who received the questionnaire. Furthermore only around one third of the patients attending these services during the survey period received the questionnaire (an estimated 1821 out of 5899). In many surveys, the response rate is a major source of bias [22]. There were a number of reasons why the questionnaire was not received by every patient attending the service. Firstly, the survey questionnaire was handed out by the receptionists, so during some very busy hours it was not

always possible to hand over the questionnaire to every single patient due to the time required to describe the study. Secondly, the questionnaire was given to the patients along with the patient registration sheet which every patient receives when they present to a walk-in centre. If the patient returned their completed registration sheet along with a non-completed questionnaire, the receptionists sometimes redistributed the questionnaire to the next patient. In this case it was not possible to keep a record of how many patients actually received the questionnaire. In addition, survey questionnaires were also placed in the waiting area to be accessible for every patient. Therefore, our estimates of the numbers receiving the questionnaire are based on the number of questionnaires known to have been distributed and the number of filled-in questionnaires returned to us. However, the number of patients who actually received a questionnaire may be larger than this. Studies have reported that patients' satisfaction systematically differ between patients with different characteristics including age, sex and ethnicity [9,23]. However, the comparison of the demographics of our survey respondents with routine centre data did not show any significant difference between the two populations, so we expect that the sample is a true representation of the population.

Another limitation was the lack of recording the perceived health status of the patients in the survey. It has been reported that perceived health status is an important determinant of patient satisfaction [10,24]. Therefore, it could have been incorporated to help explain differences in satisfaction levels for example between centres or age groups. Lastly, the questionnaire was not re-validated for the purposes of this study, although the satisfaction scale used in the study was exactly the same as used in previous studies (3,12). It is possible that some of the dimensions of satisfaction with these services are missing in this scale. However, in this paper the analysis was based on "overall satisfaction" which includes all dimensions of satisfaction. There is a systematic review which has questioned the reliability and validity of questionnaires used to measure satisfaction with out-of-hours health care services [25]. The review found that most of the published satisfaction questionnaires are not fully validated to measure satisfaction and need to be used with caution. The review, however, suggested that it is preferable to use published scales rather than those which have not been published. Thus, the use of the same satisfaction scale in this study which has been used in similar health care settings by other studies enabled us to make comparisons with other satisfaction studies.

Conclusions

In summary, GP led walk-in centres work to increase health care accessibility and a large majority of their

patients are satisfied with the service. Most patients follow the advice they are given and their problems are resolved, though many subsequently use other NHS services so the impact on the local health economy remains questionable.

Additional files

Additional file 1: Appendix I. Main Survey Questionnaire.

Additional file 2: Appendix II. Post visit questionnaire.

Abbreviations

ED: Emergency department; PCT: Primary care trust; NHS: National Health Services; GP: General Practitioner.

Competing interests

The authors declare that they have no competing interests.

Authors' contribution

MA, JN and MC designed the project. MA collected data and prepared draft manuscript. JN and MC helped in data analysis. All authors reviewed the final draft.

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Appendix 2

Research paper 2



Impact of a GP-led walk-in centre on NHS emergency departments

M Arain, M J Campbell and J P Nicholl

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Impact of a GP-led walk-in centre on NHS emergency departments

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ABSTRACT

Objective To determine the impact of the GP-led walk-in centre (WIC) in Sheffield (England) on the demand for emergency department (ED) care.

Methods A survey of patients visiting the Sheffield GP WIC was conducted over 3 weeks during September and October 2011. A short, postvisit questionnaire was also sent to those who agreed to determine if the patient had used another NHS service for the same problem. Routine data were obtained from the adult and children's EDs and minor injuries unit in Sheffield, 1 year before and 1 year after the opening of the GP WIC. A linear model of the number of minor daytime attendances (GP type) per month was used to estimate the impact of opening the GP WIC, after controlling for seasonal variation and a linear time trend.

Results A total of 529 patients responded to the survey (response rate 51%). Based on their self-reported intentions, 64 of these patients (53 adults and 11 children) were diverted from going to ED in the 3-week survey period as a result of the establishment of the GP WIC. From this we would have expected around a 26% monthly reduction in GP-type attendances at adult ED, and 7% reduction at children's ED. However, routine data only showed an 8% (95% CI 1% to 16%) reduction at the adult ED. Reductions in GP-type attendances at the children's ED and the minor injury unit at the time of the opening of the GP WIC were also found, but were not statistically significant. The estimated impact on children's ED was a 14% reduction (95% CI -38% to 8%), and for minor injuries unit (MIU) a 4% reduction (95% CI -18 to 9%).

Conclusions There was a statistically significant reduction in GP-type daytime attendances at the adult ED after the opening of the GP WIC. Since this reduction was not mirrored in changes in night-time attendances (when the GP WIC was closed), and our survey responses suggested people some people were diverted from going to the ED, it is possible that the opening of the GP WIC caused this reduction.

INTRODUCTION

GP led walk-in centres (WICs), also known as Darzi centres, or polyclinics, were established in England in 2009. These centres were designed to improve access to GPs as well as to prevent unnecessary attendances at emergency departments (ED).¹ First attendances at EDs in England have increased by 60% in the last decade and now stand at over 20 million per year. Such increases are common throughout the developed world, and a recent systematic review of the drivers of this change found that as well as changes in population demographics and patient expectations, changes in

Key messages

What is already known on this subject

- ▶ Nurse-led walk-in centres have been proposed as an alternative source of care for unscheduled patients.
- ▶ Previous studies also show that they have not reduced demand for other NHS services such as ED care.
- ▶ GP-led walk-in centres, or urgent care centres, were introduced in 2009 but there is little published evidence about their effectiveness and impact.

What this study adds

- ▶ This single centre study found that 18% of patients using a GP-led urgent care centre reported that they would have used ED if the urgent care centre had not been open.
- ▶ The GP-led urgent care centre produced small changes to attendances at local EDs during daytime working (64 patients over 3 weeks), fewer would have been estimated from the patients' reported intentions.

the organisation and delivery of alternative health-care services were important.²

Many studies have reported that a large proportion of patients attending ED consist of patients with minor illness who could be seen by a health-care provider in a primary care setting. There is some evidence that increases in these visits are another driver for the overall increase in ED attendance.² Accordingly, the provision of alternative healthcare services for patients with minor conditions may help curb the increasing demand for ED care.

Previous attempts to reduce ED attendance through the development of nurse-led WICs did not show any significant impact on ED attendance.³ There are several reasons why patients with minor illness present to ED, including easy access to a doctor, 24 h availability, and lack of information about the availability of alternative services. Sometimes it is difficult for a patient to choose the right service among many options.⁴ A recent population survey showed that patients prefer to use GP services for unscheduled care, and that changes to service provision have little impact on this behaviour.⁵

To help address these sorts of concerns, a GP-led WIC was opened in Sheffield in April 2009. The purpose of this study was to examine the impact of the opening of this GP WIC on the use of the local EDs. We conducted two surveys of patients visiting

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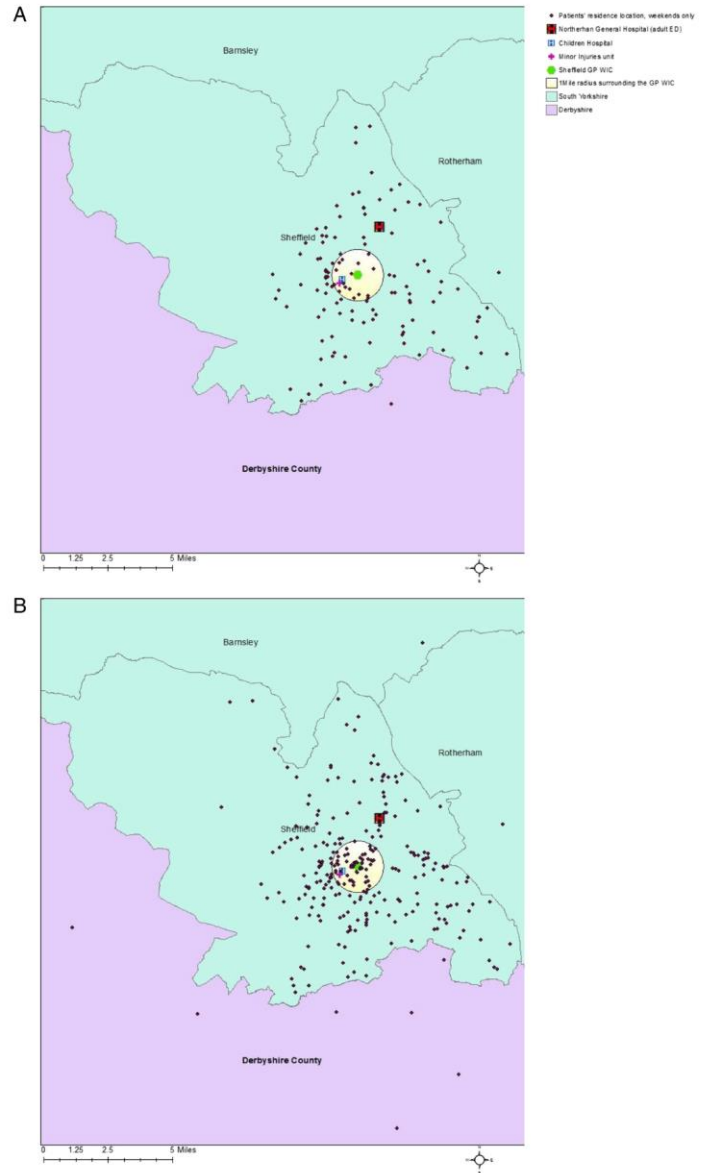
the GP WIC, one at the time of the GP WIC visit and the other 4 weeks after the visit, to determine whether or not patients had used other NHS services for the same problem. We also looked at routine data on the use of other NHS services. This paper presents the findings related to the impact of the GP WIC on the use of the adult ED, children's ED and the MIU in Sheffield.

METHODS

The Sheffield GP WIC was established in April 2009, and the centre provides walk-in services from 8:00 to 21:00, 7 days a

week. All patients attending the WIC between 26 September 2011 and 9 October 2011 were asked to complete a validated questionnaire⁶ to determine why they used the walk-in service, how satisfied they were with the location and opening hours of the centre, what they would have done in the absence of the GP WIC service, their satisfaction with the service, and if they were treated at the centre or referred to ED or another NHS service. Complete details of the survey methods have been described in an earlier paper.⁷ This paper focused on the impact of the GP WIC on some other urgent care services in Sheffield.

Figure 1 (A) and (B) Location of the patients presented to the Sheffield GP led walk-in centre.



We used an interrupted time series design to determine the effect of the opening of the GP WIC on other urgent care services. Secondary data from the adult ED, children's ED and the minor injury unit (MIU) in Sheffield were obtained for the period of 2 years from April 2008 to March 2010, 1 year before and 1 year after the opening of GP WIC. To examine the impact of the GP WIC, we only used data on attendances by GP-type cases. For this study, minor cases (GP-type cases) were defined as those patients who were referred or discharged from the ED without needing any investigation, or only some low-cost investigations as defined by the tariff codes used by the primary care trust (PCT). These two categories accounted for about 53% of all cases presented at these services during the study period. The excluded cases were those who needed hospital admission, or needed high-cost investigations (such as X-rays, CT scans and MRI) and those who did not survive. The reason why only minor cases (GP type) were included was because the GP WIC cannot be expected to have had any impact on the attendances rate of patients with serious health problems who need hospital admission or need high-cost investigations. For the primary analysis, we only used patients' attendances at ED during the opening hours of the GP WIC (8.00–21.00) to determine any change in the attendance rates. For the secondary analysis, we adjusted the change in daytime attendances with the change in night-time attendances.

Data were entered and analysed in SPSS V.19. A General Linear Model (GLM) was used to fit a 'regression discontinuity model' to the monthly counts of attendances to determine the effect of the opening of the GP WIC on patient attendances at the EDs and MIU. A regression discontinuity model was used instead of a time series model which would assume some form of serial dependence because the autocorrelations between the residuals from the monthly counts were negligible. Seasonal effects (fitting a categorical variable with six annual values representing each two consecutive months) and a linear time trend were fitted. The analysis was repeated using night-time GP-type attendance rates as a covariate to act as a control.

Arch GIS V10 was used to map the distribution of patients' home addresses and the locations of the urgent care services.

Ethical approval of the study was obtained from the NHS ethical review committee (REC reference number 10/H1304/31). No written consent was required as it was a self-report questionnaire, and consent was considered given if a patient filled in and returned the questionnaire.

RESULTS

A total of 1045 questionnaires were distributed, of which 529 patients participated in the study by completing all or part of the visit questionnaire, a response rate of 51%. Of these, 448 completed the questionnaire. The survey sample was compared

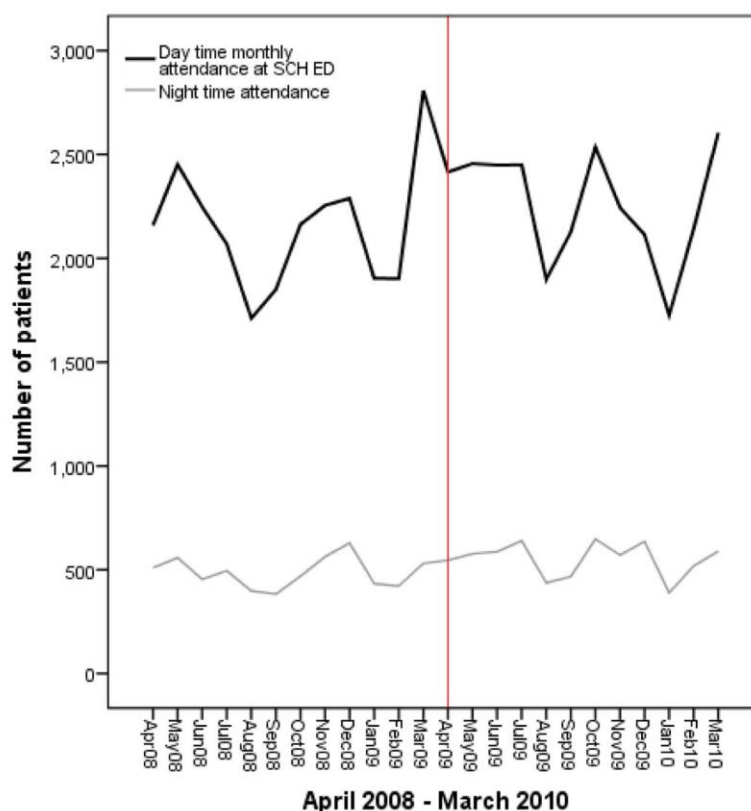


Figure 2 Sheffield Children Hospital emergency department patients' count, 1 year before and 1 year after the opening of the GP walk-in centre (WIC). The midline shows the month of the opening of WIC.

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with the WIC's routine data to examine the representativeness of the responding sample and no major differences were found between the two datasets in terms of age, sex and different timings of attending the centre. Most of the patients arrived without an appointment for the service. However, 4% of the patients had a prior appointment before coming to the centre. Figure 1A,B show the location of residence of the patients who presented at the GP WIC during the survey period. It shows that patients came from diverse areas of Sheffield and Rotherham, and a few came from Barnsley and the countryside south of Sheffield in Derbyshire. A total of 19% of patients were resident within 1 mile of the GP WIC, and the geographical spread appears wider on weekdays than at the weekends.

Around 18% (n=80, 65 adults and 15 children under 16 years) of the patients said that they would have gone to ED if the GP WIC had not been there, but only 3.6% (n=16) reported their intention to attend ED after consultation. Thus, the net number of patients in the sample of respondents potentially diverted from ED as a result of the establishment of the GP WIC was 64 (14%). Based on the average number of patients presenting at the GP WIC each month (data not shown) and the average monthly counts of minor illness/injury patients presenting to the EDs, the expected reductions in GP-type attendances at the Sheffield children's ED and the Sheffield adult ED were 6.7% and 20.6%, respectively.

There were 121 postvisit survey respondents (response rate 50%). These were used to see whether those who stated they intended to visit the ED after the consultation actually did so. The postvisit survey found that only nine patients actually visited the ED.

Figures 2–4 show monthly counts of minor attendances (GP type) at the Sheffield Children's Hospital ED, the adult ED and the MIU over the period of 2 years, from 2008 to 2010. The 2-year period included monthly counts at these services 1 year before and 1 year after the opening of the GP WIC. The effect seen on the adult ED was an 8.3% (95% CI 1% to 16%) reduction in daytime GP-type attendances which is statistically significant ($p=0.03$). The effect on adult ED was a 5% reduction (95% CI 1% to 9%) if night-time attendances were used as a control ($p=0.02$). The estimated effect on the children's ED was a 14.9% reduction (95% CI -37.8% to 7.9%); however, the effect was not statistically significant ($p=0.19$). The estimated effect on the MIU (a 4.3% reduction in attendances; 95% CI -17.8% to 9.2%) was also statistically non-significant ($p=0.51$) (table 1).

DISCUSSION

This study has estimated the potential impact of a GP WIC on other NHS services. This is an important issue as some similar centres have been closed because of lack of evidence of having

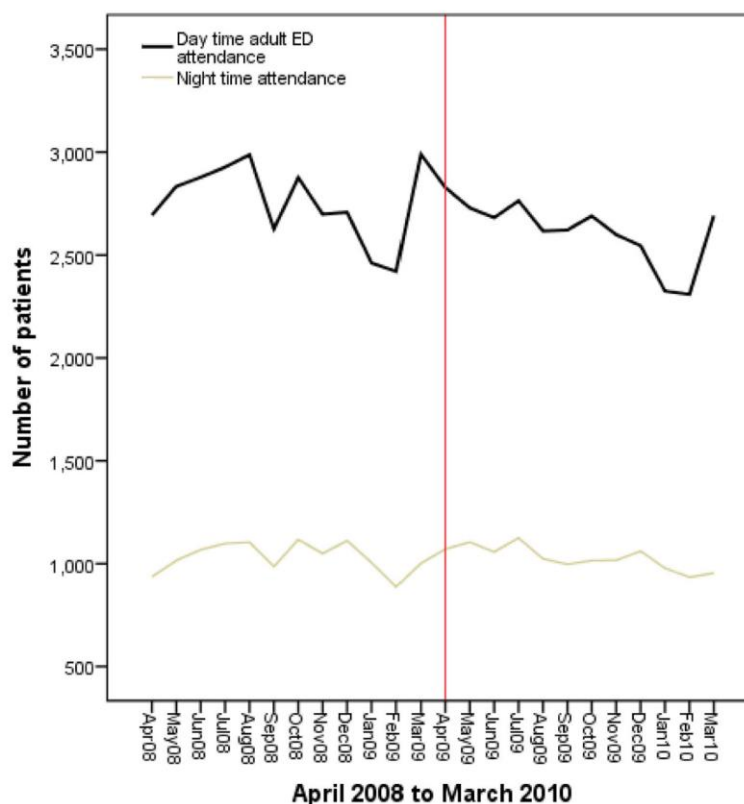


Figure 3 Sheffield Northern General Hospital (adult emergency department) patients' count, 1 year before and 1 year after the opening of the GP walk-in centre (WIC). The midline shows the opening of the WIC.

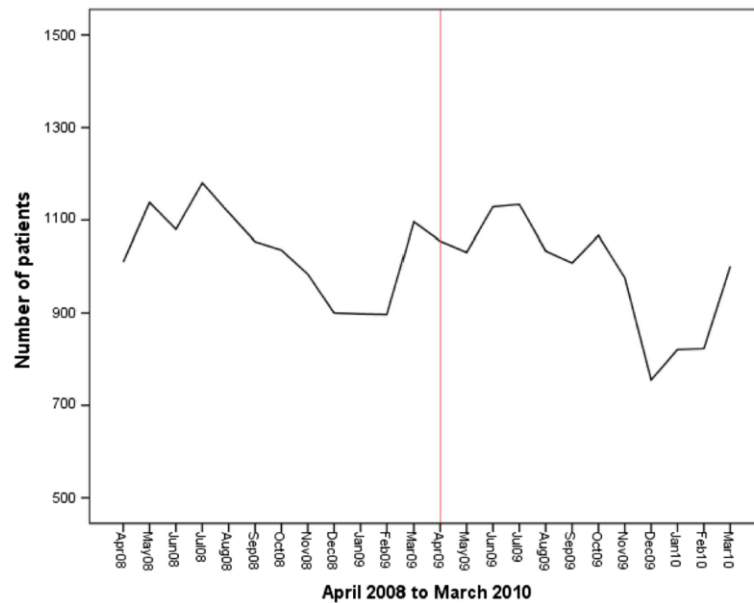


Figure 4 Sheffield minor injury unit patients' count, 1 year before and 1 year after the opening of the GP walk-in centre (WIC). The midline shows the opening of the WIC.

any beneficial effect on the NHS.⁸ There is evidence from the international literature about decreases in ED attendances in the presence of better primary care services.⁹ However, studies in the UK on NHS nurse-led WICs did not show any significant impact on other NHS services.^{10 11} The effect of a GP-led WIC on ED attendances has not previously been studied, and this is the first paper to report the GP WIC impact on other NHS services.

The survey results suggest that based on the patients' stated intention to visit ED, the centre has the potential of reducing GP-type attendances at the adult ED by about 20%, and by 7% at the Sheffield children's ED. Routine data on attendances showed that the GP WIC may have reduced GP-type daytime attendances at the adult ED, but by only 8%. This suggests that respondents were over-reporting their intention to visit ED in the questionnaire survey. However, there are number of other factors which might have resulted in there being little impact on ED. When a new service like a GP WIC

starts, it may lead to increased demand for healthcare services, which could also lead to a rise in patients going to the ED. The balance of new demand leading to more ED attendances, and the redistribution of existing demand leading to fewer attendances could explain why there was a smaller reduction in the routine data than in the survey data. Another possible explanation of the discrepancy between the routine data and survey data is that patients sometimes confuse WICs, MIUs and EDs in questionnaire surveys of the use of urgent care services.¹²

The location of the centre is also important. The GP WIC is about 3 miles distance by road away from the adult ED, and 1 mile from the children's ED, and it might be expected that the centre would have had more impact on ED attendances if it were collocated with the ED. However, previous studies were unable to show that WICs collocated with EDs had any reduction in patient load at ED.¹³ Nevertheless, the impact of collocated WICs has only been studied for the traditional nurse-led

Table 1 Mean monthly count (daytime GP-type attendance) 1 year before and 1 year after the opening of the GP walk-in centre

Services	Before the opening of GP walk-in centre	After the opening of GP walk-in centre	Effect size*	p Value	95% CI
Sheffield children ED					
Mean (SD)	2150.33 (297.6)	2263.25 (269.4)	-322.1†	0.19	-814.5 to 170.4
Sheffield adult ED					
Mean (SD)	2758.42 (189.9)	2616.83 (159.3)	-230.9‡	0.03	-438.9 to -21.9
Sheffield minor injuries unit					
Mean (SD)	1032.42 (96.9)	986.17 (122.8)	-44.6§	0.51	-184.0 to 94.9

p Values obtained from a model allowing for seasonal variations and trend for the minor injuries unit, adult emergency department (ED) and children's ED.

*Effect size were obtained from a linear model controlling for the effect of seasonal variation, and a linear time trend.

†R²=64%.

‡R²=85%.

§R²=81%.

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WIC rather than GP-led WICs. Furthermore, some patients may not be aware of the presence of all the available urgent care services. One study identified that more than half the patients presenting at the ED in Sheffield were unaware of the WIC or of GP out-of-hours services.¹⁴ Additionally, it may be difficult for patients to determine the severity of their problems, and so they prefer to go to the ED to prevent any potential harm. This may be one of the reasons why most alternative urgent care services have failed to show any reduction in ED use,¹⁵ including the new NHS 111 telephone service.¹⁶

The GP WIC might also be having some impact on surrounding GP practices and possibly on out-of-hours services. In the light of the recent changes in NHS commissioning, it might become more difficult to commission GP-led WICs if they have the potential to attract patients from the surrounding GP practices as a result of their longer opening hours and walk-in facilities. It has also been observed for ED that patients living closer to an ED are more likely to use the ED service for unscheduled care.¹⁷ However, our results show that patients from a wide spread of residential areas in Sheffield use the GP WIC, and there is only on a small gravitational effect seen for the nearby residents to use this service as seen in figure 1A,B. The differences between the residential patterns for weekday and weekend users shown in figure 1A,B may indicate that some of the weekday use is by commuters who live outside the normal catchment area.

Our study has some limitations. First, the survey was based on a self-reported questionnaire, where data quality is dependent on the response rate. However, the first on-site survey had a reasonable response rate in this study, and the characteristics of respondents were similar to the routine data of the centre. The postvisit survey had a lower response rate. Nevertheless, the data from the postvisit survey was not used to determine the impact on ED, but was only used to assess the validity of responses in the main survey. Second, we had no control arm for estimating the impact on the MIU. For ED data, we used night-time attendances when the GP WIC is not open, as a control group to see any effect as a result of the GP WIC opening. This assumes that any external changes which might have affected daytime attendances would also have affected night-time attendances. The MIU's openings hours were similar to the GP WIC, hence, we were not able to have a control arm for this service.

The results of this study also need to be interpreted with care. First, it must be remembered that the reduction in patient load at adult ED shown in this paper is a reduction in minor daytime attendances (GP type attendances) only, and not total ED attendances. The estimated reduction in total attendances is only 2.8% for adult ED, 7.8% for children's ED and 2.5% for the MIU. Second, our data only show a reduction in attendances at adult ED occurring at the time the GP WIC opened in April 2009, and it is questionable whether we can infer that these reductions were the result of the opening of the GP WIC. However, we think the causal inference is justified by the fact that no similar reduction was found in night-time attendances, and that the patient survey clearly indicates a change in self-reported service use.

It is important to give consideration to the impact on the demand for healthcare when we choose to open a new service or close an existing service. Opening of a new service may help to meet unmet needs of the population, but at the same time, it may also create new demand for health services. Once the demand has been created, it may cause significant impact on patient load in the ED and other services, as well as on cost, especially if the service has to be closed in the future.

We have found evidence that the opening of the GP WIC in Sheffield has resulted in a reduction of 8% in adult ED GP-type daytime attendances. There was also an estimated 14% reduction in attendances at the children's ED, but because of bigger variability in the counts of monthly attendances, this reduction was not statistically significant. Only a small 4% reduction in attendances at the MIU was found. Our data also suggest that self-reported intentions in survey questionnaires are unreliable, and can greatly exaggerate the impact on EDs.

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Contributors All authors were involved in the planning and designing of this project. MA collected data and prepared the initial draft. MJC analysed data and helped in preparing tables. JPN critically reviewed the paper and also contributed in data analysis. All authors reviewed and approved the final draft.

Competing interests None.

Patient consent Obtained.

Ethics approval NHS, Yorkshire and the Humber region REC.

Provenance and peer review Not commissioned; externally peer reviewed.

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Appendix 3

Local consultation flyer before the GP led walk-in centres were established

Background

Last year, we consulted the people of Sheffield about their NHS services. Among the themes that emerged was the need for a city centre health centre that provided services led by GPs.

Later in the year, the government announced a national scheme to improve access to GP services, to address inequalities and improve the quality of primary care. It was announced that across England there would be 150 GP-led health centres and 100 new GP practices in the areas of greatest need.

The proposed Sheffield health centre must take into account local needs and conditions and make the most of working with other community-based services.

NHS Sheffield has the responsibility of making the GP-led health centre a reality by asking potential providers to put forward proposals to develop and run it.

Although there are a number of areas in Sheffield with high levels of need, evidence shows that a central location would enable the NHS to address a wide range of areas with the greatest needs. For this reason we are proposing that the health centre should be located in the city centre.

NHS
Sheffield

Consultation on proposals for a

**Sheffield city centre
GP-led health centre**

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Your views

Your views on the new GP-led health centre are very important to us.

We would particularly value any comments on the proposed location of the health centre, the proposed services to be delivered there, and, because we will be inviting providers to tender for delivering the services, the criteria that you think should be used for assessing these potential providers.

Further information and the opportunity to put forward your views will be made available.

In addition, you can:

-  complete an online questionnaire at www.sheffieldpct.nhs.uk
-  email your views to jeanette.miller@sheffieldpct.nhs.uk
-  phone us on 0114 305 1140
-  write to Jeanette Miller
Head of Patient Experience
& Engagement
NHS Sheffield
722 Prince of Wales Road
Sheffield S9 5EU

Publishing the results of the consultation

The results of this consultation will be made available on the NHS Sheffield website.

Background

Last year, we consulted the people of Sheffield about their NHS services. Among the themes that emerged was the need for a city centre health centre that provided services led by GPs.

Later in the year, the government announced a national scheme to improve access to GP services, to address inequalities and improve the quality of primary care. It was announced that across England there would be 150 GP-led health centres and 100 new GP practices in the areas of greatest need.

The proposed Sheffield health centre must take into account local needs and conditions and make the most of working with other community-based services.

NHS Sheffield has the responsibility of making the GP-led health centre a reality by asking potential providers to put forward proposals to develop and run it.

Although there are a number of areas in Sheffield with high levels of need, evidence shows that a central location would enable the NHS to address a wide range of areas with the greatest needs. For this reason we are proposing that the health centre should be located in the city centre.

Additional Copies of this document are available from www.sheffieldpct.nhs.uk or by contacting: jeanette.miller@sheffieldpct.nhs.uk tel 0114 305 1140

Paper copies, large print versions, other languages and formats are available on request from:

The Patient Experience and Engagement Team
NHS Sheffield
722 Prince of Wales Road
Sheffield S9 5EU


Sheffield

www.sheffieldpct.nhs.uk

NHS Sheffield is the Sheffield Primary Care Trust



What is the GP-led health centre?

NHS Sheffield's planned GP-led health centre will be based in the city centre. It will provide healthcare services between 8am and 8pm, seven days a week, 365 days a year. Patients will not have to register or make an appointment to see a doctor or nurse.

Patients can choose to register with the health centre if they wish and can make an advance appointment if they prefer.

Whose idea is the new health centre?

The GP-led health centre is a new NHS scheme. NHS Sheffield is using recent research, public consultation and existing local knowledge to develop a service that best meets the needs of people in and around the centre of Sheffield.

What are the benefits of a GP-led health centre?

The health centre will be a community-based facility offering:

- a city centre location for easy access
- 'walk-in' appointments between 8am and 8pm seven days a week, 365 days a year
- healthcare services without the need to register
- the option to register with the health centre and make advance appointments
- flexibility to meet the needs of Sheffield's diverse and growing city centre population.

What services is the health centre expected to offer?

The health centre will offer patients:

- healthcare services to treat curable conditions
- healthcare services for the terminally ill and those with long-term conditions
- vaccinations and immunisations
- referrals where necessary (for example, to a hospital consultant)
- health promotion and disease prevention
- healthcare for people who are homeless.

It is expected that the range of healthcare services offered will increase over time.

Would the health centre have a pharmacy?

We hope that there would be a pharmacy either within the health centre or near to it. It would be open the same hours as the health centre.

What else will the health centre offer?

Patients can expect a clean, secure and pleasant environment offering facilities such as parking, a waiting area, baby changing facilities, vending machines and information leaflets. There will be accessible facilities for disabled people.

The health centre will ensure:

- confidentiality
- that all patients are treated with respect and dignity
- equal access to appointments
- minimal waiting times
- a complaints handling procedure is in place
- interpreting services are available.

When will the centre open?

The health centre is expected to open in Spring 2009.



Appendix 4
Training Module for Staff/Receptionists

Duration 15 minutes

By: Dr Mubashir Arain

Contents:

1. Introduction about the study (5mins)
2. Data collection procedures (5mins)
3. Your role in the study procedure (5mins)

1. Introduction about the study (Aims and objectives)

To determine the;

- Characteristics of patients using GP walk-in services (age, sex, ethnicity etc)
- Activity of centres during the opening hours (whether in evening or morning).
- Factors affecting their decision for using GP walk-in service instead of other standard NHS service including a patients' satisfaction evaluation.
- Impact of GP walk-in centre on outpatient load in other NHS services and NHS walk-in centres.

2. Data collection procedures

- The survey data collection will take place for two weeks. It will begin on Monday **5th September 2011 from 8am** and will continue until **18th of September 2011, seven days a week from 8am to 9pm.**
- There will be a box of unfilled questionnaires with information sheet to hand over to the patients, another box near reception to return the filled-in questionnaire and a box of pen for the patients to fill-in the questionnaire.
- All unregistered patients presenting to GP led walk in centres during the study survey period will be given the questionnaire to fill-in and put it into the return box OR post it to the School of Health & Related Research (SchARR), University of Sheffield using the free post envelop provided.
- There will be a prize draw for the survey participants to win Boots voucher worth £50, £30, or £20. Prize draw will be conducted at the end of data collection from the Walk-in centre (within a month from filling in the questionnaire). The draw will be made by the centre manager and independent of the research team.
- Principal investigator (Mubashir Arain) will visit the centre everyday to help in data collection process and to answer any question by the participants
- Filled-in questionnaires will be collected from the Centre on a daily basis by the principal investigator and will be stored in the University of Sheffield lockers.

3. Your role in the study procedure!!

- We request you to hand over these questionnaires with the information sheet to every Walk-in, unregistered patient when they come to the reception.
- They can fill-in most of the questionnaire parts while waiting for their consultation, the last part will be filled-in after receiving consultation by a GP or Nurse practitioner. Please ask them to either put the filled-in questionnaire into the box given OR return it by post using prepaid envelop provided.

- Please inform them about the prize draw of Boots voucher worth £50, £30, or £20 and that they need to provide contact details in the last section if they wish to participate in the prize draw.
- If they ask any further question about the study, please refer to the information sheet in which most of the relevant information has been given along with the contact details of the principal investigator for further information.

Any suggestion/Question?

For further information, please contact

Dr Mubashir Aslam Arain

Postgraduate Research student,

School of Health & Related Research,

University of Sheffield,

Sheffield S1 4DA

United Kingdom.

Email: M.arain@sheffield.ac.uk

Ph : 0114 222 6381

Thank you

Appendix 5

Primary Survey Questionnaire



The
University
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Serial No.

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You can complete **Sections A and B** before your appointment

Section A – Why you came here today

1. Who is the patient?

Myself ¹

My Child ²

Other ³

(Please describe)

2. What were the main reasons you decided to come to the walk-in centre today rather than go elsewhere? (e.g. go to a GP surgery, go to Casualty, phone NHS Direct)
(Please tick as many as apply)

- | | |
|----------------------------------------------------------|----------------------------------------|
| More convenient location | ¹ <input type="checkbox"/> |
| More convenient opening hours | ² <input type="checkbox"/> |
| Easier because I work | ³ <input type="checkbox"/> |
| Quicker than getting an appointment at the GP surgery | ⁴ <input type="checkbox"/> |
| Had more confidence in the advice/treatment I would get | ⁵ <input type="checkbox"/> |
| Not registered with a GP | ⁶ <input type="checkbox"/> |
| Better range of services | ⁷ <input type="checkbox"/> |
| Didn't want to bother my doctor | ⁸ <input type="checkbox"/> |
| Shorter wait than going to casualty | ⁹ <input type="checkbox"/> |
| Sent here by casualty, minor injuries unit or GP surgery | ¹⁰ <input type="checkbox"/> |
| Didn't think about going anywhere else | ¹¹ <input type="checkbox"/> |
| Other | ¹² <input type="checkbox"/> |

(Please describe) _____

3. Have you been to this service or another service already about the problem you are attending with today?

Yes this service ¹ Yes another service ² No ³

4. Have you used this GP walk-in centre before?

Yes ¹ No ²

5. How would you rate the convenience of the GP walk-in centre's location?

Very poor ¹ Poor ² Fair ³ Good ⁴ Excellent ⁵

6. How would you rate the convenience of the hours that the walk-in centre is open?

Very poor ¹ Poor ² Fair ³ Good ⁴ Excellent ⁵

7. What would you have done if the walk-in centre had not been available? (please tick one)

Looked after the problem myself	¹ <input type="checkbox"/>	Gone to hospital Casualty department	⁶ <input type="checkbox"/>
Gone to my GP or practice nurse	² <input type="checkbox"/>	Telephoned NHS Direct	⁷ <input type="checkbox"/>
Gone to see the pharmacist	³ <input type="checkbox"/>	Called my GP out	⁸ <input type="checkbox"/>
Gone to see a dentist	⁴ <input type="checkbox"/>	Had private health care	⁹ <input type="checkbox"/>
Gone to a Minor Injuries Unit	⁵ <input type="checkbox"/>	Other (Please describe)	¹⁰ <input type="checkbox"/>

8. How did you hear about this GP led walk in centre?

Saw an advertisement in the paper ¹
Noticed it when walking along the road ²
Searched on internet/website ³
Told by friend/family member ⁴
Informed by my GP ⁵
Other ⁶
(Please describe)

9. When you arrived, what did you expect the GP centre to do for you/ the patient? (please tick as many as apply)

Advice	¹ <input type="checkbox"/>	Some treatment other than medication	⁵ <input type="checkbox"/>
Information	² <input type="checkbox"/>	Refer you/ the patient to a GP surgery	⁶ <input type="checkbox"/>
Prescription	³ <input type="checkbox"/>	Refer you/the patient patient to hospital	⁷ <input type="checkbox"/>
Issue me with medication	⁴ <input type="checkbox"/>	Other (Please describe)	⁸ <input type="checkbox"/>

10. Did you make an appointment to be seen?

Yes ¹ No, I just walked in ²

Section B – About the patient

We want to know who uses these walk-in centres and it would help us to have some details about the patient

11. How old is the patient?years

12. Is the patient Male ¹ Female ²

13. To which of these ethnic groups do you consider the patient belongs?

White	¹ <input type="checkbox"/>	Pakistani	⁶ <input type="checkbox"/>
Black Caribbean	² <input type="checkbox"/>	Bangladeshi	⁷ <input type="checkbox"/>
Black African	³ <input type="checkbox"/>	Chinese	⁸ <input type="checkbox"/>
Black other	⁴ <input type="checkbox"/>	Other ethnic group	⁹ <input type="checkbox"/>
Indian	⁵ <input type="checkbox"/>	(Please describe)	

14. If living in the UK, what is the patient's postcode?

--	--	--	--	--	--	--	--

15. How would you classify patient's status of occupation?

I am a student	¹ <input type="checkbox"/>
Working full time	² <input type="checkbox"/>
Working part time	³ <input type="checkbox"/>
Unemployed	⁴ <input type="checkbox"/>
Other	⁵ <input type="checkbox"/>

(Please describe)

16. Is the patient registered with a GP?

Yes, a GP in this town	¹ <input type="checkbox"/>
Yes, a GP elsewhere	² <input type="checkbox"/>
Not registered with a GP	³ <input type="checkbox"/>

Please fill in the rest of the questions **after** you have been treated by the nurse or doctor

Section C – Your consultation

17. Did you see: a doctor ¹ a nurse ² both a doctor and a nurse ³

18. How long did you have to wait before you were seen by someone who treated you?

_____ mins

19. How satisfied are you with the following: (Please tick a box on each line)

	Not satisfied at all	Not very satisfied	Uncertain	Fairly satisfied	Very satisfied
A The attitude of the receptionist?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
B The time you had to wait before you saw a nurse or doctor?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
C The attitude of the nurse or doctor?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
D The explanation the nurse or doctor gave you about your problem?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
E The treatment or advice you were given?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
F Overall, how satisfied were you with the service you received?	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

20. When you saw the nurse or doctor, were you: (please tick as many as apply)

Given advice	1 <input type="checkbox"/>	Given treatment other than medication	5 <input type="checkbox"/>
Given information	2 <input type="checkbox"/>	Referred to a GP surgery	6 <input type="checkbox"/>
Given a prescription	3 <input type="checkbox"/>	Referred to casualty or hospital	7 <input type="checkbox"/>
Issued with medication	4 <input type="checkbox"/>	Asked to come back to the walk in centre	8 <input type="checkbox"/>
		Other	9 <input type="checkbox"/>
		(Please describe)	

21. Now that you have seen the nurse/doctor are you able to look after the problem yourself?
(Please tick one)

Yes ¹

No ²

If NO, are you going to

Make an appointment with your GP ¹

Visit another Walk-in centre ²

Visit Accident and Emergency ³

Other Health service ⁴
(Please describe)

22. Did you leave the nurse/doctor feeling they had dealt with the problem?

Yes totally
¹

Yes partly
²

No
³

23. Would you use this walk-in centre again?

Definitely not
¹

Probably not
²

Not sure
³

Probably yes
⁴

Definitely yes
⁵

24. What are your views on walk-in centres giving information to a patient's GP about their visit?

I think this should always happen ¹

I think the patient should give permission each time ²

I think this should never happen ³

Other (Please describe) ⁴

Section D – What happens next?

We would like to contact you again in two weeks time, to ask you **three short questions** about what you did about this health problem. This is important because we want to know how many people use other health services after they have used a walk-in centre.

Please tick all the relevant boxes

I do not want you to send a questionnaire ¹

I am happy to get another questionnaire ²

I am happy to enter into the prize draw ³

This is the name and email address/address that I would like you to send the questionnaire to (it can be a home or work address)

Name.....

Postal address.....

.....

Email address: _____

(PTO)

Appendix 6 Participant Information Sheet



The
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Participant Information Sheet

GP Walk-in Centres in Sheffield and Rotherham

Invitation

We would like to invite you to take part in our research study on the GP walk-in centres in Sheffield and Rotherham. Before you decide it is important for you to understand why the research is being done and what it will involve for you.

Part 1 tells you the purpose of this study and what will happen to you if you take part.

Part 2 gives you more detailed information about the conduct of the study.

Part 1

1. What is the purpose of the study?

The study is examining the potential impact of new NHS GP Walk-in Centres on local delivery of healthcare services. The study has three different parts to it. We have already completed the first two phases of the study and are seeking your involvement in the final part. We have conducted a survey of patient views and experiences, and obtained routine data from other local urgent care services. The third and final phase of the study involves interviewing GPs, Nurses and Centre Managers to ask about their perceptions.

2. Why have I been invited?

You have been invited to take part in the third part of the study, the interview phase. The study is seeking the views of a range of staff who work in Walk-in Centres, or who work in other NHS services in the vicinity of Walk-in Centres including GPs, Nurses and Centre Managers.

3. Do I have to take part?

No. It is up to you to decide to join the study. After reading this information sheet, if you agree to take part, we will arrange a date/time convenient to you to conduct an interview. You will be asked to read and sign a consent form before the interview starts. You are free to withdraw at any time, without giving a reason.

4. What will happen to me if I take part?

You will be asked to take part in an interview with the researcher. The interview will last around 30 to 45 minutes. The interview will be conducted in person at a

time and a place that is convenient to you. With your permission the interview will be audio-recorded. The recordings will be transcribed before being destroyed.

5. What will I have to do?

We will arrange a date/time slot that is convenient to you and a place where the interview can be conducted. Before the interview starts you will have a chance to ask any questions about the study that you may have and be asked to fill in the consent form. During the interview you will be asked about your views and experiences of Walk-in Centre services. The interview will include questions about publicity and information about Walk in Centres, the types of patients that may attend these services, why people might use the Walk-in Centre service, the effect of Walk-in Centre services on other NHS services. This will help us understand the effect of opening of new NHS GP Walk-in Centres and how services may be best delivered. The interview will last around 30 to 45 minutes.

6. What are the possible disadvantages and risks of taking part?

There is no potential harm to you by participating in the study. If there are any questions that you would prefer not to answer these will be omitted from the interview. Interviews will be tape recorded and then transcribed to assist with analysis. Anything you say in your interviews will be treated in the strictest confidence, and although we might use direct quotes in anything we write as a result of this study, these will also be anonymised.

7. What are the possible benefits of taking part?

We cannot promise that the study will help you directly but the information we get from this study will help improve the provision of health services at these types of centres for the patients. You will have an opportunity to see and discuss results from earlier phases of the study.

8. What if there is a problem?

We believe that this study is safe and do not expect you to suffer any harm or injury because of your participation in it. Any complaint about the way you have been dealt with during this study or any possible harm you might suffer will be addressed. Detailed information on this is given in Part 2

9. Will my taking part in the study be kept confidential?

Yes. We will follow ethical and legal practice and all information about you will be handled in confidence. The details are included in Part 2.

Part 2

10. What if there is a problem?

If you have any concerns or questions about this study or the way it has been carried out, please contact the investigator carrying out the study:

Dr Mubashir Aslam Arain
Postgraduate Research student,
School of Health & Related Research,
University of Sheffield,
Sheffield S1 4DA
United Kingdom.
Email: M.arain@sheffield.ac.uk
Telephone : 0114 222 6381

Or the study supervisor:

Professor John Nicholl
School of Health and Related Research
University of Sheffield
Regent Court
30 Regent Street
Sheffield
S1 4DA

Telephone: +44 (0)114 222 5454
Fax: +44 (0)114 272 4095

The study is covered by standard University indemnity (insurance) arrangements. In the event that something does go wrong and you are harmed during the research and this is due to someone's negligence then you may have grounds for compensation against the researcher/university.

11. Will my taking part in the study be kept confidential?

All personal information (address, postal code) which is collected during the course of the research will be kept strictly confidential. Only authorized people will have access to view identifiable data including researchers and regulatory authorities. Data will only be used for this particular research project and it will be kept secure at the University of Sheffield data storage lockers, password protected computers and data will be destroyed after 10 years (according to the policy of the University of Sheffield). Your personal information will not be identified in any report/publication.

12. What will happen to the results of the research study?

The intention is to publish this research in a Health Services Research journal. The results will also be used as part of a doctoral thesis. You will not be identifiable in any reports or publications that arise from this research study. Only the chief investigator will have access to the full transcript while other team can only see the coded data, where participants will not be identifiable.

13. Who has reviewed the study?

The study has been given a favorable opinion by the XX Research Ethics Committee. This means that the Ethics Committee is satisfied that your rights will be respected, that any risks have been reduced to a minimum and balanced against possible benefits, and that you will have sufficient information on which to make an informed decision to take part or not. The use of NHS facilities has been approved by the Research & Development Departments of the host NHS Trusts.

14. Who is organizing and funding the research?

The study is being conducted and funded by the School of Health and Related Research, University of Sheffield.

Further information about the study is obtainable from:

Dr Mubashir Aslam Arain
Postgraduate Research student,
School of Health & Related Research,
University of Sheffield,
Sheffield S1 4DA
United Kingdom.
Email: M.arain@sheffield.ac.uk
Telephone : 0114 222 6381

Appendix 7

Covering letter



The
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Serial No.

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GP led walk in Health Care Centres in Sheffield and Rotherham

Dear patient,

The University of Sheffield is conducting a survey of patients visiting GP led walk-in centres. These are questions about yourself and your visit to this walk-in centre, or about your child and their visit. Please complete Sections A & B before your appointment if you have time and section C afterwards. When you have finished please put the form in the box provided at reception or post it back to the University of Sheffield using the envelope provided which does not need a stamp. Your answers will be kept entirely confidential

There is also a chance to win Boots voucher worth £50, £30, or £20. In order to enter the prize draw, you need to enter your contact details in the section "D" at the end of the questionnaire.

The study is explained in the attached Information Sheet. If you have any other questions about this research, please ask the receptionist or contact

Dr Mubashir Arain

Postgraduate Research,(SchARR),

School of Health & Related Research,

University of Sheffield,

Sheffield S1 4DA

United Kingdom.

Email: M.arain@sheffield.ac.uk

Ph: 0114 222 0829

Thank you for your time.

Appendix 8

Meeting minutes of a consumer advisory group in which this project was discussed among service users and received feedback

Minutes of the [CRAG Consumers Research Advisory Group] held on 06/04/2011 at 13:30 Block 14 .Barnsley Hospital NHS Foundation Trust .

PRESENT:

Keith Elliott R&D Nurse (facilitator)
Sadie Birkett
Tony Conway
Colin Townend

IN ATTENDANCE:

Waiel Elzamzami

APOLOGIES:

Sylvia Nixon
Chris Unwin

		<u>Action</u>
09/1	MINUTES OF THE PREVIOUS MEETING <i>There were no minutes from the previous meeting</i>	
09/2	Matters Arising There were no matters arising 2.1 Topic Heading GP Walk in Questionnaire Submitted by Mubashir Arain. PGR, SchARR, University of Sheffield The notes from the discussion about the proposal were: The members of Crag present thought the questionnaire was good and they would have no problems completing it in a surgery. Other notes were, from the information sheet: Q.10 The members thought the University should be the first point of contact for participants as it is branded a university study. PALS may have trouble locating any help for anyone with issues about the study. Q.12 The confidentiality clause in the information sheet (paragraph 11,)could be made clearer, it is a little confusing and long paragraph. The i.e R&D audit and mention of data storage lockers have little meaning to	

potential participants.

Q19. The group like the 'attitude of receptionist and of the doctor' questions.

There were no further comments and the group had a positive impression of the research.

Appendix 9 Ethical approval



National Research Ethics Service

East Yorkshire & North Lincolnshire REC

Yorkshire and the Humber Research Ethics Office
First Floor
Millside
Mill Pond Lane
Leeds
LS6 4EP

Telephone: 0113 3050127

26 October 2010

Dr Mubashir Arain
Postgraduate Research, ScHARR
University of Sheffield
Sheffield
S1 4DA

Dear Dr Arain

Study Title: Evaluation of GP led walk-in Health centres in Sheffield and Rotherham
REC reference number: 10/H1304/31

Thank you for your letter of 08 October 2010, responding to the Committee's request for further information on the above research and submitting revised documentation.

The further information was considered at the meeting of the Committee held on 26 October 2010. A list of the members who were present at the meeting is attached.

Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements. Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

This Research Ethics Committee is an advisory committee to Yorkshire and The Humber Strategic Health Authority
The National Research Ethics Service (NRES) represents the NRES Directorate within the National Patient Safety Agency and Research Ethics Committees in England

Where the only involvement of the NHS organisation is as a Participant Identification Centre (PIC), management permission for research is not required but the R&D office should be notified of the study and agree to the organisation's involvement. Guidance on procedures for PICs is available in IRAS. Further advice should be sought from the R&D office where necessary.

Sponsors are not required to notify the Committee of approvals from host organisations.

It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	Version	Date
Investigator CV		06 July 2010
Protocol	2	08 October 2010
REC application		08 July 2010
Questionnaire	2	08 October 2010
Participant Information Sheet	2	08 October 2010
Response to Request for Further Information		08 October 2010
CV - Jonathan Nicholl		08 July 2010
Evidence of insurance or indemnity	07/07/2010	

Statement of compliance

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

After ethical review

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document "After ethical review – guidance for researchers" gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators
- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email

referencegroup@nres.npsa.nhs.uk.

10/H1304/31

Please quote this number on all correspondence

Yours sincerely

Dr David Horton
Chair

Email: Nicola.mallender-ward@leedspft.nhs.uk

Enclosures: *List of names and professions of members who were present at the meeting and those who submitted written comments*

"After ethical review – guidance for researchers"

Copy to: *Lauren Smaller*

Appendix 10 R & D approval



722 Prince of Wales Road
Sheffield
S9 4EU
Tel: 0114 305 1000
Fax: 0114 305 1001

4 July 2011

Dr Mubashir Arain
Postgraduate Research
University of Sheffield
School of Health & Related Research
Regent Street
Regent Court
Sheffield
S1 4DA

Dear Dr Arain

Letter of access for research

ZM44 - Evaluation of GP led walk-in Health centres in Sheffield and Rotherham

This letter confirms your right of access to conduct research through Sheffield Primary Care Trust for the purpose and on the terms and conditions set out below. This right of access commences until October 2011 unless terminated earlier in accordance with the clauses below.

You have a right of access to conduct such research as confirmed in writing in the letter of permission for research from this NHS organisation. Please note that you cannot start the research until the Principal Investigator for the research project has received a letter from us giving permission to conduct the project.

The information supplied about your role in research at Sheffield Primary Care Trust has been reviewed and you do not require an honorary research contract with this NHS organisation. We are satisfied that such pre-engagement checks as we consider necessary have been carried out.

You are considered to be a legal visitor to Sheffield Primary Care Trust premises. You are not entitled to any form of payment or access to other benefits provided by this NHS organisation to employees and this letter does not give rise to any other relationship between you and this NHS organisation, in particular that of an employee.

While undertaking research through Sheffield Primary Care Trust, you will remain accountable to your employer but you are required to follow the reasonable instructions of research supervisor in this NHS organisation or those given on her/his behalf in relation to the terms of this right of access.

Where any third party claim is made, whether or not legal proceedings are issued, arising out of or in connection with your right of access, you are required to co-operate fully with any investigation by this NHS organisation in connection with any such claim and to give all such assistance as may reasonably be required regarding the conduct of any legal proceedings.

You must act in accordance with Sheffield Primary Care Trust policies and procedures, which are available to you upon request, and the Research Governance Framework.

You are required to co-operate with Sheffield Primary Care Trust in discharging its duties under the Health and Safety at Work etc Act 1974 and other health and safety legislation and to take reasonable care for the health and safety of yourself and others while on Sheffield Primary Care

Trust premises. You must observe the same standards of care and propriety in dealing with patients, staff, visitors, equipment and premises as is expected of any other contract holder and you must act appropriately, responsibly and professionally at all times.

You are required to ensure that all information regarding patients or staff remains secure and *strictly confidential* at all times. You must ensure that you understand and comply with the requirements of the NHS Confidentiality Code of Practice (<http://www.dh.gov.uk/assetRoot/04/06/92/54/04069254.pdf>) and the Data Protection Act 1998. Furthermore you should be aware that under the Act, unauthorised disclosure of information is an offence and such disclosures may lead to prosecution.

You should ensure that, where you are issued with an identity or security card, a bleep number, email or library account, keys or protective clothing, these are returned upon termination of this arrangement. Please also ensure that while on the premises you wear your ID badge at all times, or are able to prove your identity if challenged. Please note that this NHS organisation accepts no responsibility for damage to or loss of personal property.

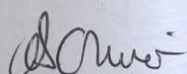
We may terminate your right to attend at any time either by giving seven days' written notice to you or immediately without any notice if you are in breach of any of the terms or conditions described in this letter or if you commit any act that we reasonably consider to amount to serious misconduct or to be disruptive and/or prejudicial to the interests and/or business of this NHS organisation or if you are convicted of any criminal offence. As from 26 July 2010, your HEI employer may initiate your Independent Safeguarding Authority (ISA) registration (where applicable), and thereafter, will continue to monitor your ISA registration status via the on-line ISA service. Should you cease to be ISA-registered, this letter of access is immediately terminated. Your employer will immediately withdraw you from undertaking this or any other regulated activity. You MUST stop undertaking any regulated activity.

Your substantive employer is responsible for your conduct during this research project and may in the circumstances described above instigate disciplinary action against you.

Sheffield Primary Care Trust will not indemnify you against any liability incurred as a result of any breach of confidentiality or breach of the Data Protection Act 1998. Any breach of the Data Protection Act 1998 may result in legal action against you and/or your substantive employer.

If your current role or involvement in research changes, or any of the information provided in your Research Passport changes, you must inform your employer through their normal procedures. You must also inform your nominated manager in this NHS organisation.

Yours sincerely



Samantha Oliver
Human Resources Manager

cc: **R&D office**
HR department of the substantive employer

Appendix 11

Post-visit Survey Questionnaire



The
University
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Serial No.

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Your views about the walk-in centre

Dear participant,

About two weeks ago you attended a GP walk-in centre and during your visit you participated in a questionnaire survey about your views on the service provided. This short questionnaire is the second and final part of your participation in that research.

We would like to ask you the following three questions about the health problem for which you visited the GP walk-in centre

Q1. Did you follow the advice/prescription given to you at the GP walk-in centre?

¹ Yes (completely followed) ² Yes (Partially followed) ³ No

Q.2 Do you feel that your health problem has fully resolved after your visit to the GP walk-in centre?

¹ Fully resolved ² partially resolved ³ Not resolved at all

Q.3 Did you visit any other health care service for **the same problem** after visiting the GP walk-in centre?

¹ Yes ² No

(If **Yes**, please tick the boxes below to show **all** the services you used)

1. Went to see my GP ¹
2. Went to hospital Casualty ²
3. Went to see the pharmacist ³
4. Went to see a dentist ⁴
5. Went to a Minor Injuries Unit ⁵
6. Telephoned NHS Direct ⁶
7. Called my GP out of hours ⁷
8. Other ⁸

(Please describe) _____

Please post in the **FREEPOST** reply-paid envelope to:

School of Health & related Research, University of Sheffield, Regent Court, 30 Regent Street, S1 4DA

Thank you for your help

If you have any question about this research, please contact Dr Mubashir Arain by

Email: m.arain@sheffield.ac.uk or Ph: 0114 222 6381

Appendix 12

Public awareness leaflet

Where to find urgent help out of hours

at night

Call your GP surgery anytime

If you need a doctor during the evening or night call your usual surgery telephone number.

A health professional will give you advice and may send a doctor out to see you or ask you to visit them.



at the weekend

Call your GP surgery anytime

or visit the **NHS Walk-in Centre**
Broad Lane, S1 3PB
open 8am to 10pm - 365 days a year

or the **Sheffield Minor Injuries Unit** (Adults only)
Royal Hallamshire Hospital
Glossop Road, S10 2JF
open 8am to 8pm - 365 days a year







Could the NHS Walk-in Centre be helping you right now?

Broad Lane, Sheffield S1 3PB

- ✦ The Walk-in Centre treats illnesses that aren't emergencies but do require help quickly. They see both adults and children.
- ✦ At the Sheffield NHS Walk-in Centre you should be seen and treated within an hour.
- ✦ It is situated on **Broad Lane, Sheffield S1 3PB**. Parking is available in a multi-story car park behind the centre.
- ✦ The centre is open 8am-10pm, every day of the year.

The NHS Walk-in Centre can treat:

- ✦ Infections
- ✦ Fevers
- ✦ Itches and rashes

Open every day
8am-10pm

 **0114 241 2700**
www.onemedicare-sheffield.co.uk

Choosing the right NHS service if you become ill or are injured



P Q-Park, Holland Street C Car Park S Bus Stop (Service 51) T West Street Tram Stop

 NHS Direct <small>NHS Direct offers confidential health advice and information by telephone and on the internet. 0845 4647 www.nhsdirect.nhs.uk Contact NHS Direct if you are ill and have any questions about health. The service can also help you to find health services in your local area.</small>	 Pharmacist (Chemist) <small>Your local pharmacist can give you advice on common illnesses and the medicines you need to treat them. Most now have a quiet area where you can speak privately. To find your nearest pharmacy call NHS Direct 0845 46 47 or visit www.nhs.uk/ servicedirectorries Visit your local pharmacy when you are suffering from a common health problem which does not require being seen by a nurse or doctor.</small>	 GPs (Doctors) <small>GP surgeries can be found locally across Sheffield. To find a GP call NHS Direct 0845 46 47 or visit www.nhs.uk/ servicedirectorries You can make an appointment with your practice for medical advice, examinations and prescriptions. GPs also provide an out-of-hours service - just ring your GP's normal number.</small>	 NHS Walk-in Services <small>Walk-in services treat minor illnesses and injuries that do not need a visit to A&E. You do not need an appointment. NHS Walk-in Centre on Broad Lane - see the map above. Open 8am - 10pm 365 days a year. Sheffield NHS Minor Injuries Unit, Royal Hallamshire Hospital (Adults only). Open 8am - 8pm 365 days a year.</small>	 A&E or 999 <small>Accident and Emergency departments provide immediate emergency care for people who show the symptoms of serious illness or are badly injured. Dial 999 if you think you need an ambulance. Emergency services are very busy. They should only be used in very serious or life-threatening situations. In Sheffield there is an adult only A&E at the Northern General Hospital and a separate A&E for children at the Sheffield Children's Hospital.</small>	<small>Remember, if you need any extra advice contact NHS Direct:</small> 0845 4647 www.nhsdirect.nhs.uk <small>*Calls to NHS Direct cost a maximum of 8 pence per minute from a BT landline. Calls from mobiles and other networks may vary. Your service provider may charge a premium cost per call. For patient's safety, calls to NHS Direct are recorded.</small> 
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Appendix 13

Urdu translated version of the public awareness leaflet

حادثات اور ایمرجنسی کے متبادل کے بارے میں فوری رہنماء

اپنے جی پی کو فون کریں - اگر سرجری بند ہے تو آپکی کال اوقات کے کار کے علاوہ جی پی سروس کو منتقل کی جائیگی۔

شیفلڈ این ایچ ایس والکمان سنٹر
(بالغ اور بچے)

فون 0114 241 2700

راکنگم ہاؤس، 75 براڈ لین

شیفلڈ، S1 3PB

اوقات صبح 8 - شام 10، سال میں 365 دن

شیفلڈ این ایچ ایس معمولی زخموں کا یونٹ
(صرف بالغ)

بی فلور، رائیل بیلمشائر اسپتال

S10 2JF گلو سوپ روڈ، شیفلڈ،

اوقات صبح 8 - شام 8 روزانہ - اینٹنٹمنٹ لینے کی ضرورت نہیں۔

ایمرجنسی آئی کینر سروس (صرف بالغ)

فون 0114 271 2495 (انکھوں کا عارضہ)

دستیاب ہے سوموار - جمعہ صبح 8 - شام 4.30

بجز بدھ صبح 9 - شام 4.30

رائیل بیلمشائر اسپتال

S10 2JF گلو سوپ روڈ، شیفلڈ،

بچے (16 سال سے کم) جنکو آنکھوں کے ایمرجنسی علاج کی ضرورت ہوتی ہے ان کو شیفلڈ چلڈرنز اسپتال ایمرجنسی شعبہ میں لے کر جانا چاہیے۔

ضروری ڈینٹل کینر لائن

(بالغ اور بچے)

فون 0844 736 8440

دن اور رات سال میں 365 دن دستیاب

ضروری دانتوں کے علاج کیلئے

این ایچ ایس ڈائرکٹ - فون 0845 46 47

یاد رکھیں!

شعبہ حادثات اور ایمرجنسی ان لوگوں کیلئے ہے جن کو ہنگامی طبی توجہ ضرورت ہو یا ان کو کوئی حادثہ پیش آیا ہو۔

ہنگامی صورتحال وہ حالت ہوتی ہے جس میں کسی شخص کو بیہوشی، بہت زیادہ خون بہنے، بڑی ٹوٹنے کا شک، چھاتی کا درد، سانس لینے میں مشکل، دوانی کی زائد مقدار کھانا، کوئی نقصانہ چیز نکل لینا، زہر یا گہرا زخم واقع ہو۔

اے اینڈ ای جاتے سے قبل سوچیں!

- کیا یہ کوئی حادثہ / ایمرجنسی ہے؟
 - کیا میں انتظار کر کے اپنے جی پی مل لوں؟
 - کیا کوئی دوسرا جی پی میری مدد کر سکتا ہے؟
 - کیا متبادل سروس بہتر اور تیز تر ہوگی؟
- متبادل خدمات کی فہرست اس مقام پر مین دی گئی ہے۔

NHS
Sheffield

میرے لیے کونسی

سروس بہترین ہے؟

اگر آپ بیمار یا زخمی ہو جاتے ہیں تو این ایچ ایس کی صحیح سروس منتخب کرنے کا رہنماء۔



Appendix 14

Participants interview guide for semi-structured interviews

Interview Guide

Section A. Introductory Script:

As we discussed earlier and I informed you (through invitation letter and consent form) that this study aims to explore perceptions on the services provided at the GP Walk-in Centre and it's perceived impact on other NHS services by the staff, managers and relevant authorities of the GP Walk-in centre. I would like to re-inform you that the provided information will be kept confidential and your name will not be identifiable. This interview will be of 60 minutes, which can be extended as per your convenience / perceived need. We can take 5-10 minutes break in between the interview, so, whenever you feel like to take break, do intimate.

Section B: Role in the post in relation to the Walk-in centre.

1. Job tile _____
2. How long have you been in the post?
3. How much of your time is specified for this work?
3. Was your previous role/job also linked to the Walk-in centre?

Section C: Perceived impact of the GP Walk-in centre on other NHS services:

1. What do you think about the urgent care services in Sheffield/Rotherham?
2. Are there sufficient urgent care services in Sheffield/Rotherham for the local population?
3. Is there enough information for the patients on the choice of using the specified urgent care service?
4. Do you think that Accident and Emergency is over loaded with patients? If yes how you think that the patients' load can be reduced?
5. What is the role of the GP Walk-in centre in reducing patients' load at A & E?

6. Share one example, where you think a patient must have gone to A & E if not presented to the GP Walk-in centre.
7. What other NHS services could have been affected by the opening of the GP walk-in centre?
8. Which services are provided at the GP Walk-in centre?
9. Which services do you think would have more effective role in reducing patients' load at A & E?
10. What do you think is benefiting from the GP Walk-in centre?
11. What kind of patients is using this centre?
12. Do you think that patients not living in the nearby area also come to use this centre?
13. How do you advertise about the services provided at the centre to the general public?

Section D: Staff working at the centre and services provided:

1. How do you think the quality of services is comparable to other NHS services?
2. What kind of service evaluation tools/indicators do you use to measure the quality of service?
3. How many employees are working at the centre? (Staff, nurse practitioners, GPs, others)
4. What is the average number of patients' turnover to the centre?
5. Approximately how many patients (maximum number) do you think can be treated at the centre in a day?
6. What other measures can be taken to divert patients' load from the A & E to the GP Walk-in centre?
7. Anything else you want to add to this information on the impact of GP Walk-in centre on other NHS services?

Concluding Statement: At the end of this in-depth interview, I would like to extend my sincere thanks for your valuable participation and sharing information

Appendix 15

Participants Consent Form



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Participants Consent Form

Participating in In-depth Interview

Name of Lead Researcher: Dr Mubashir Arain

I working at the post
of

hereby consent to answer the questions in the In-depth Interview conducted for the research project on “**GP walk-in centres in Sheffield and Rotherham**”.

1. I have read the information provided in study invitation letter/information sheet.
2. Details of procedures have been explained to me and I feel satisfied.
3. I agree to my information and participation being recorded on tape.
4. I understand that:
 - I may not directly benefit from taking part in this research right now, but, the outcome of this research will benefit the NHS services and might help in improving urgent care service delivery.
 - I am free to withdraw from the project at any time and I am free to decline to answer any particular question during interview.
 - While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.
 - I may ask that the recording/observation be stopped at any time, and that I may withdraw at any time from the session or the research without any disadvantage.

Participant's signature.....Date.....

I certify that, I have explained the study to the volunteering participant and consider that she/he understands what is involved and freely consents to participation.

Researcher's name: Mubashir Arain

Researcher's signature.....Date.....