TITLE;

An evaluation of the quality of Emergency Nurse Practitioner services for patients presenting with minor injuries to one rural Urgent Care Centre: A descriptive study.

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Aims and objectives: The aim of this study was to evaluate the quality of the Emergency Nurse Practitioner service provided to people presenting to a rural Urgent Care Centre with minor injuries. Three objectives focused on an evaluation of the safety and effectiveness of the Emergency Nurse Practitioner service, an assessment of patients' satisfaction with the Emergency Nurse Practitioner service, and a determination of factors that may enhance the quality of the Emergency Nurse Practitioner service.

Background: Urgent Care Centres have become increasingly prevalent across the United Kingdom. Emergency Nurse Practitioner services at these rural Urgent Care Centres remain largely un-evaluated. This study attempts to redress this deficit by evaluating the quality of an Emergency Nurse Practitioner service in relation to the care of patients presenting with minor injuries to a rural Urgent Care Centre.

Design: This descriptive study utilised a case-notes review and a survey design with one open-ended exploratory question.

Methods: Patient views were collected using a self-completed questionnaire and a data-extraction tool to survey patients' case-notes retrospectively.

Results: Despite comparatively low total length-of-stay times, most patients felt they had enough time to discuss things fully with the Emergency Nurse Practitioner. Although Emergency Nurse Practitioners routinely impart injury advice, feedback from some patients suggests a need for the provision of more in-depth information regarding their injury. The vast majority (97.3%) of patients felt that the quality of the Emergency Nurse Practitioner service was of a high standard. Contrary to some other studies, the findings in this study indicate that patient satisfaction is not influenced by waiting times.

Conclusions: Emergency Nurse Practitioners in rural Urgent Care Centres have the potential deliver a safe and effective quality service that is reflected in high levels of patient satisfaction.

Relevance to clinical practice: This study provides some evidence to support the continued expansion of the Emergency Nurse Practitioner service in rural settings in the United Kingdom.

Keywords: Emergency Nurse Practitioner, Minor Injuries, Urgent Care Centre, Quality of Care.

INTRODUCTION

Emergence of Urgent Care Centres

The increasing demand for unscheduled care poses a challenge for healthcare providers. Policy-driven changes in the United Kingdom (UK) have initiated a reconfiguration of traditional models of healthcare delivery with the subsequent growth of different models such as Minor Injury Units and Walk-in Centres (Audit Commission 2010, Birkerton *et al.* 2011, DH 2006a). One such model of healthcare delivery is the Urgent Care Centre (UCC) service which attempts to manage need locally and absorb some of the workload from typically overstretched Emergency Departments (EDs).

Since their emergence, UCCs have become increasingly prevalent in a variety of health trusts across the UK (Martin 2008). The model of care is currently seen in two main forms; one where the service is co-located within an ED as an optional 'stream' for patients attending with minor injuries. The other type of UCC model is a satellite service, such as a Minor Injury Unit (MIU) based within the community setting (DH 2007). Some MIUs have been integrated with, or developed into UCCs, depending on local need (NHS 2007, Parker 2010). These UCCs attempt to provide a more accessible and timely response to the needs of people currently attending EDs with minor injuries (NHS 2010).

Operational Definition of Quality

A definition of quality of care has been established (DHSSPS, 2011) under three main headings and this definition was adopted for this study;

- **Effectiveness** – the degree to which each patient receives the right care, at the right time, in the right place, with the best outcome.
- **Safety** – avoiding and preventing harm to patients from the care, treatment and support that is intended to help them.
- **Patient Experience** – all patients are entitled to be treated with dignity and respect and should be fully involved.

This definition of quality of care is reflective of healthcare strategies across the UK (DH 2008, NHS Scotland 2010, NHS Wales 2005).

Rationale for Research

It is important to evaluate ENP services at UCCs as there are plans to develop this type of integrated urgent care model throughout the UK (DHSC 2011). It is envisaged that UCCs should be developed in accordance with local need, and therefore should be tailored to meet the specific needs of that population. ENPs must maintain an understanding of the local care needs if they are to deliver a quality service to that population. Healthcare delivery, including ENP services, must be seen to deliver a cost effective service in the current economic climate (Matthews 2010). The Department of Health (2012) envisages that patients should receive "the best care from the best person, in the best place and at the best time". As such, ENPs in rural UCCs must be able to demonstrate their ability to deliver a quality service through evaluation.

Research Aim and Objectives

Aim: To evaluate the quality of the Emergency Nurse Practitioner service provided to patients presenting to a rural Urgent Care Centre with minor injuries.

Objectives: To evaluate the safety and effectiveness of the ENP service.

To assess patients' satisfaction with the ENP service.

To determine factors that may enhance the quality of the ENP service.

BACKGROUND

The literature review revealed a substantial body of evidence which strongly signifies that ENPs can provide a safe and effective quality service. It is a service with which patients are typically highly satisfied with, especially in terms of information-giving, a patient-centred approach and an open communication style indicative of ENPs. Other aspects of practice synonymous with the ENP role include a perceived 'thoroughness' and the allocation of an adequate amount of consultation time for the patient. The literature review also indicates that ENPs typically demonstrate a high standard of documentation and appropriateness of referral. Although there is a commonly held perception that an ENP service can reduce waiting-times this has not been definitively shown to be the case. The environment in which the patient is seen may have more influence on waiting times than the type of professional who sees the patient.

Background to the Emergency Nurse Practitioner Service

In the UK, the Nurse Practitioner (NP) role originated in primary care in the early 1980s through the introduction of nurse-led clinics for chronic disease management and minor illness (McLaren 2005). The Scope of Professional Practice (UKCC 1992) provided guidance from the regulatory body on the extended role of the nurse. This professional guidance document subsequently enabled emergency nurses to formalise the concept of the Emergency Nurse Practitioner (ENP) role in an attempt to address the needs of an increasing number of patients attending with minor injuries. The Audit Commission (2001) recognised the effectiveness of the ENP and strongly recommended the expansion of this service. The subsequent meteoric proliferation of ENPs in the UK is an endorsement of the success of the role (Daewood 2005, Fotheringham et al. 2011). Since then, the role of the ENP has expanded and matured and the ENP is now considered a key healthcare provider in the UK (Fisher 2006).

ENPs remain one of the most widely recognised and accepted subgroups of NPs. ENPs are at the forefront of many nurse-led services and are responsible for assessing, diagnosing and

treating patients autonomously (DH 2010a). Although the clinical aspect of the ENP role remains significant, it is by no means defined solely by this component. The ENP role is dynamic and evolving, especially within the context of professional developments (Hoskins 2011) and current efforts to regulate the role (RCN 2010).

Clinically Safe and Effective Practice

Central to the principles of Clinical Governance (DH 1999), National Health Service (NHS) organisations are accountable for continuously improving the quality of their services and safeguarding high-standards of care. Patients are considered consumers of health services and expect to receive clinically effective, high-quality care (Leufer and Cleary-Holdforth 2009). A large RCT (n= 1453) conducted by Sakr *et al.* (1999) revealed that properly trained ENPs can provide care for patients who present with minor injuries that is equal to, or in some ways better, than that provided by doctors. Other studies have also acknowledged that appropriately trained and educated ENPs are able to provide safe and effective practice (Cooper *et al.* 2002, Megahy and Lloyd 2004, Sakr *et al.* 2003).

High Satisfaction Levels

An overarching theme which remained consistent throughout the reviewed literature was high levels of patient satisfaction. Some authors contest that large numbers of respondents are required to detect real statistical differences in patient satisfaction surveys (Collins 1999) yet even when this has been achieved, patient satisfaction remains consistently high (Sakr *et al.* 1999, Touché Ross 1994). In the UK-based Randomised Controlled Trial (RCT) undertaken by Cooper *et al.* (2002), a convenience sample of adult patients (n= 199) exhibited high levels of patient satisfaction with the care provided by ENPs. Such overall high levels of patient satisfaction with ENP services are encouraging, yet to extract any real meaning from these surveys it is necessary to examine the components of patient satisfaction. The concept of patient satisfaction is subjective, intricate and composed of multiple facets (Ryan and Rahman

2012). It could be argued that the components with which patients are least satisfied could provide specific evidence of issues for improvement of the service.

Factors Influencing Patient Satisfaction

Patient satisfaction may be affected by expectations, patient characteristics as well as the patient's perception of the service (Knudtson 2000). As to whether or not demographic factors influence patients' satisfaction, inconsistencies remain in the literature to date. Some research failed to discern any correlation between age or gender and patient satisfaction with the ENP (Ryan and Rahman 2012, Thrasher and Purc-Stephenson 2008). However, Green and Davis (2005) determined that age was the only significant predictor of patient satisfaction, as their study reported less satisfaction of 18 to 25 year-olds with a NP service when compared to other age groups.

Thoroughness

Another factor that may influence patient satisfaction was the perceived thoroughness of the ENP (Jennings *et al.* 2009, Perry *et al.* 2005, Touché Ross 1994). It may be that this thoroughness is one of the reasons why ENPs appear to excel in providing clinically safe and effective practice. Certainly ENP thoroughness could contribute to other areas of their practice, including patient examination and high-standards of documentation.

Reduced Waiting-Times

Waiting-times, both real and perceived, affect patient satisfaction (Rahmqvist and Bara 2010). As waiting-time increases, patients become increasingly dissatisfied, (Collis 2010, Ritchie *et al.* 2004) whereas when waiting-time is less than expected, patients exhibit higher levels of satisfaction (Thompson and Yarnold 1995). Cole *et al.* (2001) found that expectation about the length of waiting-time was the only variable that was consistently related to patient satisfaction. Waiting-times tend to be longer in large urban EDs and shorter in smaller rural EDs (Audit Commission 2001) although the reasons for this are unclear.

Although evidence has established the safety and effectiveness of ENPs, it had not been definitively shown that they reduce waiting-times (Cooke *et al*. 2004). There is certainly a perception that an ENP service can reduce waiting-times (Fotheringham *et al.* 2011, Locker *et al.* 2005) and the literature suggests that lower waiting-times are an inherent by-product of an ENP-delivered service (Jarvis 2007, Wilson and Shifaza 2008). However, there is limited evidence that demonstrates that ENPs can directly affect waiting-times.

In the Sakr *et al.* (2003) cohort study, waiting-times were much shorter in the ENP-led MIU group compared to doctor-led ED care. However, whether or not ENPs were independently responsible for the marked differences in waiting-time remains unproven. Other factors, including high volumes of patients and subsequent 'bed-blocking' in the ED may equally have influenced waiting-times. Although it was minor injury services which were compared in this study, it is not made clear whether the doctors in the ED were also treating other ill patients concurrently.

In Thompson and Meskell's (2012) retrospective case-note study the length-of-stay of patients seen by Advanced Nurse Practitioners were compared with patients seen by doctors in one ED in the Republic of Ireland. A typically much shorter total length-of-stay for patients seen by an ANP compared to doctors was revealed. Significantly, this study acknowledged an inability to control other concurrent role responsibilities that may have influenced waiting-times.

The fragmented and often protracted nature of the traditional ED system has long been associated with excessive waiting-times (Swann *et al.* 2003, Wilson and Shifaza 2008). The apparent shorter waiting-times achieved by ENPs could be attributed, at least in part, to having a dedicated environment. Evidence acknowledges that streaming of minor injury patients in EDs and dedicated MIUs expedites their journeys (Cooke *et al.* 2002, DH 2001).

High Standard of Documentation

ENPs have demonstrated the ability to maintain high-standards of documentation (Megahy and Lloyd 2004, Organ *et al.* 2005, Tachakra and Deboo 2001). In the Cooper *et al.* (2002) RCT

a Documentation Audit Tool was used to measure the quality of each set of case-notes written by either an ENP or a Senior House Officer (SHO). The documentation of the ENPs was found to be of marginally higher quality (28.0/30) compared to SHOs (26.6/30), which was statistically significant ($p < 0.001$).

Unplanned Re-attendances

Unplanned re-attendance is an acknowledged quality care indicator which is closely-linked to dissatisfaction of the returned patient (Nunez *et al.* 2006). Despite evidence which suggests that ENPs promote more discretionary unplanned re-attendances (Dierick-van Daele *et al.* 2009) patients seen by an ENP are less likely to seek unplanned follow-up (Sakr *et al.* 1999, 2003). Conversely, other studies found that unplanned re-attenders were comparable between ENP and doctor groups examined (Cooper *et al.* 2002, Tachakra and Deboo 2001). The provision of adequate discharge advice is an effective strategy for reducing the occurrence of unplanned re-attendance (Kuan and Mahadevan 2009, Taylor and Cameron 2000). Unplanned re-attendances are often averted when patients' concerns are addressed thoroughly by NPs (Nunez *et al.* 2006, Williams and Jones 2006).

NHS Information Centre (2012) indicated that 7.2% of patients re-attended urgent care facilities within seven days of initial attendance. Although it is advantageous to minimise the number of unplanned re-attendances by patients, their presentation should be seen as an opportunity to assess the patient for the possibility of missed injuries. Unplanned re-attendances have been shown to account for the detection of a significant amount of both missed injuries and inappropriately managed injuries (van der Linden et al. 2010).

Appropriateness of Referrals

Referrals made by ENPs are consistently appropriate (Cooper *et al.* 2002, Megahy and Lloyd 2004, Sakr *et al.* 2003). A prospective case-control evaluation of ophthalmic referrals by Ezra *et al.* (2005) found that ENPs were consistently more accurate than SHOs in history-taking, examination and diagnosis. Consequently, the authors concluded that ENPs were competent in making accurate and appropriate referrals to ophthalmologists. In fact, they suggested that a

significant reduction in ophthalmic workload may be achieved by patients being assessed by ENPs only. Such appropriateness of referrals could be viewed as validation of the clinical accuracy and high-standards of documentation demonstrated by ENPs.

Distinctive Communication Style and Holistic Approach

Patients feel at ease talking to ENPs. A relaxed consultation style is apparently common among ENPs and may contribute to a more holistic-approach of care (Cooper *et al.* 2002, Touché Ross 1994, Williams and Jones 2006). ENPs speak a language that patients can understand (Fisher, 2006), which is associated with enhanced patient outcomes, including increased patient satisfaction and increased adherence to treatment plans (Charlton *et al.* 2008). In Jarvis' (2007) evaluation survey of an ENP service, a convincing 97% (n= 416) of patients felt that their treatment was explained *completely* by the ENP *'in a way they could understand'*. Such findings were replicated in Wilson and Shiraz's (2008) retrospective case-note survey and questionnaire which revealed that (91.2%, n= 57) felt that ENPs were competent in explaining matters to them.

Time for Adequate Consultation

Many of the studies reviewed (Jennings *et al.* 2009, Thrasher and Purc-Stephenson 2008, Williams and Jones 2006) concluded that patients felt they had enough time to discuss concerns fully with the ENP. Byrne *et al.* (2000a, 2000b) revealed that ENPs spent longer than doctors at the initial consultation and this resulted in greater patient satisfaction overall. Only one study reviewed found no significant difference in total consultation time (Cooper *et al* 2002). Sakr *et al.* (2003) suggested that comparatively less-pressured MIU environments allow ENPs more time with patients. However, increasing attendances may mean that ENPs will have less time with patients and this may lead to decreased patient satisfaction (Burley 2011).

Injury Advice and Health Promotion

Health-promotion is one of the fundamental tenets of ENP practice and an effective patient-centred approach to this aspect of care may contribute to increased patient satisfaction (Daewood, 2005). Although effective health-promotion and injury advice can be time-

consuming, the expertise of ENPs makes them ideally equipped to fulfil this essential aspect of healthcare provision (Dunlop, 1999). Adequate health-promotion and injury advice may mean a longer total length-of-stay for the patient. However, educating patients on their injury combined with a recovery strategy enable patients to assist themselves in their own pathway back to health. Sidani (2008) suggests that patients recognise quality care when it is individualised and when they are encouraged to be proactive in their own health-related decisions.

Paxton and Heaney (1997) conducted questionnaire surveys designed to measure patient satisfaction of the care received in one nurse-led MIU. This revealed that many of the respondents *expected* to be given advice and reassurance on their injury by the ENP. A follow-up questionnaire subsequently revealed that the vast majority (87%, n= 456) of patients felt that the ENP service had met these expectations.

ENPs are significantly more likely to impart high-quality healthcare information to patients (Barr *et al.* 2000, Cooper *et al.* 2002, Wallis *et al.* 2009). When compared to patients seen by doctors, Byrne *et al.* (2000a) revealed that those patients seen by ENPs were significantly more likely to be given written instruction on discharge, given health advice and information and told who to contact should they need further advice.

Conclusion

The themes which have been explored in the literature should be interpreted within the context of their findings and limitations. Although ENP-delivered services typically result in high patient satisfaction levels, many of these studies were site-specific evaluations. Many of the studies were also newly-developed ENP services and this may have under-represented the overall evaluation of established services. Whilst acknowledging the limitations of some of the literature, there is strong evidence which suggests that ENP services are safe, effective and held in high regard by patients.

METHODS

Design

Using a descriptive design combining a case-notes review and a survey, an evaluation of the quality of an ENP service was undertaken. While the study is primarily descriptive, the survey includes one open-ended question that should increase the depth of understanding of the phenomenon explored, without necessarily compromising the breadth of the study. It was also anticipated that the complementary findings of the qualitative data could be used to verify the data findings of the quantitative dimension of the study, thereby enhancing validity. The use of such a pragmatic paradigm allows researchers to move between inductive and deductive processes during the research process (Morgan 2007).

METHODS OF DATA COLLECTION

Retrospective Case-Note Survey

A data-extraction tool was created specifically for this part of the study to collect a range of objective data. The retrospective case-note survey collected data in relation to demographic details of age and gender, and clinical variables of waiting-times, investigations, time to definitive treatment by ENP, type of injury, total length of stay in the department, and whether the patient subsequently returned as an unplanned re-attender. Research that utilizes data from patient records can be used in an effective way to monitor local healthcare (DH 2010b, DHSSPS 2011).

To measure quality, standards must exist, against which practice can be measured. The retrospective case-note survey was structured to reveal quantitative details based on relevant Clinical Quality Indicators (CQIs) (DH 2010b). These CQIs were introduced by the Department of Health to assist trusts in presenting a broader picture of the quality of urgent care services (See table 1.0). NHS trusts are to be held to account against clinically credible and evidence-based outcome measures and not simply process targets used in the past (DH 2011). The first

three CQIs are to be examined in the retrospective case-note survey, and the Service Experience indicator was completed using a patient satisfaction questionnaire.

Patient Satisfaction Questionnaire

Patient satisfaction is a recognized method of evaluating nursing practice and is perceived as an indicator of quality-of-care (Megahy and Lloyd 2004, Walsh 2001), reflective of patients expectations and experience (Foot and Fitzsimons, 2011). Touché Ross (1994) developed a questionnaire to measure patient satisfaction with NPs. The Touché Ross (1994) *Patient Satisfaction Questionnaire* was adopted for this study as it was deemed very relevant, as it has been used successfully in previous studies (Byrne *et al.* 2000a, Jennings *et al*. 2009) and exhibits validity and feasibility. Using Cronbach's alpha coefficient, the internal consistency of items contained in the questionnaire demonstrated good reliability (α= 0.829). This questionnaire was slightly adapted and shortened for use in the UCC setting.

The satisfaction questionnaire utilizes brief, self-completion questions which concentrate on evaluating the main aspects of quality markers. The patient satisfaction questionnaire used consists mainly of questions or statements with a fixed-set of possible answers and one open-ended question. Some of the questions use a Likert-type scale; others are closed questions seeking only 'yes' or 'no' answers. Although the questionnaire utilized was primarily constructed to secure quantitative data, it has one open-ended question and therefore attempts to secure a small amount of additional qualitative data also.

Background to site-specific study hospital

The study-site UCC provides services for an expansive rural catchment-area of approximately 88,000 people. This particular UCC is a 24/7 nurse-led service. This study focused specifically on the minor injuries service provided by the ENPs. Of the current 17,000 annual attendances, the vast majority would be classified as 'minor injury' patients.

Sample and Sampling Procedure

This study utilized a prospective non-random convenience sample. Potential participants were identified from a population of all patients (n= 888) who attended the UCC during a continuous 21-day recruitment period. The sampling process took place during July and August of 2012. At the time of their attendance the ENPs asked all eligible patients (n= 347) if they were willing to participate in the study and receive a posted questionnaire. Pre-notification of a forthcoming postal questionnaire is a recognised method of enhancing response rates (Edwards *et al*. 2009). The ENPs gave brief information to the patient of the study at the time of their attendance and any concerns were discussed.

Questionnaires were posted within 3 days of patient attendance, thus reducing the likelihood of recall bias. It was explicitly clarified that consent to participation in the entire study was to be assumed on return of their questionnaire. On return of these coded questionnaires, they were matched to a correspondingly-coded data-extraction tool. Case-note surveys were only commenced once the patient satisfaction questionnaire had been returned, and therefore consent obtained.

Inclusion/Exclusion Criteria

Some individuals belong to especially vulnerable groups, such as those with learning disabilities, people with mental health problems and children. This study did not include these people as research should not be carried out on vulnerable individuals if it could as easily be carried out on competent adults (Burns and Grove 1999). The inclusion criteria for the sample population were patients' having attended the UCC with a minor injury within the recruitment phase, patients who were assessed and treated by an ENP, able to read/understand English and 18 years old and over. Exclusion criteria were patients in police custody, affected by alcohol and drugs, suspected or reported self-harm and those with learning disabilities or mental health problems.

Pilot Study

Pilot work for the patient satisfaction questionnaire was carried out to check content clarity and acceptability. The questionnaire was shown to 5 individual patients who attended the UCC and they were asked to provide feedback in relation to ease of understanding. It was also shown to 5 ENPs to check the face validity of the questionnaire. At the time, no clarity difficulties were encountered and the instrument was acceptable to patients and therefore no amendments were deemed necessary.

Ethical Issues

Ethical approval was obtained from the regional Research Ethics Committee and by the study site's hospital Trust research governance committee.

Data Analysis

The Statistical Package for Social Services (SPSS, 2008) v15.0 was used to analyse the quantitative data generated. A combination of descriptive and analytical statistics was used to examine data. Non-parametric tests were utilised in the absence of a normal distribution of scores. A confidence level of 95% with a confidence interval defined as a *P*-value of <0.05 was used throughout this study. Content analysis of the qualitative data was undertaken by categorising under distinguishable headings and further examined using thematic analysis. Some verbatim quotes were used in the discussion to illustrate identified themes.

RESULTS

Response Rate and Demographics

Of the questionnaires posted out to the eligible participants (n= 347), a total of 111 were returned, giving a response rate of 32%. Males accounted for 50.5% (n= 56) and females accounted for 49.5% (n= 55) of the overall respondents. Respondents' age ranged between 18 and 91 years.

Unplanned Re-attendance

There were 4 (3.6%) unplanned re-attendances to the UCC within 7-days of initial attendance; none returned more than once.

Presenting Types of Injury

Lower limb soft-tissue injuries, including ankle sprains and crush injuries accounted for almost one-third (n= 36, 32.4%) of all presentations to the UCC. The ten most common presentations to the UCC are presented in descending order of prevalence (See Table 2.0).

Waiting-Time to see the ENP

From time of arrival to start of full initial assessment by the ENP, the median waiting-time was 22 minutes. The minimum waiting-time was 0 minutes and the maximum waiting-time was 120 minutes. Patients were triaged by a staff nurse after their arrival to the UCC, prior to being seen by an ENP.

Total Length-of-Stay

The median total length-of-stay for all participants involved in this study was 45 minutes. The shortest length-of-stay for a patient in the UCC was 5 minutes. The single longest time spent in the UCC by any patient was 125 minutes. In total, 73.0% (n= 81) of all patients were seen, assessed, diagnosed, treated and discharged by an ENP within 1 hour of registration in the UCC (See Table 3.0).

Investigations Undertaken

Radiological investigations accounted for all investigations undertaken. Altogether 46.8% (n= 52) of all respondents had x-rays undertaken.

Patient Safety

Of the total number of patients (n= 71) who received medications for home, 98.6% (n= 70) were given advice on taking the medication by the ENP. Of the valid responses to the questionnaire, 69.8% (n= 74) of patients were given health education advice from the ENP. Only 41.3% (n= 45) of patients were given written advice about their injury, and most patients

(90.1%, n= 100) were informed of who to contact if they needed more help or advice regarding their injury/illness.

Effectiveness of ENP Service

The vast majority of patients 97.3% (n= 108) felt they had enough time to discuss things fully with the ENP. Of the valid responses 83.8% (n= 93) of the patients indicated that they would be agreeable to seeing the ENP again about a similar health need. Some patients (14.4%, n= 16) indicated that they would not like to see the ENP about a similar health need. The vast majority of patients (96.4%, n= 107) indicated that they would recommend the ENP service to a friend. Although many patients (73.0%, n= 81) indicated that the ENP service could not be improved, some patients (18.9%, n= 21) felt that the service could be improved. Various suggestions of how the service could be improved were provided in response to the one open-ended question in this study. These patient suggestions were categorized into two main themes, namely 'a decrease in waiting time' and the provision of 'more information' regarding their injuries.

Patient Satisfaction with ENP service

Patient satisfaction with the ENP service was addressed in statements 1 to 5 of the questionnaire. Overall, it would appear that patients' have exhibited high levels of patient satisfaction with the ENP service. The findings of these questions have been summarised in Table 4.0. Using Cronbach's alpha coefficient, the internal consistency of items contained in the statements 1 to 5 demonstrated good reliability (α= 0.779).

Factors Influencing Patient Satisfaction

The total scores for the five patient satisfaction items were calculated and the correlation between waiting-times and total patient satisfaction was examined. Spearman's rank order correlation (rho) between the two variables found no significant correlation (rho=-0.07, n=108, p>.05). The percentage of variance (0.49%) revealed very little overlap between the two variables.

Four age groups were collapsed into equal percentiles to enable comparison between age and total patient satisfaction scores. A Kruskal-Wallis test did not reveal any statistically significant (p= 0.79, df= 3) difference between the four age groups and patient satisfaction.

A Mann-Whitney U-Test revealed a statistically significant difference (p= 0.043) between the total patient satisfaction of males and females, with male respondents exhibiting higher levels of total patient satisfaction.

Patient Evaluation of Overall Quality of ENP Service

Most of the patients (81.3%) considered the overall quality of service provided by the ENP to be *excellent*. A summary of the breakdown of this global item has been demonstrated in a pie-chart (See Figure 1.0).

DISCUSSION

This study adds further evidence that ENPs in rural UCC can deliver a safe and effective quality service, reflected by high levels of patient satisfaction.

Significant Findings

Data from this study suggest that waiting-times were much lower in this ENP-led UCC when compared to national waiting-times. These patients are being seen in a timely manner, indicating the provision of an effective service. The median waiting-time for patients at this UCC (22 minutes) compared favourably with national figures (49 minutes) (NHS Information Centre, 2012). Similarly, the median total length-of-stay for all participants involved in this study (45 minutes) also compared favourably against national figures (128 minutes) (NHS Information Centre, 2012). The considerable differences in waiting times can be at least partially attributed to the dedicated environment which the UCC offers.

According to the data in this study, waiting-times do *not* influence patient satisfaction. No correlation was shown to exist between increased waiting-times and lower levels of patient satisfaction. Although several patients expressed some dissatisfaction with the waiting-times,

this was not reflected in the overall levels of patient satisfaction. One patient commented that "shorter waiting times would improve the service, but overall very good" (Patient No.40). Although total length-of-stays were typically short, most patients still felt they had enough time to discuss things fully with the ENP.

Although many of the respondents did not receive written advice leaflets about their injuries, most patients were at least given verbal advice prior to discharge. It would appear that the limited range of printed advice leaflets was being supplemented with verbal advice. Although ENPs appear to impart advice routinely, feedback from a small minority of patients suggests a need for more in-depth information. One patient recommended that ENPs should "provide more information on how to look after my injury" (Patient No.83). Nunez *et al.* (2006) previously acknowledged that patient satisfaction may be improved with better information giving. Therefore, patients' individual information needs should be assessed and responded to accordingly.

The results of this study indicated that patients are routinely given medication advice on discharge. As the vast majority of patients were told who to contact if they needed more help or advice, it would appear that overall, matters of patient safety are being adequately addressed.

Echoing the findings of previous research (Sakr *et al.* 1999, Sakr *et al.* 2003), patients seen by an ENP are less likely to seek unplanned follow-up. This may be due to NPs adequately addressing patients' concerns prior to discharge (Nunez *et al.* 2006, Williams and Jones 2006). Unplanned re-attendances in this UCC were half (3.6%) the national average of 7.2% (NHS Information Centre, 2012). This indicates the provision of an effective service; however, the low response rate and the possibility of patient re-attendance at a different care facility should be factored into this assumption.

The vast majority (97.3%) of patients felt that the quality of the ENP service was either excellent or good. The patients' experience of a quality service was supported by comparable

feedback, with one patient observing that “the standard of care was excellent” (Patient No.76).

Limitations

The 32% response rate obtained means that the views of many non-respondents are unknown. As ENPs were aware of the patient satisfaction survey this may have influenced their usual practice to some extent. This study was undertaken at one UCC only and therefore the results can only be truly representative of the study hospital. As this research was undertaken by one of the ENPs working in the UCC, bias could have been a factor influencing the presentation of the findings from this study.

There was an indication that the theoretical question, ‘*Would you like to see the ENP again about a similar health need?*’ was misinterpreted by some study participants. Although the vast majority indicated that they would recommend the ENP service to a friend, a significant proportion indicated that they would not ‘*like to see the ENP again’* themselves. This apparent contradiction could be explained by a misinterpretation of the question by some patients. It is suggested that rather than these patients not actually wanting to see the ENP again because they were unhappy about the ENP service, that some of the respondents may have thought this was an open invitation to see the ENP about another separate health need. A more extensive pilot study may have highlighted a problem with this question prior to conducting the survey. Any future studies utilizing this questionnaire may wish consider amendment to the wording of this particular item.

Recommendations

A larger, multi-site sample would undoubtedly yield more generalizable results. Future studies in this area may wish to further explore patient satisfaction and information needs using more in-depth qualitative interviews. Should this study be replicated, the authors might want to consider having a small focus group, in which members are asked to read the questions and explain what they think it means. This may eliminate problems encountered with possible misinterpretation of any questions, as identified in this study.

CONCLUSION

Emergency Nurse Practitioners in rural Urgent Care Centres can deliver a safe and effective quality service. This is demonstrated by high levels of service user satisfaction, low waiting times, effective practice, and ensuring safety by providing appropriate information about treatment factors such as medication and when to return to the department. ENPs are highly skilled professionals that work autonomously and effectively to meet patients' needs. Emergency Nurse Practitioners can provide a valuable, safe and effective service in rural Urgent Care Centres.

RELEVANCE TO CLINICAL PRACTICE

Emergency Nurse Practitioners in rural settings can deliver a safe and effective service. This small piece of research indicates that waiting times at Urgent Care facilities do not influence patient satisfaction. The findings of this study also suggest some patients have a need for more information on the management of their injury. ENPs should consider carefully the information needs of each patient they treat, and ensure that such information needs are fully met. This could be achieved by discussing and formulating individual treatment plans with patients. However, strategies to meet information needs must consider patients' ability to absorb and retain a lot of new information.

These findings could bear relevance in the commissioning of future services. ENP-led services may become a victim of their own success, unless commissioners re-invest in the development and expansion of such services. With increasing attendances to UCCs, fuelled by low waiting-times and high-levels of patient satisfaction, it may become more difficult to maintain a quality service in the future.

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Study Design: & Data Collection and Analysis Manuscript Preparation.

REFERENCE LIST

Audit Commission (2001) *Accident and Emergency*. The Stationary Office, London.

Audit Commission (2010) *Making the most of frontline NHS staff.* The Stationary Office, London.

Barr M, Johnston D & McConnell D (2000) Patient satisfaction with a new nurse practitioner service. *Accident and Emergency Nursing* 8, 144-147.

Bickerton J, Davies J, Davies H, Apau D & Procter S (2011) Streaming primary urgent care: a prospective study. *Primary Health Care Research and Development*. Cambridge University Press.

Byrne G, Richardson M, Brunsdon J & Patel, A (2000a) An evaluation of the care of patients with minor injuries in emergency settings. *Accident and Emergency Nursing* 8,101-109.

Byrne G, Richardson M, Brunsdon J & Patel A (2000b) Patient satisfaction with emergency nurse practitioners in A & E. *Journal of Clinical Nursing* 9, 83-93.

Burley D (2011) Better communication in the emergency department. *Emergency Nurse* 19(2), 32-36.

Burns N and Grove SK (1999) Understanding nursing research (2nd Edition). London: Saunders Company.

Charlton CR, Dearing KS, Berry JA & Johnstone MJ (2008) Nurse practitioners' communication styles and their impact on patient outcomes: An integrated approach. *Journal of the American Academy of Nurse Practitioners* 20, 382-388.

Cole FL, MacKey TA and Lindenberg J (2001) Wait Time and satisfaction with care and service at a Nurse Practitioner managed clinic. *Journal of the American Academy of Nurse Practitioners* 13(10), 467-472.

Collins K (1999) Developing patient satisfaction questionnaires. *Nursing Standard* 14(11): 37-38.

Collis J (2010) Adverse effects of overcrowding on patient experience and care. *Emergency Nurse* 18(8), 34-39.

Cooke M, Fisher J, Dale J, McLeod E, Szczepura A, Walley P & Wilson S (2004) Reducing Attendances and Waits in Emergency Departments: A systematic review of present innovations. *National Co-ordinating Centre for NHS Service Delivery and Organisation* R & D (NCCSDO).

Cooke MW, Wilson S and Pearson S (2002) The effect of a separate stream for minor injuries on accident and emergency department waiting times. *Emergency Medicine Journal* 19, 28-30.

Cooper MA, Lindsey GM, Kinn S and Swann IJ (2002) Evaluating Emergency Nurse Practitioner services: a randomized controlled trial. *Journal of Advanced Nursing* 40 (6), 721-730.

Daewood M (2005) Patient centred care: lessons from the medical profession. *Emergency Nurse* 13(1), 22-27.

Department of Health (1999) *Clinical Governance: Quality in the New NHS.* Leeds: NHS Executive.

Department of Health (2001) *Reforming Emergency Care.* www.dh.gov.uk/prodconsumdh/groups/dhdigitalassets/@dh/@en/documents/digitalasset/d4058836.pdf (last accessed 20/04/12).

Department of Health (2006a) *Direction of Travel for Urgent Care: a discussion document.* London: The Stationary Office.

Department of Health (2010a) *Guidance for Access to Health Records Requests.* London: The Stationary Office.

Department of Health (2010b) *A&E Clinical Quality Indicators – Data definitions.* London: The Stationary Office.

Department of Health (2008) *High Quality Care for All: Next Stage Review final report.* www.dh.gov.uk/en/publicationsandstatistics/publications/publicationspolicyandguidance/DH_085825 (Last accessed: 14/02/2010)

Department of Health (2011) *Equity and excellence: Liberating the NHS.* London, The Stationary Office.

Department of Health (2012) *Urgent and Emergency Care.* www.dh.gov.uk/health/category/policy-areas/nhs/urgent-and-emergency-care/ (last accessed 27/01/12).

Department of Health and Social Care (2011) *Transforming your Care – A Review of Health and Social Care in Northern Ireland.* Belfast, DHSC.

Department of Health, Social Services and Public Safety (2011) *Quality 2020 – A 10-year quality strategy for health and social care in Northern Ireland.* Belfast, DHSSPS.

Department of Health (2007) *Urgent Care Centres.* www.dh.gov.uk/en/Healthcare/Urgentandemergencycare/DH_4123661 (last accessed 23/01/12)

Dierick-van Daele ATM, Mtesemakers JFM, Derckx EWCC, Spreeuwenberg C and Vrijhoef HJM (2009) Nurse Practitioners substituting for general practitioners: randomized controlled trial. *Journal of Advanced Nursing* 65(2), 391-401.

Dunlop M (1999) Health promotion as an ENP: is it possible? *Emergency Nurse* 7(4), 35-38.

Edwards P J, Roberts I, Clarke M J, DiGuiseppi C, Wentz R, Kwan I & Pratap S (2009) Methods to increase response to postal and electronic questionnaires. *Cochrane Database of Systematic*

Reviews. www.onlinelibrary.wiley.com/doi/10.1002/14651858.MR000008.pub4/pdf (last accessed 19/01/12)

Ezra DG, Mellington F, Cugnoni H & Westcott M (2005) Reliability of ophthalmic accident and emergency referrals: a new role for the emergency nurse practitioner? *Emergency Medicine Journal* 22, 696-699.

Foot C and Fitzsimons B (2011) The policy and practice of measuring patient experience. *Nursing Management* 18(3), 18-19.

Fotheringham D, Dickie S & Cooper M (2011) The evolution of the role of the Emergency Nurse Practitioner in Scotland: a longitudinal study. *Journal of Clinical Nursing* 20, 2958-2967.

Fisher J (2006) Developing the A&E Nurse Practitioner Role. *Emergency Nurse* 13(10), 26-31.

Green A & Davis S (2005) Towards a predictive model of patient satisfaction with Nurse Practitioner care. *Journal of the American Academy of Nurse Practitioners* 17(4), 139-148.

Hoskins R (2011) Evaluating new roles within emergency care: A literature review. *International Emergency Nursing* 19, 125-140.

Jarvis M (2007) Satisfaction guaranteed? *Emergency Nurse* 14(9), 34-37.

Jennings N, Lee G, Chao K, & Keating S (2009) A survey of patient satisfaction in a metropolitan Emergency Department: Comparing nurse practitioners and emergency physicians. *International Journal of Nursing Practice* 15, 213-218.

Knudtson N (2000) Patient satisfaction with Nurse Practitioner service in a rural setting. *Journal of the American Academy of Nurse Practitioners* 12(10), 405-412.

Kuan WS & Mahadevan M (2009) Emergency unscheduled returns: can we do better? *Singapore Medical Journal* 50(11), 1068-1071.

Leufer T & Cleary-Holdforth J (2009) Evidence-based practice: improving patient outcomes. *Nursing Standard* 23(32), 35-39.

Locker T, Mason S, Wardrope J & Walters S (2005) Targets and moving goalposts: changes in waiting times in a UK emergency department. *Emergency Medical Journal* 22, 710-714.

Martin J (2008) Access to Urgent Care: Looking to the future. *Practice Nursing* 19(4), 166-167.

Matthews R (2010) Involving patients in service improvement. *Nursing Management* 16(10), 16-19.

Megahy A & Lloyd M (2004) Managing Minor Injuries. *Emergency Nurse* 12(5), 14-16.

McLaren P (2005) The evolution of the nurse practitioner. *Evidence-Based Healthcare & Public Health* 9, 265–266.

Morgan DL (2007) Paradigms lost and pragmatism: methodological implications of combining qualitative and quantitative methods. *Journal of Mixed-Methods Research*. 1, 48-76.

NHS (2007) *A framework for Action*. www.nhshistory.net/darzilondon.pdf (last accessed 20/01/12).

NHS (2010) *A service delivery model for urgent care centres: Commissioning advice for PCTs.* www.londonhp.nhs.uk/wp-content/uploads/2011/03/Urgent-care-centres-delivery-model.pdf (last accessed 31/01/12).

NHS Information Centre (2012) *The Information Centre*. www.ic.nhs.uk/statistics-and-data-collections/hospital-care/accident-and-emergency-hospital-episode-statistics-hes/provisional-accident-and-emergency-quality-indicators-for-england--experimental-statistics-by-provider-for-january-2012 (last accessed 25/07/12).

NHS Scotland (2010) *The Healthcare Quality strategy for NHS Scotland*. The Scottish Government.

NHS Wales (2005) *Designed for life: Creating world class Health and Social Care for Wales in the 21st Century.* Welsh Assembly Government.

Nunez S, Hexdall A & Aguirre-Jaime A (2006) Unscheduled returns to the emergency department: an outcome of medical errors. *Quality and Safety in Healthcare* 15, 102-108.

Organ K, Chinnick P, Higginson I, Stanhope B, Hoskins R & Benger J (2005) Evaluating the introduction of a paediatric emergency nurse practitioner service. *Emergency Nurse* 13(7), 8-11.

Parker N (2010) Developing a social enterprise through right to request. *Emergency Nurse* 18(6), 20-21.

Paxton F & Heaney D (1997) Minor injuries units: evaluating patients' perceptions. *Nursing Standard* 12(5), 45-47.

Perry C, Thurston M, Killey M & Miller J (2005) The Nurse practitioner in primary care: alleviating problems of access? *British Journal of Nursing* 14(5), 225-259

Rahmqvist M & Bara AC (2010) Patient characteristics and quality dimensions related to patient satisfaction. *International Journal for Quality in Health Care* 22(2), 86-92.

Ritchie L, Daewood M & Sprules V (2004) Meeting the challenge: an evaluation of the ENP clinic. *Emergency Nurse* 12(2), 10-13.

RCN (2010) *Advanced nurse practitioners – an RCN guide to the advanced nurse practitioner role, competences and programme accreditation.* Royal College of Nursing: London.

Ryan K & Rahman A (2012) Examining factors influencing patient satisfaction with Nurse Practitioners in rural Urgent Care Centres. *Journal of the American Academy of Nurse Practitioners* 24(12) 77-81.

Sakr M, Angus J, Perrin J, Nixon C, Nicholl J & Wardrope J (1999) Care of minor injuries by emergency nurse practitioners or junior doctors: a randomised controlled trial. *Lancet* 354, 1319–1326.

Sakr M, Kendall R, Angus J, Saunders A, Nicholl J & Wardrope J (2003) Emergency nurse practitioners: a three part study in clinical and cost effectiveness. *Emergency Medicine Journal* 20, 158-163.

Sidani S (2008) Effects of patient centred care on patient outcomes: An evaluation. *Research and Theory for Nursing Practice: An International Journal* 22(1), 24-35.

Swann G Roberts M Whotton E and Hewitt (2003) Minor and major patients- what can be done? Emergency Nurse. 11(1), 33-36.

Tachakra S & Deboo P (2001) Comparing performance of ENPs and SHOs. *Emergency Nurse* 9(7), 36-39.

Taylor DM & Cameron PA (2000) Discharge instructions for emergency department patients: what should we provide? *Journal of Accident and Emergency Medicine* 17, 86-90.

Thompson DA & Yarnold PR (1995) Relating patient satisfaction to wait time perceptions and expectations: the disconfirmation paradigm. *Academic Emergency Medicine* 2, 1057-1062.

Thompson W & Meskell P (2012) Evaluation of an Advanced Nurse Practitioner (Emergency Care) – An Irish Perspective. *The Journal for Nurse Practitioners* 8(3), 200-205.

Thrasher C & Purc-Stephenson R (2008) Patient satisfaction with Nurse Practitioner care in emergency departments in Canada. *American Academy of Nurse Practitioners* 20, 231-237.

Touché Ross (1994) Evaluation of nurse practitioner pilot project. NHS Executive South Thames: London.

UKCC (1992) The Scope of Professional Practice. United Kingdom Central Council for Nursing, Midwifery & Health Visiting, London.

van de Linden C, Reijnen R & de Vos R (2010) Diagnostic accuracy of Emergency Nurse Practitioners versus physicians related to minor injury and illness. *Journal of Emergency Nursing* 36, 311-316.

Wallis M, Hooper J, Kerr D, Lind J & Bost N (2009) Effectiveness of an advanced practice emergency nurse role in a minor injuries unit. *Australian Journal of Advanced Nursing* 27(1), 21-28.

Walsh R (2001) Patient satisfaction with Emergency Nurse practitioners. *Emergency Nurse* 8(10), 23-29.

Williams A & Jones M (2006) Patients' assessments of consulting a nurse practitioner: the time factor. *Journal of Advanced Nursing* 53(2), 188-195.

Wilson A & Shifaza F (2008) An evaluation of the effectiveness and acceptability of nurse practitioners in an adult emergency department. *International Journal of Nursing Practice* 14, 149-156.

Table 1.0 Clinical Quality Indicators

Waiting-Time (from time of arrival to when patient is initially seen by an ENP).
Total time spent in UCC (from time of arrival to time of discharge).
Any Unplanned Re-attendance within 7-days of original attendance.
Service Experience of patient.

Table 2.0 Presenting Type of Injury

Type of Injury	Number	Percent
Lower Limb Soft-Tissue Injury	n=36	32.4%
Eye Problems	n=18	16.2%
Upper Limb Soft-Tissue Injury	n=13	11.7%
Wounds	n=12	10.8%
Fractures & Dislocations	n=12	10.8%
Localised Infection	n=7	6.3%
Head & Facial Injury	n= 6	5.4%
Chest Injury	n=4	3.6%
Neck Problems	n=2	1.8%
Back Problems	n=1	0.9%
Totals of Presentations	n=111	100%

Table 3.0 Total Length-of-Stay

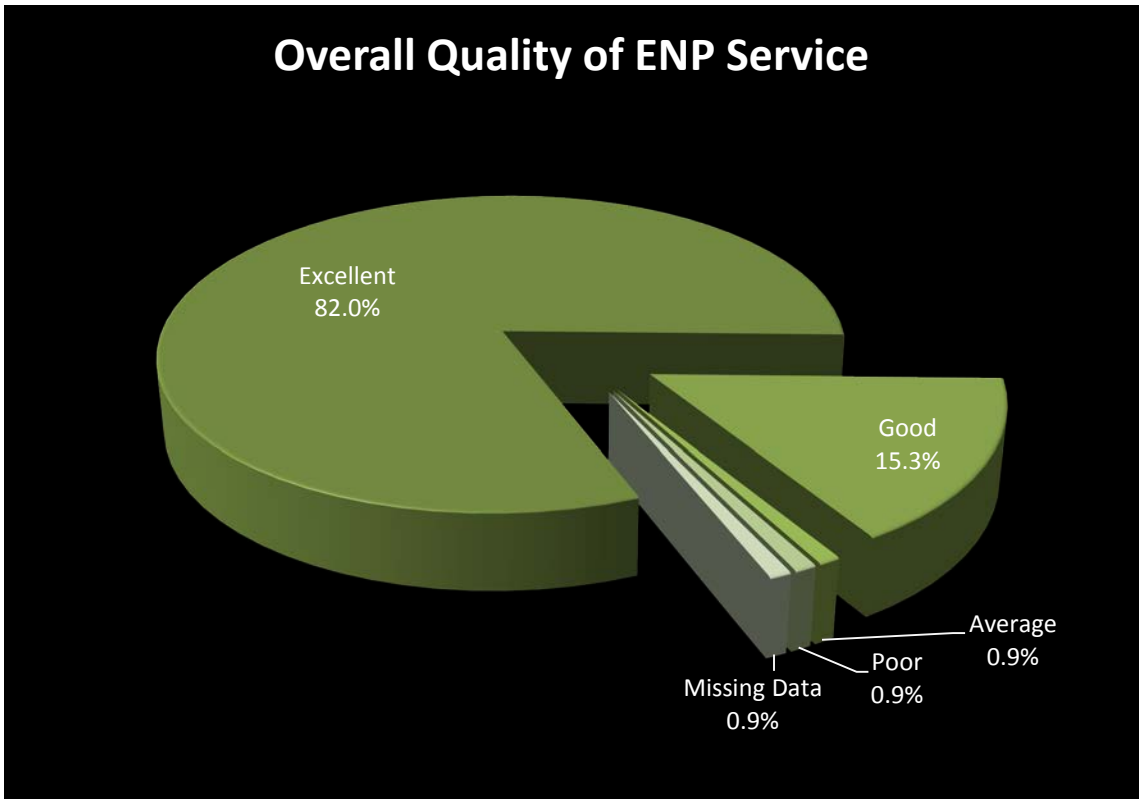
Time in Minutes	Number	Percent
0 to 60 minutes	n=81	73.0%
61 to 120 minutes	n=28	25.2%
121 to 180 minutes	n=2	1.8%
Totals	n=111	100%

Table 4.0 Overall satisfaction with ENP service.

Statements 1 to 5	Agree very much n (%)	Agree a little n (%)	Disagree a little n (%)	Disagree very strongly n (%)
The ENP understood why I had come to see them	105 (94.6)	2 (1.8)	0 (0.0)	1 (0.9)
The ENP was interested in me as a person	91 (82.0)	19 (17.1)	0 (0.0)	1 (0.9)
The ENP seemed to be very thorough	103 (92.8)	7 (6.3)	1 (0.9)	0 (0.0)
I was less worried about my injury after seeing the ENP	95 (85.6)	11 (9.9)	3 (2.7)	2 (1.8)
I will follow the advice of the ENP because I believe it is good advice	104 (93.7)	6 (5.4)	1 (0.9)	0 (0.0)

Summary Box: What does this paper contribute to the wider global clinical community
• Nurse Practitioner's in rural settings can deliver a safe and effective service • Waiting times at Urgent Care facilities do not influence patient satisfaction

Figure 1.0 Overall Quality of ENP Service



Abbreviation Key

ENP	Emergency Nurse Practitioner
ANP	Advanced Nurse Practitioner
UCC	Urgent Care Centre
ED	Emergency Department
MIU	Minor Injuries Unit
SHO	Senior House Officer
CQIs	Clinical Quality Indicators
STIs	Soft Tissue Injuries
RCT	Randomised Controlled Trial
UK	United Kingdom

The term ‘minor injury’ will encompass both ‘minor injuries’ *and* ‘minor illnesses’ throughout.