**Urgent care centre redirection: evaluation of a nurse-led intervention**

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Urgent care centre; minor ailments; emergency care; patient redirection; service demand.

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**Abstract**

**Background**: Patient redirection can help reduce service demand by providing information about more appropriate services. There is no evidence available regarding the effect of nurse-led patient redirection in an urgent care centre setting.

**Aim:** develop and evaluate a nurse led patient self-care and redirection first (SCARF) intervention in an urgent care centre.

**Methods:** Adopting a prospective observational design, the intervention was delivered to an opportunity sample of patients attending a South London Hospital Urgent Care Centre, June-July 2014, evaluated through patient interviews 5-10 days after initial attendance.

**Results:** 118/1,710 people who attended the urgent care centre participated of whom 81 (69%) were redirected to other services (n=64) (e.g. pharmacist/ GP) or self-care at home (n=17) and 38 transferred to the emergency department. Of 110 (93.2%) participants who completed the questionnaire 97.2% were satisfied. Only 2 accessed different services to those recommended. 72.2% (n=85) reported they would not re-attend the urgent care centre for a similar condition.

**Conclusions**: Treating minor ailments in an urgent care centre is inefficient use of resources. A nurse led self-care and redirection intervention can help re-direct patients with minor ailments to more appropriate services. Further evaluation of the intervention on service demand and costs is required.

**Keywords**

Urgent care centre; minor ailments; emergency care; patient redirection; service demand.

**Introduction**

In the United Kingdom (UK) increasing demands on urgent and emergency health care services have caused significant concerns over the past decade (Addicott et al., 2013; NHS England, 2013). It has been estimated that the UK National Health Service (NHS) deals with 22.9 million attendances at Accident and Emergency (A&E) departments, Minor Injury Units (MIU), and Urgent Care Centres (UCC), costing approximately £13 billion per year (NHS England, 2017). These figures are expected to increase by 3% per annum (NHS England, 2017). However, a significant proportion of patients make use of services when there is no clinical need (Snooks et al., 2002) and there is a growing trend of attendance at A&E for treatment of minor ailments (Martin et al., 2002). Minor ailments can be defined as "common or self-limiting or uncomplicated conditions which can be diagnosed and managed without medical intervention"(Colin-Thomé, 2003). Estimates suggest that 40% of A&E attenders are diagnosed with a minor ailment and sent home without receiving any treatment (Health and Social Care Information Centre, 2016; Martin et al., 2002). Given that 26% of the NHS budget is spent on urgent and emergency care, this trend has become unsustainable(NHS England, Care Quality Commission, Health Education England, NHS Trust Development Authority, & England, 2014).

In order to reduce pressure on A&E departments a number of initiatives have been introduced that offer free same day access to a healthcare professional to anyone requiring help or advice about a healthcare problem (NHS England, 2013). Reforms have included the introduction of MIUs which have facilities to triage and treat injuries that do not require specialist investigations, and WICs that treat non-urgent cases e.g. minor illness, provide information on access to alternate NHS and social services as well as self-care advice (Land & Meredith, 2013). Recently WICs and MIUs have been amalgamated into UCCs, combining the functions of each in to one location, typically being co-located next to an A&E department (NHS England, 2013). However, these reforms have created complex systems, that often overlap with existing services causing confusion amongst service users about how, and / or where to access care appropriate to their needs (Addicott et al., 2013; Lattimer et al., 2010; NHS

England, 2013; Tan & Mays, 2014), with many people not knowing how to contact out of hours General Practitioner (GP) services (Land & Meredith, 2013).

Uncertainty about what service to use and ease of access are the most common reasons for seeking urgent and emergency care (Amiel et al., 2014). Patient redirection is gaining increasing recognition as an approach that can safely reduce service demand by providing information about more appropriate services and/or options for self-care (Begum, Khan, & Moss, 2015; Bentley, Thakore, Morrison, & Wang, 2017; Lacobucci, 2017; NHS England, 2016). However, to date redirection interventions have been led by either senior doctors or GPs and based in A&E departments. There is no evidence available regarding the effect of nurse-led patient redirection in an UCC setting. This is important given the constraints on doctor's availability, and increasing attendance at UCCs for treatment of minor ailments.

**Aim**

To develop and evaluate a nurse led patient self-care and redirection first **(SCARF)** intervention in an UCC

**Methods**

This prospective observational study was carried out in an UCC attached to a South London Hospital between June to July 2014. The UCC is co-located in an ED with a shared paediatric and adult waiting room between the UCC and A&E. For the purposes of this study, patients were redirected, by an ED trained nurse (>5 years' experience), when presenting with a complaint which could be dealt with either by a pharmacist or patient's registered GP, in line with the Pharmacy First minor ailment scheme (Department of Health, 2005). Patients were recruited over a period of 26 days (excluding weekends). These days and time were chosen in order to represent the normal daily working patterns of the UCC. These days and time were chosen in order to represent the 24 hours working pattern of the UCC. Full

ethical approval was not required as this project was deemed part of a service improvement initiative by the provider organisation (NHS Health Research Authority, 2017).

**Sample**

Of the 1,710 patient who attended the UCC during the intervention period, 118 of those who were eligible consented and agreed to take part in the study (see figure 1). Follow up data was available for 110 of the 118 patients (1 declined to be contacted, 5 were non contactable, and no translator was available for 2 non-English speakers).

*Insert figure 1*

Participants were >16 years presenting to the UCC with a minor ailment that met with Pharmacy First Criteria (see table 1) (Department of Health, 2005), were not pregnant and had an Early Warning Score (EWS) of zero. In addition to the Department of Health, these criteria were adopted as they were already approved in the local area and provided an acceptable framework to the provider organisation. Early warning scores are commonly used in hospitals to provide an objective measure of the severity of a patient's illness (Royal College of Physicians, 2012). Scores are based on measurements of temperature, systolic blood pressure, heart rate, oxygen saturation level, respiratory rate, oxygen use and neurological status. Typically it is recorded for each patient within 15 minutes on arrival at the UCC by a Health Care Assistant and used to determine if it is appropriate for them to be seen in the UCC. A score of 0 indicates a non-urgent case, and these patients return to the waiting room and are called in time order. All patients receiving a score of 0 were informed of the study and asked if they wished to participate. Any patient whose score is > 0 was further assessed by a nurse practitioner or Doctor to assess haemodynamic stability, and determine if they required immediate transfer to the ED or another specialist hospital. Patients were excluded if they attended

with a minor injury, were brought in by an ambulance, were haemodynamically unstable, or required immediate transfer to the ED or another specialist hospital.

**Table 1: Minor ailments eligible for treatment under Pharmacy First scheme**

- Acne
- Athlete's foot
- Back pain (low) with no other complications
- Cold sores
- Conjunctivitis with no complications
- Constipation with no complications
- Contact dermatitis
- Diarrhoea with no complications
- Ear wax
- Known Haemorrhoids without complications
- Hay fever
- Head lice
- Insect bites
- Mouth ulcers
- Nappy rash
- Teething
- Toothache
- Vaginal thrush
- Uncomplicated common cold
- Warts and verrucae

**S**elf **C**are and **R**edirection **F**irst **(SCARF) Intervention**

During the intervention, based on previous work in the area (Groom, 2011), all patients received standard care i.e. after they booked in at reception an Early Warning Score was determined based on assessment of their vital signs, outlined above, and undertaken by a HCA supervised by the **SCARF** nurse, non-study participants were treated according to usual practice.

Following EWS assessment participants received information and advice from the designated **SCARF** nurse about their illness. The SCARF nurse was selected based on criteria of 5 years or more clinical triage experience and working in the ED. These criteria were selected as the SCARF nurse was responsible for a 5-10 minute consultation with each patient where information about their diagnosis, prognosis and management options and a patient information leaflet about their condition obtained

from www.patient.co.uk. Information was provided on the suitability of accessing care via an UCC, and other more suitable service options i.e. GP appointment, pharmacy or that the condition was self-limiting and no treatment was required. They then received an information leaflet about Pharmacy First leaflet containing details about where they could obtain medication or advice in the future regarding their condition. The aim was to redirect patients, who's presenting complaint and request for care via the UCC was inappropriate, to either a GP, pharmacist, other more appropriate healthcare provider or encourage them to self-manage their condition.

**Follow-up**

Participants were initially contacted 5 days after their initial UCC presentation by telephone.

**Data collection**

Demographic information was collected at the initial UCC presentation and follow up.

*Service utilization*

Patients were asked if any additional services had been accessed for management of their original presenting complaint (i.e. GP, pharmacist, another UCC, ED, dentist, complementary/ alternative practitioner), the reason for attendance (i.e. participants were asked to indicate who advised them to attend the above healthcare professional including UCC nurse; GP out of hours service; other medical personnel; friend/ relative; internet webpage, or self-referral), and their opinions regarding future service utilisation.

*Patient feedback*

Patient satisfaction and acceptability of the intervention were explored as part of patient feedback during the telephone interview.

**Data analysis**

Microsoft excel© and SPSS version 23 (SPSS Inc., Chicago, IL,USA) were used for data analysis. Descriptive statistics were used to describe the demographic nature of the sample. Free text comments were categorised and independently reviewed by a second researcher. Chi-square was used to explore the difference between demographic variables and service utilization following the intervention.

**RESULTS**

Participants were aged 16-73 years, the majority of whom were younger than 50 years of age (88.2%), single (44.9%) and of diverse (non-white British) ethnicity (70.2%) (see table 2 for an overview of patient characteristics from the UCC). Nearly all participants were registered with a GP (98.3%). The mean length of time from initial presentation to discharge was 22 minutes (range 5-54 minutes). Average time from booking to being seen by the nurse was 14 minutes, (range 1-50 minutes), and 8 minutes from **SCARF** consultation to discharge (range 1-20 minutes).

In total, 81 of the 118 patients who consented to participate were diverted to other services or for self-care at home (64 patients were diverted and 17 were sent home for self-care). The remaining thirty-seven were transferred to Major/Resuscitation in the nearby ED following initial assessment and were excluded from the intervention.

Of those 81 patients who were diverted; 37 were female and 43 were male; 37 were 16-30 years of age, 38 were 30-60 years of age and 5 were ≥61 years of age.

Of the 68 patients who were referred to another service, 50% were referred to their GP, 49% were redirected to a pharmacy and 1% were redirected to a dentist.

**Table 2: Patient Characteristics from the UCC**

| **Sex** | n | % |
|---|---|---|
| Male | 63 | 53.4% |
| Female | 55 | 46.6 % |
| **Age** | | |
| ≤30 years | 52 | 44.1% |
| 31-50 years | 52 | 44.1% |
| >51 years | 14 | 11.8% |
| **Marital status (14 missing data 11.9%)** | | |
| Single | 53 | 44.9% |
| Married | 29 | 24.6% |
| Co-habiting | 22 | 18.6% |
| Ethnicity | | |
| White British | 34 | 29.8% |
| White Other | 24 | 20.3% |
| Asian | 24 | 20.3% |
| Black African | 12 | 10.2% |
| Black Caribbean | 8 | 6.8% |
| Other non-specified mixed race | 9 | 7.6% |
| Black other | 7 | 5.9% |
| **Registered with General practitioner** | | |
| Yes | 116 | 98.3% |
| No | 2 | 1.7% |
| **Service utilization following SCARF intervention** | | |
| Referred to majors area of adjoining Accident and Emergency Department | 37 | 31.4% |
| General Practitioner | 30 | 25.4% |
| Pharmacy | 27 | 22.9% |
| Advised to self-manage condition at home | 17 | 14.4% |
| Dental | 4 | 3.4% |
| Others (i.e. Genitourinary medicine) | 3 | 2.5% |

*General Practitioner redirection*

Clinical presentations of the 30 participants who were redirected back to their GP, 7 of whom were already undergoing treatment for the same condition with their GP, included ear wax (n=7), long-term back pain (n=6), dermatological issues (n=5) and requests for repeat medication (n=5), dressing change (n=4), or review of long-term condition (n=3).

*Pharmacy redirection*

Of the participants (n=27) who were redirected to the pharmacy, 9 presented with medication queries, 5 with diarrhoea and vomiting, 3 with blisters, dry skin or athletes foot, 2 with a mouth ulcer, 1 with constipation and 1 with an insect bite.

*Self-care*

Of the 17 patients who were advised to self-manage their condition at home 6 presented with a minor finger cut, 3 with either a stubbed toe, rib pain or foot abrasions, and one requesting ring or splinter removal, all of which did not require treatment.

**Age, sex and marital status on service utilisation**

Using Chi square we found there was a trend towards younger age and service utilization, but this was not to a level of statistical significance ($p>0.05$). Sixty five percent of patients who were advised to self-manage their condition at home were age ≤ 30 years. Sex, marital status, and ethnicity were similarly not found to have any significant effect of service utilization following the **SCARF** intervention ($p>0.05$).

**Follow up**

Responses were received from 93.2% (110/118) of those who agreed to participate in the **SCARF** intervention.

*Additional service use for original presenting complaint*

Of the 64 participants who were diverted to other services, 24 (37.5%) visited their GP, 19 (29.7%) a pharmacy, 2 (3.1%) a Walk-in-centre and one (1.6%) the dentist. Eighteen (28.1%) people did not access any additional healthcare for their original presenting complaint.

The majority (n-62, 97.0%) reported that their decision to access the above services was based on the advice they received from the nurse during the **SCARF** intervention. Only 2 (3%) participants, who reported that their symptoms had changed or worsened, accessed services using a different healthcare provider than the one recommended during the **SCARF** intervention.

*Future service utilisation*

The majority (72.2%, n=85) of respondents reported that they would not attend the UCC if they experienced a similar complaint in the future, suggesting that they would either attend their GP (n=47), pharmacy (n=21), self-care (n=13), a practice nurse (n=2) or sexual health clinic (n=2).

*Acceptability and satisfaction of the **SCARF** intervention*

Of the 110 respondents, 107 (97.2%) patients reported that they were satisfied with the **SCARF** intervention and service received. Reasons for lack of satisfaction included requests for repeat medication (n=1), and consultation with a doctor (n=1).

**Discussion**

To our knowledge, this is the first UK based study, informed by SQUIRE guidelines for reporting (Ogrinc G et al., 2015) to develop and evaluate a nurse-led intervention to help to re-direct patients with minor ailments away from UCC to more appropriate services or to self- care at home.

Our results indicate that the **SCARF** intervention, delivered by an experienced ED nurse, in the UCC helped inform patients' current and future choices about which services to use. It is likely therefore, that similar interventions aimed at improving patients knowledge about service provision and treatment options could potentially reduce the demand and sustainability issues associated with urgent and emergency care (Addicott et al., 2013; Berchet, 2015) and support the UK government's targets for NHS reform (Keogh, 2013; NHS England, 2013; NHS England et al., 2014).

Our study builds on previous work in this area (Begum et al., 2015; Bentley et al., 2017; Lacobucci, 2017; NHS England, 2016): in addition to being based in an UCC and delivered by a nurse, the **SCARF** intervention also provided the opportunity to provide advice about self-care. Enabling patients to self-care means they will feel more empowered to manage their own healthcare needs if a similar situation arises in the future (Tang, Funnell, Brown, & Kurlander, 2010). Correspondingly, we found that patients reported that they would not come back to the UCC if they had similar symptoms. This

approach fits in with the 5 year forward plan for urgent and emergency care (NHS England et al., 2014). Furthermore, patients found this very acceptable with 97 % reporting they were satisfied with the treatment they received.

In light of our data, we would also recommend the inclusion of a pharmacy as part of the UCC model as pharmacists could provide an important role in self-care. This is in line with NHS England who has already begun working to embed pharmacy into NHS UCC for those who need urgent repeat prescriptions and treatment for urgent minor ailments and common conditions (Keogh, 2013; NHS England et al., 2014). Preliminary evidence has shown that pharmacy based minor ailment schemes in hospitals can reduce demand on urgent and emergency care departments, but deliver similar health related outcomes at much lower costs (Watson et al., 2015). Embedding pharmacists in the UCC has the potential to bring about real practical long-term change in urgent and emergency services.

However, encouraging provider organisations to incorporate such changes in to their services may require financial incentive. The DH has proposed payment system reforms for urgent and emergency care that move away from payment by results, and use monetary incentives for aspects of care that incorporate best practice tariffs to planned care, or care away from UCC and emergency departments (NHS England, 2013). There are also plans to enhance the 111 service by allowing access to people's medical records, and giving service users the chance to speak directly to a nurse, doctor or other healthcare professional to provide the help and advice they need (NHS England, 2013). The proposed improvements for 111 also outline how the future system will be able to directly book a call back or an appointment with a GP and identify which urgent or emergency care facility can best deal with the problem. However, this has yet to be implemented and evaluated.

**Limitations**

The results of this study must be interpreted with caution. Firstly, as the focus was explore acceptability and feasibility of the nurse led intervention it was delivered over a relatively short

duration (2 months); consequently, further longer term evaluation is required as a next step. A large proportion of those who were eligible also declined to participate. This may have been caused by a lack of readily available information. Although we sought permission to publicise the study in the waiting area prior to its commencement; the emergency department, with whom this space was shared, opposed the provision or display of study information in the waiting room. It is likely that increasing awareness may increase participation rate in future work.

The criteria used for diagnosing a minor ailment, also a requirement of approval by the provider organisation, may have hindered recruitment. For example, only minor ailments on the Pharmacy first list were included (Table 1), but this list is not exhaustive meaning a number of minor ailments were excluded unnecessarily. Additionally, misleading patient complaints were a common reason for patients being excluded, for example menstrual pain was recorded on the system as "abdominal" pain and hence patients were no longer eligible for inclusion. However, this could be addressed with improved clarity regarding the presenting complaint during initial patient registration.

We are therefore unable to determine whether patients that agreed to participate differed significantly from those that declined. Despite this, the intervention was acceptable to the majority of those who participated, and no safety issues were identified.

**Conclusion**

Increased attendance at urgent and emergency care services is a global issue. Treating minor ailments in an urgent care centre is an inefficient use of human and financial resources. A nurse led self-care and redirection intervention can help re-direct patients with minor ailments to more appropriate services. However, more work is needed to evaluate the longer term impact of the **SCARF** intervention on service demand and costs.

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**References**


Addicott, R., Buck, D., Goodwin, N., Harrison, T., Ross, S., Sonola, L., . . . Curry, N. (2013). *Transforming our health care system*. The King's Fund.

Amiel, C., Williams, B., Ramzan, F., Islam, S., Ladbrooke, T., Majeed, A., & Gnani, S. (2014). Reasons for attending an urban urgent care centre with minor illness: a questionnaire study. *Emergency Medicine Journal*, http://dx.doi.org/10.1136/emermed-2012-202016.

Begum, F., Khan, H., & Moss, P. (2015). Evaluation of GP-lead service to identify and re-direct patients from A&E to primary care services. *Royal College of General Practitioners Conference 1-3rd October, SECC Glasgow*.

Bentley, J. A., Thakore, S., Morrison, W., & Wang, W. (2017). Emergencty Department redirection to primary care: a prospective evaluation of practice. *Scottish Medical Journal*, DOI: 10.1177/0036933017691675.

Berchet, C. (2015). Emergency care services: trends, drivers and interventions to manage the demand. *OECD Health Working Papers*(83), DOI: 10.1787/1785jrts1344crns-en

Colin-Thomé, D. (2003). *Better Management of Minor Ailments using the Pharmacy*. London, UK: The Royal Pharmaceutical Society of Great Britain.

Department of Health. (2005). *Choosing health through pharmacy, A programme for pharmaceutical public health 2005-2015*. London, UK: DH.

Groom, N. (2011). *Factors that influence a patient's attendance at a Walk-in Centre*. Msc dissertation unpublished findings; University of Surrey.

Health and Social Care Information Centre. (2016). Annual Report 2015-16.

Keogh, B. (2013). Transforming Urgent and Emergency Care in England. Urgent and Emergency Care Review. End of Phase 1 Report. . London, UK.

Lacobucci, G. (2017). All A&Es must have GP led triage. *BMJ, 356*(j1270).

Land, L., & Meredith, N. (2013). An evaluation of the reasons why patients attend a hospital Emergency Department. *International emergency nursing, 21*(1), 35-41.

Lattimer, V., Burgess, A., Knapp, F., Dalton, S., Brailsford, S., Junior, E., . . . Heaney, D. (2010). *The impact of changing workforce patterns in emergency and urgent out of hours care on patient experience staff practice and health system performance, Final report for NIHR Service Delivery and Organisation porgramme*. University of Southampton.

Martin, A., Martin, C., Martin, P. B., Martin, P. A. B., Green, G., & Eldridge, S. (2002). 'Inappropriate'attendance at an accident and emergency department by adults registered in local general practices: how is it related to their use of primary care? *Journal of Health Services Research & Policy, 7*(3), 160-165.

NHS England. (2013). Transforming urgent and emergency care services in England *Urgent and emergency care review end of phase 1.* London, UK.

NHS England. (2016). Active signposting: Reception care navigation. UK.

NHS England. (2017). A&E attendances and emergency admissions 2016-17. UK.

NHS England, Care Quality Commission, Health Education England, M., NHS Trust Development Authority, & England, P. H. (2014). *Five year forward view*. Retrieved from

NHS Health Research Authority. (2017). *Determine Whether Your Study is Research*. Retrieved from

Ogrinc G, Davies L, Goodman D, Batalden, P., Dvidoff, F., & Stevens, D. (2015). SQUIRE 2.0 (Standards for QUality Improvement Reporting Excellence): revised publication guidelines from a detailed consensus process. *BMJ Qual Saf Published Online First: 14 September 2015.*, doi: 10.1136/bmjqs-2015-004411

Royal College of Physicians. (2012). National Early Warning Score (NEWS): Standardising the assessment of acuteillness severity in the NHS. Report of a working party. London: RCP.

Snooks, H., Williams, S., Crouch, R., Foster, T., Hartley-Sharpe, C., & Dale, J. (2002). NHS emergency response to 999 calls: alternatives for cases that are neither life threatening nor serious. *British Medical Journal, 325*(7359), 330.

Tan, S., & Mays, N. (2014). Impact of initiatives to improve access to, and choice of, primary and urgent care in England: a systematic review. *Health Policy, 118*(3), 304-315.

Tang, T. S., Funnell, M. M., Brown, M. B., & Kurlander, J. E. (2010). Self-management support in "real-world" settings: an empowerment-based intervention. *Patient education and counseling, 79*(2), 178-184.

Watson, M., Ferguson, J., Barton, G., Maskrey, V., Blyth, A., Paudyal, V., . . . Sach, T. (2015). A cohort study of influences, health outcomes and costs of patients' health-seeking behaviour for minor ailments from primary and emergency care settings. *BMJ Open, 5*(2), http://dx.doi.org/10.1136/bmjopen-2014-006261.