A GEOGRAPHICAL CASE STUDY OF TWO PRIMARY CARE NURSE TRIAGE SYSTEMS IN WALES.

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Abstract

This geographical case study reports on two nurse triage systems used in a GP practice cluster in Wales to reduce demand on the GP workforce. Demand on GPs is reduced by referring patients to GPs only if they need to see a doctor, and otherwise meeting patient needs through alternative service provision. Patient clinical outcomes data from a two-year pilot were used to evaluate the nurse triage systems. Benefits of the system are:

1. Patients can access immediate support from a nurse, including advice, prescriptions or referrals, without having to wait days/weeks for a routine GP appointment.
2. Reduced pressure on GP services, resulting in shorter waiting times for patients and GPs having more time to dedicate to patients with more complex needs.
3. Total Nurse Triage can identify high-risk individuals who need more urgent attention than a routine appointment, and refer patients for immediate attention where necessary.

Introduction

In this paper we demonstrate the benefits of implementing a nurse triage service in primary care to reduce high demand on general practices and improve patient satisfaction and clinical outcomes. Using nurse triage

systems means that only patients who need to see a doctor are seen by a GP, and the rest of the patients have their needs met by other healthcare professionals or services, freeing up GP time for essential cases.

Background

A General Practice workforce crisis is emerging (Dayan, Arora, Rosen & Curry, 2014), with fewer medical professionals training as General Practitioners (GPs) and more GPs working part-time and planning to retire early. Although patients are dissatisfied with their access to GPs, they remain satisfied with the quality of appointments (Dayan et al 2014). This imbalance between GP supply and demand could be resolved by changing the way primary care services are run (Osborn & Thompson, 2014). A telephone triage system where "calls from people with a healthcare problem are received, assessed and managed by giving advice or by referral to a more appropriate service" (Bunn et al 2005, para 1) is one way to do this.

Primary care telephone triage systems have been introduced to release pressures on GP time and improve patient experiences (Osborn & Thompson 2014). A pragmatic, multi-centre cluster randomised controlled trial (ESTEEM) assessed 42 general practices offering a triage service to patients who requested same day appointments (*n* = 20,990) across four regions of England (Campbell et al 2013; Campbell et al 2014). Triage services

were GP (*n* = 13) or nurse-led (*n* = 15), and were compared with usual care (*n* = 14). Compared with usual care, both GP and nurse-led triage had increased contacts over 28 days, but a substantial reduction in GP face-to-face contacts for the GP triage, and a reduction in GP contacts for the nurse triage. There were no significant differences in costs between GP-led triage, nurse-led triage and usual care.

The research does not show any clear differences between nurse-led triage or GP triage. In the ESTEEM trial (Campbell et al 2014), nurse-led triage led to more contacts with general practice and lower overall patient satisfaction. However, a systematic review of nine studies (Bunn et al 2005) found no significant outcome differences between nurse-led triage or GP triage consultations. Nurses and GPs have different styles of triage delivery (Murdoch et al 2014) as they tend to emphasise different aspects and nurses ask more questions than GPs (although this may be due to their use of computer decision support software). This suggests that although nurse-led telephone triage may be effective, it cannot replace GP triage without careful consideration. Nurse preparedness is associated with triage efficacy (Varley et al 2016). Nurses who report feeling 'well-prepared' for the role manage triage more definitively, and recommend fewer patients for within-practice follow-up. These nurses are more likely to be nurse practitioners as opposed to practice nurses. It may be that training differences and confidence in

delivery account for the differences identified between GP and nurse-led triage. Training and supporting nurses so they feel prepared and confident to deliver the triage service seems to be the key to effective delivery.

This evidence suggests that whilst introducing a triage system may not reduce overall workload, it may allow for workload redistribution across general practice staff (Campbell et al 2014). The usefulness of triage is dependent on the needs of a particular cluster or general practice. Where demands on GP time are greater, a nurse-led triage system can be effective in reducing GP contacts and relieving pressures.

The case study in rural Wales

This paper presents a geographical case study of the implementation of two nurse-led triage systems into GP surgeries in the South Powys GP Cluster in Wales. Powys is in the middle of Wales, covers a quarter of its' landmass and is the most sparsely populated county in England and Wales (Morgan, 2017). The South Powys cluster covers a population of 45,000 people. GP availability in Powys is diminishing - 80% of GP partners are over 50, and recruitment to new GP positions has low uptake. Powys needs a system to ease pressures on GP time by using other healthcare professionals and services.

In response, a nurse triage service was introduced across all South Powys practices (*n* = 4) for all 'on the day' appointment requests, and a Total

Nurse Triage pilot was carried out in one GP surgery in the cluster. Appointment requests for 'on the day' and routine appointments were assessed by nurses in Total Nurse Triage, unlike the typical nurse-led triage for 'on the day' appointments discussed in the literature (Campbell et al 2013). This ensures that GPs only see patients who need to be seen by a doctor, and patient needs are met through provision of other services where possible. Total Nurse Triage outcomes include a routine appointment with a GP in an appropriate timescale, treatment or advice from a nurse, encouragement to self-manage, referral to emergency services or direction to a pharmacist, optician, physiotherapist or other healthcare professional. See Table 1 for examples of cases that were treated via nurse triage, resulting in alternative treatment or GP appointment.

[INSERT TABLE 1 HERE]

Practices operated on a partnership working principal, due to the overwhelming pressure on the GP cluster, the nurses negotiated to become part of the initiative. Nurses self-selected and came forward to undertake the triage role. They were either already trained in Minor Illness or worked alongside the GP on duty days to develop triage skills. MDU telephone training was undertaken by the cluster. Nurses were supervised by GPs

through monthly clinical sessions in which recorded triage calls were reviewed for learning. Translation services were available for practice nurses but were not required during the trial.

This paper reviews the clinical outcomes of the South Powys nurse triage pilot and the Total Nurse Triage pilot in an individual practice.

Method

Practice nurses used the EMIS Web clinical system to run the triage process. An EMIS Web report for triage appointments between December 2015-November 2017 was used to review the South Powys cluster Nurse Triage pilot, and EMIS Web report between March 2017-October 2017 for Total Nurse Triage was created to identify:

- Number of triage appointments where the clinical template was used
- Type of triage encounters
- Clinical outcome of the triage encounter
- Manual collection of the clinical outcome of each triage consultation where the template was not used
- Age and sex of patients accessing the Nurse Triage service.

All patients were invited to complete a patient survey after the triage appointment in paper format, to understand patient satisfaction with the

triage service. Data on consultation rates, times and outcomes were collected from the practices directly.

Results

Nurse Triage

There were a total of 24,060 triage encounters in South Powys between December 2015 and November 2017. Of these, 17,334 (72%) were telephone triage encounters and 6,726 (28%) were 'seen by nurse' in-person. Triage appointments lasted an average of 7 minutes. Clinical outcomes were identified for 100% of triage encounters across this period.

Clinical outcomes were comparable across the two types of triage encounter (telephone or seen by nurse; see Table 2). Less than half (45.47%) of triage encounters were referred on for GP contact, avoiding 10,940 GP appointments over the period. The remainder of patients received advice, a prescription or sick note, an appointment with a nurse, a referral for further care or an immediate referral to emergency services.

[INSERT TABLE 2 HERE]

The triage service was accessed by patients of all ages, and both males and females.

Total Nurse Triage

The Total Nurse Triage system was piloted in one GP surgery in South Powys between March-October 2017 and 5,298 triage encounters took place during this time. Total nurse triage also triages for routine appointment requests. Although the majority of patients still had routine GP appointments following triage (57.2%; Table 3), 42.8% were signposted to other appropriate services which did not need GP intervention (e.g. community pharmacy). Importantly, 447 patients (8.4%) requesting routine appointments via Total Nurse Triage were referred to a GP or emergency services the same day.

[INSERT TABLE 3 HERE]

Implementing Total Nurse Triage reduced routine appointment waiting times to 48-72 hours for most appointments. Reduced demand for appointments allowed GPs to dedicate more time to patients, particularly where there were a number of clinical issues to discuss or for end of life patients, who were seen separately through a virtual ward service. Continuity of care between appointments also improved through the new system, allowing patients to have follow-up appointments with the same practitioner. Rates of non-attendance also declined following implementation by 5.5% for

routine GP appointments. Finally, a patient survey found that prior to engaging with the triage system, patients were sceptical that their expectations would not be met. However, experiencing the system, patients were satisfied that their issues were dealt with in a more timely fashion than previously:

"Happy with the new triage system and I didn't need to take any time off work to sit in the surgery, which was a bonus" – Triage patient

Some patients in the Total Nurse Triage system refused or were reluctant to give relevant information to nurses for triage. This may be due to patient misperception of the triage system. Communicating the benefits of triage to patients may improve acceptance and engagement (Dale and Shrimpton (2011), and the Total Nurse Triage was promoted in a local magazine to explain its purpose and how the service could be accessed.

Although there was reduced GP time with patients, GP clinical time was still needed to support nurses, conduct clinical reviews and coordinate clinical staff to support the new service.

Conclusions

Nurse triage for 'on the day' appointments and routine appointments can be used to improve patient clinical outcomes, relieve pressure on GPs

and improve patient experience. Three key outcomes from the South Powys nurse-led triage systems were:

1. Patients can access immediate support from a nurse, including advice, prescriptions or referrals, without having to wait days/weeks for a routine GP appointment.
2. Reduced pressure on GP services, resulting in shorter waiting times for patients and GPs having more time to dedicate to patients with more complex needs.
3. Total Nurse Triage can identify high-risk individuals who need more urgent attention than a routine appointment, and refer patients for immediate attention where necessary.

Concerns about the triage system include; less opportunities for opportunistic health screening due to reduced face-to-face appointments (McKinstry et al 2002); increased GP attendance within 28 days following triage (Campbell et al 2014); nurse confidence delivering the triage system. Future research needs to be undertaken to identify nurses' training needs, investigate reasons for repeated GP contact following triage, and identify ways to resolve these issues.

However, this paper indicates the usefulness of the triage system, particularly the Total Nurse Triage system, and supports the implementation

of a nurse-led or Total Nurse Triage system in other GP clusters in Wales and the rest of the UK.

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2546 (including references and tables)

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Tables

Table 1. Examples of cases addressed by the nurse triage system

Presenting issue	Solution under nurse triage
Dental issues, e.g. jaw pain	Directed to dental services
Eye issues	Emergency appointment with local opticians
Contraception review	Directed to Practice Nurses
Minor illness, e.g. hay fever, sore throat	Where appropriate, directed to community services available at Pharmacies
Musculoskeletal conditions with acute pain	Directed to physiotherapy
Pregnant patient with reported ankle pain, which after triage assessment was thought to possibly be deep vein thrombosis	Urgent GP appointment

Table 2. Clinical outcomes for triage over the phone and seen by nurse.

Clinical outcome	**Percentage for telephone (*n* = 17,334)**	**Percentage for seen by nurse (*n* = 6,726)**	**Overall percentage (*n* = 24,060)**
Advice only	17.4%	20.4%	18.3%
Appointment with nurse	22.6%	N/A	16.3%
Routine GP appointment	10.9%	8.7%	10.3%
Same day appointment with GP	35.3%	25.5%	32.6%
Prescription/sick note	6.5%	38.7%	15.5%
Referral (e.g. optician, bloods, etc.)	3.7%	4.9%	4.0%
GP home visit	3.0%	1.5%	2.6%
Emergency 999	0.4%	0.2%	0.4%

Table 3. Clinical outcomes for Total Nurse Triage

Clinical outcome	**Percentage for Total Nurse Triage (*n* = 5,298)**
Routine GP appointment	57.2%
Referral for further care	9.1%
Advice only	13.4%
Requested routine appointment but seen as GP emergency	8.4%
Other (prescription, routine nurse appointment, nurse discussion with GP)	12%