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The effect of nurses' preparedness and nurse practitioner status on triage call management in primary care: A secondary analysis of cross-sectional data from the ESTEEM trial

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ABSTRACT

Background: Nurse-led telephone triage is increasingly used to manage demand for general practitioner consultations in UK general practice. Previous studies are equivocal about the relationship between clinical experience and the call outcomes of nurse triage. Most research is limited to investigating nurse telephone triage in out-of-hours settings.
Objective: To investigate whether the professional characteristics of primary care nurses undertaking computer decision supported software telephone triage are related to call disposition.
Design: Questionnaire survey of nurses delivering the nurse intervention arm of the ESTEEM trial, to capture role type (practice nurse or nurse practitioner), prescriber status, number of years' nursing experience, graduate status, previous experience of triage, and perceived preparedness for triage.

Our main outcome was the proportion of triaged patients recommended for follow-up within the practice (call disposition), including all contact types (face-to-face, telephone or home visit), by a general practitioner or nurse.
Settings: 15 general practices and 7012 patients receiving the nurse triage intervention in four regions of the UK.
Participants: 45 nurse practitioners and practice nurse trained in the use of clinical decision support software.
Methods: We investigated the associations between nursing characteristics and triage call disposition for patient 'same-day' appointment requests in general practice using multivariable logistic regression modelling.
Results: Valid responses from 35 nurses (78%) from 14 practices: 31/35 (89%) had ≥10 years' experience with 24/35 (69%) having ≥20 years. Most patient contacts (3842/4605; 86%) were recommended for follow-up within the practice. Nurse practitioners were less likely to recommend patients for follow-up odds ratio 0.19, 95% confidence interval 0.07; 0.49 than practice nurses. Nurses who reported that their previous experience had

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prepared them less well for triage were more likely to recommend patients for follow-up (OR 3.17, 95% CI 1.18–5.55).

Conclusion: Nurse characteristics were associated with disposition of triage calls to within practice follow-up. Nurse practitioners or those who reported feeling 'more prepared' for the role were more likely to manage the call definitively. Practices considering nurse triage should ensure that nurses transitioning into new roles feel adequately prepared. While standardised training is necessary, it may not be sufficient to ensure successful implementation.

What is already known about the topic?

- Previous studies indicate a lack of consistency between decisions made by healthcare professionals of different clinical backgrounds in a range of primary and emergency care settings.
- There is evidence to indicate that length of clinical experience and the characteristics of triaging nurses may impact triage call disposition in emergency and out-of-hours care settings.
- Little is known about factors affecting nurse triage in routine, primary care services.

What this paper adds

- We investigated the associations between nursing characteristics (e.g. level of experience, qualifications) and triage call disposition for patient 'same-day' appointment requests in general practice.
- We found that nurse practitioners were more likely to definitively manage the patient within a triage consultation than practice nurses, while nurses who reported lower levels of 'preparedness' for triage were more likely to recommend that the patient received a follow-up consultation.
- Practices considering implementing nurse triage should ensure that nurses transitioning into new roles feel adequately prepared, as while standardised training is necessary, it may not be sufficient to ensure successful implementation.

1. Introduction

Telephone triage by nurses and physicians has become increasingly popular both in the UK and internationally over the last decade (Bunn et al., 2005; Mohammed et al., 2012; Venning et al., 2000). In the UK the National Health Service provides a free universal healthcare system covering both primary and secondary care. General practitioner (GP) surgeries are the first point of the contact for the majority of non-emergency health conditions in primary care. General practices are increasingly struggling to meet patient demand (Drayan et al., 2015). The use of telephone triage is one strategy being employed to manage the increasing workloads (Salisbury et al., 2007). Nurses have been shown to provide a safe and effective triage service in a variety of settings including primary care where it can be an effective way to manage GP workload on the day of contact (Campbell et al., 2014; Huibers et al., 2012; Kinnersley et al., 2000; Richards et al., 2004) and out-of-hours primary medical care services (Lattimer et al., 1998). In primary care settings, patients have been found to be at least as satisfied, if not more satisfied, with face-to-face consultations with nurse practitioners compared with doctors (Horrocks et al., 2002; Laurant et al., 2005). Research has also found that patients broadly accept nursing roles extending to tasks traditionally undertaken by doctors (Caldow et al., 2007).

Despite the extension of nursing roles, questions remain over the quality of nurse triage decision making. Previous studies indicate a lack of consistency between decisions made by healthcare professionals of different clinical backgrounds in a range of primary and emergency care settings (Durand et al., 2011; O'Donnell, 2000). Research focussing on nurses' decision making has similarly discovered variation in outcomes in different settings. In the UK, nurses using standardised patient scenarios to test their telephone triage decision making for the 'NHS Direct', a 24 h health telephone advice service, exhibited a lack of consistency between decisions made (O'Cathain et al., 2003). This concurs with Canadian research for an emergency triage service examining 'real-world' calls (Leprohon and Patel, 1995) and data from an out-of-hours primary medical care cooperative in the Netherlands that observed considerable variability between nurses in the proportion of calls resolved by the triage call alone rather than resulting in onward referral (Moll van Charante et al., 2006).

Nurse characteristics, such as length of experience and level of qualification, may also influence triage outcomes. A study of 60,794 calls managed by 296 nurses in NHS Direct reported a positive relationship with years of nursing experience and call disposal patterns (O'Cathain et al., 2004). Nurses with less than 10 years' clinical experience were less likely to dispose calls to self-care than nurses with more than 20 years' experience. This is consistent with other research observing that nurses with more experience demonstrated improved accuracy/correctness of triage outcome chosen (Cioffi, 1998; Leprohon and Patel, 1995), lower levels of data collection during triage assessments, and more judgements (inferences) made based on prior experience (Cioffi, 1998). Positive correlations have also been observed between nurses with a post-secondary level qualification (compared with nurses with no additional training) and achieving the 'expected triage decision' as opposed to 'overtriage' or 'undertriage' in emergency care settings (Considine et al., 2001).