

**Managing emergencies in primary care:
Does real-world simulation based training have any lasting impact?**

Corresponding author: Dr Emer Forde

Address: GP Centre, Bournemouth University, Royal London House (R507), Christchurch Road,
Bournemouth BH1 3LT.

Email: eforde@bournemouth.ac.uk

Telephone: 01202 961087

Co-authors

Dr James Bromilow

Department of Intensive Care

Poole Hospital NHS Foundation Trust

Poole

Dorset

Dr Susie Jackson

GP Centre,

Bournemouth University,

Bournemouth, Dorset

Professor Clare Wedderburn

GP Centre,

Bournemouth University,

Bournemouth, Dorset

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Introduction

General Practitioners (GPs) have a responsibility to provide prompt and effective care when attending to life threatening emergencies in their GP surgeries. Primary care staff undertake mandatory, annual basic life support training. However, most emergencies are peri-arrest situations, and this is an area where GPs lack confidence and competence [1, 2]. The importance of effective, early intervention in peri-arrest scenarios was highlighted by the NCEPOD report “Time to Intervene (2012)” [3]. This report suggested that better early assessment and intervention may have prevented progression to cardiorespiratory arrest. GPs need to be equipped to manage ‘time critical’ emergencies, particularly as GP surgeries are deemed a place of safety and 999 ambulances can be redirected to other emergencies, thereby delaying transfer to secondary care for patients in GP settings.

In previous work, we demonstrated that GPs’ confidence in managing time critical emergencies was initially low, and significantly improved immediately after attending ‘real-world’, simulation based workshops [1]. The value of real-world, in-house simulation based training has also been shown to increase “practical preparedness” in the context of resuscitation training (4). However, there is relatively little data regarding the long term value of simulation based training in primary care (5). In the current paper, we assessed whether our workshops had any longer-term benefit on participants’ confidence in managing emergencies and if it led to any changes in clinical practice.

Method

Real-world simulation based workshops were delivered by a Consultant in Intensive Care Medicine and a GP, to 14 GP surgeries across Dorset. The training was delivered in the waiting rooms of GP surgeries, and participants used their own equipment. Scenarios included the practical management of meningitis, anaphylaxis, hypoglycaemia, convulsions, choking, asthma, croup, chest pain and cardiac arrest. Scenarios were introduced using role-play, with practical aspects of management (for example drawing up and delivery of drugs, oxygen and nebulisers)

being instigated using the surgery equipment in real time (see Figure1).

118 primary care staff (95 doctors, 23 from nursing teams including practice nurses, advanced nurse practitioners, community matrons and health care assistants) participated in the workshops. Immediately before and after each workshop, participants were asked “How confident are you in the practical management of emergencies within your practice?” and asked to rate their confidence on a 9 point Likert scale: 1 (not confident) - 9 (very confident). We have reported some of these data previously (1). In addition, participants were emailed an online questionnaire 8 weeks after each workshop and asked to determine their self rated confidence using the same question and Likert scale. Participants were also asked to report if they had made any changes to their personal practice or within their surgeries. Participants were emailed directly if we had obtained their contact details at the workshop, or via their practice managers. Non respondents were sent a further email request to complete the follow up questionnaire.

Results

48/118 workshop participants responded to the follow-up questionnaire (37 doctors, 9 from nursing team and 2 unspecified roles). This was a response rate of 48/118 (41%) participants.

PARTICIPANTS’ CONFIDENCE IN MANAGING EMERGENCIES IN THE COMMUNITY

Participants self rated confidence was significantly higher immediately after (7.5/9) compared to before the workshop (mean = 5.0/9), 2 tailed Student’s t-Test $p < 0.05$. Importantly, their confidence was sustained >8 weeks after the workshop (mean = 7.0/9) and was comparable to immediately after the workshop.

INDIVIDUAL/ PRACTICE-BASED CHANGES AFTER THE WORKSHOP

Participants were asked if they had made any individual or practice-based changes after the workshop. 98% of respondents stated that they had made changes. 48% had reviewed their

emergency equipment. This included familiarizing themselves again with the surgery oxygen, glucometers, paediatric spacers; producing easily accessible algorithms; providing reading glasses on the emergency trolley; and creating emergency grab bags containing all the equipment and medication required for a particular emergency (e.g. anaphylaxis).

33% respondents had reviewed their emergency drugs and 2% had provided training to other staff who had been unable to attend the workshops. 15% had made adjustments to drugs, equipment and training. 12.5% respondents also commented on their increased confidence in the management of emergencies since the workshop, and the value of realistic, in-house, simulation based training. Examples of feedback included:

“Lots of learning was done in a useful and meaningful way for GPs and all clinical staff in the surgery”.

“Improved my confidence, great to know where everything is in the practice. Could do with it yearly”.

“Lots-- I am more confident and feel I can remain calm and act speedily. As a practice, we now have small boxes containing the appropriate drugs for each type of emergency e.g. anaphylaxis, diabetes, chest pain”.

“We updated our paed masks, emergency drugs and have laminated doses card next to drugs from back of BNF. We also learnt to nebulise directly from the O2 cylinder. Whole event rated as 5/5 in usefulness”.

Discussion

In managing time-critical illnesses, delays in treatment can have a direct impact on mortality and morbidity. In-hospital research has demonstrated that initial care must be optimal to avoid clinical deterioration, which is more difficult to reverse (3). Extrapolated to community settings, this highlights the need for effective delivery of training to GPs and primary care clinicians regarding the management of emergency scenarios. We show that ‘real-life’, in-house

simulation based training can led to sustained, increased confidence in the management of emergency scenarios in primary care. It is important that teaching is not classroom based, because real-life simulation in GP surgeries highlights organizational, equipment and system issues that may prevent the delivery of rapid and effective care. We propose that a national curriculum and associated courses are needed to provide 'real-life' simulation based training for primary care clinicians. GPs need regular education and training to deliver timely treatment when time critical emergencies occur in the community. This is an urgent patient safety issue, particularly as there is a drive for early discharge and increased management of patients in the community.

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