

A LIFESAVING QUALITY IMPROVEMENT PROJECT (QIP) - investigating the practicality of the emergency medicine bag in a primary care setting

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Although uncommon, emergencies in primary care must be adequately prepared for. The Care Quality Commission (CQC) has produced a resource of emergency medications GP practices are recommended to stock. This list is neither exhaustive nor mandatory, but practices should consider the necessity within their population (1).

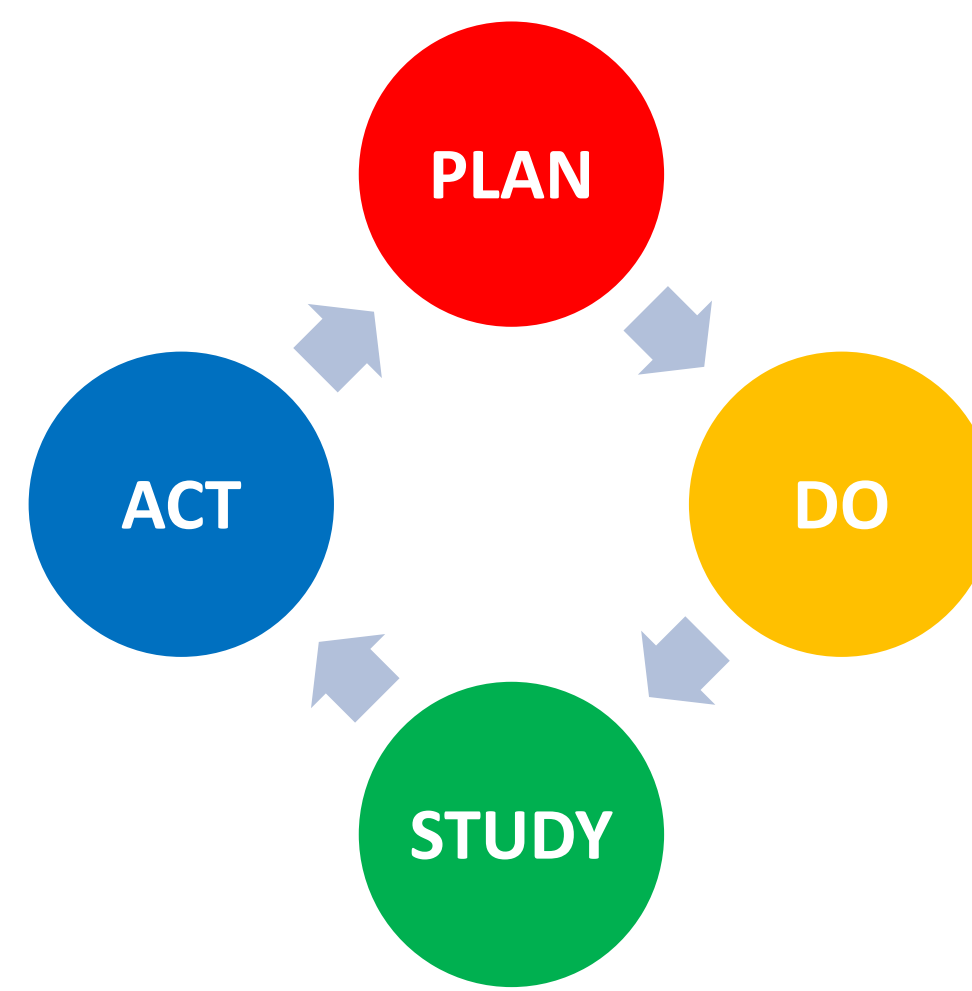
Many GP practices choose to have an emergency bag on site. Alnwick Medical Practice developed an emergency bag which contained all the medication and equipment required for medical emergencies in primary care.

Successful treatment in a medical emergency requires staff to be confident in using the emergency bag under pressure and be familiar with its layout and contents. This QIP explored staff confidence in navigating the emergency bag before and after a QI intervention.

Aims of the Quality Improvement Project

Quality improvement projects (QIPs) aim to improve safety, patient outcomes, and efficacy of care. They differ from audits as they make small incremental changes which can be monitored in the shorter term. The aims of this QIP were:

- Analyse individuals' confidence in using the emergency bag in a high-pressure situation.
- Improve individuals' confidence and familiarity in using the emergency bag.
- Improve and expedite access to the correct drugs and equipment in an emergency.



Methods

- The contents and layout of 4 different emergency bags across 3 different GP practices within Northumberland were analysed. The analysis explored how easy the drugs and/or equipment was to access and the location within the bag.
- A baseline measure of staff confidence in navigating the bag and using its contents was undertaken.
- Staff were surveyed on potential improvements to access, layout, and user confidence.
- A universal contents list was created to improve access to drugs and equipment during an emergency
- Following the QIP and implementation of the universal contents list, further measures of staff confidence were undertaken

Universal Contents List

Contents of emergency bag

ALS

AED on **bottom layer** of the tray.
Oxygen masks in **main** compartment
Cannulas in the **front** compartment
Adrenaline 1:10,000 is in the small **green** bag
Bag valve mask is in the **main** compartment

Bradycardia

Oxygen masks in **main** compartment
Cannulas in the **front** compartment
Atropine is in the small **green** bag
Adrenaline 1:10,000 is in the small **green** bag

Anaphylaxis

Adrenaline 1:1000 is in the small **blue** bag
EpiPen is **main** compartment
Oxygen masks in **main** compartment
Pulse oximetry is in the **main** compartment
BP machine is in the **main** compartment
Cannulas in the **front** compartment
500mls of saline is in the **side** compartment
Giving set is in the **front** compartment

Asthma and COPD

Pulse oximetry is in the **main** compartment
Tympanic thermometer is in the **main** compartment
BP machine is in the **main** compartment
Nebulised salbutamol is in the small **blue** bag
Salbutamol inhaler is in the small **blue** bag
Spacer is in the **main** compartment
Hydrocortisone is in the small **blue** bag

Sepsis

Pulse oximetry is in the **main** compartment
Tympanic thermometer is in the **main** compartment
BP machine is in the **main** compartment
Oxygen masks in **main** compartment

Meningitis

Benzylicillin is in the small **yellow** bag

Hypoglycaemia

Glucogel is in the small **yellow** bag

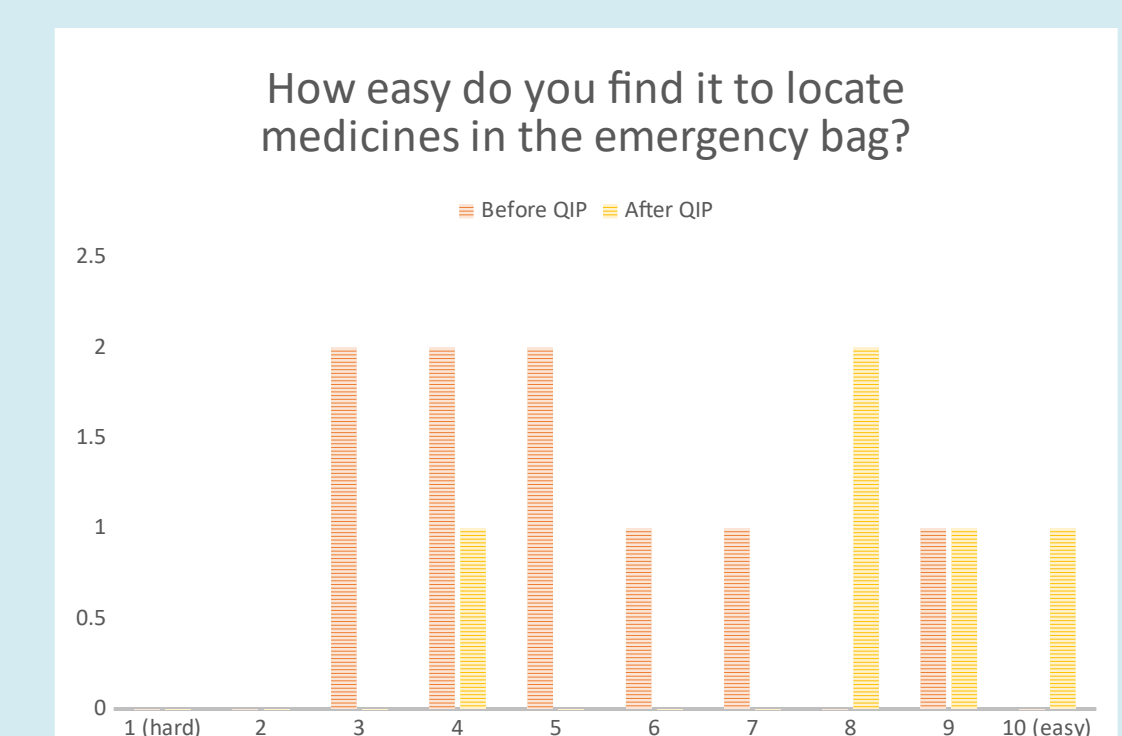
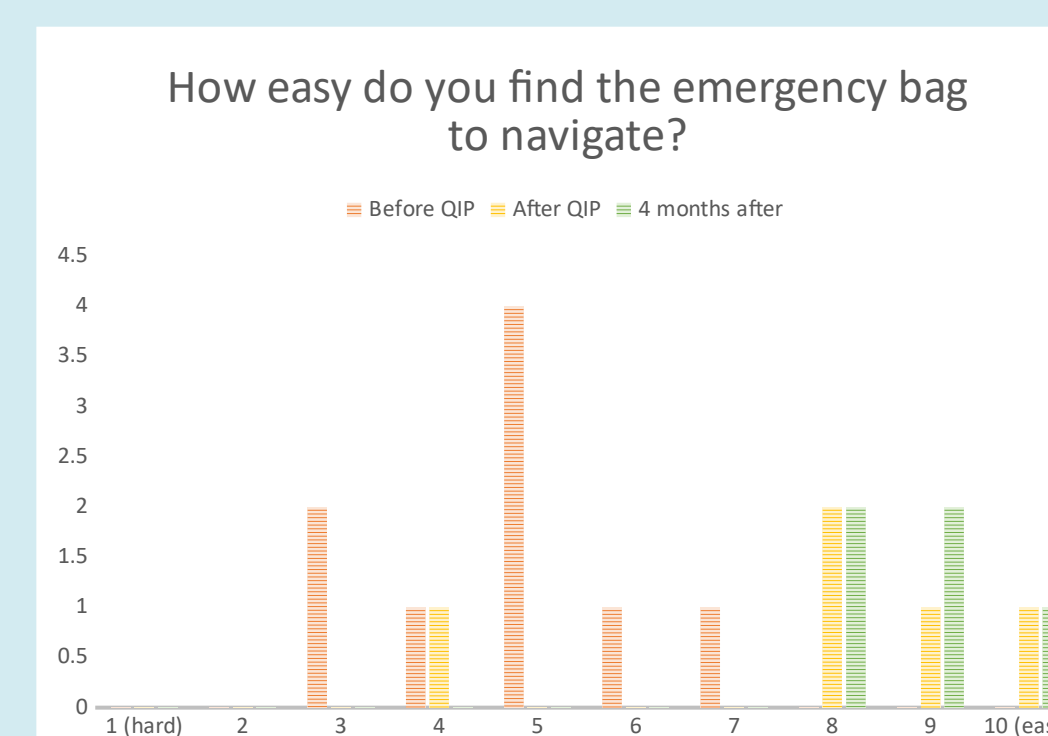
Coil

Atropine is in the small **blue** green

Medication locations

Blue bag (RESPIRATORY)- adrenaline 1:1000, hydrocortisone, salbutamol inhaler/nebs
Red bag (CARDIAC)- aspirin, GTN spray
Green bag (CARDIAC ARREST)- adrenaline 1:10,000, atropine
Yellow bag (MENINGITIS AND HYPOGLYCAEMIA)- benzylicillin, glucogel
Grey bag (PAINKILLERS)- Calpol, paracetamol
Front: injection, cannula, blood taking equipment
Main compartment: EpiPen, spacers, bag valve mask, oximeter, BP machine, oxygen and nebuliser masks, sharps bin, tympanic thermometer, stethoscope
Top: guidelines

Results



- **Before** implementing the contents list:
 - The staffs' confidence in navigating the emergency bag was **4.7/10**.
 - The staffs' confidence in finding a particular medication was **5/10**.
 - The staffs' confidence in the use of each medication was **7/10**
- This highlighted that the main issue of the emergency bag was individual's **lack of familiarity of its contents and layout**. Therefore, a universal contents list was created which clearly signposted the location of each drug in alignment with the common emergencies seen.
- **After** implementing the contents list:
 - The staff's confidence in navigating the emergency bag was **7.6/10 - a 62% improvement**
 - The staff's confidence in finding a particular medication was **7.8/10 - a 56% improvement**
- **4 months** after implementing the contents list:
 - The staff's confidence in navigating the emergency bag was **8.8/10**.
 - **A further 13% increase.**

Conclusions & Impact

Quality Improvement (QI) is core to clinical practice and an expected part of postgraduate training. QIPs should also be embedded in undergraduate teaching as part of a continuum of QI training, as stated in the GMC's Outcomes for Graduates (2). However, there is no standard guidance on how to best incorporate this into the undergraduate curriculum.

This QIP was completed during a 4-week student elective and had lasting clinical impact and transferability. The innovative contents list was printed, laminated and attached to all 4 emergency bags across 3 rural GP practices within Northumberland.

➢ Comments from Alnwick Medical Practice about the contents list included:

- It is 'time saving'
- It 'made it easier to locate drugs and equipment'
- It 'reduced unnecessary stress'

➢ The practice commented on how the contents list had continued to improve the management of emergencies within their practice and all the GPs believed this contents list would be useful if disseminated wider throughout primary care in the NHS.

Embedding QI and QIPs in the undergraduate curriculum is achievable and imparts educational and healthcare benefits. Contextualising QI teaching within clinical practice enhances knowledge, understanding and skills, and allows medical students to see themselves as important influencers of change as future doctors.