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DOI: https://doi.org/10.3399/BJGPO.2025.0268

To access the most recent version of this article, please click the DOI URL in the line above.

Received 29 November 2025

Accepted 22 December 2025

Author Accepted Manuscript

This is an 'author accepted manuscript': a manuscript that has been accepted for publication in BJGP Open, but which has not yet undergone subediting, typesetting, or correction. Errors discovered and corrected during this process may materially alter the content of this manuscript, and the latest published version (the Version of Record) should be used in preference to any preceding versions

Title:

Checklists for Emergencies in General Practice: Participatory Design of a Quick Reference Handbook

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Abstract

Background

Emergency presentations in General Practice (GP) are increasing, yet teams may go months without managing one. Cognitive aids such as checklists improve in-hospital emergency care, but existing tools are poorly suited to GP.

Aim

To identify common emergency presentations in GP and co-design bespoke checklists for safer management.

Design and Setting

Participatory design of GP-specific emergency checklists and usability testing in real clinical settings with multidisciplinary GP teams.

Methods

A multidisciplinary expert group used a mixed-methods participatory methodology to prioritise emergencies and develop checklists for a GP Quick Reference Handbook (GP-QRH). In-situ simulations in 29 GP practices informed iterative refinement of checklist content, layout and usability.

Results

The final GP-QRH comprised 15 clinical emergency checklists, one checklist for non-clinical staff, a structured handover template and emergency debrief guidance. Testing the final version in 11 GP practices was uniformly positive and emphasised the importance of simple design, clear language, prominent prompts for escalation, and team training in checklist use.

Conclusion

We have developed the first QRH for General Practice specifically tailored to primary care, co-designed with intended users. Its impact will depend on commitment to consistent use, local leadership and advocacy across GP networks. Further usability testing, evaluation of clinical impact and development of additional checklists are needed, but the GP-QRH has the potential to enhance emergency care and patient safety in UK general practice and internationally.

Key words

General practice, emergency, checklist, human factors, simulation

How this fits in

Emergency situations in General Practice are becoming more common, yet GP teams often lack recent training and appropriate tools to manage them safely. While checklists have improved care in hospitals, equivalent cognitive aids tailored to the GP setting are lacking. This research developed the first Quick Reference Handbook of checklists specifically for primary care, using a participatory, iterative design process grounded in human factors principles and supported by in-situ simulation. The work provides clinicians with practical, easy-to-use tools to support safe and structured responses to emergencies in General Practice.

Introduction

Evidence suggests that General Practitioners (GPs) are managing an increasing number of acutely unwell patients in their practices, and compared with their hospital-based colleagues, receive little training to support safe practice. Published evidence reveals that emergency presentations are more frequent in rural GP practices and the most common presenting complaints are cardiac (mainly acute coronary syndrome) and respiratory in origin with (1–4). However these data come from mainly international settings and most are over 15 years old. A more recent audit (led by AM in 2017) of 12 GP practices (total population of approx. 125,000) in the Thames Valley region of the UK revealed that 11 had dealt with an emergency in the preceding year (total: 159 emergencies). These data were collected from practice members during mandatory basic life support training sessions and revealed that cardiac (53/159 e.g. chest pain, tachy- or bradycardia) and respiratory presentations (53/159 e.g. COPD, asthma, PE, bronchiolitis) were the most common followed by sepsis (24/159) and other causes (29/159) e.g. anaphylaxis, epistaxis, confusion, epileptic fits and abdominal pain. Uncertainty around the aetiology of presentations was cited as a problem.

It is over 15 years since the publication of The Checklist Manifesto(5) and the use of cognitive aids, such as checklists, in both elective and emergency contexts in secondary care has led to improvements in performance and safety (6,7). In a recent publication, we highlighted the value of checklists as a tool to support safe practice in hospital settings and predicted that teams in General Practice would benefit in much the same way (8). The Association of Anaesthetists in the UK published the first Quick Reference Handbook (AA-QRH) for Anaesthetists in 2017 using a modified Delphi method (9), followed in 2021 by the UK Resuscitation Council's (RCUK) QRH for in-hospital medical and resuscitation emergencies(10). Key features of good checklist design, which are more likely to lead to their effective use in the clinical workplace, include a focus on safety critical steps, standardisation of language and layout, involvement of key stakeholders in their development, and training to embed use in practice (11–13). However, there are currently no validated checklists to support the management of acutely unwell patients presenting to GPs.

Additionally, simulation training for healthcare professionals has been shown to improve individual technical skills, team performance and patient outcomes in secondary care settings (14–18). Currently simulation-based education (SBE) for team training is more widely used in hospitals than GP practices. Where SBE is used for training in primary care, it is more commonly used for technical skills (such as BLS) and consultation skills training (19,20).

The fundamental aim for this project was to collaborate with multidisciplinary teams in General Practice to design a QRH to support the safer management of acutely unwell patients in GP settings.

The secondary aims were to validate the checklists in the handbook through rigorous testing on site in GP practices incorporating the use of lo-fidelity, in-situ simulation.

This paper will describe the project in two stages encompassing the participatory design of the QRH. Firstly we will present a summary of the proof of concept work to assess the acceptability of three checklists designed for GP teams, and secondly the participatory, mixed methods approach to the design and testing of the complete set of checklists in the GP-QRH.

METHODS

Overview of the development process

A participatory design approach (21) was taken to actively involve frontline GP teams (who have the most subject matter expertise) in a codesign process. This ensured usability concerns and design issues were addressed and that the final GP-QRH met their needs. A multidisciplinary group comprising GPs, practice nurses, pharmacists, paramedics, human factors specialists, critical care and resuscitation experts, used mixed-methods to design checklists for a GP-QRH which were based on the pre-existing secondary care template from the AA-QRH (see Supplementary Table S1 for details of GP-QRH teams and subject matter experts in Stage 1 and Stage 2).

Stage 1 : Initial design and pilot of three GP checklists

A small (n= 4) multidisciplinary group (comprising a GP (AM), two anaesthetists with human factors expertise (HH,PG) and an ALS instructor with a background in ICU nursing (RW)) was formed to design checklists for use in General Practice and assess whether they could be useful for the management of emergency presentations in GP. This initial GP-QRH team recruited additional subject matter experts (n=7, 5 GPs and 1 practice nurse, and 1 Consultant in Emergency Medicine) and used data from a review of the literature and a local audit (see above) to choose three initial checklists. These three checklists were constructed for GP contexts using the checklist template from the AA-QRH. Email invitations were issued to participate in the project and 18 GP practices volunteered to undertake multidisciplinary in-situ simulation training using the checklists. The simulation training was delivered by experienced faculty using standardised scenarios developed for use with the three checklists. Feedback on the checklists was gathered from 124 multidisciplinary staff. Additional data was captured on participant experience of emergencies which informed further checklist development for Stage 2 (see Supplementary Box S1, Supplementary Box S3 for additional details).

Figure 1. Multidisciplinary team training with in-situ simulation incorporating 3 initial checklists (chest pain, bronchiolitis and anaphylaxis) was delivered in 18 practices around the Thames Valley region in 3 hour sessions. Standardised scenarios were designed for patients presenting with chest pain, bronchiolitis or anaphylaxis and learning outcomes included integrating the use of the checklist (an example scenario is included as Supplementary Box S2). Debrief after the scenarios was supported by experienced faculty. Training used the environment, equipment, and resources found in each practice. Manikins were low-fidelity and actors were either members of faculty or volunteers from the practice staff. Feedback on the usefulness and design of the checklists was gathered from 124 multidisciplinary staff including non-clinical members of the team (feedback form included as Supplementary Box S3). Permission for publication was granted from all involved in these photographs.

Stage 2: Design and testing of checklists for the GP-QRH

Following Stage 1, Stage 2 focused on completing the GP-QRH, though progress was delayed by COVID-19 (Figure 2).

Team Expansion and Checklist Prioritisation

In 2020-21, the initial GP-QRH team was expanded (n=7) adding a GP partner from North Devon (ES), a GP Registrar with Emergency Medicine experience (PH), and a GP with simulation expertise (JT). This expanded GP-QRH team first defined a pragmatic target of 15 clinical checklists (i.e. the three original checklists plus 12 new clinical checklists), one for non-clinical staff, a handover template, and an emergency debrief form (the latter three at the request of teams involved in simulations). Verbal and written feedback from teams involved in Stage 1 training supported inclusion of BLS checklists (adult and paediatric) leaving 10 clinical checklists for prioritisation. A broader group of local subject matter experts was then recruited by email and personal contact from the project leads

(n=10: 3 GPs [one continuing from stage 1], 1 practice nurse, 2 GP paramedics, 1 GP receptionist, 1 consultant in emergency medicine and 2 intensive care consultants - 1 adult, 1 paediatric) to be involved in the design of the complete GP-QRH.

A modified Delphi process (22,23), chosen for its success in primary care safety and care transition quality measure development (24,25) was used to prioritise 10 new clinical checklists. Data used for the initial checklists and additional Stage 1 feedback on type and frequency of emergencies presenting in 18 practices were used to construct an online anonymised questionnaire listing 20 potential checklists (with space for free text comments). Seventeen members of the expanded GP-QRH team and subject matter experts agreed to complete the questionnaire. Participants were asked to rate each checklist as "definitely include", "probably include", "probably exclude" or "definitely exclude". Checklists in the modified Delphi process receiving a "definitely include" rating from 70% or more of the participants were included in the QRH. Checklists receiving a "definitely include" or "probably include" rating from less than 50% of the panel were removed and those with higher than 50% were retained for a second round (if necessary).

Checklist Design and Testing

Checklists followed the rigorous usability guiding priniciples (11–13) adopted by the AA-QRH, with standardised layout, labelling, and colour-coding and the same Creative Commons licence. Four two-person "author teams" drafted checklists (see Supplementary Table S1), informed by current national guidelines and published evidence then refined them through online peer review meetings and electronic feedback on updated checklists which were circulated to the whole author team at each new iteration.

The draft GP-QRH was initially trialled in the University of Oxford's simulation suite, then in 11 GP practices (practices were invited by email on a "first come first served" basis) in Thames Valley and North Devon using focus groups (with 6-12 multidisciplinary participants facilitated by members of the GP-QRH team) and in-situ lo-fidelity simulation. Multidisciplinary teams critiqued checklist content, design, and usability, via feedback forms and in focus group conversations (which were captured with consent by facilitators from the GP-QRH team) informing final revisions. The final version was then formatted by a professional design team.

Analysis

All data were anonymised and stored on a password protected computer under GDPR. Quantitative responses from the modified Delphi process and in-situ simulation feedback forms (using a 0-10 Likert scale) were summarised with descriptive statistics. Qualitative feedback from freetext responses and focus groups was thematically analysed, with themes agreed by consensus across the expanded GP-QRH team.

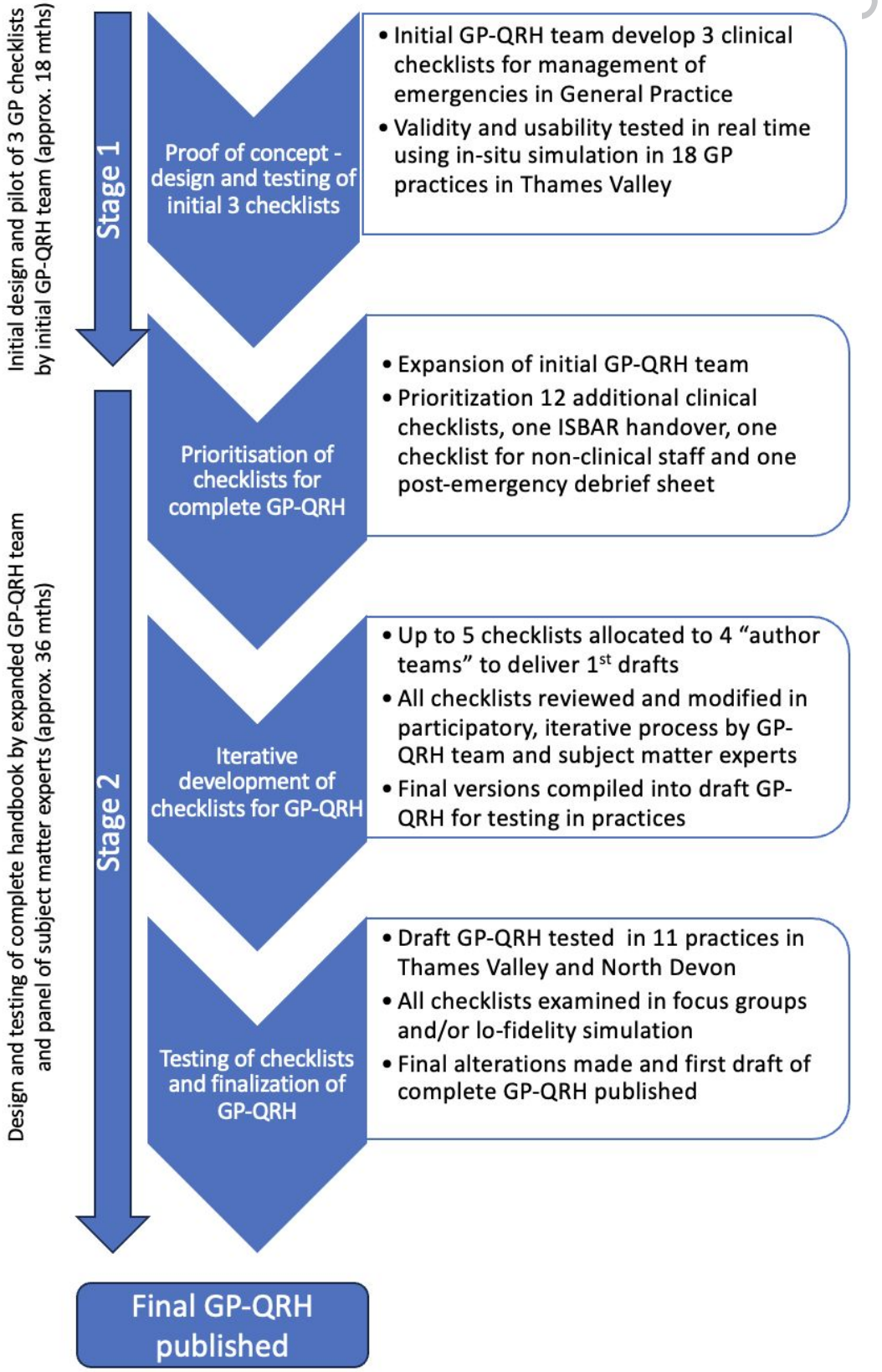

Figure 2. Flow diagram describing the participatory design process for the development of the GP-QRH**: Stage 1) Initial design and pilot of 3 GP checklists** provided evidence for proof of concept. Three initial checklists were designed iteratively by the initial GP-QRH team and tested in 18 GP practices in Thames Valley. **2) Design and testing of the complete GP-QRH**

was initiated after the success of the first stage. A first draft of the complete GP-QRH was ready for testing by June 2022. Further testing took place in 11 GP practices and feedback from this process resulted in changes to improve the checklists including use of simplified language, improved formatting and more logical flow in the information boxes.

RESULTS

Stage 1 : Initial design and pilot of three GP checklists

The first two checklists (ACS and bronchiolitis) were chosen based on frequency and severity of presentation, and anaphylaxis because whilst it is rare it can be catastrophic and is caused by vaccination (commonly done in GP), and in all three cases management is suitable for the stepwise approach of a checklist. Stage 1 piloted these three initial checklists in 18 practices with 124 participants using in-situ simulations (45 (36%) GPs; 28 (23%) practice nurses; 17 (14%) allied health professionals and 34 (27%) non-clinical staff). Feedback showed 95% found the checklists useful. Additional free-text feedback highlighted the need for simpler, clearer wording (see Supplementary Box S1).

These results demonstrated the validity and usefulness of checklists for managing emergencies in general practice and, consequently, additional funding was awarded by HEE to complete the GP-QRH.

Stage 2 : Design and testing of checklists for the GP-QRH

Checklist design:

Stage 2, beginning during the COVID-19 pandemic, involved prioritisation and completion of checklists and testing of the GP-QRH. The initial three checklists and two for BLS (adult and paediatric) were included and the remaining 10 were decided using the modified Delphi process described above. Fourteen participants (82%) completed the online questionnaire. A second round was not deemed necessary partly because 11 checklists were classified “definitely include” by 70% or more of the participants (see Table 1) and for practical reasons, because the pandemic was at its height.

Clinical Checklist	Participants classifying “definitely include”: number (%)
1) Acute respiratory distress (adult)	13 (93)
2) Acute respiratory distress (paediatric)	13 (93)
3) Fits	13 (93)
4) Hypoglycaemia*	13 (93)
5) Acute severe asthma (adult)	12 (86)
6) Acute severe asthma (paediatric)	12 (86)

7) Airway obstruction (paediatric)	12 (86)
8) Sepsis	11 (79)
9) Croup	10 (71)
10) Hyperglycaemia	10 (71)
*11) Heart failure***	*10 (71)*
12) Arrhythmias	*8 (57)*
13) Collapse	*8 (57)*
14) Haemorrhage	*8 (57)*
15) COPD	*7 (50)*
16) Addisonian crisis	*6 (43)*
17) Overdose	*5 (36)*
18) Trauma	*4 (20)*
19) Acute abdomen	*3 (21)*
20) Childbirth	*1 (7)*

*Table 1: Top 10 clinical checklists for inclusion in GP-QRH, these required 70% or more of participants to vote "definitely include". Other clinical checklist options not meeting first round inclusion criteria are highlighted in italics. *Hypoglycaemia was excluded even though it met the criteria because it was felt to be straightforward enough not to need a separate checklist. **Heart failure was excluded because although it scored the same as hyperglycaemia it had more "probably exclude" votes. It was also felt that management of heart failure could be included in a more generic "severe shortness of breath" checklist which would also cover COPD (chronic obstructive pulmonary disease).*

Results of the Delphi survey were reviewed by the extended GP-QRH team and it was decided that additional written feedback supported the inclusion of a "key basic plan" for uncertain situations that would provide guidance for some of the conditions which would not have bespoke checklists in the first GP-QRH e.g. stroke, arrhythmias, collapse, haemorrhage and overdose. The GPs in the team felt that treatment of hypoglycaemia was straightforward enough not to require a separate checklist and the prompt to check for glucose is included in checklists for the key basic plan and the management of fits so this checklist was removed in favour of the key basic plan. Addisonian crisis, acute abdomen, trauma and childbirth were felt to be too rare to warrant separate checklists in the first GP-QRH. The decisions and explanations were circulated to the wider group involved in the modified Delphi and complete agreement was reached.

The design of the checklists followed the AA-QRH format (see Figure 3). Key issues around content, clarity of language and usability were raised by GP teams. Content was adapted for general practice, accounting for differences in equipment, drugs (e.g. range available and route of delivery), and workflow. An ISBAR handover tool and post-emergency debrief form were added. Language was standardised with plain, accessible terms (e.g. fit instead of status epilepticus), and checklists were designed for clarity and usability with bold numbering, consistent layout, and a user guide (see SupplementaryTable S2 for details on iterative process for each checklist including number of iterations and resources/evidence used in development).

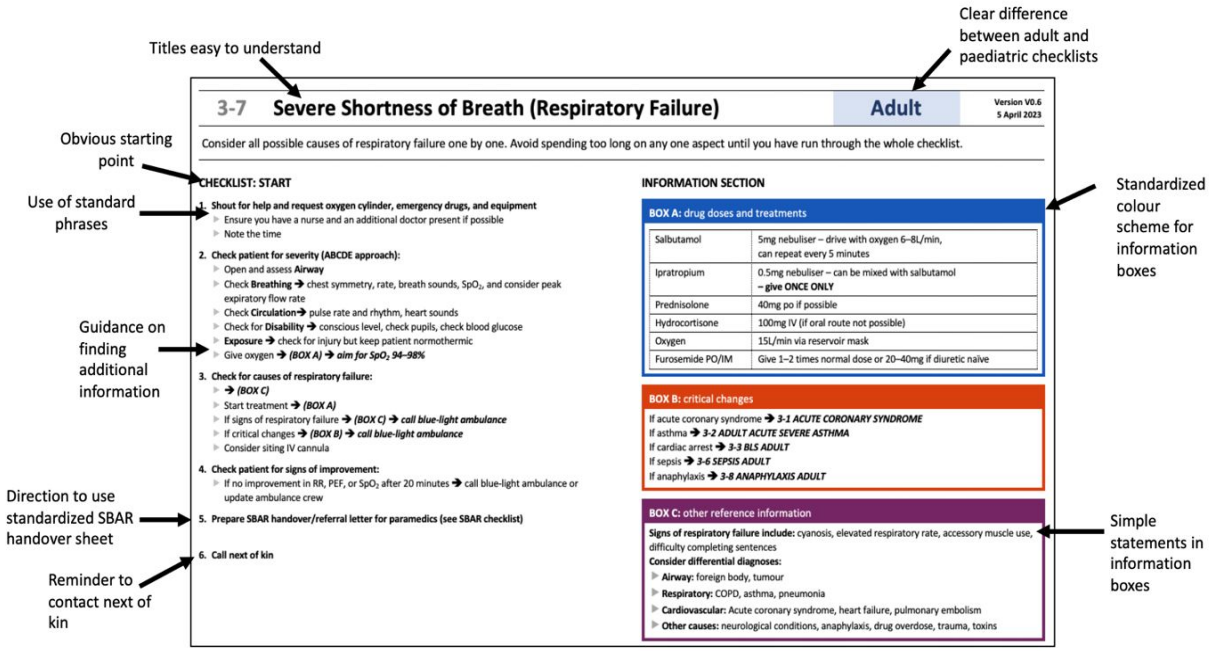

Figure 3. Example of clinical checklist from GP-QRH with explanations of key features including plain English titles and standardised colour schemes for information boxes. Use of language particularly recognisable in GP surgeries (e.g. "blue light ambulance") was informed by multidisciplinary input from the GP-QRH team and from the practices we visited during testing. Professional designers assisted with simplification of the design, flow and language, but the overall look of the checklists remains aligned with the UK Association of Anaesthetists' and the RCUK's QRH. They have a two-column design, with the left column containing a series of action steps. Each action step was written with the intention that it be read aloud. This meant that language had to be short and unambiguous as they are intended for read-do usage i.e. one person reads each step, while other members of the team act on the prompts. Every action step should be read aloud in order. A consistent approach to the order of events was used wherever possible e.g. an early reminder to make a note of the start time. The right-hand column of the checklist contains supplementary information. These are intended to be referred to 'as required' to support individual action steps. Individual boxes were depicted in a standardised colour and always appeared in the same order. Boxes could include: drug doses and treatments; critical changes to management; and other supporting information.

Final feedback from GP practices

Testing of the complete GP-QRH (supplementary file S1) in 11 practices showed consistently high usefulness ratings across all professional groups (Table 2). Doctors and pharmacists rated the clinical checklists as "extremely useful" (median 10/10 and 9/10 respectively). Nurses, HCAs, paramedics and non-clinical staff also reported high perceived usefulness (median scores 8–9/10). The ISBAR handover tool received similarly positive ratings, with median scores ≥7/10 across roles, and was particularly valued for supporting structured communication with ambulance and secondary-care teams. The non-clinical checklist was particularly valued for supporting reception and administrative staff.

Roles	Count	"How valuable to your practice do you think the checklists will be?" (median, IQR)	"Was the ISBAR useful?" (median, IQR)

Doctor	35	10 (0)	10 (0)
Pharmacist	3	9 (1)	10 (2)
Nurse	19	8.5 (3)	8 (3)
Non-clinical	28	8.5 (1)	8 (1.75)
Paramedic	4	8 (2)	7 (0)
HCA	8	8 (1.5)	8 (2)

Table 2: Assessment of the usefulness of all the checklists and the ISBAR form organised by role. ISBAR; identity, situation, background, assessment, recommendation.

Open-text responses from post-session questionnaires and focus groups converged on three main themes. First, participants highlighted communication, teamwork and clarity of roles as the most important learning point (34 written comments, including 21 from doctors), describing the QRH as a tool that "brings the team together" and helps ensure everyone has "a job" in a crisis. Second, 19 comments focused on knowledge of, and access to, emergency equipment; several practices reported using the simulations and checklists to reorganise emergency trolleys, update drug stocks and clarify where key items were stored. Third, participants valued having a structured approach (e.g. ABCDE) and a simple cognitive aid to reduce cognitive load (11 comments about structured assessment and 9 explicitly about the checklists themselves), with some describing the QRH as "levelling the playing field" between team members with different levels of experience. Additional comments described immediate intentions to change emergency processes (7 responses) and to seek further training, particularly in paediatric emergencies.

Overall, feedback validated the design process and reinforced the value of simulation-based familiarisation including the collateral benefit of revealing environmental safety risks. Many practices planned to incorporate checklist drills into regular meetings or staff induction, supporting sustained use of the GP-QRH in everyday practice.

DISCUSSION

Summary

This study revealed both a clear need for cognitive aids in General Practice and a highly positive engagement with multidisciplinary teams in the design of this QRH which is the first of its kind in GP. The AA-QRH was the model used as a basis for the GP-QRH in part because of its familiarity to two of the authors (HH and PG) who use it regularly in practice, and because of the focus on adhering to good design principles. These principles have been described in great depth in the literature both in and outside healthcare and have been used to develop the WHO safe surgery checklist (5) the Stanford Emergency Manual (https://emergencymanual.stanford.edu/downloads/) and operating room crisis checklists at Brigham and Women's Hospital (https://www.ariadnelabs.org/safe-surgery-safe-systems/surgical-safety/or-crisis-checklists/or-crisis-checklist-download/). However, these

checklists are all designed for use in hospital departments and not in the more resource constrained environment of General Practice.

The robust development process for the GP-QRH, by GPs for GPs, incorporated subject matter expertise from a wide variety of relevant specialities but, importantly, included allied health professions such as pharmacists and paramedics as well as non-clinical staff in primary care. It is not unusual for there to be limited numbers of staff with varying levels of expertise on site in a practice out of hours or at a weekend (26). It is, therefore, vital that everyone can use the GP-QRH in response to an emergency.

Strengths and limitations

A significant strength of the study is the breadth of experience in the GP-QRH team and wider subject matter experts and the extensive multidisciplinary engagement with teams in 29 practices. However, we were limited to GP practices in two regions of England (Thames Valley and North Devon) which may not encompass nuances of practice around the wider UK, particularly in more remote contexts. To date we have mitigated for this limitation by approaching GP teams around the UK and Ireland have received input from the College of Paramedics around ongoing curation of the checklists and training in their use.

We used a mixed methods approach with a strong focus on participatory design. Our modified Delphi technique for the prioritisation of clinical checklists was hampered by the Covid-19 pandemic such that a formal second round of the questionnaire (although not essential) was not possible. Participants were not anonymised in order to allow for communication and agreement regarding the final list of clinical checklists. Similarly for reviews of iterations of the checklists, whilst all efforts were made to host online meetings for all members of the expanded GP-QRH team and the wider group of subject matter experts the pandemic prevented all members being present on every call. To mitigate for this author teams ensured relevant input was gathered from the wider group by email and and personal communication and included in the online meetings. Our checklists were also tested across both stages by multidisciplinary teams in 29 GP practices across the two stages of the development process and their anonymised feedback was used to inform decisions on content and formatting for the final GP-QRH.

Patient engagement with the design of the GP-QRH was an aspiration but in the end it was not possible due to the pandemic.

Comparison with existing literature

A recent King's Fund report highlighted the growing pressure in General Practice in the NHS citing rising numbers of patient contacts, a workforce recruitment and retention crisis and an increase in

case complexity (26) The new 10 Year plan for the NHS also describes a concerted drive to undertake more "care closer to home"(27). Whilst there have been interventions to mitigate some of these issues, including the introduction of new roles within GP practices, more patients presenting acutely unwell adds to staff pressures.

Checklists, when used properly, have improved team performance and safety across healthcare (16,28,29). However, there is still marked resistance to embedding checklists in daily practice in hospitals in the way that they have been in aviation (12,30,31). The comparison between aviation and healthcare is often cited in human factors literature, but in some respects is unhelpful where checklists are concerned (7,32). A general cognitive aid is unlikely to be helpful across the very broad domains of healthcare practice and success is dependent on context-specific design, involvement of end-users, and training to support effective use (12,31). Challenges around implementation of the GP-QRH are likely to be similar to those experienced in secondary care and will require commitment from frontline teams to using checklists in GP, leadership to embed them as "business as usual" and direction and funding from government to ensure adequate time for training including the use of simulation in GP. Successful initiatives in simulation-based education for GP have been reported (33–35) and whilst they were rare a decade ago there is a growing awareness of the value of simulation training for teams in GP such that there is now a GP simulation special interest group in the UK's national simulation association (https://aspih.org.uk/resources/sigs/) with GP representation on the executive committee.

The use of checklists is not intuitive – this point has been highlighted in the literature (7,12), but also in the feedback from the in-situ simulation training we implemented. Whilst it was clear that the simulation training incorporating the GP-QRH was much appreciated it was repeatedly highlighted that it would be impractical to expect GPs to offer half day training sessions regularly whilst competing clinical pressures in the NHS remain extremely high. Simulation-based education often conjures images of hi-fidelity manikins and specialised training centres, but this is neither necessary nor efficient as a solution to embedding the GP-QRH. Simulation has been defined "as a technique not a technology"(36) which takes many forms and can be as simple as using a banana skin to practise suturing or as complex as a multi-agency simulation of a major incident. Our experience in the development of the GP-QRH has shown that very simple simulations incorporating use of the checklists can be undertaken in 15-20 minutes, much like the "tea-trolley" training developed for hospital teams (37). The round table discussions used in the GP-QRH development process were a powerful forum to run through the use of the QRH. It was possible to practise the use of a checklist in a small team and highlight key concerns around issues such as who should be allocated to read the checklist or how relatives might be kept informed. The use of simple tabletop simulation

incorporating scenarios which may have happened in the practice is also likely to be a useful format for low dose-high frequency teaching and for evolving the checklists over time (38–40). Written guidance on the use of the checklists is included in the QRH however, evidence from secondary care has shown that a multimodal approach to adoption and use of checklists is necessary. The next phase will be focused on the design of learning materials to support the use of the checklists (the first training video is freely available online: https://www.youtube.com/watch?v=PIpNQJwUkDA).

Implications for research and practice

Evidence supports the use of checklists in secondary care and it is logical to predict that they can deliver the same improvements in safety in General Practice. Whilst it is important to recognise that no clinical guideline or checklist can replace professional judgement – these checklists are cognitive aids designed to support decision making in conditions where cognitive load may be very high. The fundamental focus was to produce practical, easy to follow guidance for managing situations where patients present acutely unwell to their GPs - situations which are known to be occurring more frequently across the NHS and elsewhere.

As highlighted above, the successful adoption and use of the checklists in the QRH will require buy in from multidisciplinary teams in GP, training to support proper use and curation to provide regular review and updates. The GP-QRH has been created under a Creative Commons licence to allow for updates and adaptations to suit nuances in practice, with appropriate recognition of the source, and an editable version will be freely available. However, this requires coordination and support for routine (at least annual) review - as per the AA-QRH and RCUK-QRH. Our ongoing work with the College of Paramedics shows great promise, they are a group of healthcare professionals with the necessary expertise to curate the documents and support training in their use but they will need to continue to draw on subject matter experts in General Practice. Fortunately in England (and certainly in Thames Valley) paramedics are already working in GP practices but this is not the case across the whole UK.

Future research will be necessary to understand the impact of the GP-QRH. Our experience over the course of this work has revealed not only a clear requirement for guidance to assist GPs in the management of emergencies, but also a strongly positive response to the GP-QRH along with anecdotal evidence of the success of their use in real clinical situations. The aim for the future is to expand and continuously improve the handbook for the benefit of both patients and GP teams.

Funding

Funding to support the development of the GP-QRH came from Health Education England – Thames Valley (Patient Safety funding stream- project code: HMD00410).

Ethical approval

The project to develop a GP-QRH was approved and funded by Health Education England – Thames Valley (HEE-TV) and reviewed by the University of Oxford and Oxford University Hospitals NHS Foundation Trust's Joint Research Office. It was classified as service/training improvement not requiring further ethical review or sponsorship.

Competing interests

None to declare.

Acknowledgements

We are very grateful to all our subject matter experts and advisors; our expert faculty for the initial simulation training - Petronelle Eastwick-Field and Jo Lawrence; our GP simulation fellow - Jeremy Ferguson, to Charles Vincent for his advice on patient safety in primary care and for constructive criticism of the manuscript, to Helen Beaumont-Waters and the College of Paramedics for their advice on content and training, to Gabs Brown and Jess Harvey for their professional insights on design, language and usability, and to Wendy Washbourn our administrator for ensuring the project continued effectively despite the pandemic.

We acknowledge the important contribution made to patient safety by the AA and RCUK QRH documents from which we have drawn inspiration

Enormous thanks to all the multidisciplinary staff who provided extremely valuable, constructive feedback on the checklists in 29 practices:

Banbury Health Centre, Banbury, Oxfordshire
Berinsfield Surgery, Berinsfield, Oxfordshire
Branham Medical Centre, Barnstaple, North Devon
Castle Gardens Surgery, Torrington, North Devon
Chapel Row Surgery, Reading, Berkshire
Deddington Health Centre, Deddington, Oxfordshire
Didcot Health Centre, Didcot, Oxfordshire
Eastfield House Surgery, Newbury, Berkshire

Emmer Green Surgery, Reading, Berkshire
Eynsham Medical Centre, Eynsham, Oxfordshire
Haddeham Medial Centre, Haddenham, Oxfordshire
Hartland Surgery, Hartland, North Devon
John Hampden Surgery, Great Missenden, Oxfordshire
London Street Surgery, Reading, Berkshire
Marcham Road Family Health Centre, Abingdon, Oxfordshire
Melrose Surgery, Reading, Berkshire
Reading Walk-in Health Centre, Reading, Berkshire
South Oxford Health Centre, Oxford, Oxfordshire
Shinfield Health Centre, Reading, Berkshire
Thatcham Medical Practice, Thatcham, Berkshire
The Bell Surgery, Henley-on-Thames, Oxfordshire
The Boathouse Surgery, Pangbourne, Berkshire
The Manor Surgery, Oxford, Oxfordshire
The White Horse Medical Practice, Faringdon, Oxfordshire
University Medical Group, Reading, Berkshire
Western Elms Surgery, Reading, Berkshire
Westongrove Partnership, Aston Clinton, Aylesbury, Buckinghamshire
Windrush Medical Practice, Witney, Oxfordshire
Wychwood Surgery, Chipping Norton, Oxfordshire

Thanks to Health Education England - Thames Valley for funding the GP-QRH and to Rebecca Tyrrell, Ruth Crawley and Ruth Monger for their patience and support when we encountered delays during the pandemic.

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