Developing an integrated career and competence framework for whole systems urgent and emergency care delivery: a mixed methods study

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Background

The impact of crowding in emergency departments on patient safety, staff wellbeing, residents' education and performance of the wider healthcare systems is a global concern. Attention to whole systems healthcare strategies to improve service efficiency is growing, but staff are not well prepared to deliver care across organizational boundaries. Our study aimed to develop an integrated career and competence framework for whole systems urgent and emergency care.

Methods

We used mixed methods underpinned by a sequential exploratory design to collect data from a purposive sample. The sample included participants with clinical and mentoring or supervisory expertise in urgent and emergency care settings (n=27) and university lecturers in emergency care programs (n=7).

Results

The integrated career and competence framework provides a broad pathway for urgent and emergency care across contributing contexts. The framework illustrates what to expect of staff in urgent and emergency care contexts, irrespective of discipline.

Conclusion

The integrated career and competence framework highlights the capacity of care contexts to support informed navigation of the healthcare system in pursuit for urgent care. This initiative benchmarks a step toward whole systems urgent and emergency care to relieve the pressure on emergency departments and to grow staff across the system toward integrated working.

Key words: Integrated competence framework; urgent and emergency care; crowding; career and competence; staff development; whole systems

Background

The impact of crowding in emergency departments (EDs) on patient safety, staff wellbeing, residents' education and performance of the wider healthcare systems is a global concern [1-4]. Alongside staff shortages [5,6], other causes cited in the literature include constrained access to primary care, increasing complexity of care needs and the difficulties encountered in navigating changing healthcare systems [4,7,8]. The choice of a specific care context is important to subjective estimations of illness. The definition for urgent care then turns out to be contentious because this is usually determined by the individual's perceived need for healthcare. The UK Department of Health [9] for example reviewed and redefined urgent care numerous times to clarify services for different stakeholders including commissioners, users and providers of healthcare. The fragmented terminologies urgent care; unscheduled care; and emergency care inevitably confused the public in the way healthcare was commissioned, provided and utilized in different settings [10]. Urgent and emergency care was eventually designated to refer to the range of healthcare services available to people who need medical advice, diagnosis and/or treatment quickly and unexpectedly [11]. This means that the unexpected need for urgent care can be met in various care settings of the healthcare system depending on the required level of care.

There is no single account underpinning crowding in EDs and primary care interventions designed to tackle inappropriate attendances often yield insignificant results [12]. Nevertheless, the attention to whole systems healthcare strategies to improve service efficiency, healthcare outcomes and care experiences is growing [4,12]. But, Plesk [13] argues that the usual focus on organizational structures and processes when transforming healthcare overlooks staff who are a core component to successful implementation of initiatives. Workplace cultures constituting staff patterns of behavior, beliefs, values, attitudes and assumptions influence how transformational changes are perceived and implemented [13]. Whole systems healthcare embodies systems thinking to consider challenges and risks pertinent to the wider dynamic structure and the synergetic relationships between system components fundamental for systems' strength [14-17]. A whole system draws on systems theory which posits open interactions of system components within and with their environment [17]. A system is a complex entity at the center of which lies the whole [14]. Urgent and emergency care for example is a whole system comprising interdependent care settings including primary or community care, hospital/acute care and specialist centers. There is however limited evidence in the literature about supporting healthcare staff to work across organizational boundaries. Exemplars of whole systems workforce development [18,19] neither illustrate partnership relationships nor the contribution of different parts to whole systems healthcare. The current study that is the focus of this paper followed a workforce evaluation and improvement initiative that aimed to identify workforce enablers for whole systems urgent and emergency care [20]. Box 1 highlights the key findings from the originating research of the current study.

Box 1 Key workforce enablers for transforming the urgent and emergency care system

- System leadership with clinical expertise of a specific clientele such as learning disabilities to drive integration across organizational and professional boundaries.
- An integrated career and competence framework to enable healthcare system navigation as well as staff recruitment, development and retention.
- Facilitation standards to grow effective facilitators of workplace learning and development for competent healthcare delivery in appropriate settings.

A myriad of professional competence frameworks emerged following the promotion of competence based medical education instead of contemporary training to better prepare learners for clinical practice [21]. However, existing competence frameworks are mostly designed for specific professionals tied to care settings and do not reflect the workplace as a learning resource. Learning in the workplace is pragmatic because emphasis moves away from time as an aspect of training to focus on actual abilities attained, thereby linking competence to the needs of the service [21]. Competence and competency are commonly used interchangeably but competence is a broader concept combining performance outputs and behavioral inputs relating to stipulated minimum standards [22]. Competency on the other hand was originally devised to replace the term skill used in aptitude tests, which McClelland [23] suggests omitted the individual's proficiency at doing something. We use the term competence throughout this paper to imply *the array of abilities across multiple domains or aspects of physician* [healthcare professional] *performance in a certain context* [21:641]. This definition centers what healthcare practitioners can do instead of what they know to break down professional boundaries and create a range of opportunities for career progression.

The current study aimed to develop an integrated career and competence framework for whole systems urgent and emergency care across one teaching National Health Service (NHS) Trust consisting of five hospitals, a community healthcare service center and ambulance services in South East England. We deemed the systems perspective useful based on the assertion healthcare systems are complex and issues arising are better handled holistically, blending theory with applied methods to cross boundary working [24]. Theory is not only significant in the design of strategies for implementing initiatives, but also provides mechanisms for enhancing successful implementation [25].

Methods

Design

We used mixed methods underpinned by a sequential exploratory design [26] to develop, and refine the integrated career and competence framework for whole systems urgent and emergency care. Mixed methods were the viable means of building on findings of the original qualitative study [20] to develop an integrated career and competence framework connecting disciplines that contribute to urgent and emergency care. A sequential exploratory design enables use of results of a qualitative study to identify variables relevant for subsequent phases especially when developing interventions or instruments [26]. The originating research of the current study employed a descriptive multiple case study design, a qualitative approach, which aided clarifying gaps and pinch points in the various contexts of the urgent and emergency care pathway [20]. Data for the originating research on which the current study is based were collected between April and December, 2014. The process involved interrogating numerous sources of data in a workforce evaluation and improvement initiative to identify workforce enablers for whole systems urgent and emergency care delivery [20].

The current study that is the focus of this paper aimed to answer the following research questions:

- What competences are expected of staff providing urgent and emergency care in different settings? This question was important to illuminate the level of care expected in each urgent and emergency care setting.
- At what levels of the NHS career framework should the competences be expected? The NHS career framework [27] documents layers of practice for clinical and non-clinical healthcare roles (data file 1). The framework details skills and responsibilities at different levels of practice, designed to encourage career development for the NHS workforce.

Bloom's Taxonomy [28] was a useful tool for recognizing complexity and specificity at varying levels of practice in different care contexts. That is, tacit knowledge at the lowest level was predictably expected at higher levels of practice. Systems thinking provided a logical context for understanding relationships between interdependent urgent and emergency care entities and their contributions to a holistic care pathway [14]. Systems thinking supports analysis of synergetic relationships between interdependent parts and their behavior to enable developing means of generating desired outcomes [29]. We identified and organized urgent and emergency care interdependent partners into a pathway extending from home care to primary, urgent, emergency and secondary care [Table1]. This study was conceived on the assumption that motivation and performance are sustained when staff perceive that support and opportunities for learning and development are largely available [30].

Data collection

Detailed methods of data collection for the qualitative study that informed the current study are reported elsewhere [20]. In this study, we collected data in two stages between February and March, 2015. The preliminary stage involved an online survey pre-coded with generic interprofessional competences identified in the original study [20]. We grouped the generic competences in three categories including assess (A), treat (T) and SORT (S)

[Support discharge, organize admission, Refer, Transfer], which we coined to represent the ATS framework. We asked participants to select competences expected of staff providing urgent and emergency care in their contexts and to distinguish levels of practice at which competences were expected. The online survey also requested for free text data to enable participants to identify and list competences missing from the ATS framework and to indicate standards they used to induct new staff in their settings. All competences identified through the survey formed the dataset for further quantitative analysis.

We reviewed documents participants highlighted as standards for inducting new staff in the different urgent and emergency care settings to distil skills required to fulfil the identified competences in the ATS framework. Reviewing of documents involved searching for text highlighting specific skills for roles at various level of practice.

The second stage of collecting data involved evaluating the consistency and application of the ATS framework to the urgent and emergency care workforce. Participants in the second stage of data collection received electronic copies of the ATS framework plus the NHS career framework and its key elements to aid their evaluation. The key elements of the NHS career framework highlight abilities at various levels of practice (data file 2). Data gathered during the second stage were free text comments qualifying or suggesting amendments to competences and the level of their location in the integrated career and competence framework.

Participants

Participants in the study constituted a purposive sample to represent experts knowledgeable of competences expected of staff providing urgent and emergency care across different settings. We found seventy-two potential participants through online resources of two universities in the region, one teaching NHS Trust and general practice surgeries in the teaching hospital's catchment area in South East England. We considered experts in the first

stage of data collection to be clinical practitioners with roles combining supervisory or mentorship activity with clinical practice in urgent and emergency care settings hereafter referred to as clinical leaders (n=22). Healthcare practitioners without mentorship or supervisory roles in their respective urgent and emergency care settings were not included in the study. Online survey participants did not take part in the second stage of data collection.

Experts identified for the second stage of data collection included both clinical leaders (n=5) and lectures in emergency care programs (n=7). We based the selection process on the assumption that potential participants acquired the expertise through long term clinical service in urgent and emergency care contexts, mentoring junior staff and or facilitation of emergency care programs in higher education institutions. We sought potential representatives of community first responders through charity organizations in the region. Community first responders in the UK receive basic training to offer pre-hospital care when they arrive first at a scene of emergency.

We contacted all experts via email asking them to volunteer to take part in the study. The online survey also asked participants to recommend other experts they deemed fit to provide information about competences required in a comparable care setting in the region. The aim was to widen representation from each care setting and to ascertain that we included key standards and competences for urgent and emergency care. Thirty-four (n=34) out of seventy-two potential participants contacted responded and consented to taking part in the overall study. None of the community first responders were willing to participate and they retained the right not to explain their decision. Our study offered opportunity to mentors and supervisors of staff in urgent and emergency care settings to review their own practice and support effective transformation of the workforce [31]. Table 1 shows the number of participating clinical leaders from various urgent and emergency care contexts.

[Please insert table 1]

Analysis

The first step in the data analysis process involved extracting competences participants identified missing from the generic ATS framework and plotting them under the relevant task categories (assess, treat, SORT). We used descriptive statistics to identify the competences occurring most frequently. Competences that achieved scores ≥ 75% were thus considered significant for urgent and emergency care settings. Hardesty and Bearden [32] argue there is no universally agreed approach to retention of relevant items, but 75% agreement is widely acceptable. Competences that achieved frequency scores ≥ 75% formed the holistic interprofessional competences integrated into the ATS framework for whole systems urgent and emergency care.

Further analysis entailed distinguishing and reconciling differences in the levels at which participants identified competences in care settings indicated in Table 1. We made decisions based on skills distilled from documents participants distinguished as standards for inducting new staff, Bloom's classification of cognitive ability [28] and our understanding of the key elements of the NHS Career Framework [33]. Bloom's model of cognitive ability starts from recognizing and applying facts at the bottom level to complex activity including assessing and making judgements about rearranging elements into innovative structures at the peak of the hierarchy [34]. Using Bloom's perspective, we supposed staff in urgent and emergency care settings to have the proficiency to apply competences at designated levels of practice plus all others at lower levels.

We matched the skills distilled from documents participants highlighted during the first stage of data collection with the ATS framework at different levels of proficiency to emphasize understanding and the knowhow of competences expected at specific levels of practice. We used the qualitative comments gathered during stage two of data collection to fine tune and qualify all emerging study outputs presented in the next section. It is noteworthy that we

neither encountered inconsistences in participants' qualitative comments validating competences and their location in the framework nor in suggested modifications.

Results

Continuous inquiry and participants' comments contributed to three study outputs. The first output was a refined integrated competence framework distinguishing overarching interprofessional competences for urgent and emergency care across the whole system (Table 2). The framework reflects the composite contribution of all care contexts to whole systems urgent and emergency care spanning various disciplines. The integrated competence framework locates within three broad tasks comprising assess, treat and sort all of which encapsulate competences from a systems perspective for urgent and emergency care pathways.

The three broad tasks identify expectations of interdependent partners working across different contexts and individuals from all disciplines working within teams linked to:

- alerting to the need for action or assess people for urgent or emergency care needs;
- treating people appropriately and promptly for their urgent and emergency care needs;
- SORT (ing) (*support discharge, organize admission, refer or transfer*) people appropriately within or across the system and its different contexts in a timely way.

[Please insert table 2]

The second output of the study was the integrated career and competence framework aligned to the NHS career framework. The integrated career and competence framework presented in Table 3 provides a broad pathway for urgent and emergency care across contributing contexts extending from home care to primary, urgent, emergency and secondary care. The resulting framework confers an outcome strategy to elucidate what is

expected of healthcare staff across interdependent providers and at each level of the NHS career framework irrespective of discipline. The integrated career and competence framework situates within competence models of different disciplines contributing to urgent and emergency care to improve staff's efficiency of delivering care across healthcare systems. The framework takes into account layers of staff that contribute diverse aspects to whole systems urgent and emergency care and the significance of a team approach while keeping the people's experience at the heart of care.

The third study output was the differentiated knowhow and contextual factors (data file 3) underpinning the performance outcomes at the various levels of the integrated career and competence framework in urgent and emergency care settings.
[Please insert table 3]

Discussion

The vision of reducing crowding in EDs and the associated influence on patient safety, residents' training and staff wellbeing is tenable through valuing and effectively using the existing workforce through whole systems urgent and emergency care delivery [20]. The proportion of emergency admissions categorized as preventable offers healthcare systems the opportunity to boost the capacity of the workforce to deliver care high quality care in suitable settings [35, 36]. Quality in this case implies that the service meets expectations in a specific care setting. A systems perspective to working esteems the contribution of all entities to the whole, bigger than elementary parts [37].

Our study aimed to develop an integrated career and competence framework to support the delivery of whole systems urgent and emergency care. We used the term integrated to mean not only partnership working, but also bringing together competences of different disciplines differentiated by care setting and or complexity of clinical practice. The outcome-based approach of the integrated career and competence framework rises above job titles to aid

decisions about sharing workload within required standards with emphasis on team performance [38]. However, the framework presents notable variations in competences expected of staff at similar levels of practice across several care settings. For example, what is expected to be delivered in primary care led settings for staff at a similar level of practice in secondary care led services differs for some competences. This is partly due to limited facilities such as diagnostic and laboratory services available to staff, which has implications for how staff potential can be developed across the whole system if expectations were consistent.

Nonetheless, the integrated career and competence framework represents system and team approaches to developing the workforce, with a focus on shared competence instead of individual aptitude. The team approach is reflected in the interdisciplinary design of the framework where individuals from various disciplines work together to deliver care that responds to service needs. The integrated career and competence framework illustrates competences across the wider urgent and emergency care system to facilitate the development and navigation of a coherent pathway. The shared skillset at different levels of practice for assessing and treating people competently or referring them to appropriate contexts based on the required level of care portrays prospects for tackling crowding in EDs. Frank et al. [21] contend competence is subject to change with time, experience and setting. The framework presents rotational learning opportunities in urgent and emergency care contexts across the system to grow staff that demonstrate proficiency in providing care at more advanced levels of practice. Similarly, interdisciplinary approaches to staff development offer teams insight into the contribution of different care contexts to enhance collaboration across care pathways premised on effective caring cultures [39]. Staff development here does not relate to the number of training sessions or the length of time in training but the perception that opportunities for horizontal or vertical progression are largely available [30].

The literature suggests workplace learning and development do not offer uniformity in experiences due to variances in workplace cultures and values [38]. However, transformational change hinges on leadership values and thus clinical systems leaders and workplace facilitators of learning and development are integral to the resulting integrated career and competence for whole systems urgent and emergency care [20]. Clinical systems leaders have specialized clinical credibility of a particular patient group and work collaboratively across organizational boundaries to enhance performance and to promote learning and development opportunities for staff. Workplace facilitators of learning and development on the other hand support improvements in health outcomes and staff's wellbeing holistically through working with interprofessional teams to promote effective workplace cultures, role clarity and team competence [39].

Limitations

Results of our study should be interpreted within the study's limitations. While the integrated career and competence framework promotes whole systems healthcare for improved efficiency, the sole focus on urgent and emergency care could promote silo mindsets toxic to interdisciplinary teams and interprofessional collaboration. The second limitation is the contention around defining an expert, particularly without a validated tool to assess acclaimed expertise on a subject. Judging participants' expertise based on long term experience in clinical practice could be challenged by the notion that practice, especially 'could be better practice' does not always result in perfect [40]. The results of the study were also are based on a small localized sample that may restrict application to other healthcare systems.

Conclusion

The integrated career and competence framework reflects composite contribution of interdependent partners and disciplines to whole systems urgent and emergency care. While the integrated career and competence framework details competences at various levels of

practice, competence statements explain the contribution of entities to broad responsibilities of assessing, treating and SORT(ing) to meet urgent care needs. The integrated career and competence framework highlights the capacity of each context to support informed navigation of the system in pursuit for urgent care. This initiative benchmarks a step toward whole systems urgent and emergency care to relieve the pressure on EDs. Further work would be useful to evaluate the effectiveness of the integrated career and competence framework in enhancing staff wellbeing and performance across the urgent and emergency care system.

Conflict of interest

The authors do not have conflict of interest to declare

Ethical consideration

The study received ethical clearance from the University's Research Ethics and Governance Committee ref. 15/H&W/CL114. The study was a collaborative provider led workforce evaluation and improvement initiative and complied with the National Health Service research governance and ethics regulations for service evaluation and improvement.

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