

Bond University
Research Repository



Sharing stories about medical education in difficult circumstances: Conceptualizing issues, strategies, and solutions

McKimm, Judy; McLean, Michelle ; Gibbs, Trevor J.; Pawlowicz, Ewa

Published in:
Medical Teacher

DOI:
[10.1080/0142159X.2018.1442566](https://doi.org/10.1080/0142159X.2018.1442566)

Licence:
Unspecified

[Link to output in Bond University research repository.](#)

Recommended citation(APA):
McKimm, J., McLean, M., Gibbs, T. J., & Pawlowicz, E. (2019). Sharing stories about medical education in difficult circumstances: Conceptualizing issues, strategies, and solutions. *Medical Teacher*, 41(1), 83-90. <https://doi.org/10.1080/0142159X.2018.1442566>

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

For more information, or if you believe that this document breaches copyright, please contact the Bond University research repository coordinator.

Title

Sharing stories about medical education in difficult circumstances: Conceptualising issues, strategies and solutions

Short title

Medical education in difficult circumstances

Authors

Professor Judy McKimm, Swansea University Medical School, UK

Professor Michelle Mclean, Bond University Medical School, Australia

Professor Trevor Gibbs, AMEE, UK

Ewa Pawlowicz, Medical University of Lodz, Poland

Where research conducted

Research was conducted internationally via AMEE activities

Corresponding author:

Professor Judy McKimm, School of Medicine, Grove Building, Swansea University, Singleton Park, Swansea, SA2 8PP

j.mckimm@swansea.asc.uk

0044(0)1792 606854

Sharing stories about medical education in difficult circumstances: Conceptualising issues, strategies and solutions

Abstract

Background

Global economic forces, political decisions and natural disasters are only some of the factors that affect contemporary healthcare education. Given the centrality of health in all settings, the future of healthcare education depends on how we overcome these difficult circumstances.

Methods

Through a series of collaborative activities involving healthcare educators from around the world and their attempts to overcome these difficulties, the authors have developed a conceptual model centred around the people involved, the impact of culture, and organisations and systems.

Results

The model can help to frame discussions and develop strategies about how best we, as a community of health professionals and educators, collaborate and share wisdom, experiences and resources to assist colleagues who might be struggling to deliver education. What has clearly emerged from this work is the centrality of leadership and management in effectively challenging and addressing difficult circumstances.

Conclusions

Contemporary health professions' education leadership needs to be inclusive, mindful, compassionate and caring; echoing and role-modelling how we expect our students to be with patients and colleagues. This means being willing to confront unacceptable behaviours and speak out and challenge authority when needed. It also requires awareness and understanding of the complex systems in which healthcare education is provided.

Background

Medical and health professions' students and educators live and work in an increasingly complex and ever-changing world, which poses many challenges. It is a world that is all too often fraught with tragedy and human suffering, either as a result of regional conflict and war; as a consequence of individual politicians' personal agendas; the constant threat of terror attacks; spates of hurricanes, cyclones and floods and unanticipated epidemics such as Ebola and Zika. The combination of political decisions, economic forces and natural disasters has led to large-scale suffering due to poverty, famine, disease, displacement, dispossession of homes, political sanctions, and aid withdrawal. The 2017 World Economic Forum annual global risks report (World Economic Forum 2017) identifies other underlying trends and inequalities that will determine the shape of the world in the next decade. These include rising income and wealth disparity and the increased polarisation of some sectors of society. So, although there has been a narrowing of the poverty gap (World Bank 2017), there is also a parallel increasing imbalance of wealth distribution, with the fortunes of eight billionaires equating to that of the poorest 50% of the world's population, i.e. 3.6 billion people (Credit Suisse Research Institute 2017).

In our opening commentary for the ‘Medical Education in Difficult Circumstances’ *MedEdPublish* theme (McLean, McKimm & Gibbs 2016), we described the global situation then facing leaders across the world - the tens of thousands of refugees (political and economic) who were fleeing conflict and persecution in the Middle East and North Africa to seek a better life in Europe. At the time, these stories dominated the media but today there is barely a mention of those (and other) refugees’ plight and other issues now consume our attention.

It is in this Volatile, Uncertain, Complex and Ambiguous (VUCA) world (Lemoine, Hackett & Richardson 2017) that medical and health professions’ education strives to produce fit-for-practice graduates. These graduates need to be global citizens who can deal with the current issues facing many communities around the world and have the skills and understanding to be adaptable and flexible in the face of uncertainty and change. The only certainty we have of the future is that there will be change. Technology, robots and artificial intelligence, while allowing us to make great medical and engineering advances, are potentially disruptive innovations (Christensen et al. 2015). The need for a flexible, responsive workforce (particularly in low resource, rural and remote settings) is leading to the creation of new, extended and expanded roles for health and social care workers. This leads to threats to professional identity which are exacerbated by health systems that are in transition from specialist to generalist (Kyratsis et al. 2017). These shifts pose challenges as well as opportunities for educators and health workers alike.

Against this backdrop of an increasingly complex, volatile and messy world, we set out to identify some of the ‘difficult circumstances’ in which members of the medical and health professions’ education community find themselves. Through a number of activities aimed at bringing together colleagues and students from around the world, we were able to better understand the nature of these difficulties and collaborate to seek solutions. We acknowledge, however, that for some ‘wicked’ problems, there are no clear solutions.

This paper reports on the data collected from various sources over approximately 18 months. The aims of data collection were threefold, to:

- 1) Define what is meant by a ‘difficult circumstance’ for medical and health professions’ educators and students
- 2) Identify and then categorise the difficult circumstances reported by health professionals and students, and,
- 3) Document a range of possible strategies to address some of these difficult circumstances.

This paper reports primarily on the first two aims.

Methods

Data collection and analysis

Data were collected during 2016 and 2017 from a number of sources and activities. In addition to reviewing the literature, chronologically, these were:

- A MedEdWorld survey (via the Association for Medical Education in Europe (AMEE) website) requesting readers to identify and describe a difficult circumstance and then to indicate whether (and how) the issue had been resolved (16 submissions)

- Accepted abstracts for the 2016 AMEE Conference theme, ‘*Medical Education in Difficult Circumstances*’ (17 posters; 5 short communications)
- Several 2016 AMEE Conference plenaries addressing issues around education in ‘difficult circumstances’
- A workshop at the 2016 AMEE Conference in which a definition was agreed upon and some of the ‘difficult circumstances’ identified (30 participants)
- Seven articles submitted to a special *MedEdPublish* edition (January-March 2017)
- Gathering information on the student perspective from interviews with 15 students from six countries
- A follow-up workshop at the 2017 AMEE Conference (*Medical Education in ‘Difficult Circumstances’: Addressing difficulties, exploring solutions*) (14 participants).

Data were therefore collected iteratively at various intervals and in different activities over the two years. Each activity was informed by the data analysed from the previous activities. Starting with the MedEdWorld survey, submissions were entered into an Excel spreadsheet in terms of geographic location, problem or ‘difficult circumstance, solutions offered. MM then categorised the ‘difficult circumstances’ and the stakeholders and/or affected parties. This was then circulated to the other authors for consideration, discussion and agreement on the final categories. A similar process was followed in terms of the analysis of the AMEE abstracts submitted to the theme of “Medical education in difficult circumstances” for which MM, TG and JM were reviewers. These data were used to plan the 2016 AMEE workshop which explored some of the foundational concepts of this theme of ‘difficult circumstances’. Notes generated during the workshop, together with the data collected, informed the opening editorial for the January-March 2017 *MedEdPublish* theme. Submissions for this theme were again analysed and the data added to the Excel spreadsheet. EW used purposive sampling to identify 20 students from various countries willing to be interviewed. Students were initially identified as members of international medical students’ organisations through IFMSA – International Federation of Medical Students’ Associations. The 2017 AMEE workshop sought to consolidate the theme and consider how some of the common difficulties experienced by health professionals, students and service users might be conceptualised and addressed. We presented findings from earlier work and showed two video-recorded interviews with students as exemplars of the ‘student voice’ to participants as ‘trigger material’. This submission thus provides an overview of the current status of our findings. It is hoped to develop an AMEE Guide that provides case studies and practical solutions to some of the ‘difficult circumstances’ that many of us face as we educate future health professionals.

Results

Profile of submissions

Extracted from a MedEdWorld survey in 2016, the 2016 AMEE Conference abstracts and the 2017 *MedEdPublish* submissions, individuals from the following regions and countries ($n = 27$) described their ‘difficult circumstances’:

- *Eastern Europe:* Georgia, Poland
- *Europe:* Greece, Germany, Netherlands, Spain, United Kingdom
- *Scandinavia:* Denmark, Sweden
- *North America:* Canada, USA
- *Caribbean:* St Kitts
- *Central and South America:* Brazil, Chile, Venezuela
- *Middle East and Central Asia:* Iran, Kazakhstan
- *South East Asia:* India, Pakistan
- *East Asia:* Taiwan
- *Africa:* Ethiopia, Rwanda, Sierra Leone, Somalia, South Africa, Sudan, Tunisia
- *Australasia:* Australia

Defining what is meant by a 'difficult circumstance'?

Building on the data collected from 2016 MedEdWorld survey and the 2016 AMEE abstracts, the following features of a 'difficult circumstance' were developed and ratified by delegates at the 2016 AMEE Conference workshop:

- Recognised as being *out of the ordinary*, i.e. beyond what is difficult in everyday life (and may thus be context-dependent)
- May be an *acute crisis* (e.g. natural disaster or epidemic) or a *long-term issue* (e.g. institutional 'culture' or low-resource setting)
- Can *impact at different levels*, i.e. individual, team, organisational (e.g. university or faculty) or system level (e.g. education or healthcare system)
- Can be found in *in different contexts*, e.g. rural and remote settings, high density urban, underserved communities, universities, health provider organisations
- May *result from a conflict of values or beliefs* (e.g. purpose of education/training, ethnicity, religion)
- *Does not allow goals to be achieved*
- May be *morally distressing*, affecting student, academic, health professional and patient *mental and physical well-being*.

Stakeholders' identification (i.e. who experiences the 'difficulty')?

Various stakeholders were identified: Healthcare professionals and educators (in interprofessional teams), students, academic faculty, administration and support staff and patients.

Categories of 'difficulties' identified

Table 1, updated from the *MedEdPublish* editorial (Gibbs et al. 2017) following data analysis, reflects the categorisation of the captured 'difficult circumstances' in terms of the three levels at which they may manifest (i.e. global (macro), system or institution (meso) or individual (micro) level). The categories of 'difficult circumstances' ranged from unsafe or dangerous situations arising from conflict, natural disasters and epidemics; issues relating to an increasingly multicultural world; the impact of poorly (or dwindling) resourced situations on workload, supervision and patient care, and the prevailing 'cultures' and sub-cultures of

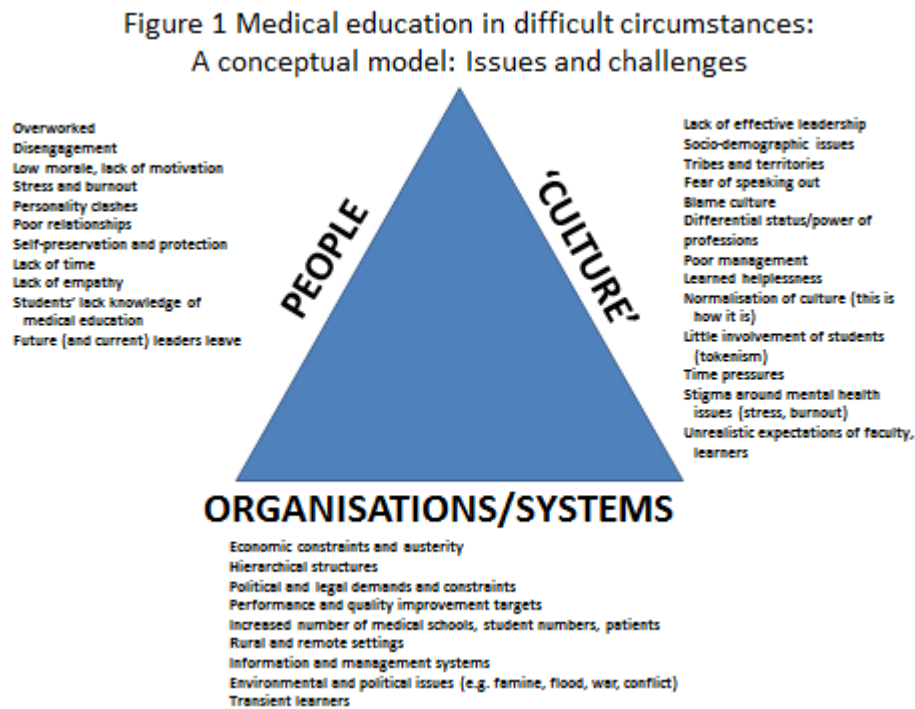
academic institutions and the clinical workplace. Contributors identified the impact of the 'difficult circumstance' on their practice as educators or clinicians, on their experience as students and on their personal well-being. One of the effects of 'difficult circumstances' (particularly if not addressed) on individuals and teams was personal stress and burnout due to, for example, excessive workloads, declining human resources or the prevailing institutional 'culture'.

Table 1 Categories of ‘difficult circumstances’, level and possible implications (updated from Gibbs et al. 2017)

Level	Difficult circumstance	Implications (individual or community) for HPE and
Global (macro)	<p>Unsafe, dangerous situations</p> <ul style="list-style-type: none"> • Natural disasters (e.g. earthquakes, floods) • Epidemics, outbreaks (e.g. Ebola) • War, conflict, terrorism <p>Political/economic issues</p> <ul style="list-style-type: none"> • Neoliberalism (commodification) • Populism 	<p>Collectively for these situations:</p> <ul style="list-style-type: none"> ▪ Shortage of health professionals; difficulty recruiting ▪ HPs may die or be killed, perhaps targeted (e.g. Medicine sans Frontiers) ▪ Interrupted medical education or complete closure of medical schools ▪ Students and/or their families affected <p>• Private vs. public education (i.e. equity; standards)</p>
Health care systems (meso)	<p>Health care quality/systems</p> <ul style="list-style-type: none"> • Low resource or remote settings • Declining health care systems <p>Competing values; role conflict</p> <p>‘Culture’, tribalism; poor leadership</p> <p>Multiculturalism</p>	<p>Collectively:</p> <ul style="list-style-type: none"> ▪ Difficult to recruit doctors; low HP: patient ratio ▪ Long working hours compromising patient care can lead to stress, well-being issues ▪ Affects clinical supervision of students ▪ No CPD or faculty development <p>▪ Country or regional needs vs. individual patient needs</p> <p>▪ Education vs. service delivery; education vs. research</p> <p>▪ Conflict, abuse, discrimination, inappropriate communication</p> <p>▪ Individuals working with selfish purpose and/or power</p> <p>▪ Patient care compromised</p> <p>▪ Conflict of beliefs, values, ethical standards, professionalism</p> <p>▪ Inequitable health care</p>
Education system; academia (meso)	<p>University funding models</p> <p>Education quality</p> <p>Institutional ‘culture’</p> <p>Multiculturalism</p>	<ul style="list-style-type: none"> ▪ Expenditure cuts to public higher education; fee increases (e.g. student unrest in S) ▪ Resource constraints could jeopardise quality <p>▪ Low staff: student ratio (e.g. many African countries)</p> <p>▪ Traditional paradigm and resistance to change (e.g. Poland)</p> <p>▪ Differing accreditation standards or no accreditation; lack for regulation;</p> <p>▪ Resource constraints; poor leadership; lack of transparency; little or no communication</p> <p>▪ Non-inclusive curriculum; inequality in education; marginalisation</p> <p>▪ Conflict of beliefs, values, ethical standards, professionalism</p>
Individual or personal (micro)	<ul style="list-style-type: none"> • Uncertainty, transitions, long working hours • Overloaded curriculum; relevance 	<ul style="list-style-type: none"> ▪ Insufficient support for students, academics, patients ▪ Stress affects mental health and well-being of students, academic faculty, HPs, learners

Development of a conceptual model

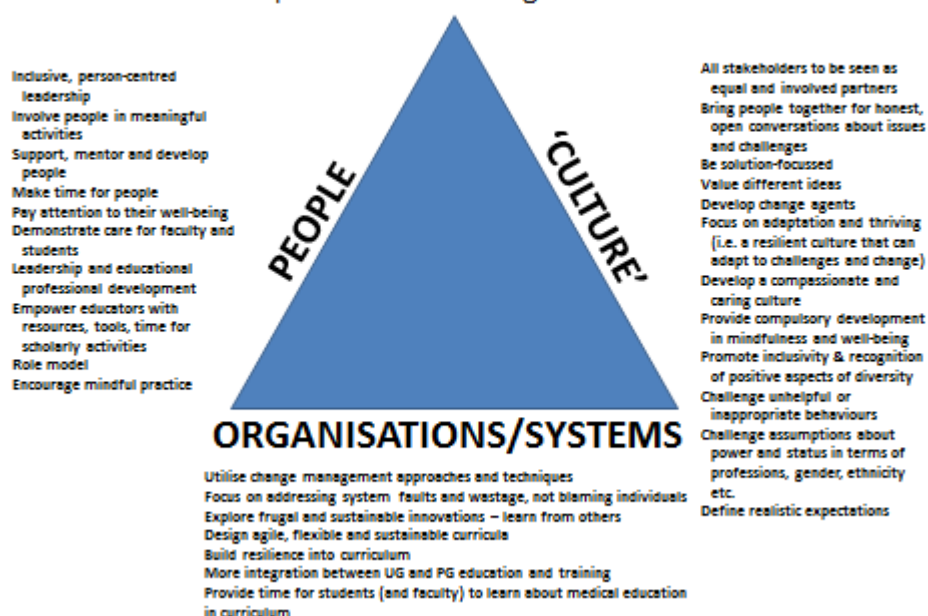
Our final piece of work was at a 2017 AMEE conference workshop where delegates and facilitators collectively developed a conceptual model (Figures 1 and 2). Figure 1 summarises the issues and challenges identified by educators and students under three headings: People, Culture and Organisations/Systems. Figure 2 begins to set out high-level strategies and solutions.



Discussion

Through a multipronged data collection approach using different AMEE communication channels and resources, we provide a global snapshot of the most pressing issues facing health professionals and students as they engage in their studies or care for patients in different educational and clinical settings. By sharing stories of 'difficult circumstances' from around the world, not only did we identify key issues and challenges (Table 1) but some strategies and solutions also began to emerge. We have not discussed global issues (such as climate change, conflict and economic constraints) because the study participants primarily highlighted those areas which they felt had more easily identifiable solutions. Figure 2 summarises these under each of the headings described above.

Figure 2 Medical education in difficult circumstances:
A conceptual model: Strategies and solutions



People

Healthcare education involves a large number of people and in this study, we were concerned (within its constraints) to capture the diversity of views across the range of stakeholders. In capturing the ‘difficult circumstances’ and the ways in which they were addressed, initially we heard mainly the voices of faculty (academics, clinicians and managers) however through the two AMEE conference workshops and the targeted activities of one of the authors (EP), we also obtained the student perspective.

It is not possible to address each category of ‘difficult circumstance’ in detail here (Table 1 provides more depth) and, in particular, the impact of system or organisational difficulties will vary hugely depending on specific contexts and personal/group responses. However, key issues arising from such pressures for the ‘people’ involved typically centre around the stress and low morale arises from poor interpersonal relationships (e.g. personality clashes), feeling disengaged and unmotivated, being overworked and ‘time-poor’, feeling unvalued and not understood, and a lack of knowledge (for students, this was about medical education). Other literature supports our findings, noting that stress, burnout and student and clinician suicide are key issues (which may be exacerbated in difficult circumstances) for both educators and students (e.g. Beyond Blue 2013; Royal College of Physicians 2015; Rotenstein et al. 2016). To this end, in their systematic review and meta-analysis of medical student mental health (167 cross-sectional studies, 16 longitudinal studies from 43 countries), Rotenstein and colleagues’ (2016) found a high prevalence (compared with the general population) of *depression or depressive symptoms* (27.2%) and *suicide ideation* (11.1%) amongst medical students. Whilst a number of support services exist for medical students and doctors in training, these are not always accessed by those who need them, partially due to the stigma surrounding mental health (Nash 2017).

Useful strategies and solutions to help address these issues include making time for and involving people in meaningful activities; providing time for professional development, support and mentoring, practising mindfulness and care for people and paying attention to their well-being. Students want to increase their knowledge and awareness of various aspects of medical education and become more active and competent in contributing to formal committees. They therefore need to be included in leadership and management activities and designing curricula, while implementing learning approaches that emphasize taking increasing responsibility for their own learning will also boost their willingness to become involved and help develop resilience. Educators need to be provided with the tools and skills required to do their work effectively and the time and resources for scholarly activities.

Biswas and Tzadok's (2017) submission for the 2017 *MedEdPublish* special issue reminded us too of the importance of the patient voice and alerted us to the role of and impact on the patient in 'difficult circumstances'. As we strive to engender in our students the need for patient-centred care, we need to acknowledge that many of the 'difficult circumstances' we identify can potentially impact on the quality of patient care. Simply navigating the complexities of the healthcare system is often a 'difficult circumstance' for patients and their families. This is exacerbated if members of healthcare teams do not share the same goals in terms of care or if their energy is spent protecting their silos rather than providing a patient-centred service (Hewett et al. 2009). For many students and practitioners, being unable to provide optimal care is stressful. This leads us to consider 'culture' and difficult circumstances.

Culture

Many of the challenges and issues identified in the various submissions and through the workshops related to 'culture'. By this we mean organisational and professional cultures and sub-cultures. The key issues identified under 'culture' include poor management and leadership; 'learned helplessness'; normalisation of a poor culture and practices; token involvement of students; time pressures, and unrealistic expectations of faculty and learners.

Two themes we identified resonate with the literature. One is that difficult circumstances arise when there is a blame culture, a fear of speaking out, as in the stigma around mental health issues such as stress and burnout (e.g. Dean 2016; Nash 2017). The second theme highlights the impact of the differential status and power between professional 'tribes and territories' (Becher & Trowler 2001; Hewett et al. 2009) on ways of working. Many articles document how medical hierarchies and health professionals' tribalism contribute to the (dys)functioning of healthcare teams and organisational cultures, with impact on patient safety, professional identity and team 'belongingness' (e.g. Nembhard & Edmondson 2006; Hewett et al. 2009; Weller et al. 2014; Barrow et al. 2015). Kyratsis and colleagues' (2017) study showed how clinicians who were being retrained from specialists to family doctors due to system change perceived identity threats in the form of professional values and status identity conflicts and status loss. The clinicians who transitioned to the new identity successfully used authenticating, reframing and cultural repositioning to reconstruct their new professional identities (Kyratsis et al. 2017).

Interestingly, in the first laboratory controlled teamwork experiment, Braithwaite and colleagues (2016) researching the basis of clinical tribalism, found that in the controlled

setting (i.e. outside the workplace), their multi-professional teams functioned well, with no evidence of tribalism and hierarchical and stereotype behaviours. They concluded that these behaviours appear to be an artefact of the workplace rather than a manifestation of personality or individual psychological differences. There is thus something about the workplace ‘culture’ that triggers undesirable behaviour. Perhaps as Napier (2015) points out, the issue is not the heavy workloads themselves, but it is that the culture creates the ‘difficult circumstances’ by fragmenting teams thereby preventing members from being ‘present’ for one another.

Strategies and solutions designed to address cultural issues are not going to be easy to implement and need a ‘long game’ perspective. ‘Culture’ does not change overnight. Through our study, we have identified the sort of culture that those who engaged with us defined as important (see Figure 2). This is a culture that is inclusive and welcomes diversity. This is achieved by involving all stakeholders as equal and engaged partners, valuing different ideas, where unhelpful or inappropriate behaviours are challenged, as are assumptions about power and status in terms of professions, gender, ethnicity, etc. The ‘ideal’ culture is also focused on enabling people to thrive, developing individuals and teams that are resilient and can adapt easily to change. This is achieved by developing people as ‘change agents’ (including students), being solution-focused and defining realistic expectations, plus offering development if needed in well-being and mindfulness. Such a culture is compassionate and caring in which people look out for and support one another. It is also a safe place to bring people together for honest, open conversations about issues and challenges.

Organisations and systems

The third cluster of ‘difficult circumstances’ is located at the organisational or system level. In addition to the environmental and wider political issues discussed earlier, difficult circumstances were also described in terms of contextual, political and economic factors. These included rural and remote settings; medical and learning technologies; economic constraints and austerity; hierarchical structures; performance and quality improvement targets; increased numbers of medical schools, students and patients; transient learners, and political and legal demands and constraints.

Some of the strategies and solutions described above are also relevant at the system level and are supported by a number of writers who emphasise the need for systems and organisational cultures to focus on creating a resilient ‘learning culture’ or ‘community’ which values all stakeholders as equal partners, and which promotes inclusivity and mutual respect. Three specific themes from the literature are relevant here: systems thinking; interconnectedness, relationship building and ‘co-participation’; leadership styles and approaches. For example, in a recent article regarding clinical supervisors’ conceptions of how a learning or teaching curriculum, workplace culture and individuals’ agency shape learning and supervisory practices, Strand and colleagues (2015) wrote the following: “*We found system thinking, combined with the conceptual framework of ‘co-participation’ advocated by Billett (2002), to be a useful analytical tool to highlight how the focus of respondent conceptions of learning varied. For instance, conceptions of learning as membership and partnership focus on how student learning results from the interrelationship*

between a) organizational and cultural structures in the workplace, b) continuity of participation and relationships, c) how students and supervisors as agents are able to act on the structures and learning systems of which they are a part. Reciprocity between how the workplace welcomes students to participate and student involvement or resistance to participate, what is described by Billett (2002) as co-participation, characterizes the nature of the learning process” (p. 551).

Napier (2015) suggests that building and maintaining resilient individuals, teams, organisations and systems is based fundamentally on interconnectedness. This involves having strong connections with others, a defined sense of purpose and meaning, and the ability to be flexible and adaptable to cope with stress and pressures: the more connected we are in our social networks (both at work and at home) the more resilient we become (Napier 2015). Technologies such as teleconferencing or social networks can be very useful in helping create and maintain connectivity between people, however, care must be taken that technology (such as mobile management or diagnostic devices) does not replace the human connections that are fundamental to healthcare. The importance of building and maintaining relationships is also borne out in Arnold and colleagues’ (2017) research on the factors that prepare learners to become leaders in medicine in which *learning communities* emerged as a primary factor. At that School, teams were longitudinal (years) so relationships were established. Leaders identified the factors that contributed to their success as being their ‘docent’ (a member of the teaching staff immediately below professorial rank), their relationships with senior students, and their team experiences in general. Many studies confirm the importance of leadership in organisational effectiveness and cultural ‘tone’. For example, Klein and colleagues’ (2013) empirical study investigating the impact of leadership style on organisational culture in 311 organisations confirmed that the leadership skills of managers and supervisors are critical factors in the creation and reinforcement of cultural norms. This in turn positively impacted on organisational effectiveness.

The lack of interconnectedness underpinned some of the strategies and solutions identified in our study relating to curricula. For example, establishing more integration between undergraduate and postgraduate education and training would help new graduates function more effectively and reduce anxiety. Other curriculum-related strategies included designing flexible, agile, sustainable programmes that are not reliant on key individuals or teams, and building resilience into the curriculum. Students wanted time built into their programmes to learn about medical education and to be more involved in programme development and other educational initiatives. At an organisational or system level, a strong theme emerged about utilising resources more efficiently. Strategies included learning from others how best to utilise change management and sustainable innovation approaches and techniques, including frugal innovation in low resource settings (e.g. Artemiou & Adams 2017; Cartwright et al. 2017; Mack et al. 2017) and focusing on addressing system faults and wastage, rather than blaming individuals. In countries with accrediting bodies, Barzansky and Hash (2017) remind us of the support such bodies can offer in times of development or crisis.

Conclusions

What has clearly emerged from this work is the centrality of leadership and management in preventing and/or addressing difficult circumstances. By ‘leadership’, we mean leadership,

management and followership activities engaged by people at all levels in the organisation, not simply the leadership vested in senior leaders (McKimm & O'Sullivan 2016). Contemporary health professions' education leadership needs to be inclusive, mindful, compassionate and caring; echoing and role-modelling the way in which we expect our students to be with patients and colleagues. This means being willing to confront unacceptable behaviours and speak out and challenge authority when needed. Such leadership helps to build resilience through relationship-building, community formation and fostering interconnectedness. Leaders also need to take a 'systems thinking' approach that acknowledges complexity. This will help them be more aware of organisational and system pressures and 'faults' and external influences and changes, so that they can help the organisation or team respond appropriately and remain resilient.

In order for individuals to reach self-actualisation, Maslow (1943), in his theory of human motivation, argues that certain human needs - physiological, safety, belonging, self-esteem - must be met. Working or studying in an environment in which the 'culture' does not meet these primary needs or causes stress through work overload, time pressures or lack of infrastructure and resources, is indeed a 'difficult circumstance' that may lead to ill-health, resignation or worse. Several other 'difficult circumstances' were identified (e.g. environmental disasters and low-resource settings) in this project. Strategies and solutions for such global or complex systems' issues therefore need to be multi-level and multi-modal. Whereas some are clearly directed at the system level (e.g. utilising change and innovation models or designing curricula that are agile, flexible and sustainable), others focus on addressing cultural, relational or individual aspects.

Finally, we acknowledge that this study has limitations and there are clearly many more research studies and conversations to be carried out. We suggest, however, that our conceptual model provides a framework to start discussions about how best we as a community of health professionals, educators and students collaborate and share wisdom, experiences and resources to assist colleagues who might be struggling to deliver education. This is particularly important at the global level where (often courageous) educational and political leadership is required and organisations need to be brought together in collaboration to provide support for those struggling in unforeseen circumstances.

Practice points

- Our conceptual model provides a framework for identifying issues, strategies and solutions for students and educators working in difficult circumstances
- The model was developed through sharing stories and international collaboration
- The model describes three key headings: the people involved, organisational and professional cultures and organisations and systems
- Severe consequences for individuals and organisations result from a failure to address difficult circumstances: effective leadership is therefore key
- More conversations and research are needed to support those working in difficult circumstances

Acknowledgements

We are very grateful to all those who have contributed through conversations and publications in the *MedEdPublish* theme and participants at all the workshops, especially those at the 2017 AMEE Conference workshop for assisting with the development of the conceptual model.

Ethical considerations

At all stages of data collection, the purpose of the project was clearly articulated to all participants, either in written form (e.g. MedEdWorld survey) or at the AMEE workshops, where verbal consent was given to the authors to include the discussion in summaries and publications. In any publications relating to this project (e.g. *MedEdPublish* special issue submissions), the work has been duly acknowledged.

References

- Arnold L, Cuddy PG, Hathaway SB, Quaintance JL, Kanter SL. 2017. Medical school factors that prepare students to become leaders in medicine. *Acad Med* 93(2):274-282.
- Artemiou E, Adams CL. 2017. Leading a clinical communication program in a remote setting: Practical considerations from ROSS University School of Veterinary Medicine, St. Kitts. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000031>.
- Barrow M, McKimm J, Gasquoine S, Rowe D. 2015. Collaborating in healthcare delivery: exploring conceptual differences at the “bedside”. *J Interprof Care* 29(2):119-24.
- Barzansky B, Hash R. 2017. The role of accreditation in supporting educational quality during difficult circumstances. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000052>
- Becher T, Trowler P. 2001. *Academic tribes and territories: Intellectual enquiry and the culture of disciplines*. McGraw-Hill Education (UK).
- Beyond Blue. 2013. National mental health survey of doctors and medical students. https://www.beyondblue.org.au/docs/default-source/research-project-files/bl1132-report---nmhdmss-full-report_web
- Biswas S, Tzadok I. 2017. The bedside as a difficult learning environment: Overcoming the reluctance to see patients. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000020>
- Braithwaite J, Clay-Williams R, Vecillio E, Marks D, Hooper T, Westbrook M, Westbrook J, Blakely B, Ludlow K. 2016. The basis of clinical tribalism, hierarchy and stereotyping: a laboratory-controlled teamwork experiment. *BMJ Open* 6:e012467.
- Cartwright K, Madhavi P, Kazemi-Jovestani K, Maxwell S, Wilson M, Woywodt A. 2017. Twelve Tips to implement curriculum changes in times of economic austerity. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000047>.
- Christensen C, Raynor ME, McDonald R. 2015. What Is Disruptive Innovation? Boston: Harv Bus Rev. <https://hbr.org/2015/12/what-is-disruptive-innovation>
- Credit Suisse Research Institute. 2017. Global Wealth Report 2017. Available at: <https://www.credit-suisse.com/corporate/en/articles/news-and-expertise/global-wealth-report-2017-201711.html> (accessed 1 December 2017)

- Dean J. 2016. Mental health: Medical students need our urgent help. *MJAInsight*.
<https://www.doctorportal.com.au/mjainsight/2016/48/mental-health-medical-students-need-our-urgent-help/>. Accessed 11 November 2017.
- Gibbs T, McLean M, Pawlowicz E, McKimm J. 2017. Editorial: Medical education in difficult circumstances. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000001>
- Hewett DG, Watson BM, Gallois C, Ward M, Leggett BA. 2009. Intergroup communication between hospital doctors: Implications for quality patient care. *Soc Sci Med* 69:1732-1740.
- Klein AS, Wallis J, Cooke RA. 2013. The impact of leadership styles on organizational culture and firm effectiveness: An empirical study. *J Man Organ* 19(3):241-254.
- Kyratsis Y, Atun R, Phillips N, Tracey P, George G. 2017. Health systems in transition: Professional identity work in the context of shifting institutional logics. *Acad Man J* 60(2):610-641. Research Collection Lee Kong Chian School of Business. Available at: http://ink.library.smu.edu.sg/lkcsb_research/4909 (accessed 30 November 2017)
- Lemoine PA, Hackett PT, Richardson MD. 2017. Global higher education and VUCA – Volatility, uncertainty, complexity, ambiguity. In: Eds? *Handbook of Research on Administration, Policy, and Leadership in Higher Education*. Hershey, PA: IGI Global, p. 549-568. Doi:10.4018/978-1-5225-0672-0.ch009
- Mack H, Golnik K, Murray N, Filipe H. 2017. Models for implementing continuing professional development programs in low-resource countries. *MedEdPublish* 6(1). <https://doi.org/10.15694/mep.2017.000018>.
- Maslow AH. 1943. A theory of human motivation. *Psychol Rev* 50(4):370-96.
- McKimm J, O'Sullivan H. 2016. When I say... leadership. *Med Edu* 50(9):896-897.
- McLean M, McKimm JM, Gibbs TJ. 2016. Medical education in difficult circumstances: A global responsibility to contribute. *Med Teach* 39(1):4-6.
<https://doi.org/10.1080/0142159X.2017.1254758>
- Napier J. 2015. Resilience: How we keep sailing. *Journal of Holistic Healthcare* 12(1):18-21.
- Nash E. 2017. Are doctors-in-training in the UK aware of the current support services available to them? *MedEdPublish* <https://www.mededpublish.org/manuscripts/1313/v1>
<https://doi.org/10.15694/mep.2017.000209>
- Nembhard IM, Edmondson AC. 2006. Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in healthcare teams. *J Organ Behav* 27(7):941-66.
- Rotenstein LS, Ramos MA, Torre M et al. 2016. Prevalence of depression, depressive symptoms, and suicidal ideation amongst medical students. A systematic review and meta-analysis. *JAMA* 316(21):2214-2236.
- Royal College of Physicians (2013). *Work and wellbeing in the NHS: why staff health matters to patient care*. London: Royal College of Physicians.
<https://www.rcpsych.ac.uk/pdf/RCP-%20WorkWellbeingNHS.pdf>
- Strand P, Edgren G, Borna P, Lindgren S, Wichmann-Hansen G, Stalmeijer R2. 2015. Conceptions of how a learning or teaching curriculum, workplace culture and agency of individuals shape medical student learning and supervisory practices in the clinical workplace. *Adv Health Sci Edu* 20:531-557.

Weller J, Boyd M, Cumin D. 2014. Teams, tribes and patient safety: overcoming barriers to effective teamwork in healthcare. *Postgrad Med J* 90(1061):149-54.

World Bank. 2017. Poverty & Equity Data Portal. Available at: <http://povertydata.worldbank.org/poverty/home> (accessed 1 December 2017)

World Economic Forum. 2017. The Global Risks Report 2017. Available at: <https://www.weforum.org/reports/the-global-risks-report-2017> (accessed 1 December 2017)