First, do no harm

Enhancing patient safety teaching in undergraduate medical education

A joint report by the General Medical Council and the Medical Schools Council

Medical Schools Council

General Medical Council

A shared commitment

Medical schools, represented by the Medical Schools Council (MSC), commit to the following principle.

Undergraduate medical education should continue to prepare students to appreciate the role of systems and processes in ensuring patient safety. Students need to understand the rationale for these safety systems and processes, the importance of complying with them, and the risks to safety associated with attempts to circumvent them.

They need to understand the types and causes of errors in healthcare and be familiar with key safety-improvement tools such as root cause analysis. They also need to work well in teams, and to value the contribution of good team-working to safer care.

Their education should provide them with suitable motivation and skills to design, implement and improve safety systems and processes throughout their career.

The Medical Schools Council

The General Medical Council (GMC) commits to supporting the development of excellence in the teaching of patient safety. It does this by continuing to look for and to share best practice through its quality assurance process, and implementing *Promoting excellence*[1] – a new set of standards that will support schools to keep safety at the heart of undergraduate medical education.

The University of Buckingham and the University of Central Lancashire, which are not yet fully accredited by the GMC and therefore are also not currently MSC members, also commit to the principle.

Contents

Foreword

Today's increasingly complex healthcare systems offer huge benefits to patients, but also place them at risk – the scale of which has only recently become apparent. Despite the best efforts of healthcare professionals, estimates suggest as many as 1 in 10 hospital patients in the UK suffer harm during the delivery of care.[2]

Reducing the burden of this harm is a huge challenge for healthcare systems, and one in which success will depend to a large part on education. As the doctors of tomorrow, today's medical students will be equipped with the knowledge, skills and behaviours to practise safely and to improve the safety of the systems in which they work.

A shared commitment towards patient safety

The GMC and the MSC recognise that clinical and non-clinical learning environments must do all they can to promote the value of patient safety.

In the past, those who organise and provide healthcare have been slow to recognise that this is a safety critical industry that not only requires systems to reduce the likelihood of harm to patients but also requires an education and training system that cultivates a different approach to care in which safety and quality are central.

That is why the safety of patients is at the core of the GMC's new standards for education and training;[1] this includes the expectation that training should take place in an open and honest learning culture.[3]

UK medical schools recognise this and are developing a number of initiatives to put the discipline of patient safety at the forefront of the minds of new medical graduates.

The GMC will support them in this endeavour by continuing to look for and share best practice relating to patient safety – particularly as we implement the new standards for medical education and training.

We are delighted in this report to underline our shared commitment to make the teaching of patient safety a key priority.

As well as highlighting and reinforcing the commitment from medical schools to teach patient safety, we hope this report will serve as a useful snapshot of current progress, and focus attention on areas where future work could be concentrated.

Taking on new challenges in a developing area

Incorporating the relatively new and still developing discipline of patient safety into established curricula has brought challenges – the discussions which informed this report with medical schools, doctors, medical students and other groups show that while there has been great progress, there is some way still to go. First among these challenges is the need to embed an open and transparent safety culture into the clinical environments where students learn.

In this report we have focused on undergraduate patient safety teaching. The lessons that students learn in medical school set the tone for the rest of their education and training.

However, postgraduate training and continuing professional development are also critical in developing the safety leaders of the future. At each stage, progress made by one group will translate into a stronger safety culture in the learning environment itself, and make it easier for future groups to learn.

The work we have done for this report has shown that much of the journey so far has been achieved through individual contributions, from enthusiasts within medical schools and from doctors in training and students themselves.

To highlight some of these contributions, this report includes examples of medical school initiatives, as well as details of patient safety projects from medical students and doctors in training. In addition, we have included suggestions for reforms to improve safety that were submitted to the GMC 2015 annual conference.

We very much hope this short report recognises the great work that is underway and inspires others to move forward with this vital work.

Niall Dickson
GMC, Chief Executive

Dr Katie Petty-Saphon
MSC, Chief Executive

What has prompted the move towards teaching patient safety?

While 'first, do no harm' is one of the earliest lessons that new medical students learn, this principle has traditionally been applied at the level of an individual doctor's actions.

The relatively new field of patient safety looks more broadly at the way healthcare is delivered. As defined by the World Health Organisation (WHO), the discipline of patient safety is the 'coordinated efforts to prevent harm, caused by the process of health care itself, from occurring to patients' (see **www.who.int/patientsafety/about**).

The rise of the patient safety movement itself, and the case for formal training for medical students in patient safety, are both commonly traced back to the seminal Institute of Medicine report *To Err Is Human* (1999).[4]

Steps in the development of patient safety science and its adoption into mainstream healthcare thought have included:[5]

- a realisation that error is not necessarily associated with incompetence, and that punishment or blame have not been effective in reducing harm

- a focus on the culture in which healthcare professionals work, and the contribution that openness and transparency, with patients and between professionals, makes to safer care

- an increasing interest in the discipline of human factors, or ergonomics, as a way to better understand the systems in which professionals work and the way that system factors contribute to harm

- a recognition that healthcare has lessons to learn from other high-risk industries, which have found effective ways to reduce harm through building a safety culture, working better in teams and sharing lessons learnt from adverse events and near misses.

As the discipline has evolved, medical educators have worked to define how patient safety should be included in curricula. A key milestone in this was the publication of the WHO *Patient Safety Curriculum Guide for Medical Schools* in 2009,[6] which drew heavily on the Australian *National Patient Safety Education Framework*.[7, 8]

The four country context in the UK

The rise of patient safety as a discipline is global, and developments in patient safety education and training are reflected across the four nations of the UK.

A key document for the National Health Service (NHS) in England was the Berwick review *A promise to learn – a commitment to act*.[9] Recommendation 5 of the Berwick review was:

Mastery of quality and patient safety sciences and practices should be part of initial preparation and lifelong education of all health care professionals, including managers and executives.

Following the Berwick review, the National Quality Board's *Human Factors in Healthcare* concordat committed to including human factors principles and practices into core education and training curricula in the NHS in England.[10]

The 2015 Department of Health report *Culture change in the NHS* put forward a vision of medical students as the 'eyes and ears of the service today and the safety leaders of the future'.[11]

Health Education England has established a Commission on Education and Training for Patient Safety. It will make recommendations to make sure that all healthcare staff and, in particular those in training, are fully aware of all aspects of patient safety, including raising concerns and responding to those concerns.

In Scotland, work is under way towards a national agreement on the way that quality improvement and patient safety teaching will be delivered. To this end, the Scottish Government, the Scottish Deans Medical Education Group and NHS Education for Scotland are working with Scottish medical schools and the Scottish Foundation School to assess how their curricula deliver patient safety teaching.

Health and social care professionals in Northern Ireland have formed a task group as part of the Department of Health, Social Services and Public Safety's Quality 2020 initiative. The task group aims to agree the content and introduction of a common curriculum for patient safety, for undergraduate and postgraduate teaching and training programmes in health and social care.[*]

Other schemes that contribute to patient safety include:

■ Healthcare Improvement Scotland's Scottish Patient Safety Programme

■ NHS Wales' 1000 Lives Plus programme

■ Northern Ireland's Quality 2020 initiative

■ NHS England's Sign up to Safety campaign, Patient Safety Collaboratives and the Q initiative led by the Health Foundation.

* See www.gmc-uk.org/education/good_practice.asp

Why have we written this report?

The GMC and the MSC agree on the importance of patient safety teaching for medical students, and on the need to:

- set high standards

- support medical schools' patient safety initiatives.

This report summarises recent engagements between the GMC, the MSC, medical schools, doctors, medical students, patients and members of the public on the subject of patient safety teaching.

The MSC and the GMC met medical school education leads to discuss patient safety teaching in a workshop. Subsequently, the GMC, assisted by four medical schools, held two workshops on undergraduate patient safety teaching at the 2015 GMC annual conference – see **www.gmc-uk.org/about/26044. asp**. Notes from these meetings, attendee feedback cards and electronic voting on questions to the audience have all fed into this report.

We also asked medical schools to submit teaching initiatives to inform this report. Some of these initiatives are featured in the following two sections.

The GMC believes that sharing examples of practices that work well in one medical school will help other medical schools to drive up standards. To this end, it has begun sharing good practice examples through its Sharing good practice web page – see **www. gmc-uk.org/education/good_practice.asp**. The GMC has considered the medical schools' initiatives for inclusion as good practice examples. Once the details are agreed with medical schools, they will be published on the GMC's Sharing good practice web page.

The GMC will also ask all medical schools for more information on patient safety teaching through their 2015 medical schools' annual returns.

Opportunities and challenges of teaching patient safety

Patient safety is a relatively new discipline for undergraduate medical education, and one that has brought both opportunities and challenges for medical schools.

To help outline these challenges, we held a meeting with medical school education leads and then brought medical schools together with doctors, doctors in training, medical students, patients and members of the public at the 2015 GMC conference.

We summarise their thoughts on the following pages.

Designing the curriculum

Medical school education leads and attendees at the GMC conference told us that curricula need to address several key areas, including:

- interprofessional working, including with non-clinical managers

- the science of human error, and the system and human factors involved, including an appreciation of the role a professional's own wellbeing plays in errors, and how professionals can be supported after having made an error

- the processes involved in clinical governance, including root cause analysis and other tools used to learn from incidents, and the role of morbidity and mortality meetings and other ways to disseminate learning

- the importance of quality improvement science in making care safer

- lessons learnt from other industries that have built a strong safety culture, including the characteristics displayed by leaders in those industries

- the importance of challenging unsafe practice and the ways in which this can be done effectively.

Much of this material is covered in the WHO *Multi-professional Patient Safety Curriculum Guide*,[*, 12] which we have used later in this report as a framework to highlight selected examples from medical schools.

Several medical schools have mapped their safety teaching to the WHO curriculum guide, including for example, the Universities of Edinburgh and Aberdeen and St George's, University of London.[†]

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* The *Multi-professional Patient Safety Curriculum Guide* was released in 2011, building on the content of the 2009 *Patient Safety Curriculum Guide for Medical Schools*.

† For more information, see www.eemec.med.ed.ac.uk/pages/patient-safety and the 2015 GMC conference slides at www.gmc-uk.org/Promoting_patient_safety___workshop_slides_AM_60166887.pdf.

The hidden curriculum

We heard from medical school education leads and attendees at the GMC conference that key elements of patient safety science were often not taught explicitly, but rather covered as part of general training in clinical methods. This hidden curriculum might promote the idea of safe practice being about the management of individual behaviour, and the pursuit of personal perfection, rather than the wider focus embraced by patient safety science.

Several schools have redesigned their curricula to make their patient safety curriculum more explicit, or are in the process of doing so.

Brighton and Sussex medical school highlights the importance of patient safety through a day-long conference for its medical students, featuring experts from medicine and other industries.

The University of Aberdeen has adopted a spiral design for its patient safety curriculum, as a way to develop awareness initially and then build on medical students' growing clinical experience to reinforce key patient safety learning later on.

Imperial College London and Plymouth University both use a blend of learning and teaching strategies across the five years of their programmes to teach patient safety. They also make use of quality improvement projects as an additional aspect of the curriculum to teach the importance of understanding the contribution of systems of care to safety.

Challenges of teaching patient safety

A strong theme in our discussions at the GMC conference related to student engagement. We heard that medical students, particularly those at the start of their education, found it difficult to identify with patient safety as a discipline, so they did not prioritise it. In part this was because those with little clinical experience found it hard to relate to patient safety when presented as an abstract academic concept. The lack of explicit assessment of patient safety was also highlighted as an obstacle, as was competition for student attention from other areas of the curriculum, such as basic science.

Medical students prioritise learning about patient safety (%)

0.9

9.3

22.4

29.9

37.4

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree
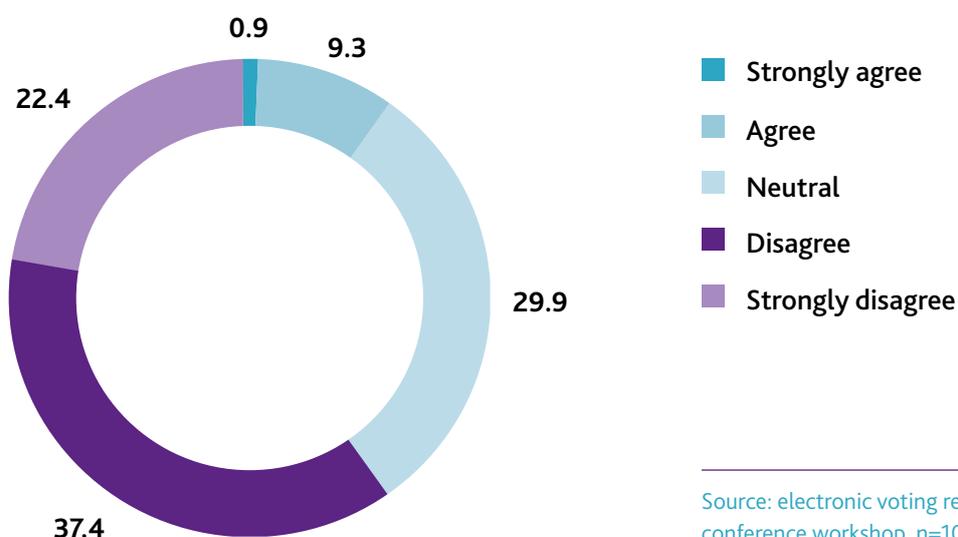
Source: electronic voting report from the 2015 GMC conference workshop, n=107

Faculty development was also identified as a barrier. This is not surprising given the relatively new inclusion of patient safety as an area of the undergraduate curriculum.

These concerns reflect areas identified by earlier work, such as a 2009 report by the Patient Safety Education Study Group.[13]

The greatest challenge to undergraduate patient safety teaching is (%)
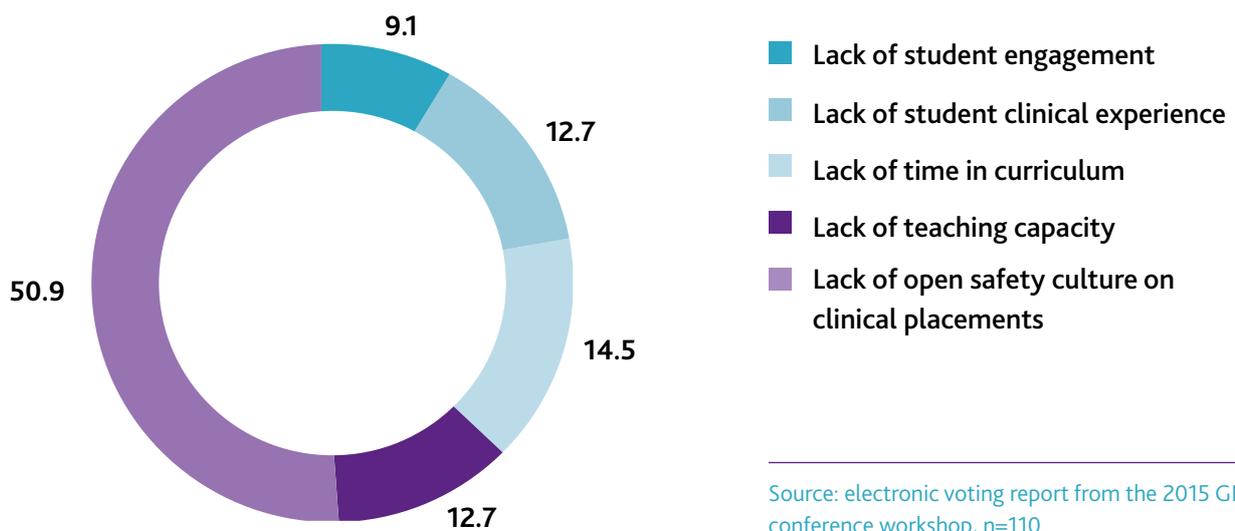
9.1

12.7

14.5

12.7

50.9

- ■ Lack of student engagement
- ■ Lack of student clinical experience
- ■ Lack of time in curriculum
- ■ Lack of teaching capacity
- ■ Lack of open safety culture on clinical placements

Positive responses to teaching patient safety

We heard from medical school education leads and attendees at the GMC conference, that medical students responded positively to several ways of teaching patient safety. These include:

- learning from patients, particularly through patients' stories

- learning from narrative accounts of medical errors and adverse events, and applying tools such as root cause analysis to identify lessons that could be learnt from them

- integrating safety teaching into clinical placements, with an explicit focus on safety applied to students' actual or simulated experiences through expert debriefing and facilitated critical reflection.

> " We need deeper integration of students into clinical teams to encourage them to consider risks to patient safety. "

Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

Selecting medical students who will prioritise patient safety

The MSC has produced guidance recommending that safety-conducive attitudes, such as teamwork and communication skills, should be identified at the point of recruitment to undergraduate medical education.

Selecting for Excellence was an independent project initiated by the MSC. The project looked at the selection of medical students in detail and developed guidance on the core values, skills and attributes needed to study medicine.

The guidance makes it clear that an attitude conducive to patient safety should be one of the things medical schools assess at selection. For more information on Selecting for Excellence, visit **www.medschools.ac.uk/AboutUs/Projects/Widening-Participation/Selecting-for-Excellence/Pages/Selecting-for-Excellence.aspx**.

Through the MSC, medical schools are also sharing best practice in the examination of patient safety and professionalism. One example of this is the development of a shared bank of examination questions by the Medical Schools Council Assessment Alliance.

The wider
learning environment

The GMC's new standards for education and training make clear that both undergraduate and postgraduate training must take place in an appropriate environment and culture where patient safety is the first concern.

We heard from medical schools and from GMC conference delegates about many areas in which the learning environment could help or hinder patient safety teaching. These included the visibility and effectiveness of clinical governance processes, especially the format of incident reporting, and the feedback staff receive from this process.

Role modelling was identified as a very powerful driver of learning. Where senior doctors and other professionals exhibited safety-conscious behaviours, attitudes and values, medical students were seen to adopt these more easily. Practical examples included discussion of errors and near misses on ward rounds, and support for, rather than complaints about, safety systems such as the *WHO surgical safety checklist* (available at **www.who.int/patientsafety/ safesurgery/ss_checklist**).

Students currently receive their medical education and training in an open and just safety culture that enables them to speak up if they see patients receiving poor care (%)
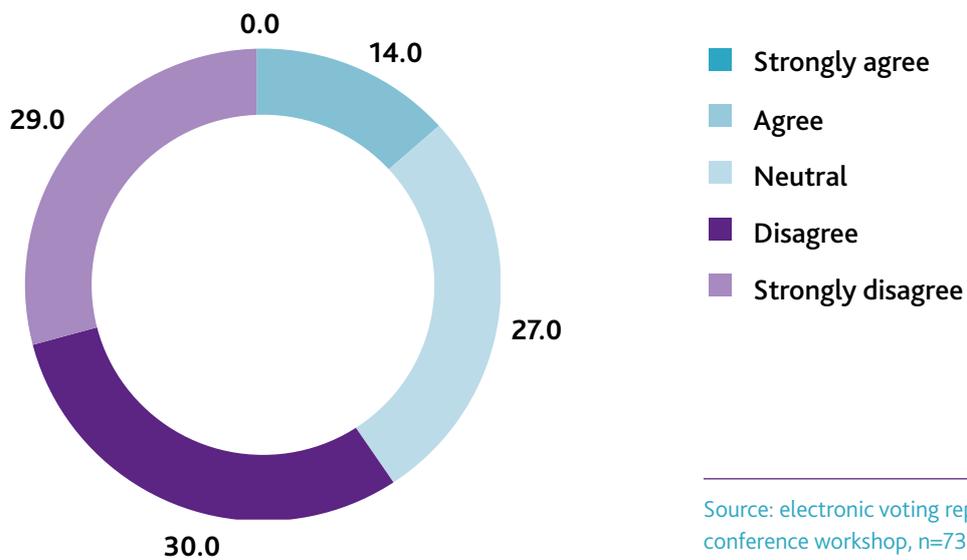
- **Strongly agree**
- **Agree**
- **Neutral**
- **Disagree**
- **Strongly disagree**

0.0

14.0

29.0

27.0

30.0

We heard that identifying and supporting positive role models for patient safety could promote learning. Facilitating the expression of positive behaviours, through structured sessions such as Schwartz rounds,* and through student attendance at mortality and morbidity meetings, was also felt to be helpful.

Effective patient safety teaching is ultimately dependent upon a suitable learning environment, but we heard too that a proactive and innovative approach to education can also influence the environment positively.

"Our students will inevitably be assessment driven. We need to use this appropriately as a tool to drive engagement in patient safety topics."

Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

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* You can find more information about Schwartz rounds at www.pointofcarefoundation.org.uk/Schwartz-Rounds.

Curriculum topics and medical schools' examples

The WHO *Multi-professional Patient Safety Curriculum Guide* (the WHO curriculum guide) is a blueprint for patient safety teaching at undergraduate level. It draws on the work of experts from a range of disciplines and international perspectives. Many medical schools have used it as a basis for designing their own curricula.

" Patient safety needs to be embedded in real clinical experience so that it doesn't become an abstract concept in the classroom. "

Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

Seeking opportunities for innovation and improvement

We asked medical schools to submit examples of patient safety teaching initiatives, using the WHO curriculum guide as a framework. We mapped these examples, and information submitted separately to the GMC through medical schools' annual returns and from education quality visits, against the WHO curriculum guide to see which areas had been best covered and to highlight topics where there was greatest opportunity for innovation and improvement.

Patient safety is well covered in existing curricula (%)

3.8

7.6

20.0

34.4

34.3

- ■ Strongly agree
- ■ Agree
- ■ Neutral
- ■ Disagree
- ■ Strongly disagree
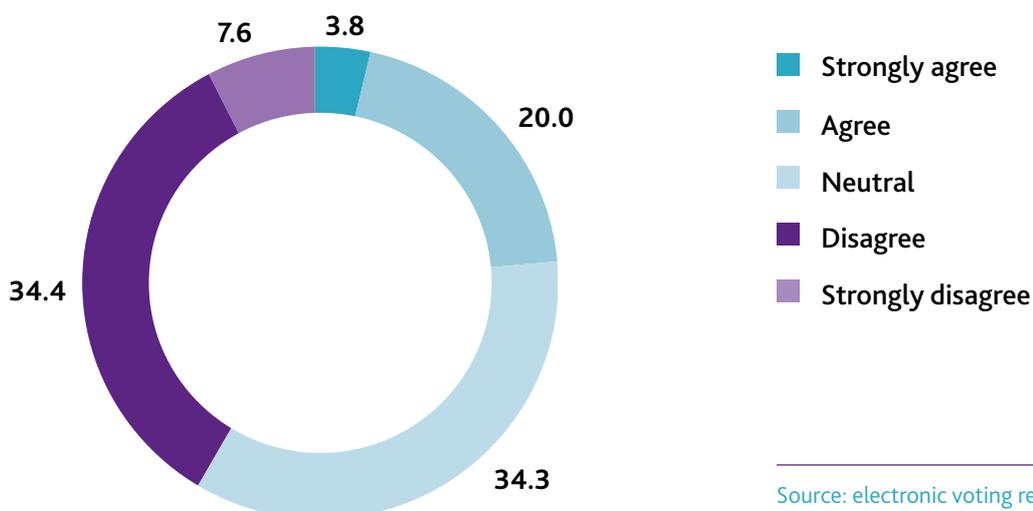
Source: electronic voting report from the 2015 GMC conference workshop, n=105

The WHO curriculum guide contains 11 topics, split into eight theoretical areas and three that are more practice based.

WHO curriculum guide topics

1   What is patient safety?
2   Why applying human factors is important for patient safety
3   Understanding systems and the effect of complexity on patient care
4   Being an effective team player
5   Learning from errors to prevent harm
6   Understanding and managing clinical risk
7   Using quality-improvement methods to improve care
8   Engaging with patients and carers
9   Infection prevention and control
10 Patient safety and invasive procedures
11 Improving medication safety

Of the first eight topics, medical schools volunteered many examples of notable practice related to topics 2, 4, 5, 7 and 8. For some topics, these examples went beyond the subject matter covered in the WHO curriculum guide. For instance, several schools gave examples of teaching on learning from errors that not only covered the science of error and how to learn lessons from mistakes, but also developed understanding of the enablers and barriers to an effective reporting culture, and prompted students themselves to report issues witnessed during clinical placements.

Inexperienced students find it harder to engage with patient safety principles

Medical schools told us that introducing patient safety as a key part of the curriculum can be a challenge, particularly to new students who have gained little experience of clinical practice. This corresponded with what we heard during our workshops and what we know from recent academic work.

In which of the following elements of patient safety do graduating medical students feel most confident? (%)

Element	%
Using quality improvement methods for safer care	6.3
Learning from errors and near misses	12.6
Engaging with patients and carers for safer care	14.7
Effective multidisciplinary teamwork	15.8
Measurement and audit	34.7
Understanding human factors	15.8
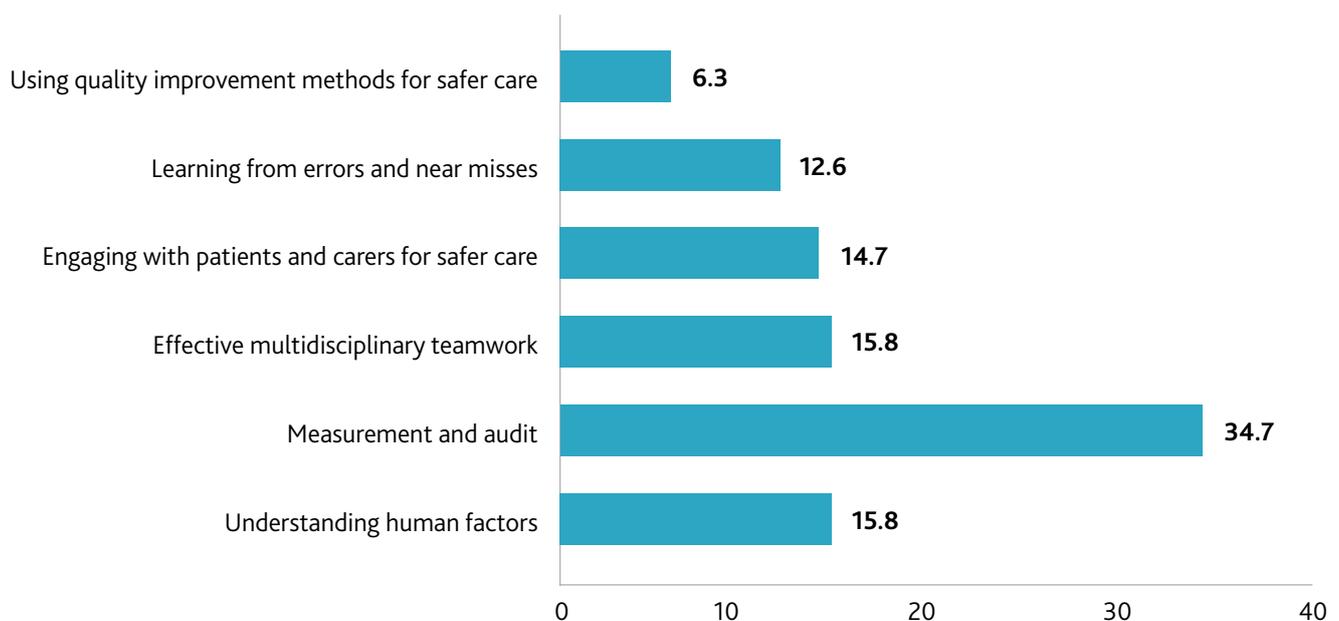
Source: electronic voting report from the 2015 GMC conference workshop, n=95

> **"** Share the experiences of senior teachers and how they open up real-life examples. Normally there is a discrepancy between teacher's talk/advice and how they themselves react. **"**

We heard that teaching students the importance of a systems-based approach to understanding the cause of healthcare-associated harm, and the principles of risk management, was also difficult, particularly where students were not equipped with sufficient experience to see how these subjects relate to clinical practice.

We heard specifically that students were more engaged when these topics were taught starting with case examples and then working back to theory.

Topics 9–11 of the WHO curriculum guide (infection prevention and control, patient safety and invasive procedures, and improving medication safety) represent an opportunity to put the more theoretical knowledge of the preceding topics into practice. The WHO curriculum guide recommends that they be considered together.

These areas have represented core teaching for UK medical schools for some time. We heard that much of what students learn on these topics is practical, and that behaviours and attitudes prevalent in the hospitals and GP practices where students have placements are important influences.

In which of the following elements of patient safety do graduating students feel least confident? (%)

Element	%
Using quality improvement methods for safer care	20
Learning from errors and near misses	23
Engaging with patients and carers for safer care	24
Effective multidisciplinary teamwork	10
Measurement and audit	1
Understanding human factors	21
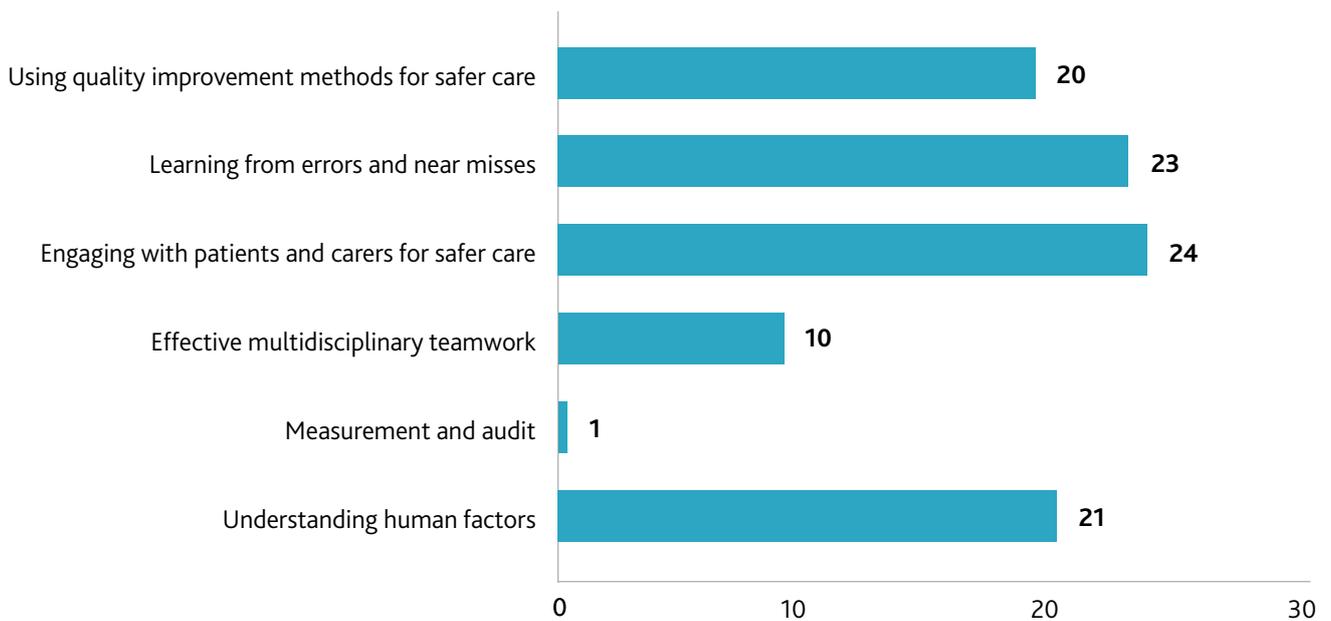
Source: electronic voting report from the 2015 GMC conference workshop, n=99

Medical schools' examples of undergraduate patient safety teaching initiatives

Medical schools shared with us many examples of innovative or particularly effective initiatives in patient safety teaching. We have included some of these over the next few pages, mapped as closely as possible to the topics of the WHO curriculum guide. Some of the material in the WHO guidance is closely related, and in some cases medical schools' initiatives covered more than one of these topics. In these cases we have chosen the topic we felt fitted the example best.

This was not an exhaustive survey or audit of medical school curricula, and there may be other areas of notable practice in undergraduate patient safety teaching that we did not hear about.

We have invited all medical schools to share the initiatives below, and other projects they feel work well as good practice examples, on the GMC website at www.gmc-uk.org/education/good_practice.asp.

What is patient safety?

- The University of Exeter medical school uses a public health perspective to introduce patient safety to medical students in their first term. This first session, designed with a hospital chief executive and led by a public health consultant, frames the scale of avoidable harm as a major public health issue. It introduces error as a feature of healthcare provision that should be expected, and studied, and the need to consider human factors to improve systems that are inherently unsafe.

- Recognising that pre-clinical students often find it harder to engage with patient safety teaching, students at Warwick medical school designed a peer-led introductory patient safety programme for first and second year colleagues. The programme features the stories of some high-profile medical errors and the lessons learnt, and contains interactive workshops in which participants identify errors in a case study and discuss the *WHO surgical safety checklist* in the context of surgical patient and site identification errors, amongst other topics. The programme organisers report that self-reported student understanding of key patient safety concepts nearly doubled after the programme.

- The University of Manchester medical school invites a series of prominent healthcare system experts to discuss current issues facing the NHS, particularly in the context of patient safety and compassionate care. These events give students the chance to meet, hear and question opinion leaders and gain a national perspective on patient safety issues.

- Brighton and Sussex medical school highlights the importance of patient safety through a day-long conference for its medical students, featuring experts from medicine and from other industries. The programme covers patient, organisation and clinical perspectives, as well as sessions on how incidents are investigated and how lessons identified can be translated into practice.

Why applying human factors is important for patient safety

- The **University of Aberdeen medical school** builds understanding of non-technical skills through practice observation and the use of a behavioural rating scale. Students are introduced to human factors and non-technical skills through didactic teaching, but then learn to use a locally developed system to rate observed behaviours exhibited by doctors in clinical settings and by themselves in simulated exercises. The use of the rating scale develops a language with which students can better understand and express key safety-critical behaviours, and analyse the performance of colleagues.

- The patient safety and human factors aspects of doctors' mental health and wellbeing, including addictive behaviour, are incorporated in the teaching at **St George's, University of London medical school**.

> " Our medical students will all have experience of having been a patient themselves, or supporting a patient relative. We should draw on this more through education when talking about the patient perspective. "

Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

Understanding systems and the effect of complexity on patient care

■ As part of an interprofessional patient safety education package, the University of Leicester medical school has developed a video teaching aid that emphasises how complex systems interact to produce errors. The video recreates a real-life patient experience, following her through the development of an acute stroke and subsequent admission to hospital. Errors become apparent at each stage of her journey, and students work in small groups to identify and reflect on these.

■ The University of Sheffield medical school offers year 2 students a patient safety symposium, delivered by a psychologist and an emergency physician. The symposium addresses the patient perspective on medical errors through local and national narrative examples. Through these stories the session highlights the role of systems and complexity on patient care.

■ The University of Cambridge medical school Year 6 Clinical Course includes a series of workshops that emphasise the importance of systems interactions in safe care. One workshop covers time management and includes an exercise where students have to prioritise a series of clinical tasks, while new tasks are constantly being added. In a second workshop, students work through a series of emergency department scenarios such as having to do multiple jobs simultaneously and manage the expectations of different team members. The workshops are facilitated by doctors in training as well as senior faculty members.

Being an effective team player

- **Plymouth University Peninsula Schools of Medicine and Dentistry** puts final year nursing and medical students into a team-based simulation programme to prepare them for working in teams in professional practice. A key element for learning from the programme is debriefing, and the programme leaders have developed and evaluated a debriefing model that students rate highly. Both medical and nursing students report better understanding of each other's roles and responsibilities.

- Year 2 medical students at the **University of Southampton medical school** do six weekend shifts as a healthcare support worker, supported by three tutorials in small groups to reflect on their learning. Key areas of reflection include teamworking and what makes a good multidisciplinary team, leadership, professional behaviour and understanding how these areas contribute to patient safety.

Understanding and learning from errors

- Students at **The University of Sheffield medical school** are introduced to the science of human error in the first two years of their course. In year 3, they discuss local examples of adverse events with a hospital patient safety manager, and then move on to perform an error analysis, building on the material covered in the first two years by working through real-life examples.

Understanding and managing clinical risk

- Investigation of a critical incident in hospital has been a core element of the final year MBBS course at the University of Dundee medical school since 2011. All students receive a tutorial and complete online learning on how to review an incident, after which they are assigned a real incident to investigate. Students work in teams but write individual reports, which form part of their final year portfolio.

- Year 5 medical students at the University of Aberdeen medical school consider the causes of avoidable harm through reading and critical discussion of major public inquiries. In recent years students have discussed the Mid Staffordshire public inquiry report and Health Improvement Scotland's report on the Aberdeen Royal Infirmary in small groups, using a systems approach and focusing on the features of a safety culture.

Using quality-improvement methods to improve care

- All year 3 medical students at Imperial College London medical school undertake a group project to identify and assess safety and quality deficiencies in the clinical environment where they are placed. Students use audit, surveys or existing organisational data to identify safety issues, and work together to propose effective, efficient solutions to improving care. They present their proposals to the site as part of a competition. Many of the students' proposals have been taken on by clinical teams to improve the local quality of care.

- Cardiff University medical school has developed a changing practice module for year 5 medical students that includes a human factors workshop run by junior doctors, and an Ask One Question project based on the Institute for Healthcare Improvement (IHI) Open School initiative.[14] Students shadow patients and ask them what would improve their experience, and then write a report advising on key areas for improvement. They must also complete selected courses from the IHI Open School catalogue.[15] The school plans to extend the Ask One Question project to students in years 1 and 2.

Engaging with patients and carers

- The **University of Leeds medical school** runs a session on the involvement of patients in patient safety. The session, facilitated by faculty members and patients, includes reflective discussion on the challenges of patient safety, and how to engage with patients to allow a partnership approach to providing safe care. Supporting materials include patient narratives of safety incidents, and there are plans to include patient examples of excellent care as well.

- Medical students at **Queen's University Belfast** learn about adverse events, systems and the patient perspective on patient safety through following WHO Patients for Patient Safety champion Margaret Murphy tell the story of the events surrounding the death of her son, Kevin.[16] Kevin's story covers not only the factors leading to errors in the handling of his care, but also the response to these errors, and the importance of a culture of openness.

- Year 3 students at **Cardiff University medical school** examine patient journeys by following a real patient from admission to hospital through the course of their stay. They then track their progress in the community and reflect on gaps in systems and processes. Their reflections are facilitated in small groups.

> ❝ You cannot teach patient safety without patients, that is the simple truth. ❞

Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

Infection prevention and control; patient safety and invasive procedures; and improving medication safety

- **Swansea University's** teaching on prescribing for year 1 and year 2 medical students acknowledges the potential for errors and covers strategies for reducing risk. Students are encouraged to consider the situations where mistakes in drug calculations may arise, and where communication between team members may lead to a drug administration error despite the prescription being correct. Teaching in later years is designed to cover the drugs with the highest risk of causing harm.

- Before graduating, medical students at **Barts and the London School of Medicine and Dentistry** receive lectures on key patient safety topics, including the lessons learnt from the Mid Staffordshire inquiry. One lecture covers the concept of a never event and discusses in detail the events on the NHS England Never Events list.

- **All Scottish medical schools** require students to complete a Cleanliness Champions programme[17] developed by NHS Education for Scotland that standardises infection control teaching, or cover the Cleanliness Champions curriculum in their own programmes.

- **Brighton and Sussex medical school** delivers a three-week preparation for practice module at the end of the curriculum. This multiprofessional programme looks at safety teaching from the perspective of the doctor in training.

  During two practical days the students undertake a simulated ward round, practical handover and safe prescribing, in addition to participating in a lessons learnt session. Using a variety of interactive, practical and simulation-based sessions the programme builds on existing knowledge and skills while supporting the transition from year 5 medical student to Foundation doctor.

Safety ideas from the GMC 2015 annual conference

If you could only make one change

At the GMC conference, delegates were asked 'What single change would do most to improve patient safety?' We have grouped the answers into the following themes.

- Better support for whistleblowers, perhaps with a national non-medical organisation accepting anonymous raising of concerns to build confidence.

- Role-modelling of an open, safety culture by leaders in healthcare, making it easier for those in the system to raise concerns and to be open about mistakes.

- Culture change through education.

- More objective standards for qualification and revalidation, including the use of examinations.

- Development of the idea that it is inevitable that doctors will make mistakes, but intolerance of failure to learn from them.

- Better understanding, training and implementation of disciplinary policies and procedures, to promote openness and reduce fear of repercussions or the sense that nothing will change.

- Strengthening the connection between the regulator and the regulated, and building trust in the GMC that has clearer connections to working doctors.

- A visible, independent patient safety advocate and champion for each department, whose accountability lies outside the department.

- Encouraging time for teams to meet and discuss issues in the way they deliver care.

Patient safety poster competition

As part of the GMC conference, medical students and doctors in training were asked to design a poster on a patient safety project in which they had been involved.

The competition attracted a large number of entries. After carefully reviewing all the entries, the GMC selected the following posters to be shown on its website.

- Cognitive aids, care bundle implementation.
- Education, reporting and learning.
- Handover, teamwork and communication.
- Pathway and process improvements.

At the conference, delegates were invited to vote for their favourite poster and prizes were awarded for first and second place based on the votes received. Dr Arwa Abdel-Aal won first prize in the competition for her poster on the dissemination of learning points from serious untoward incidents through animated videos.

Second prize went to Dr Sinead Millwood for her poster about developing a platform for learning from mistakes.

You can see the winning posters and read a blog by Dr Abdel-Aal at **www.gmc-uk.org/about/26334.asp.**

What we do

The role of the GMC

We're an independent organisation that helps to protect patients and improve medical education and practice across the UK. We set the educational standards for all UK doctors through undergraduate and postgraduate education and training. We promote high standards and make sure that medical education and training reflects the needs of patients, medical students and doctors in training, and the healthcare systems across the UK.

To test whether or not medical schools meet our standards for undergraduate education, we carry out monitoring and inspections, including talking to medical students about their experiences, and responding directly to any concerns raised.

In the UK, medical schools develop their own curricula to meet outcomes we set. Our standards for undergraduate medical education, *Tomorrow's Doctors* (2009), stress a number of patient safety outcomes for UK medical graduates.[18] For example, outcomes under the heading *The doctor as a professional* cover areas such as understanding error and incident reporting.

The graduate will be able to:

23 (d) Promote, monitor and maintain health and safety in the clinical setting, understanding how errors can happen in practice, applying the principles of quality assurance, clinical governance and risk management to medical practice, and understanding responsibilities within the current systems for raising concerns about safety and quality.

The importance of patient safety as a discipline features more prominently in our 2015 revised standards for medical education and training. Where the standards previously focused on protecting patients from any risk posed by medical students and doctors in training, we will now make sure that education and training take place where patients are safe, the care and experience of patients are good, and education and training are valued.

For example, requirement 1.3 in the new standards states:

R1.3 Organisations must demonstrate a culture that investigates and learns from mistakes and reflects on incidents and near misses. Learning will be facilitated through effective reporting mechanisms, feedback and local clinical governance activities.

Patient safety is also a key feature of the Generic Professional Capabilities framework that the GMC is developing for all postgraduate medical training curricula.*

Work from this project will be taken into account as we develop learning outcomes and standards.

> " Lots of clinicians know what could improve patient safety but do not have the resources, support and time to do it. "
>
> Response from a delegate at the GMC 2015 annual conference when asked for ideas to improve patient safety teaching.

The role of the MSC

The Medical Schools Council represents the interests and ambitions of 33 UK medical schools as they relate to the generation of national health, wealth and knowledge through biomedical research and the profession of medicine. The MSC works with medical schools to develop a consensus as to what constitutes excellent practice in all domains of a medical school's work, including education.

As the representative body for UK medical schools, the MSC does not quality assure nor monitor medical schools. Instead it provides medical schools with information and undertakes policy work on their behalf. This enables the schools to develop unique solutions to the issues that all medical schools encounter in a way that reflects their individual circumstances as autonomous institutions committed to providing excellence in education.

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* The Generic Professional Capabilities framework is under consultation.

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