Identifying medical students at risk of subsequent misconduct

Fitness to practise should be determined by both academic and non-academic ability

Most medical practitioners never cross the path of their professional regulatory body, but in every jurisdiction a small number exhibit serious deficiencies in their professional performance or conduct. As well as exposing their patients to risk or in some cases causing serious harm, they generate a substantial workload and considerable expense for regulatory bodies. These valuable resources could be better used in raising general standards of medical practice and supporting diligent members of the profession. In the linked case-control study, Yates and James look for factors in a doctor’s medical school career that are associated with subsequent professional misconduct.1

In medical regulation, as in medical practice, prevention is better than cure. Since the 1990s, progressive regulatory bodies have introduced early intervention and remediation based systems for managing poorly performing practitioners as a supplement to their disciplinary processes. However, these regulatory systems apply only to practitioners who are already medically registered.

The years that medical students spend at university provide a valuable opportunity to identify individuals at risk and those who are simply not cut out for a career in medicine. If such students are not identified and managed, and are registered as a matter of course when they graduate, the public may be at risk during the time before the regulator is eventually involved.

Attempts to identify medical students who are at risk of subsequent professional misconduct should be encouraged because this offers the opportunity for support and remediation if possible, or if not, redirection of the student into a more suitable area of study. This is not just a matter of public protection; students deserve support and assistance and must have realistic career expectations.2

Yates and James assess whether there is a predictive association between aspects of an undergraduate’s career and serious professional misconduct later in life.3 They report that male sex (odds ratio 9.80, 95% confidence interval 2.43 to 39.44), failure at early or preclinical examinations (5.47, 2.17 to 13.79), and lower social class (4.28, 1.52 to 12.09) are predictors of subsequent professional misconduct. Their research is important because it looks for factors in a doctor’s medical school career that are associated with subsequent professional misconduct.3

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Yates and James are rightly cautious in attributing meaning to their findings in relation to social class and in identifying it as an area for further research. With regard to sex, however, the literature is replete with evidence that male practitioners are over-represented in cases of professional misconduct.4 5 To design an appropriate response at the undergraduate level, we must be able to identify the personal attributes or external influences that lead to this association.

Despite the tension between providing an academic education and vocational training, universities are aware of the need to produce graduates who are fit to practise medicine. Faculties often struggle to deal with students whose unsuitability for a career in medicine is not reflected in academic difficulty. Students with problematic interpersonal relationships, attitudes, and personal conduct regularly come to light, perhaps because of deficiencies in the selection process. In many faculties, academic achievement trumps problems in non-academic areas, particularly if the matter progresses to appeal. Until medical faculties can manage problematic but academically successful students, regulatory bodies
will continue to ask how certain students were ever allowed to complete medical school. The question is even more sobering when asked by a member of the public.

It is important that medical faculties have robust systems for documenting concerns, identifying problem students, and managing them in a way that places equal value on both the academic and non-academic aspects of fitness to practise. Ideally, in serious cases, medical schools should involve the regulatory body to pre-empt future problems.

Prevention of falls in the community
Is successful in trial settings, but translation into practice remains a challenge

There is strong evidence for interventions to reduce the risk of falling in older age, but the uptake in practice has been remarkably slow and inconsistent. Recent meta-analyses and reviews of cost effectiveness show that the best investment for prevention is exercise of high dosage, which includes highly challenging balance training; home safety for high risk groups; and, on the basis of one trial, drug risk assessment and drug reviews. Better evidence is needed on how to package and deliver the different components of the interventions, in a way that is appropriate for different environments and health systems.

In the linked randomised trial, Logan and colleagues assess whether a community falls prevention service can reduce falls in older people. They found that a multifaceted falls prevention programme significantly reduced the rate of falls over 12 months (rate ratio 0.45, 95% confidence interval 0.35 to 0.58) in people who call an emergency ambulance after a fall but are not taken to hospital. One of the major challenges in offering community preventive programmes is the capacity to reach the target population. The question is whether these pathways and interventions can be translated into practice.

Other comparable studies emerging are those that recruit from emergency departments where people present after a fall. Two studies that tested multifactorial interventions found a statistical and clinical benefit. Two others, one relying on referral to health professionals, and the other on education and advice, found no effect, which is consistent with previous meta-analyses of multifactorial community interventions.

Logan and colleagues give limited detail on the intervention except that it was based on the 2004 clinical practice guidelines for prevention of falls from the UK National Institute for Health and Clinical Excellence (NICE). This confirms the importance of guidelines for translating research into practice. Guidelines have recently been updated, with one jointly released by the American Geriatrics Society (AGS) and British Geriatrics Society (BGS) and one by the Australian Commission on Safety and Quality in Health Care. Both considered levels of evidence and engaged experts to review the vast array of available information. The Australian guidelines are in a user friendly format and thus more accessible. The AGS/BGS guidelines mainly focus on a tailored multifactorial approach. They clearly outline factorial evidence with one exception: their critique on exercise omits important evidence, such as the core impact of balance training.

A notable difference between Logan and colleagues’ study and other fall prevention interventions is that it included a focus on daily living strategies and activities. This resulted in significant improvements in capacity for daily living activities in the intervention group compared with deterioration in the control group. A criticism has been that encouraging walking and physical activity increases the risk of falls. Further research is needed to examine the degree to which functional benefits provide protection from the increased exposure to the risk of falling as a result of increased activity.

The ability of health interventions to be translated into practice depends on several inter-related factors including context, availability of resources and ownership of resource allocation, capacity of the community, and integration into established structures. Individual choice and preference can influence uptake and adoption. Accessible pathways for referral need to identify people most at risk, seek and develop partnerships, and educate those involved in the interventions. Ambulance services and local health providers can both help drive such partnerships. Furthermore, multiple health professionals across the elderly care sector should engage in evidence based falls prevention activities and develop opportunities for knowledge transfer, therefore building capacity to reach a broader population.

Although interventions in controlled situations and cost analyses provide sound rationale for practice, several factors influence real life uptake and longer term sustainability. Population-wide approaches need attention to context. This is illustrated in a quality improvement report that described the processes used to successfully implement a falls prevention community programme into routine care across a metropolitan healthcare system. An organisational change framework was used to identify what factors make it more likely for the organisation to comply with change and engage stakeholders at all levels of planning, implementation, and monitoring. A systematic review shows that only a handful of empirical studies have assessed the sustainability of health programmes; only one of these studies,
which measured awareness in the community of prevention messages, was on preventing falls.\(^1\)\(^2\)

Logan and colleagues' intervention showed a significant benefit in people at high risk of falls, but the challenge is how to enable ongoing referral and take-up in practice. Further studies are needed to assess the barriers and facilitators to implementing falls prevention programmes in the community, and how to make these programmes sustainable.


Recurrence of hyperemesis across generations

Daughters of affected mothers have a three times higher risk

Hyperemesis gravidarum is responsible for recurrent admissions to hospital, causes much psychological distress, is associated with increased maternal and fetal morbidity, and is potentially fatal. In the linked population based cohort study from the Norwegian birth registry, Vikanes and colleagues show that daughters born to mothers who have had hyperemesis in any pregnancy have a three times higher risk of having a pregnancy complicated by hyperemesis than women born to mothers who have never had hyperemesis.\(^1\)

At least half of pregnant women experience nausea and vomiting.\(^2\) At the extreme end of the spectrum are women whose symptoms are so severe or so prolonged that they lose weight and develop dehydration and ketosis. This condition, hyperemesis gravidarum, affects 0.5-1% of pregnancies, but the causes are not fully understood.\(^3\)

Maternal complications as a result of inadequately treated hyperemesis include vitamin deficiencies, such as B\(_\text{12}\) (thiamine) deficiency causing Wernicke’s encephalopathy; electrolyte abnormalities, such as severe hypokalaemia and hyponatraemia, which may cause central diabetes insipidus; venous thromboembolism related to dehydration and immobility; aspiration and oesophageal tears; protein and energy malnutrition; and psychological morbidity. Fetal complications include growth restriction and preterm delivery. In one study, low birth weight (12.5% v 4.2%) and preterm delivery (13.9% v 4.9%) were substantially higher in infants born to women with hyperemesis and low weight gain (<7 kg) during pregnancy than in those born to women without hyperemesis.\(^4\)

The direct correlation between the severity of hyperemesis and human chorionic gonadatrophin concentrations may explain the increased incidence of this condition in multiple pregnancy and hydatidiform mole.\(^4\) A role for human chorionic gonadatrophin in the pathogenesis of hyperemesis is supported by the onset and most severe phase of hyperemesis occurring when concentrations of this hormone are at their peak (gestational weeks six to 12). The physiological changes of pregnancy, with reduced oesophageal pressure and gastric emptying, may exacerbate the symptoms of hyperemesis but are unlikely to be the cause.

Many psychological and behavioural theories have been suggested to explain hyperemesis, and most involve hyperemesis being an expression of rejection of the pregnancy. Although the condition often has a psychological component, hyperemesis itself may cause extreme psychological morbidity. This relates to separation from family, inability to work, anger at being unwell, and guilt if the woman directs her anger towards the fetus and starts to resent the pregnancy. Requests for termination of pregnancy do not necessarily indicate or confirm that the pregnancy was not wanted, but indicate the degree of desperation felt by the woman.

Genetic factors are probably involved, as is seen in other complications of pregnancy associated with an increased sensitivity to the hormonal milieu, such as obstetric cholestasis and gestational diabetes.\(^5\) A study using the Norwegian birth registry showed a 20 times higher risk of hyperemesis in second pregnancies of women with an affected first pregnancy.\(^6\) Fetal genotype may also contribute, and the risk of recurrence was higher if paternity remained unchanged.\(^7\)

Some studies have also shown an increased risk in relation to female fetuses.\(^7\) In an online survey,\(^7\) 28% of women with hyperemesis reported that their mother had experienced severe nausea and vomiting or hyperemesis gravidarum while pregnant with them, and 19% of those whose sisters had been pregnant reported that...
their sisters had experienced hyperemesis gravidarum. Women with severe hyperemesis reported that 25% of their sisters were affected.

Vikanes and colleagues found a three times higher risk (odds ratio 2.9, 95% confidence interval 2.4 to 3.6) of hyperemesis in women born after a pregnancy complicated by hyperemesis compared with women born after an unaffected pregnancy and female partners of sons born after a pregnancy complicated by hyperemesis (3% v 1.1% v 1.2%). The three times higher risk remained for women whose mother had not had hyperemesis while pregnant with them but had experienced hyperemesis in a previous or later pregnancy.

These findings suggest that the maternal genotype is more important than the fetal genotype in determining the risk of hyperemesis, and also that this effect is not related to the in utero environment of the mother. Interestingly the authors excluded families in which women had two pregnancies affected by hyperemesis, but in these families the risk of recurrence in the daughters was very high (27.5, 18.5 to 40.9). To explore the genetic predisposition to hyperemesis further, and perhaps identify candidate genes, it may be useful to study women with recurrent severe hyperemesis.

Cases of hyperemesis in the Norwegian birth registry were identified if the healthcare professional listed hyperemesis as a complication on the antenatal card. Of note, hospital admission was not a requirement for the diagnosis. Thus milder cases of hyperemesis managed in the community with oral antiemetics were probably included, and this may have affected the risk of recurrence. The authors indicate that their findings do not exclude a possible effect of environmental factors, of which the most widely researched is smoking. Smoking is associated with a reduced risk of both hyperemesis and pre-eclampsia, which raises interesting questions about pathophysiology.1 10

Appropriate treatment of hyperemesis with adequate fluid and electrolyte replacement, parenteral antiemetics, thromboprophylaxis, and thiamine supplementation has reduced maternal mortality.1 12 Better understanding of the genetic risks of hyperemesis may help clinicians when counselling women about the risk of recurrence.


Tan PC, Jacob R, Quera S, Omar S. The fetal sex ratio and metabolic, biochemical, haematological and clinical indicators of severity of hyperemesis gravidarum. BJOG 2006;113:733-7.


Leadership in medical education

A professional framework is needed to support teaching as a discipline

Teaching is a central function of clinical practice. All doctors teach, and good teachers directly improve patient care.1 Like other areas of medical practice it takes training, experience, and support to become a good clinical teacher. But despite this, many teachers feel their work is unrecognised or undervalued, and if teaching is not realistically represented in a job plan this can be demoralising. Part of the problem is the complex teaching environment, with many clinicians in primary care and secondary care involved with teaching undergraduates, postgraduates, and colleagues from other professions in a variety of settings. Developing a career in medical education is difficult in a health service where the demands of service delivery put pressure on postgraduate training and continuing professional development for both students and teachers. It is equally difficult in medical schools, whose educational mission is often threatened by the competing demands of research.

Some people argue that such structural problems require a structural approach.2 To foster and develop the leaders of the future, we need a clear professional framework that supports medical education careers. For medical education, as with other disciplines, developing effective leaders is essential to maintaining professional autonomy and ensuring continuous quality improvement.

Opportunities have always been available for interested people to get involved in medical education. University teachers have long been required to develop their teaching skills,3 and general practitioners have a well established record of formal preparation for vocational training. And despite the challenges, an increasing number of students and doctors are undertaking courses and programmes to improve their skills and develop careers in medical education. Undergraduates have opportunities to learn about teaching through special modules and intercalated degrees;4 foundation doctors are doing F2 rotations in medical education, often acquiring formal qualifications along the way; NHS trusts offer teaching fellow schemes for specialty trainees; and a multitude of less formal professional development opportunities for medical teachers exist within medical schools, trusts, deaneries, and royal colleges.
Where now for child protection?

Standards, training, and support are needed for clinicians and expert witnesses

Last week’s appeal court judgment resulted in David Southall’s reinstatement to the medical register, after erasure in 2007 by a General Medical Council fitness to practise panel. This judgment is a relief to paediatricians on the frontline who felt mystified by a process seemingly driven by a cadre of entrenched complainants (with no weight given to a Royal College of Paediatrics and Child Health [RCPCH] broad consensus view), and horrified by the consequences for a colleague’s reputation and livelihood.

For clinicians who regularly see children in a child protection context, the implications of the panel’s decisions were huge and frightening. The panel accepted the allegation of Mrs M over the testimony of Dr Southall’s reinstatement to the medical register, after erasure in 2007 by a General Medical Council fitness to practise panel. This judgment is a relief to paediatricians on the frontline who felt mystified by a process seemingly driven by a cadre of entrenched complainants (with no weight given to a Royal College of Paediatrics and Child Health [RCPCH] broad consensus view), and horrified by the consequences for a colleague’s reputation and livelihood.

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medical register even though his colleagues felt that he had acted in the interest of children. This highly aversive message about child protection work probably exacerbated under-recruitment of trainees into the specialty. It may also have contributed to difficulty in appointing to designated and lead doctor posts in child protection, which are key senior roles underpinning NHS child protection work in the United Kingdom. So what lessons can be learnt and where should we go from here?

The GMC’s duty is to promote professionalism and set standards, but this duty will not be achieved if paediatricians disengage from child protection. The council’s regulation of safe, effective practice must incorporate the views of the multiprofessional peer group regularly involved in child protection work— including nurses, social workers, police, lawyers, and courts. The views of children and parents should also be taken into account to achieve a working knowledge of what standards should look like in reality.

Peer review by audit is central to professional quality in all branches of medicine, and the views of colleagues are essential to answer the question “Am I good enough?” Child protection work demands detailed knowledge of the many and complex ways in which a child can be abused. It also requires awareness of conditions that can mimic abuse; sound diagnostic, investigational, and clinical management skills; a good understanding of current evidence; and a working knowledge of child development, legal powers, risk factors, effective family support strategies, and the roles of other agencies. All this must be underpinned by high level interprofessional skills. An appropriate and flexible communication style is needed to deal with parents, to negotiate urgent investigations where necessary, and to ensure that concerns about abuse are shared and acted on by police and social services, even when a firm “diagnosis” is not possible.

Safe systems should acknowledge that errors occur and handle them through feedback mechanisms and fail-safes. Every year serious case reviews are published but often with insufficient detail to allow others to learn from the identified mistakes of individuals or organisations. Publication of detailed serious case reviews could maximise the opportunity for clinical education. Closer links with local family justice councils (www.family-justice-council.org.uk) could improve the quality and supply of paediatric expert witnesses and complement the RCPCH court skills development programme. Revalidation needs to include monitoring of standards for quality and safety, support, mentoring, and if necessary, mediation.

Child protection work is complex and nuanced and has high stakes. A child wrongly left at home can die, but it is equally undesirable for children to be wrongly removed from their parents. Regulators must understand the unique conflicts of child protection and promote the setting of standards for clinical and expert witness work. Training and robust organisational support should develop paediatricians’ skills in situational awareness, risk assessment, management of complexity, and use of evidence.

The GMC has acted swiftly and positively under its new chief executive officer to set up an advisory panel to tackle these issues. What should this group deliver? We need a regulator whose policies and practices understand and serve children, promote safe systems, and offer support for practitioners in clinic and court. They should draw on multiprofessional experience of those regularly undertaking this work, including the RCPCH and children’s representatives. If the GMC uses this combined wisdom to restore everyday paediatricians’ confidence in the regulatory process, it will render a great service to children in the UK.

Competing interests: HP is employed by Cardiff University as an Associate Dean, is appointed as the paediatrician member of the Family Justice Council, is a member of Professionals Against Child Abuse (PACA), and undertakes expert witness instruction for payment.

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