“Lifting the carpet” on cheating in medical school exams

A recent case in Australia highlights that cheating is a real challenge for academic medical educators. Anne Tonkin finds both a sketchy literature and a culture that perpetuates cheating—both research and action are needed.

A case of exam cheating was reported at an Australian medical school in November 2013. Local and international media coverage followed, with calls for severe penalties, including expulsion, from the profession and the general public. Senior students had taken screenshots of a multiple choice question exam that was undertaken using tablet computers and passed them on to students who had not yet sat the exam. Twenty-four students were disciplined, with penalties ranging from writing a reflective piece on an ethical topic to failing the exam. Academic staff, including myself, had been aware for about 10 years that students were using a type of “exam recall” to collect questions from multiple choice question exams. In retrospect we did not take it seriously enough because the reproduced questions were inaccurate and did not appear to pose a threat to the integrity of the exams. However, developments in technology have resulted in a highly efficient system for students to recall entire exams with great accuracy. The medical school re-used exam questions from past years, so this cheating was a serious breach of security, providing students with access to some of the questions that they would face in the exam. As such it called into question the school’s ability to certify that graduating students were competent and knowledgeable.

Cheating is known to occur at medical schools, and it can be swept under the carpet by some teaching staff. Cheating matters because it threatens the accuracy of assessment decisions, and because unprofessional behaviour in medical school has been associated with later unprofessional behaviour by practitioners. A case-control study of 704 practising doctors in the US found that those who had been disciplined by a state medical board were much more likely to have displayed unprofessional behaviour in medical school (odds ratio 3.0; 95% confidence interval 1.9 to 4.8). I argue that any reluctance on the part of academic staff to tackle cheating can lead to a slippery slope effect; progressive acceptance of dishonest behaviour causes it to become more and more common and accepted as the norm.

There are many ways to cheat, and ready access to the internet has provided new ways. Some forms of cheating have been tackled by many medical schools, such as plagiarism. But other forms of cheating, including buying assignment papers online, copying other students’ work, and cheating in exams using notes (written on paper, clothing, or body parts) or rote learning illicitly obtained exam questions, are more difficult to detect and tackle.

Here I will focus on the use of illicitly obtained exam materials, a problem that many teachers seem hesitant to discuss openly. It seems timely to consider a parallel with patient safety approaches and to take a systems-based approach to exam security.

Scale of cheating

Research into cheating is limited. The prevalence among medical students has been found to be 25%-35% for self reported cheating and up to 90% for self reported plagiarism. The generation and dissemination of exam recalls, also known as “reconstructs” and “remem- braces,” have been reported to be common practices in medical postgraduate training in the United States and have been described as being “embedded in the residency culture.”

Commercial operators can be found on the internet that offer “practice questions,” which may have been recalled from actual exams run by national licensing bodies, colleges, or specialist boards in the US, UK, and Australia. The American Board of Internal Medicine recently took action against the operator of a commercial exam preparation course who had been encouraging participants to recall exam questions for inclusion in subsequent courses.

The proportion of students engaging in exam recall behaviour ranges from 25% to 89% (table). Students seem divided over whether they view this behaviour as unethical, and students’ perceptions may differ from those of staff involved with assessment.

Why students cheat

Cheating in medical school was summarised in a review of the literature in 2013. Although it
is easy to blame individual students for cheating, research has shown that the problem is more complex. The factors associated with cheating can be divided into three categories—individual factors, such as age, gender, academic record, moral attitudes, and previous cheating behaviour; situational factors, such as students’ perceptions that workloads are too heavy, that social norms allow cheating, and that cheating is common among their peers; and institutional factors, such as the promotion of competition and apparent tolerance of cheating because the risks of detection, being reported, and being punished are low.14 15

Situational and institutional factors may be key facilitators to the genesis of cheating behaviours, as students may “convince themselves that if others are cheating and the institution or individual faculty members are not doing anything about it, they have no choice but to do the same.”16

System based approach
I suggest a parallel between medical school cheating and the principles of patient safety and quality care, where there has been a move away from blaming the individual who makes a medical error towards examining the factors within the healthcare system that contributed to it.17 Similarly, cheating behaviour among students occurs within a medical education system, and changes in policies and practices within medical schools may reduce cheating.

One of the key institutional factors facilitating cheating is likely to be staff behaviour. Research indicates that faculty members have low expectations of both student conduct and the validity of academic integrity systems, whereas students have low expectations of faculty in managing cheating.18 In a large Canadian questionnaire based study, 46% of 1902 faculty members of 11 higher education institutions, working across disciplines, reported ignoring cases of suspected cheating.10 Perhaps our experience of cheating by students has become the academic equivalent of politics or religion—not to be discussed in polite academic company. Is it only when faced with a situation that just cannot be ignored, such as the media coverage generated by the Australian case, that the profession is forced to pay attention to it?

Lack of progress
Despite calls for more research and action on cheating in medical schools, progress seems slow. Information about what types of changes have been attempted within medical schools, and which have been successful, is scarce.

A search of PubMed in December 2014 using the search terms “cheat” and “medic” revealed that most data on cheating in medical schools come from North America. No published reports on exam cheating in UK or Australian medical schools were returned, although one survey study of the prevalence of other forms of academic dishonesty was reported from Scotland.19

This apparent reluctance to acknowledge and understand the size of the problem, and to identify potential approaches to deal with it, might keep cheating hidden from view and avoid embarrassment. However, it will also impede better understanding and prevention. Sharing information, including by publication, on the prevalence of cheating and the outcomes of institutional responses to it would empower teaching staff to face the problem and take more effective steps to deal with it.

Understanding the Australian case
My view is that medical educators at the Australian institution, including myself, unintentionally contributed to cheating by failing to take appropriate early action on exam recalls. The inaccuracy of the recalls before students had the technological capability to, for example, take screenshots, use a file sharing system, and send mass emails, may have led to a false sense of security and an underestimation of their potential impact. Over the past 10 years students set up a highly effective system, which was hidden from staff until recently, to improve the accuracy of recalls.

Students may have perceived this inaction as tacit acceptance of the behaviour, which became entrenched in student culture as an activity that is “owed” by one cohort of students to the next. A perception that there was broad peer approval of the activity, together with the social pressures of reciprocity and peer pressure, are likely to have contributed.12 15 Students may then have felt that it was only a small step from recalling to photographing restricted questions, both of which may have seemed less unethical than stealing a physical exam paper. Based on

<table>
<thead>
<tr>
<th>Students’ perceptions and practice of exam recall</th>
<th>Students (%)</th>
<th>Perceived as unethical*</th>
<th>Engaged in behaviour</th>
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</thead>
<tbody>
<tr>
<td>Study</td>
<td>Context (n)</td>
<td>Definition of “recall”</td>
<td></td>
</tr>
<tr>
<td>Siefes et al 1980</td>
<td>Medical students at two US campuses (448)</td>
<td>Previewing an illicitly obtained copy of an exam</td>
<td>NR</td>
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<td>McCabe 2005</td>
<td>Undergraduate students at multiple US campuses (51 611)</td>
<td>Learning what is on a test from someone who has already taken it</td>
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<td>Christensen Hughes &amp; McCabe 2006</td>
<td>Undergraduate students at multiple Canadian campuses (14 913)</td>
<td>Getting questions and answers from someone who has already taken test</td>
<td>50</td>
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<tr>
<td>Yekta et al 2010</td>
<td>Health science students, including medicine, at a single Iranian campus (386)</td>
<td>Making the questions and answers available from a previous exam</td>
<td>18 (giving); 40 (receiving)</td>
</tr>
<tr>
<td>Kukolja Taradi et al 2012</td>
<td>Medical students at all medical schools in Croatia (662)</td>
<td>Getting exam questions from someone who already has taken the test</td>
<td>24 (year 3); 29 (year 5)</td>
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<tr>
<td>Mortaz Hejri et al 2013</td>
<td>Medical students at a single Iranian campus (124)</td>
<td>Gaining illegal access to exam questions</td>
<td>88</td>
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</table>

NR=not reported. *Students who thought the practice was moderately unethical, seriously unethical, or cheating

ANALYSIS
students were relieved that the school’s position had been made clear, and felt that this would assist them to withstand peer pressure. The school also modified its assessment system with the addition of question formats less susceptible to recalling and rote learning. It is too early to assess the impact of these activities on students’ attitudes and behaviour.

**What can be done?**
The first step towards reducing cheating is an acknowledgement among staff that it occurs and that it represents a serious corruption of organisational integrity. Medical schools must “lift the carpet,” accept the reality of cheating behaviour, and encourage discussion of its unacceptability with both teachers and students. Staff and committees responsible for assessment should routinely consider the potential for cheating whenever assessment policies and processes are discussed. Technological solutions, such as randomising the order of multiple choice questions for different students or applying computerised adaptive testing, in which all students receive a slightly different exam of a defined degree of difficulty, should also be explored. All incidents of cheating must be reported, taken seriously, and acted on. I suggest increased international collaboration between medical schools to share information and tools for reducing student dishonesty and ultimately improving academic integrity.

Students and staff must be reminded of the centrality of integrity to their learning and teaching goals, as well as to their subsequent professional practice. The low expectations of students and staff of each others’ behaviour should also be tackled. The accountability of medical schools to produce honest and competent doctors for the societies they serve demands serious attention to this issue.

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