Research opportunities for medical students: how much time do you have?

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We read the article by Al-Busaidi et al1 with immense interest. Opportunities for early exposure to research during medical school vary greatly between universities; we have previously reviewed the various degrees that can be attained if a student conducts formalised research through university.2

Several factors have been identified in the literature to influence the extent of student involvement in research. A positive research culture during medical school is likely to foster interest in research in students. Engagement in research at such an early stage has been previously shown to increase the students' future involvement in research and scholarly activities.3 Furthermore, the perceived competitiveness of a student's intended training specialty of choice may directly influence their involvement in research.4

An important consideration is the time commitment expected of the student to complete the research project. Regardless of underlying motives, longer time commitment to research has repeatedly been cited as a major deterrent to student engagement in research during their medical course.5

Durations of research projects range from short-term (weeks) to medium-term (months) to long-term (years). The current literature does not concisely capture the time commitment required to complete such projects.

Short-term research projects

These projects typically represent reports of clinical electives6 or competition entries; the latter represent research bursaries whereby a professional society, for example, proposes a research topic or question which students have to research and answer. Such essays often require literature review and critical analysis, both of which are valuable skills for medical students. They are a good first step into promoting research to students,7 but given their limited scope, skills obtained are not as mastered or extensive.

Another type are research ventures that only take several weeks to complete, including research selectives and electives8. Unless completely pre-organised, the time-frame does not usually allow for a complete project to be conducted. Rather, these opportunities often require a defined task to be completed (eg, review notes or enter data into a database).

Introduction of such short-term research projects may not only lead to a significant increase in research-related activities, but also increase involvement by supervising faculty—who may otherwise be too busy to supervise students for medium- and long-term projects. Such 'short stunts' can also offer valuable first-hand experience into the collaborative nature of research and the need for coordinated efforts for the successful completion of a project.

Medium-term research projects

Summer studentships and intercalated honours and master's degrees make up the majority of research opportunities on this time-scale—taking a few months (up to a year) to complete. Advantages of these projects include obtaining more in-depth experience of research and, in the case of research degrees, obtaining a degree by leading a supervised project from start to finish.9

Projects on such time-scale may offer a middle-ground opportunity for medical students desiring more substantial research experience than short-term projects offer,
but less time than long-term projects require. In a study of graduates of an intercalated honours degree from New Zealand, the majority of the cohort agreed it was a valuable experience and a third had gone on to obtain higher research qualifications after graduation.¹⁰

**Long-term research projects**

Projects that take more than a few months range from projects undertaken part-time (eg, concurrent honours or masters degrees) to intercalated doctoral projects. The latter types of projects lend to a mastery of research skills, albeit at the expense of longer times to completion.

The combined medical/PhD programme has been reviewed elsewhere.¹¹ In brief, medical students dedicate a substantial period of time (usually 2–4 years), typically between their pre-clinical and clinical years. Although the time to complete both degrees is long (often a major deterrent),⁵ the graduating student obtains two doctoral-level degrees; more importantly, however, such clinician-scientists are particularly equipped to make the leap in translational research and see interventions move from bench to bedside.¹²

Outcomes of the MBChB/PhD programme in New Zealand have not been evaluated to date.⁴ The University of Auckland does, in fact, offer medical students the opportunity to complete both MBChB and PhD degrees in a quasi-intercalated fashion. The uptake of such programmes, however, has been extremely low (Roger and Bagg, personal communication). We are currently evaluating the outcomes of MBChB/PhD students and graduates at the University of Otago (Alamri and Wilkinson, unpublished).

**Conclusions**

Medical students have ample opportunity for research; time constraints, student goals/motives and institutional availability may play key roles in influencing uptake of such opportunities. By attending to barriers to research identified by students, such as prohibitive time commitments and lack of financial assistance, a tangible increase in medical student research (and ultimately physician-scientist) is hoped to be observed. Academic institutions, industry and non-governmental organisations ought to work together in order to address such barriers and offer collaborative solutions, including elective research opportunities (ie, short-term), overseas research fellowships (ie, medium-term) and exposure to prospective research career tracks (ie, long-term).

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Nil.

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