Response to 2013 External Review of Eagerly Learning in Medicine

Reporting on progress regarding recommendations 3,4,5-10, 12,13,16,24-26

Recommendation 3. There should be a clear strategy for considered clinical input into the Science Modules. This could be achieved by the appointment of scientist and clinician Module Co-Convenors or the allocation of a Clinical Advisor to each module. Clinical Advisors could be sourced from any of the three clinical schools. This would also assist in the achievement of ELM and ALM integration and take some pressure off the workload of ALM clinicians in DSM.

Recruitment of Clinical Advisors for the ELM modules based on the role description developed in 2016, has had very little success. There are significant time constraints that limit the input of clinicians into ELM and many of the ALM staff, particularly those in the northern schools, have a very limited understanding of the ELM curriculum and abilities of the students at this level. Therefore, we are adopting other strategies to increase the clinical input into the ELM science modules.

To address the limited understanding of the ALM staff in the Northern schools of the ELM programme a pilot scheme where ELM Module Convenors attended and presented at University of Otago Christchurch ALM Module convenors meetings has been run. This has been very successful in introducing ALM Module Convenors to the structure of ELM programme and the level of learning of the students. This will be extended to University of Otago Wellington and the Dunedin School of Medicine (DSM), as it is now recognised that familiarity with the ELM programme in DSM is limited primarily to DSM staff who have a role as an ELM module convenor. We are also using the curriculum map as a mechanism to stimulate discussion between scientist and clinicians teaching in related areas and thus develop a better understanding of the ELM curriculum amongst the ALM staff. This has not achieved as much traction as we had hoped but we anticipate that with increased use of the curriculum map it will become an important mechanism for ELM and ALM module convenors and staff to develop vertical integration.

An alternative approach we plan to explore is the development of a clinical advisory group. This would be a clinical group with a broad range of expertise that could provide advice and support to all ELM science modules. It has the benefit of engaging ALM staff who have indicated an interest in supporting the ELM science modules.

Recommendation 4. At the end of ELM, students should be able to meet the competencies as set out in the Overview Map of Clinical Skills in the Undergraduate Medical Curriculum (Nov 2012).

This is now complete. The clinical skills competencies in ELM now align with the Clinical Skills Map.

Recommendation 5. History taking, physical examination, and clinical reasoning should be taught by medically qualified tutors.

History taking, physical examination and clinical reasoning are predominantly learned in the Clinical Skills Programme Module. The number of non-medical tutors in Clinical Skills programme is small (e.g., on average two from 2014 - 2018). However, as outlined in Recommendation 8, if not medically qualified, clinical skills tutors are from other Health Professions. We consider this is acceptable given the support the tutors are provided and this is reinforced by an analysis of the students’ finals grades by medical/non-medical tutor status, which has shown no difference. Elements of History taking, physical examination, and clinical reasoning are also taught in the Integrated Cases programme. There are a much higher proportion of non-medically qualified tutors in this programme (≈one third), which reflects that the teaching of these clinical skills is only a small part of the learning in this programme.
However, with the support these tutors are provided and the different emphasis in the learning in the Integrated Cases Programme compared with the Clinical Skills Programme, we consider this acceptable.

**Recommendation 6. Opportunities for increased patient contact in ELM should be explored without placing increasing strain on the resources of the Dunedin Hospital. This could involve interaction with Friends of the Medical School and through some experiences in the Healthcare in the Community Module.**

This is an ongoing challenge particularly without access to patients in the Dunedin Hospital. However, as noted previously, with judicious use of the Friends of the Medical School, which now has in excess of 450 members, increased numbers of patients involved in the Clinical Skills programme and the ongoing development of eCases in the integrated Cases programme, which utilise patient “stories” and interviews, we feel that we are achieving an appropriate balance of exposure of the ELM 2 and 3 students to patients.

**Recommendation 7. A review should be undertaken of the balance of teaching and learning methods for each Module in the ELM, taking into account resources, capacity, contemporary medical education practice, and fitness for purpose.**

Following definition of the broad overarching goals of the ELM programme, completion of a strategy for the implementation of eLearning into the MB ChB programme, and the development of a teaching and learning framework by the MB ChB curriculum committee (outlined in previous reports), the necessary support structures for the teaching staff in ELM have been put in place. This includes the appointment of an eLearning facilitator with the necessary expertise in instructional design to support the development of eLearning packages within the modules and the development of professional development support packages for teachers in the MB ChB programme. Initially, the latter aspect was driven primarily through the Education Development and Staff Support Unit (EDSSU) but with the recent appointment of a Senior Lecturer in Medical Education to support teaching and learning practices in ELM more emphasis will be placed on evolving the teaching and learning practices in ELM.

Within the current resource and capacity constraints ELM is comfortable with the balance of small group teaching in the Clinical Skills, Early Professional Experience and Integrated Cases programmes, while whole class teaching predominates in the block and vertical modules. However, an increase in small group teaching in the Haoura Māori module has been introduced to better facilitate the learning and, as part of refinement of the Pacific content in the ELM programme, there has been a shift from whole class lectures to an immersion day utilising a combination of small group, whole class and eLearning. Additionally, ELM has been active in the introduction of Interprofessional Education (IPE) in the Health Sciences Division and the curriculum has been modified to allow involvement of the ELM 3 students in a small group-based IPE learning exercise that involves 720 students from the Health Sciences division (of which 296 are MB ChB students). Discussions are underway to introduce a similar IPE activity for the second year of Health Professional courses.

The refinement of the teaching and learning methods within ELM is a continuous and ongoing process which is being combined with changes in content. Because of resource and capacity constraints the process will be measured and incremental but the current mix of teaching and learning methods seems optimal for now.

**Recommendation 8. The review of teaching and learning should determine which small groups would require a medically qualified tutor and those that would benefit from the use of the non-expert tutor/facilitator model.**
This recommendation has been resolved. Based upon the material taught in the three ELM tutorial programmes (Clinical Skills, Early Professional Experience [EPE] and Integrated Cases) the following tutor specifications have been developed.

**Clinical Skills**
- a medically trained or other health professional
- prepared to tutor in areas outside their usual clinical scope
- prepared to acknowledge different stages of student development
- prepared to give formative feedback to students
- enjoys interacting with students

**Early Professional Experience - EPE (Formally Healthcare in the Community HIC)**
- a health professional with a broad practice base; GPs, specialists, nurses, occupational therapists, psychotherapists and so on. Tutors must have had experience of health professional work
- prepared to act predominantly as a facilitator rather than an expert
- prepared to facilitate good group dynamics
- prepared to tutor in areas outside their usual discipline
- an interest in reflective practice [regular structured review of clinical work]
- prepared to give formative feedback to individual students on their worksheets about patients, presentations, short assignments and essays [quick and easy pro forma sheets provided]
- prepared to acknowledge different stages of student development
- enjoy interacting with students and being involved in their development.
- be flexible with tutor workload which will vary during the year.

**Integrated Cases**
- prepared to act predominantly as a facilitator rather than an expert
- prepared to tutor in areas outside their usual discipline
- prepared to promote application of concepts as much as the acquisition of content knowledge
- able to help students “connect the dots” between the basic medical sciences and clinical medicine
- able to assist students in developing their clinical reasoning
- prepared to give both formative and summative feedback to students
- prepared to acknowledge different stages of student development
- enjoy interacting with students
- enjoy being a team player and model the same

In the integrated cases programme it is expected that the tutor will be either
- a health professional with a broad practice base, preferably medical but other health professionals also considered (e.g. may be a nurse with a teaching background and an interest in medical sciences)
- a medical scientist with experience tutoring medical undergraduates

In general, the tutors that are employed meet these specifications in each of the programmes. Furthermore, comparison of the student evaluations of tutors in the integrated cases programme demonstrate that medical scientists with the appropriate background are as effective as tutors as health professionals.
Recommendation 9. The Faculty Curriculum Committee should develop a Faculty wide e-learning strategy for the MB ChB, including the ELM, to develop priorities and indicate appropriate resourcing.

As indicated in the 2017 report a set of guidelines for the development and implementation of eLearning in the MB ChB curriculum have been developed. Utilising these guideline, the Learning and ICT committee (eLicit) have supported the development and use of eLearning in the curriculum. Progress is summarised in Appendix 6.1_1.

Recommendation 10. There should be regular review of assessment to ensure that it fits with the overall direction of assessment in the course and the review should be informed by derivation of appropriate quantitative analyses to ensure the validity and reliability of assessments.

A comprehensive template for the review and analysis of the end of year exam results has been developed and has been routinely applied to an analysis of the results since 2013. This includes analysis of all components in the end of year ELM exams – SAQs, OSCE and OSPE. The outcome is reported to the teaching staff and a summary provided to students. Also, the quality assurance processes associated with the preparation, delivery, marking and recording of exam results, are routinely documented and continue to be refined. Further progress is dependent on the purchase/development of a suitable items database.

Recommendation 12. In-course summative assessments should be more frequent and contribute to the final year grade with less reliance on the end of year examination. This is consistent with the student view.

In course summative assessment has been introduced to both ELM 2 and ELM 3. The final mark for the OSCE exams and written exams in both years now comprises 20% from in-course assessment and 80% from the end of year exams. For the OSCE mark, the students in both years complete an in-course OSCE, which contributes 10% and an associated reflective assignment that contributes a further 10%. For the written mark, in ELM 2, the in-course assessment comprises two Integrated Cases short answer (SAQ) tests (worth 3% and 5%), an OSPE (3%), a Genetics Module assignment (4%) and a reflective essay (5%). In ELM 3, the in-course assessment comprises an Integrated Cases SAQ test (4%) a Renal Module SAQ (6%), an OSPE (5%) and a Reflective essay (5%). In each year these assessments are scheduled to allow sufficient time for the students to prepare for them.

Recommendation 13. Consideration should be given to extending the Year 3 OSCE to assess more examination skills.

At present the Year 3 OSCE reflects the balance of expected learning outcomes in the Year 3 Clinical Skills programme (i.e., the combination of teaching consultation and examination skills) and this is now aligned with the MB ChB Clinical skills curriculum map. Furthermore, as mentioned in previous reports, there are resource constraints associated with increased examination of examination skills in the OSCE, as it would require an increase in the number of stations in the OSCE.

Recommendation 16. The Faculty Curriculum Committee should review what aspects of ‘science that matters for medicine’ need to be included or expanded in ALM years and explore the most appropriate modalities for doing this across the three clinical campuses. These modalities may include online resources or videoconferencing involving scientists and clinicians.
The science that underpins medicine is continually evolving and hence there will be an on-going need to review the science content in the curriculum. Consequently, the Science Scholarship and Research (SSR) Domain group has been established to oversee the on-going refinement of the scientific content in the curriculum. This group is now fully operational and since the last report has completed an extensively revised version of 206 learning outcomes for science within the curriculum, including the development of overarching big ideas/concepts, which are being moderated by the Curriculum Map group. The SSR domain group has also completed an extensively revised version of 40 learning outcomes for research and scholarship related to science, which are also being moderated by the Curriculum Map group. Additionally, new descriptors have been completed for the associated levels of learning, for science, research and scholarship, at the various stages of the curriculum (Health Sciences First Year, end of years, 3, 5 and 6). Based on these descriptors, the level of learning for each learning outcome and year will be added to the curriculum map.

The ELM module convenors constantly review the science content within their modules to ensure that it is current, which results in incremental changes in the content. For example, in 2018, the genetics curriculum in ELM has evolved to ensure that it is more clinically relevant. As a result of the HSFY review and the introduction of the new HSFY curriculum in 2019, ELM will carry out a more extensive review of the teaching in the different modules and alter the curriculum in 2020 to accommodate the changes in HSFY.

**Recommendation 24. The budget should be transparent and the mechanism of funding clearly explained to heads of cost centres and contributing departments.**

The ELM Director continues to inform relevant staff in all schools about the funding model for ELM. This is being achieved through attendance at both Dunedin School of Medicine and Otago School of Medical Sciences Head of Department meetings to describe the funding model. Details of the funding model in ELM are also included in presentations given to different groups associated with ELM e.g., Individual Departments.

**Recommendation 25. The job description of the proposed Director of Educational Research, should include the development of strategies to increase expertise in medical education research methodologies in the Faculty and to promote opportunities for PhDs in medical education for staff and BMedSci studies for students.**

Dr Kelby Smith-Han has been appointed in the role of Medical Education Research Academic Lead for the Otago Medical School. A clear aspect of his role is to promote medical education research in the MB ChB programme. Furthermore, the newly appointed ELM Education advisor has been appointed as a Senior Lecturer and there is a clear expectation in his job description that he carries out and supports medical education research, particularly in the ELM programme.

**Recommendation 26. The proportion of positions requiring both teaching and research, which provide educational support for the ELM, should be increased through conversion of existing teaching-only positions as appropriate.**

As with any position there have been, and will continue to be, changes in the staffing of the education advisor roles in Otago Medical School. In an attempt to bolster medical education research within the MB ChB at Otago, the job descriptions for these roles have been changed and the positions advertised as Lectureships, at either lecturer or senior lecturer level, with clear expectations that the successful applicants will develop and maintain an active research portfolio. As a result of this, in late 2017 a new ELM Education advisor was appointed as a senior lecturer. Additionally, currently ELM is advertising for
and Assessment Convenor and this offers an opportunity to appoint a lecturer with an interest in assessment research, should a suitable candidate apply.