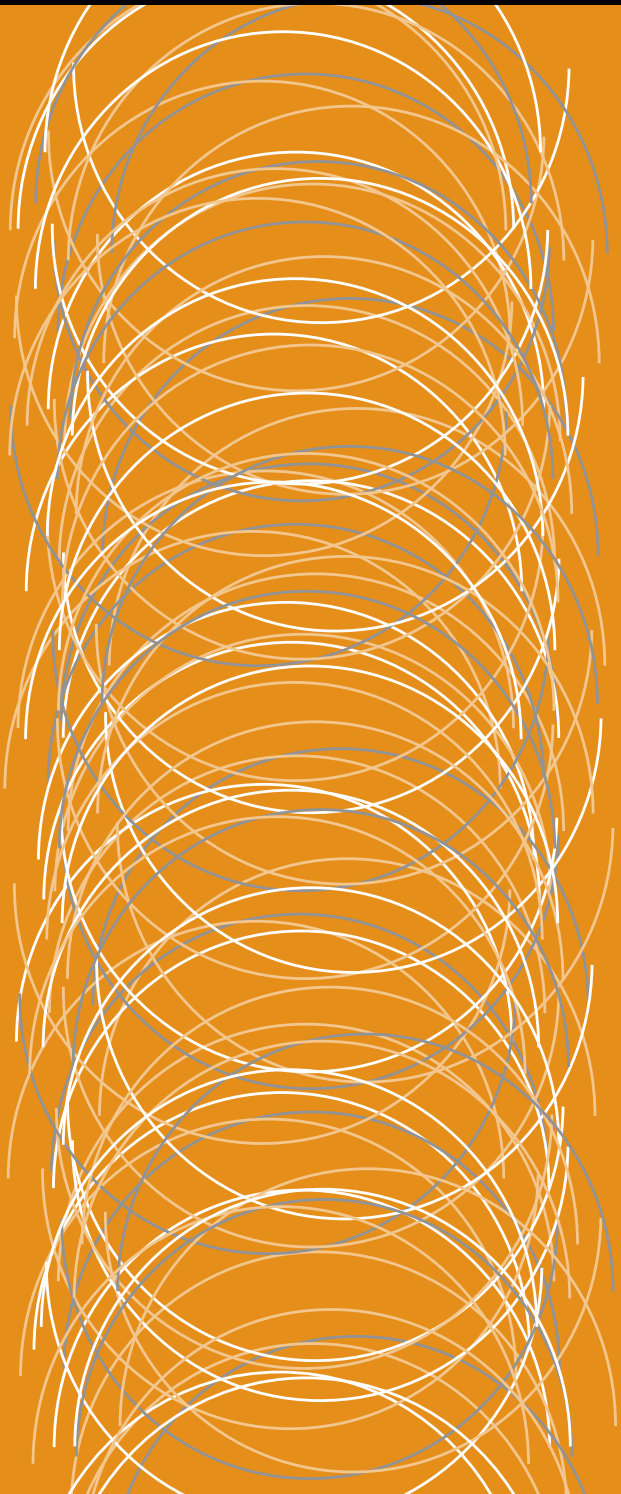


Australian Medical Council Limited

Accreditation of the medical program of
the School of Medicine and Dentistry
the Faculty of Medicine, Health and Molecular Sciences
James Cook University

AMC



Medical School Accreditation Committee
November 2010

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Executive Summary 2010

The AMC's *Assessment and Accreditation of Medical Schools: Standards and Procedures* provides for accredited medical schools to seek reaccreditation when a period of accreditation expires. Accreditation is based on the medical course demonstrating that it satisfies the Australian Medical Council (AMC) standards for basic medical education. The school prepares a submission for reaccreditation which is assessed by an AMC team that conducts visits to the school and its clinical teaching sites.

The School of Medicine and Dentistry in the Faculty of Medicine, Health and Molecular Sciences at the James Cook University is seeking reaccreditation of its medical course. The AMC originally assessed the course in 1999 as a new medical school and the School was granted accreditation for six years until 31 December 2006, subject to conditions. Follow-up assessment visits were conducted in 2000 and 2002. Following the 2002 visit, the AMC granted accreditation until 31 December 2007, subject to satisfactory annual reports.

In its 2006 comprehensive report, the School advised that it planned to increase student numbers, from an initial cohort of 60, to 100 in 2007 and to 150 in 2008. Following this, the Medical School Accreditation Committee considered that a short AMC team visit was required in 2007. The Team reported on areas of staff recruitment and retention, clinical placements, and strategies to accommodate the increased student load. Following this visit, accreditation of the School was extended until 31 December 2010.

James Cook University provided a comprehensive report for reaccreditation of an established medical course in April 2010. An AMC assessment team was appointed in 2010 to review the School's documentation, and to visit the School and associated clinical teaching sites the week of 19 July 2010. The Team reported to the November 2010 meeting of the AMC Medical School Accreditation Committee. This report presents the Committee's recommendation on reaccreditation, as endorsed by the AMC Directors at its November 2010 meeting, and the detailed findings against the AMC accreditation standards.

Decision on accreditation

Under the *Health Practitioner Regulation National Law Act 2009*, the AMC may grant accreditation if it is reasonably satisfied that a program of study, and the education provider that provides it, meet an approved accreditation standard. It may also grant accreditation if it is reasonably satisfied that the provider and the program of study substantially meet an approved accreditation standard, and the imposition of conditions on the approval will ensure the program meets the standard within a reasonable time. Having made a decision, the AMC reports its accreditation decision to the Medical Board of Australia to enable the Board to make a decision on the approval of the program of study for registration purposes.

The AMC finds that the medical program of the School of Medicine and Dentistry, Faculty of Medicine, Health and Molecular Sciences, James Cook University, meets the AMC accreditation standards.

The accreditation options for reaccreditation of established medical courses are:

- (i) Accreditation for a period of 10 years subject to satisfactory progress reports. Accreditation will be for 6 years in the first instance. In the year before the accreditation ends, the medical school will be required to submit a comprehensive progress report. Subject to a satisfactory report, the AMC may grant a further period of accreditation, up to a maximum of four years, before a new accreditation review.
- (ii) Accreditation for 10 years subject to certain conditions being addressed within a specified period and to satisfactory progress reports. Accreditation will be for six years in the first instance. In the year before the accreditation ends, the medical school will be required to submit a comprehensive progress report. Subject to a satisfactory report, the AMC may grant a further period of accreditation, up to a maximum of four years, before a new accreditation review.
- (iii) Accreditation for shorter periods. If significant deficiencies are identified or there is insufficient information to assess if development plans presented by school will result in course that satisfies AMC accreditation standards, the AMC may award accreditation with conditions and for a period of less than six years.
- (iv) Accreditation may be refused where the AMC considers that the deficiencies are so serious as to warrant that action or where the school has not satisfied the AMC that the complete medical course can be implemented and delivered at a level consistent with AMC accreditation standards.

The November 2010 meeting of the AMC Directors endorsed the accreditation report and resolved:

- (i) That the six-year undergraduate medical program of the School of Medicine and Dentistry, Faculty of Medicine, Health and Molecular Sciences, James Cook University, be granted accreditation for six years until 31 December 2016, subject to the submission of satisfactory progress reports to the Medical School Accreditation Committee;
- (ii) That subject to a satisfactory report from the School in its fifth year of accreditation (2015), the AMC grant the School a further period of accreditation, up to a maximum of four years, before the School is revisited for accreditation.

Overview of findings

The findings against the AMC accreditation standards are summarised below.

<p>1. Context (governance, autonomy, course management, educational expertise, budget, health sector, research context, staff)</p>	<p>Meets the standards</p>
<p><u>Areas of strength</u></p> <ul style="list-style-type: none"> • the partnership that exists between the School of Medicine and Dentistry and the many sections of the health system, both public and private • the Dean’s leadership and long-term vision for the School • the academic, professional and technical staff that support the School and the Dean <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> • the governance structure as the School moves to a new phase of development, which includes doubling student numbers and a substantial growth of new clinical placement sites (standard 1.1) • Indigenous health representation on Cabinet, and Indigenous staff recruitment across the School and Faculty (standard 1.1) • budget deficit management in 2010 and 2011 (standard 1.5) • engagement with all clinical sites about new developments in the medical course and facilitating shared clinical appointments (standard 1.6) • the academic and professional workforce plan to support students across all clinical sites (standard 1.8) • the mechanisms to communicate learning objectives and assessment requirements to clinical teachers (standard 1.8) 	
<p>2. Outcomes (mission, course outcomes)</p>	<p>Meets the standards</p>
<p><u>Area of strength</u></p> <ul style="list-style-type: none"> • the robust strategic plan with a set of logical and appropriate strategies that align with the School of Medicine and Dentistry’s mission <p><u>Area for improvement</u></p> <ul style="list-style-type: none"> • the promotion of the School’s vision to graduate undifferentiated medical practitioners with particular 	

training in rural, remote, tropical and Indigenous health (standard 2.1)	
3. Curriculum (framework, structure, content, duration, integration, research, choices, continuum)	Meets the standards
<p><u>Areas of strength</u></p> <ul style="list-style-type: none"> the strong focus on providing training for the delivery of quality health care in rural and remote settings the ongoing commitment to training doctors who are competent to provide quality health care to Indigenous peoples the Honours program which offers exciting opportunities for students to engage in substantive research concurrently with their medical studies the revised clinical skills program that strengthens the early years of the curriculum <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> the completion of the curriculum database and ensuring its utility for staff and students (standard 3.1) the curriculum model (which was implemented 10 years ago) to ensure it adequately reflects the current and planned horizontal and vertical integration of the course (standard 3.2) the Indigenous health curriculum to ensure its alignment with the curriculum database and the MDANZ (Medical Deans of Australia and New Zealand) Indigenous Health Curriculum Framework (standard 3.2) the integration of emergent issues in basic sciences into the later years of the course (standard 3.3) ensuring that students have obtained all necessary ethics approvals for their research projects and are well informed about these requirements (standard 3.4) 	
4. Teaching and learning methods	Meets the standards
<p><u>Area of strength</u></p> <ul style="list-style-type: none"> the continuing use of a wide range of contemporary teaching and learning methods that are appropriate for a regional and rural medical school with a disseminated program 	

<p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> • the mechanisms to communicate learning objectives and assessment requirements to clinical teachers (standard 4.1) • the recruitment and professional development of small group facilitators and home group tutors to sustain the current teaching model (standards 4.1) • strategies to facilitate the learning experience in Year 4 in all clinical settings to enhance integration in the clinical environment (standard 1.4) 	
<p>5. Assessment (approach, methods, rules and progression, quality)</p>	<p>Meets the standards</p>
<p><u>Areas of strength</u></p> <ul style="list-style-type: none"> • the resources and effort expended to design, implement and score assessment to reflect the integrated nature of the course, especially in Years 1 to 3 • the wide variety of assessment methods used to capture the broad thematic structure and the aims and objectives of the course • the vigilance of the School in detecting and remedying under or borderline performance • the considerable efforts to ensure equivalence of assessment at the different teaching sites <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> • the blueprinting process to ensure assessments provide an accurate reflection of the aims and objectives of the course (standard 5.2) • the sustainability of the current and planned assessment strategy across all years as student numbers increase (standard 5.4) • the feedback to students about their examination performance is increased to meet James Cook University policy (standard 5.4) • the efficacy of recording completed observed clinical performance tasks (standard 5.4) 	

6. Monitoring and evaluation (ongoing monitoring, evaluation, feedback and reporting, educational exchanges)	Meets the standards
<p><u>Area of strength</u></p> <ul style="list-style-type: none"> the five-year plan to evaluate the school-wide curriculum which has, importantly, identified annual reporting priorities <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> the implementation of curriculum or process modifications identified through the evaluation process (standard 6.2) involvement in the University's continuous evaluation and quality assurance processes (standard 6.2) 	
7. Students (intake, admission, support, representation)	Meets the standards
<p><u>Areas of strength</u></p> <ul style="list-style-type: none"> the increased physical infrastructure for Years 1 to 3 at the Townsville campus the significant achievements in the recruitment, retention and graduation of Indigenous students the successful recruitment of students from rural and regional backgrounds the pastoral care available for students via the home group program, and the Year, site and senior academic advisors <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> the resourcing required to meet the rapid increase in student numbers, particularly during Years 4 to 6 (standard 7.1) the support for the increasing number of international students (standard 7.3) 	
8. Resources (physical, IT, clinical teaching)	Meets the standards
<p><u>Areas of strength</u></p> <ul style="list-style-type: none"> the clinical skills facility and staff at the Townsville campus and other sites the partnership with the private hospital sector, particularly the Mater Misericordiae Hospitals the strong commitment of clinical teachers to student 	

<p>learning across all sites</p> <ul style="list-style-type: none"> • the medical education registrar position at the Townsville Hospital, which is beneficial to the School and its students across all years of the course <p><u>Areas for improvement</u></p> <ul style="list-style-type: none"> • the reliability of IT infrastructure to ensure an adequate learning experience at all sites (standard 8.2) • the pursuit of opportunities for further collaborative development of clinical teaching and learning with Mount Isa Centre for Rural and Remote Health MICRRH (standard 8.3) • the lack of facilities for Year 4 students on the Cairns Base Hospital site (standard 8.3) • the relationships to help build the capacity of Indigenous organisations across all sites for clinical teaching (standard 8.3) • the appointment of clinical academics to facilitate communication between the School and hospitals, and support further clinical training capacity (standard 8.3) 	
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Introduction: The AMC Accreditation Process

The AMC is a national standards body for medical education and training. Its principal functions include assessing Australian and New Zealand medical schools and medical courses, and granting accreditation to those that meet AMC accreditation standards.

The purpose of AMC accreditation is to recognise medical courses that produce graduates competent to practise safely and effectively under supervision as interns in Australia and New Zealand, with an appropriate foundation for lifelong learning and for further training in any branch of medicine.

The standards and procedures for accreditation are published in the AMC's *Assessment and Accreditation of Medical Schools: Standards and Procedures*. The AMC lists the knowledge, skills and professional attributes expected on graduation, defines the curriculum in broad outline, and defines the educational framework, institutional processes, settings and resources necessary for successful medical education.

The AMC's Medical School Accreditation Committee oversees the AMC process of assessment and accreditation of medical schools, and reports to the AMC Directors. The Committee includes members of the Council itself and nominees of the Australian and New Zealand medical schools, the Medical Council of New Zealand, health consumers, medical students, the Confederation of Postgraduate Medical Education Councils, and the Committee of Presidents of Medical Colleges.

Accreditation of a new medical course is a two-stage process. The institution submits an initial Stage 1 submission describing the planned curriculum and resources to support delivery. The Medical School Accreditation Committee makes a recommendation to the AMC Directors on whether or not the planned curriculum is likely to comply with the AMC accreditation standards and if the institution has demonstrated that it is able to implement the course.

Once an institution has approval to proceed to a Stage 2 assessment, the accreditation process is as follows. The AMC appoints an assessment team (the Team), desirably with gender balance, comprising members from different states, medical schools, the basic and clinical sciences, hospital and community-based teachers, experienced academic managers, health service managers, and community interests. Members with other expertise may be part of the Team, as considered appropriate. The medical school submits to the Team detailed documentation on the medical curriculum and the resources that underpin its delivery.

The school's accreditation submission forms the basis of the assessment. Following a review of the submission, the Team conducts a visit to the school and its clinical teaching sites. This visit normally takes a week. Following the visit, the Team prepares a detailed report for the Medical School Accreditation Committee, providing opportunities for the medical school to comment on successive drafts. The Committee considers the Team's report and then submits the report, amended as necessary, to the AMC Directors. The Directors make the final accreditation decision. In the case of new medical courses, accreditation may be granted for a period up to two years after the full course has been implemented, subject to satisfactory annual reports. The granting of accreditation may also be subject to other conditions, such as requiring follow-up assessments.

Once accredited by the AMC, all medical schools are required to report periodically to the Medical School Accreditation Committee on the ongoing evolution of the medical course, emerging issues that may affect the medical school's ability to deliver the medical curriculum, and issues raised in the AMC accreditation report. The AMC requires new medical schools and those that have made major course changes to report annually.

The University, the Faculty and the School

The University

The James Cook University (JCU) was founded in 1970 and was the first tertiary education institution in North Queensland. JCU is a multi-campus university with 17,500 students. The University offers a wide range of tertiary programs through its three support divisions and four academic faculties: Arts, Education and Social Sciences; Law, Business and Creative Arts; Medicine, Health and Molecular Sciences; and Science and Engineering.

The Faculty

The Faculty of Medicine, Health and Molecular Sciences comprises six schools: Veterinary and Biomedical Sciences; Nursing, Midwifery and Nutrition; Medicine and Dentistry; Public Health, Tropical Medicine and Rehabilitation Sciences; Pharmacy and Molecular Sciences; and Mount Isa Centre for Rural and Remote Health (MICRRH).

Presently, JCU has campuses in Townsville and Cairns, with smaller study centres located in Mackay, Mount Isa and Thursday Island, and research stations and other sites spread around North Queensland. JCU also operates a Brisbane campus catering to international students and a Singapore campus. The main School of Medicine campus is located in Townsville. In addition to Townsville, clinical schools are located in Cairns, Mackay and Darwin.

The School of Medicine and Dentistry

The JCU School of Medicine was founded with the aim of developing a medical school responsive to the health needs of northern Australian communities, and improving health care provided in rural, remote and Indigenous communities. The School has achieved its primary objective of providing an opportunity for students of rural and remote origins to study medicine without relocating to major metropolitan areas. The School also has an awareness-raising program in the local Indigenous community and high schools, and has created supportive pathways for Indigenous students to enter the medical course. Indigenous students are seen as an integral part of the student body, and the School actively pursues avenues to increase Indigenous representation. In 2008, the School incorporated dentistry as well as medicine.

AMC assessment of the School of Medicine

The JCU medical course is a six-year, undergraduate MBBS course, with clinical exposure from the first year of the program. Students in Years 1 to 3 are primarily based in Townsville. Students in Years 4 to 6 are extensively clinical based, being located in hospitals and community practices throughout North Queensland and Darwin. The School has an extensive and professional relationship with local general practitioners, specialists, clinicians, and both public and private hospitals. The network of JCU clinical academics and teaching infrastructure in rural and remote locations includes Mount Isa, the Atherton Tablelands and Proserpine. Up to ten students per year undertake an eight-week Rural Internship at the Thursday Island District Hospital and associated clinics in the Torres Strait.

The AMC originally assessed the School of Medicine in 1999 and granted accreditation for six years until December 2006, subject to conditions. The School submitted periodic reports to the Medical School Accreditation Committee annually between 2003 and 2006. In 2005, the School produced its first cohort of graduates. As a new medical school, JCU was required to provide a comprehensive report to the AMC when all years of the course had been introduced. This report was considered at the October 2006 Committee meeting. While commenting positively on the report, the Committee did note the planned expansion in student numbers from 2008 and commented that there would be ongoing issues concerning staff resources, student recruitment and clinical placements. The Committee recommended a follow-up visit in 2007.

The Committee considered the 2007 Team's report and recommended that the AMC extend the accreditation period of the Bachelor of Medicine/Bachelor of Surgery degree course at JCU School of Medicine to 31 December 2010, subject to conditions. Having satisfactorily addressed all conditions, and given the ten year maximum period of accreditation available between assessments by AMC Teams, the School is now subject to an assessment for reaccreditation of its medical course.

This report

This report details the findings of the 2010 assessment of the six-year undergraduate medical program offered by the School of Medicine and Dentistry, Faculty of Medicine, Health and Molecular Sciences at JCU. Each section of the accreditation report begins with the relevant AMC accreditation standards.

The 2010 Team membership is given at **Appendix One: Membership of the 2010 Assessment Team**. The list of groups met is given at **Appendix Two: Groups Met by the 2010 Assessment Team**.

Appreciation

The AMC Team wishes to express its appreciation to the University and to the Faculty for their hospitality and for the efficient organisation of the various meetings on campus and at other sites. The Team recognises the large amount of thought, time and work that went into preparing for the visit, and thanks the Faculty for the comprehensive and well-organised documentation provided. Thanks are also due to the many participants, from both within and outside the Faculty, for the open and collegial approach that was evident in all meetings with the Team. Special thanks must go to the student body for their detailed submission, and for valuable discussions during the visit.

1. The Context of the Medical School

1.1 Governance

The medical school's governance structures and functions are defined, including the school's relationships with its campuses and clinical schools and within the university.

The governance structures set out, for each committee, the composition, terms of reference, powers and reporting relationships, and ensure representation from all relevant groups in decision-making.

The school consults on key issues relating to its mission, the curriculum, graduate outcomes and governance with those groups that have a legitimate interest in the course.

The School of Medicine and Dentistry is one of five schools in the Faculty of Medicine, Health and Molecular Sciences (FMHMS) at JCU. The other Schools are Nursing, Midwifery and Nutrition; Veterinary and Biomedical Sciences; Public Health, Tropical Medicine and Rehabilitation Sciences; and Pharmacy and Molecular Sciences. The MICRRH, a participating universities' centre for rural health, is also part of the Faculty structure. The School of Medicine and Dentistry (the School) has defined structures for governance within the Faculty and University.

With the significant increase in student numbers, challenges for the School will include maintaining the integrity and quality of its medical course, which was previously facilitated by direct relationships between students and most senior staff. Given the new development phase, which doubles student numbers and substantially grows new clinical placement sites, the School should consider reviewing its governance structure to support the changes, perhaps with the assistance of an external review.

Each of the Townsville, Cairns and Mackay clinical schools is led by a local Clinical School Head and a senior professional staff member. In Darwin, the Northern Territory Clinical School (NTCS) is run under the auspices of Flinders University. The Team noted the arrangements for the sharing of teaching infrastructure between Flinders and JCU are set out in a memorandum of understanding (MOU). The School also has a formal MOU with MICRRH, which serves as the teaching hub for north-west Queensland and manages clinical placement development and coordination in the region. The Tablelands Rural Clinical School site at Atherton has a similar role and covers the Cairns hinterland and surrounding areas, albeit predominantly for medicine.

The School has a number of strategies in place to enhance School cohesion across its geographically distributed sites, including rotating the location of Cabinet meetings and holding program-wide workshops at various locations. If School staff cannot attend in person, videoconference or teleconference is used. The Team agreed that as the delivery becomes more complex across multiple sites, it will be important for the Dean and Cabinet to strengthen these links by more formally establishing the specific roles of Clinical Deans and local tutors.

The governance structures set out, for each committee, the composition, terms of reference, powers and reporting relationships. This structure appears to ensure representation from all relevant groups in decision-making.

The Cabinet is the central management structure for the School. Its membership includes the Head of School, directors of all clinical sites (except Darwin), the Director of Research, the School Manager, the Director of Medical Education, the Director of Integration, and the

Director of Foundation Sciences. As noted in 2007, the Team suggests an Indigenous health representative be on Cabinet and a further positive recruitment strategy for Indigenous staff across the School and Faculty be developed.

The Board of Studies (Medicine) is the central operational committee for the School and is responsible for the management and coordination of educational programs. The Board reports to the Dean and Cabinet and has representation from the key delivery groups, including year and semester conveners; clinical school sites; the Senior Academic Advisor; the Medical Education Unit; and the Clinical Skills Unit.

A number of committees report to the Head of School, and have formal lines of communication with the Board. These include the Curriculum and Integration Committee, the Assessment Committee, the Research Committee, and the newly created Personal and Professional Development Committee. The committees are ultimately responsible to the Head of School, who chairs the Cabinet and is an ex-officio member of the other committees. Committees are linked through formal cross-membership and through portfolio responsibilities of Cabinet Directors.

Each of the School's committees has a clearly articulated term of reference and membership. The 2007 Team noted that formal communication pathways between the committees was lacking, so it was pleasing to see the School has conducted a review of the Board's functions and terms of reference to clarify its interface with other committees and its decision-making powers. The review has resulted in a number of actions, including reducing the size of the Board; holding meetings in alternate months; and introducing a 'more streamlined, action-oriented agenda that is focussed on significant policy issues and decision-making'. Importantly, five members sit on both the Cabinet and the Board. This cross-representation provides opportunities for information dissemination.

The Team noted that while the balance of members is logical, how the needs of basic sciences feed into the Board of Studies is unclear. The Team found further clarification was needed on how best to integrate new basic science information into the clinical curricula and new educational models.

A Personal and Professional Development Committee has been established to lead policy formation, student education, and establish systems for monitoring behaviour in academic and clinical settings. The draft terms of reference for this Committee indicate membership will comprise senior School staff, Indigenous health staff, Queensland Health staff, community representatives, and student representatives. This Committee will be important in developing School policy and related structures for personal and professional development.

It was noted that students are now represented on not only the Board of Studies but also on the Assessment Committee, Research Committee, and the Honours Subcommittee. Students also meet monthly with the Dean, the Head of the Medical Education Unit and other senior staff. Students noted that their close working relationship with the School was particularly important. Students who met the Team advised that they would like to have minutes of the meetings of the Assessment Committee and the Board of Studies made available to the JCUMSA (James Cook University Medical Students Association) executive and to the student body.

An interconnected group of management committees oversees the medical curriculum and are moving towards allowing input from all staff on the day-to-day curricula and innovation in

educational programs. As noted, clinical school senior staff are members of the Cabinet. This group reported to the Team that they appreciate the new openness of the Cabinet meetings. They agreed decision making is open and transparent, that they are fully aware of all aspects of school management, and that this has increased efficiencies. They also noted that there are clear lines of responsibility.

The Faculty course and subject approvals process is an opportunity for multidisciplinary review of changes proposed by individual schools. The Dean is a member of the Faculty Executive Committee, which meets monthly to approve changes or new proposals for courses and subjects, and to consider internal and external strategic issues. This helps ensure policy consistency and to strengthen proposals prior to central University committee consideration.

The Dean reported that the School is looking to engage more frequently with the School's graduates, seeing this as a means of improving the medical course for the future.

1.2 Leadership and autonomy

The medical school has sufficient autonomy to design and develop the medical course.

The responsibilities of the academic head of the medical school for the educational program are clearly stated.

Through the Faculty Executive, the School has defined reporting arrangements with the Faculty and has sufficient autonomy to develop and manage its own educational program.

The Dean of Medicine, who is also Head of School, has overall responsibility for School management and leadership. The Dean provides the academic leadership, guiding the identity and ongoing development of the School in research, teaching and community service. The Dean is well supported by a group of senior academics, and has a long-term vision for the School. The Dean has broad delegated authority to set priorities, allocate budgets, appoint staff, engage stakeholders, determine directions, and manage teaching and research programs.

1.3 Medical course management

The school has established a committee or similar entity with the responsibility, authority and capacity to plan, implement and review the curriculum to achieve the objectives of the medical course.

There are multiple layers of management across the medical course. Several committees deal with general and specific curriculum aspects including design, content, delivery, resourcing, assessment and review. The Board, as the key organising body of the School's medical undergraduate and postgraduate coursework programs, makes recommendations to the Dean on evolution of courses, delivery structures, policy development and managed change.

The Curriculum and Integration Committee is responsible for monitoring and reviewing the curriculum and maintaining integration across the years. The ten-year curriculum review will be driven by the Curriculum and Integration Committee. However, terms of reference will come from Cabinet to the Board, and will then be forwarded to the Curriculum and Integration Committee.

1.4 Educational expertise

The school ensures appropriate use of educational expertise, including the educational expertise of Indigenous people, in the development and management of the medical course.

The School has continued to develop its educational expertise by establishing the Student Education and Placement Unit (SEPU). This Unit coordinates the academic leadership and administrative support for the medical course. The Unit is also responsible for managing the curriculum and associated databases, developing policy, managing assessment processes, providing technical support, controlling quality, and developing staff.

The School advised that SEPU works closely with both Medical School and other Faculty school teaching staff to ensure efficient program delivery. The University liaises regularly with staff in clinical schools and rural sites across the region. SEPU medical education academic staff also contribute to the teaching program in their particular disciplines, but the main focus is on support and management of the course. The Team was impressed with the work of this dedicated group of academics who had interests and strengths in delivering medical curricula, particularly in Years 1 to 3.

The School continues to strengthen its overall educational expertise in 2010 with new key appointments, including an Associate Professor as Director of Foundation Sciences (0.5 FTE) to strengthen integrating foundation sciences across the program's first three years and into the second half of the course. The School has also appointed a lecturer and a senior lecturer in Indigenous health.

Expertise in delivery of the Indigenous curricula was evident and strongly supported by the Faculty's Indigenous Health Unit (IHU). Many academics in the School have substantial expertise in Aboriginal and Torres Strait Islander health. Seventeen Indigenous staff are employed across the Faculty, five in the IHU and four in the School. There is considerable scope for enhancing the Indigenous health workforce across the School and the Faculty, and the Team encourages positive recruitment in this area.

The Clinical Skills Unit now has a core staff drawn from a variety of disciplines and an experienced clinical teacher as the new head. Educational expertise has been maintained at the clinical schools and clinical teaching sites through the senior staff who lead each site. They come from a variety of professional backgrounds but all are experienced in educational management and health service leadership.

1.5 Educational budget and resource allocation

The medical school has a clear line of responsibility and authority for the curriculum and its resourcing, including a dedicated educational budget.

There is sufficient autonomy to direct resources in order to achieve the mission of the school and the objectives of the medical course.

There is evidence that the School has sufficient resources, and autonomy of these resources, to continue to implement the program. The Faculty receives direct funding from the University. The School encompasses both Medicine and Dentistry, and these two areas are managed jointly with some shared academic, professional and technical staff. However, the income and expenditure for both programs is allocated and budgeted separately to ensure autonomy and resource responsibility to meet their course objectives.

The School's budget for medicine reflects the teaching load, with 30 – 40% of the resources for students in the first three years directed through other Faculty schools who teach the foundation sciences. Accordingly, a significant portion of the increased allocation due to increased student numbers has been assigned to these other schools. This is up to and including the current year (2010) when the large increase in numbers moved into MBBS course Year 3. The growth in later years has implications for resource allocation within the University and Faculty to support expanded clinical teaching obligations.

The 2010 operational fund allocation through the University represents only a modest increase on 2008 and 2009 levels. The budget for the medical course shows a deficit in both 2010 and 2011. The 2010 submission to the AMC noted, 'In this constrained financial environment, the School will have to monitor salary expenditure very closely to maximise savings from vacancies across the year. While this is considered achievable based on the experience of staff movements in previous years, additional income is required as the larger student cohorts enter the clinical training years. This is reflected in the 2011 and 2012 estimated budgets across operational and other grant income'.

Capital funds have been successfully identified to meet the growth of clinical placements in Mackay, Cairns, Townsville and Mount Isa. The Team remained concerned that the ongoing funding requirements for clinical support of these new clinical sites are not clear. Health Workforce Australia (HWA) may provide a solution. However, if this does not eventuate, the only solution that appeared to have been considered was to ask the health sector to fund the health service provider costs of expanded clinical training. This will need further clarification over the next 12 months. The School may wish to consider involving the wider University or Faculty in alternative solutions.

The School expects that in 2011 and subsequent years, it will see a growing proportion of the increased funding as the increased student numbers progress to the clinical years. In 2011 and 2012, increases in Commonwealth funds through the Rural Clinical School Program will also be directed toward expenditure in the clinical years. The Team was unable to ascertain how the budget deficit will be managed. The School and JCU are urged to develop a risk management plan that will ensure sufficient resources, regardless of the vagaries of external funding sources.

1.6 Interaction with health sector

The medical school has constructive partnerships with relevant health departments and government, non-government and community health agencies to promote mutual interests in the education and training of medical graduates skilled in clinical care and professional practice.

The medical school recognises the unique challenges faced by the Indigenous health sector and has effective partnerships with relevant local communities, organisations and individuals.

The medical school works with its partners to ensure university staff in affiliated institutions are integrated into the service and administrative activities of the institution. In the same way, the university works with its partners to ensure that staff employed by the affiliated institutions can meet their teaching obligations and that peer review and professional development are a regular part of this interaction.

The Team was impressed with the strong, proactive and interactive partnership between the School of Medicine and Dentistry (SMD) and the health sector, both public and private. This

partnership was evident in all sites visited, including Townsville, Mackay, Cairns and Mount Isa.

JCU is a member of the Queensland Medical School Liaison Committee (QMSLC), a forum established in 2008 to facilitate state-wide medical education planning and communication. The Dean is a member of the Committee, as are the Deans from the three other Queensland medical schools. The Committee also has representatives from health service district CEOs, the Medical Services Advisory Committee, Australian Medical Students Association (AMSA) and Queensland Medical Education and Training (QMET).

Area Health Services in Queensland were disestablished by Queensland Health in 2008. The School now engages directly with each of the five health service districts that cover the JCU geographic footprint. These are Mackay, Townsville, Cairns (and hinterland), the Torres Strait and the northern peninsula and Mount Isa. The School reported good relationships with the executive directors of medical services in each district and have regular meetings with them and district CEOs. The Team met a number of district CEOs and were impressed with their enthusiastic support of the medical course.

The Team also met a number of private health sector providers who play an important role in implementing and delivering the MBBS program. The Mater hospitals in Townsville and Mackay provide good support and clinical teaching to students on clinical placements. In Mackay, a system-wide teaching culture was evident that had actively sought involvement with the University. Establishing an Educational Council was planned, which would involve the University, health service, hospital, primary care, and importantly, the private health providers.

The Team was impressed with the Mackay Mater Hospital's commitment to education and its interest in increasing regional and rural workforce through both partnership with the University's undergraduate medical training, and postgraduate training. The Mater in Mackay is less involved in student teaching compared to Townsville, but working with the Townsville Mater to develop this further was planned. The University's relationship with the Mater in Mackay is further strengthened as the Mackay Clinical Dean is a Mater Board member. Currently, students access Mater patients under individual private clinicians' supervision (e.g. surgeon, ophthalmologist) but greater involvement will occur when the hospital has shared registrars (with the public system) and then interns as planned for the future. There was a similar level of enthusiasm for private sector involvement in Cairns.

There are local and overall structures for community engagement for Rural Clinical School activities. Local committee membership is drawn from health service providers, local government, Aboriginal Community Controlled Health Services, community groups and the business sector. North-west Queensland engagement is covered through the MICRRH Consultative Committee.

As the sole university based in North Queensland, JCU helps to address medical workforce needs and creates opportunities for financial and health support networks. The Pro-Vice Chancellor of the FMHMS indicated that his priority is to create a training workforce that will cover both medicine and allied health. Achieving this vision would be facilitated by more shared clinical appointments across all hospital and primary care settings, embedded in all specialities. The Team considered that such initiatives would be particularly important at Townsville Hospital. There is scope for enhancing communication with a number of the

clinical sites visited by the Team, some of which were not completely informed of the planned medical course developments.

The School's 2010 AMC submission indicated that the School planned to develop formal agreements with the Aboriginal Community Controlled Health Services. The Team considered this should be a priority, given the location of the clinical schools and the School's focus on Aboriginal and Torres Strait Islander health.

1.7 The research context of the school

The medical course is set in the context of an active research program within the school.

The 2007 AMC report encouraged the School to 'develop a strategic research plan and, together with the Faculty, explore the possibility of establishing an instrument for research promotion and funding along the lines of organisations that exist in other hospitals and institutions'. The report further suggested the School 'approach Queensland Health to develop a collaborative effort to provide staff with the time to carry out clinical research'.

The School has now produced a strategic plan, with a key aspect being to grow the research base. The Team noted the strong research momentum within the School, and that research in the medical program is both School and Faculty based. Maintaining this momentum within the School is a key priority for the Head of School. The Team also noted the collaborative partnerships across disciplines and schools, the senior research leaders, the higher degree students, the honours program, and postgraduate programs in clinical research.

The School has a number of research groups with particular strengths in rural and remote health, the health of Indigenous Australians, primary healthcare, infectious disease, medical education, vascular biology, and neuroscience. The School has successfully secured competitive funding for several projects from the National Health and Medical Research Council (NHMRC), and has increased its output of peer-reviewed publications.

JCU, the Queensland Institute of Medical Research, Griffith University and Queensland University of Technology are the key partners in the Queensland Tropical Health Alliance (QTHA), which is part of the State Government's Q-Tropics strategy. The QTHA members have secured more than \$50 million in funding to develop a united tropical health research capability in Queensland, and to establish closer links between the bodies involved. JCU has received \$12 million, which it will match, to build a biosecurity and infectious diseases research facility in Cairns, to create PC3 laboratory facilities in Townsville, and to acquire equipment worth \$4 million to increase research capability in both Townsville and Cairns.

The proposed Australian Institute of Tropical Health Medicine (AITHM) will have its headquarters at JCU in Townsville. It will focus on tropical medicine, monitoring changing disease patterns, and assisting in disease control. The AITHM will also play a role in addressing health issues among Indigenous communities, particularly those on Cape York and the Torres Strait Islands.

The School honours program is available to the top 25% of students. However, anecdotal reports suggest adding this element is onerous, increasing a student's workload by 25%. At present, there are nine honours students with a spread of projects across basic sciences, clinical projects and community-based projects. The Team considered this a strength in a school that is just 10 years old.

There are also new graduate certificates in research training, and new, dedicated research facilities with both wet and dry laboratories within the Townsville Clinical School.

The School has implemented a Research Incentives Scheme to encourage junior or inactive academic staff to participate in research, and to reward experienced researchers for assisting them. Early discussions have also occurred on developing a longer-term career research pathway for interested students.

1.8 Staff resources

The medical school has a detailed staff plan that outlines the type, responsibilities and balance of academic staff required to deliver the curriculum adequately, including the balance between medical and non-medical academic staff, and between full-time and part-time staff.

The medical school has an appropriate profile of administrative and technical staff to support the implementation of the school's educational program and other activities, and to manage and deploy its resources.

Staff recruitment includes active recruitment by Australian schools of Aboriginal and Torres Strait Islander people and by New Zealand schools of Māori, together with appropriate training and support.

The school has defined the responsibilities of hospital and community practitioners who contribute to the delivery of the medical course and the responsibilities of the school to these practitioners.

In 2009, the School modelled staffing needs for up to 2013. This considered the overall staffing needed to maintain existing staffing ratios and the site-specific needs for the significant growth in clinical years student numbers in 2011 to 2013. The Team noted that the current staffing plan reflects the curriculum's integrated nature, the shared teaching responsibility in foundation sciences across other Faculty schools, and the dispersed clinical training sites.

The Team commended the medical education registrar position at Townsville Hospital. This position benefits the School and all years of students, and provides an innovative model that could be further developed in other sites. The Team noted the clinical teachers' strong commitment to, and enthusiasm for, student learning across all sites. Establishing further shared academic hospital appointments would facilitate communication between the School and hospitals and support further clinical training capacity.

At a Faculty level, work has commenced to develop an academic workload model to assist schools in planning new positions and improving performance assessment for existing positions. The School has developed a model of projected academic FTE per student. A number of professional and technical positions have been upgraded or created in 2009 and 2010 to reflect increasing responsibility of non-academic staff.

As noted, the new Director of Foundations Sciences position will coordinate the curriculum and teaching across the first three years of the course, where student numbers have grown most in 2008, 2009 and 2010. This position will provide direction to both School staff and those from other schools who teach in the first three years of the program. This will ensure integration within and across years and schools.

The Team noted recent appointments of Aboriginal and Torres Strait Islander people to the School. Further recruitment and retention in this area requires School focus, particularly given the geographic diversity, the increasing number of clinical schools, and the priority the School places on Aboriginal and Torres Strait Islander health.

In addition to employed staff, the School facilitates teaching through other appointments including clinical preceptors (clinicians who are paid on a sessional basis) and external staff (employees of other organisations who teach in the medical program and for whom the School pays a reimbursement to the provider). Clinicians and professionals with adjunct appointments provide considerable teaching and research. All of these positions have appropriate and agreed roles and responsibilities. However, the Team suggests the School improve mechanisms to communicate learning objectives and assessment requirements to these clinical teachers.

1.9 Staff appointment, promotion and development

The university and the medical school have appointment and promotion policies for academic staff that address a balance of capacity for teaching, research and service functions, and recognise meritorious academic activities with appropriate emphasis on research and teaching.

The medical school has processes for development and appraisal of administrative, technical and academic staff, including clinical title holders and those who hold joint appointments between the university and other bodies.

The medical school's employment practices are gender-balanced and culturally inclusive.

For all staff, the School participates in University policy and procedures relating to both academic appointment and promotion, and performance management and development. Appropriate team-based leadership and supervision are in place for all staff (including adjuncts, preceptors and external staff) to participate in performance reviews and development opportunities.

Both the Dean and the Pro-Vice Chancellor are actively engaged in the promotions process, and both review and sign off on all applications. The Dean indicated he actively encourages staff to apply for promotion and aims to identify staff members' strengths and areas for improvement in working towards promotion. Neither the Dean nor the Pro-Vice Chancellor is on the final approval panels at the University level.

1.10 Staff indemnification

The university has arrangements for indemnification of teaching staff, with regard to their involvement in clinical research and the delivery of the teaching program.

The University indemnifies academic staff involved in clinical teaching and research through their appointment in the School.

2. The Outcomes of the Medical Course

2.1 Mission

The medical school has defined its mission, which includes teaching, research and social and community responsibilities.

The school's mission addresses Indigenous peoples and their health.

The school's mission has been defined in consultation with academic staff and students, the university, government agencies, the medical profession, health service providers, relevant Indigenous organisations, bodies involved with postgraduate medical training, health consumer organisations and the community.

All staff widely acknowledge that the School's mission is to train medical students with increased skills in rural and remote, tropical and Indigenous health. However, some groups and clinicians still hold the view that the JCU medical course is specifically training rural general practitioners. As such, there is a need to promote the overall vision of the School to graduate undifferentiated medical practitioners with particular training in rural, remote, tropical and Indigenous health. The School's mission statement addresses Indigenous peoples and their health. The Team commends the School's commitment to continue meeting the full range of health care needs of North Queensland people.

The School's strategic plan has logical and appropriate strategies that align with the School's mission. The current plan was developed in 2007–2008 with the assistance of a planning consultant. The process involved external stakeholders, two face-to-face workshops, and student input. A review of the plan is due in late 2010. The review will follow a similar format, although with greater scope for involving graduates. However, there are no agreed metrics for evaluating the outcomes of the strategic plan. The Team agreed there is a need to develop a plan for the next five years.

2.2 Medical course outcomes

The medical school has defined graduate outcomes and has related them to its mission.

The outcomes are consistent with the AMC's goal for medical education, to develop junior doctors who possess attributes that will ensure that they are competent to practise safely and effectively under supervision as interns in Australia or New Zealand, and that they have an appropriate foundation for lifelong learning and for further training in any branch of medicine.

The outcomes are consistent with development of the specific attributes incorporating knowledge, skills and professional attitudes of medical graduates endorsed by the Australian Medical Council.

The School has an agreed list of graduate attributes that all students are expected to obtain by the end of their studies. These are consistent with the AMC list of required attributes. In addition, the School has an agreed list of clinical skills, mapped to the Australian Junior Doctor Curriculum Framework, that all final students should have completed before graduation.

The anticipated outcomes for final year graduates have not been measured and these indices should be integrated into an overall evaluation framework.

The School is in its 11th year. With five graduating cohorts in the workforce, the School recognises the need to review the course objectives. It also plans to review the curriculum over the next two to three years.

3. The Medical Curriculum

3.1 Curriculum framework

The medical school has a framework for the curriculum organised according to the overall outcomes which have, in turn, been broken down into more specific outcomes or objectives for each year or phase of the course.

The curriculum is a six-year undergraduate program that is integrated, systems based, modular and clinically oriented. The Curriculum and Integration Committee (CIC) has an ongoing function to continually revise and update the course. The CIC reports to the Dean and liaises with the Board of Studies and Assessment Committee. The 2007 Team was concerned that much information exists as corporate knowledge within the CIC and the Board of Studies. The Team suggested it was ‘imperative that the Committee provide a pathway through which current and incoming academic staff can adequately review the curriculum framework’.

The 2010 submission to the AMC states that even though the CIC has a formal membership and meeting arrangements, it is more often active on an ‘as needs’ basis. The Team noted the scope for the CIC to form working groups to address specific issues, and to provide oversight of both planned and ad hoc reviews of curriculum aspects. The Team also noted the CIC will have responsibility for the curriculum review.

The School has course objectives and yearly objectives organised into knowledge, skills and attitudinal objectives. The year objectives and graduate outcomes are part of the MBBS curriculum database. Concerns about the incomplete nature of the curriculum database were raised in 2002 and 2007. The 2007 Team remained concerned at the usefulness of the curriculum database. The Team urged the School to update the database to be a satisfactory, long-term implement that supports review of the medical course. In early 2009, the School decided to change the curriculum database’s software platform, noting that ‘the previous system was not ... able to provide the level of customisation and mapping that the School felt important to include in the database’.

A new database using the *c21* curriculum management software has now been set up. The new database will enable presentation of the modular structure in the early years, the clinical rotations in the senior years, and support incorporating a modified keyword search function. The new system is designed so that additional maps, modules and modifications can be made as the curriculum changes or the School wishes to incorporate additional information into the standard data set. While acknowledging the significant work already done on the database, it remains incomplete. The Team considers the database an essential underpinning structure for the proposed curriculum review, as well as routine staff and student use, and urges the School to complete the database as a matter of some priority.

3.2 Curriculum structure, composition and duration

The medical school has developed descriptions of the content, extent and sequencing of the curriculum that guide staff and students on the level of knowledge and understanding, skills and attitudes expected at each stage of the course.

The course provides a comprehensive coverage of:

- *basic biomedical sciences, sufficient to underpin clinical studies*
- *scientific method, inquiry skills, critical appraisal and evidence-based medicine*

- *clinical sciences relevant to the care of adults and children*
- *the pathological basis of disease*
- *clinical skills (medical history construction, physical and mental state examination, diagnostic reasoning skills, problem formulation and construction of patient management plans)*
- *management of common conditions, including pharmacological, physical, nutritional and psychological therapies*
- *acute care skills and procedures relevant to practice at the level of an intern*
- *communication skills*
- *population, social and community health*
- *an understanding of the culturally diverse nature of Australian or New Zealand society and the development of appropriate skills and attitudes for medical practice in a culturally diverse society*
- *Indigenous health (studies of the history, culture and health of the Indigenous peoples of Australia or New Zealand)*
- *personal and professional development*
- *law and ethics*
- *patient safety and quality of health care*
- *interprofessional education.*

The School describes the medical curriculum as an ‘overlapping wedges’ model without a specific distinction between the preclinical and clinical phases. The program meets the requirements of providing a comprehensive curriculum, and has particular strengths in the areas of rural and remote health, and tropical health. The program emphasises the importance of equipping students to work in a culturally safe manner with Aboriginal and Torres Straits Islander peoples.

Recently, the School has made some significant curriculum developments, including substantially enhancing the clinical skills program in the early years of the course. Other changes have occurred on an ad hoc basis over a longer period. However, the curriculum has not been formally reviewed since initially implemented 10 years ago, and the ‘wedges’ model does not adequately reflect the excellent horizontal, and some vertical, integration that is now taking place. Some aspects of the curriculum are now somewhat dated.

A curriculum review is planned, but the terms of reference and timeframe for the review were not yet clear. The School has grown considerably since the curriculum was first implemented and significant changes in the science and practice of medicine have occurred during that time. A significant review is recommended to refresh the content and integration of the program, including strengthening the Indigenous health curriculum and aligning it with the curriculum database. The Health Ecology module review identified several issues that may be widespread across the program. Specifically this found that topics that were previously related to concurrent material now appear in isolation due to changes in other programmes. The methods used in the module review may be of value in the wider curricular review.

The Team acknowledges the significant focus JCU has placed on Indigenous health issues. While the School provided information on where Aboriginal and Torres Strait Islander health is taught in the curriculum, little information was provided on the specific related content. Incorporating this material within the overall curriculum map, in a readily identifiable form, would assist students understand this content and the associated learning pathways. The

School is encouraged to ensure that this area of curriculum development continues to fit with the MDANZ (Medical Deans of Australia and New Zealand) Indigenous Health Curriculum Framework.

The opportunities for interprofessional education within the course at present are limited. Students are exposed to other members of the multidisciplinary team as tutors and during clinical placements.

Students are provided with handbooks that detail the curriculum and timetabling. Students advised the Team that communication about curriculum and timetabling was generally clear.

3.3 Curriculum integration

The different components of the curriculum are appropriately integrated.

Considerable horizontal integration exists during the early years of the course, and, as noted by the Ecology of Health review, there is a commitment to regaining horizontal integration where it has become attenuated. A particular strength of the course's later years is the integration of clinical practice; students have a defined role within an integrated clinical team during Year 5 and Year 6 clinical placements, particularly those in rural settings.

As student numbers continue to increase into the later, more clinical, years, and in an increasingly complex range of clinical settings, the School has made several recent appointments to support increased integration across the programs. These appointments will be important in ensuring students achieve broadly similar learning outcomes across similar placements, while also making the best use of learning opportunities in their particular environment (for example, the greater exposure to tropical diseases for those working in Cairns).

There is significant downward clinical skills integration into the earlier phase of the course. However, a formal process of upwards integration was not clear for cutting-edge developments in basic sciences into the later years of the program. The School is encouraged to review this. Given that the basic sciences are delivered by the School of Veterinary and Biomedical Sciences and the School of Pharmacy and Molecular Sciences, reviewing curriculum integration issues across schools is important, particularly when looking to the future.

3.4 Research in the curriculum

The medical course emphasises the importance of research in advancing knowledge of health and illness and encourages, prepares and supports student engagement in medical research.

The School has made considerable progress in research productivity since its foundation, which underpins student learning in this area. The honours program offers significant opportunities for students to incorporate more research training into their program, although only small numbers of students undertake this at present. The focus on high academic standards to enter the program may exclude some students who are very enthusiastic about the honours programme. Review of the entry criteria might be considered.

Students advised that not enough was known about the honours program: the work involved, how the program is run, who may be selected, and why it might be beneficial. The School is currently considering how to enhance communication with students about honours. Students would like to see a more thorough handbook that accurately details important deadlines for

honours, as well as a clearer explanation of the submission process for proposals. Students also suggested that a document detailing potential supervisors at each major clinical school (Townsville, Cairns, Mackay and Darwin) and their areas of interest or potential honours project topics would be helpful for Year 4 students contemplating honours in their final two years.

In addition to the honours program, students can be involved in research programs through medical/biomedical science research terms, and other avenues. However, most students are not aware of these opportunities as they are poorly advertised. JCU is a leader in tropical medicine research, and for medical students to not be more informed and involved is disappointing.

The School is considering possibilities for other programs, including a conjoint Doctor of Philosophy (PhD), and sees such programs as an important element of future development.

Students currently carry out some research within the undergraduate course. It appeared that at least a substantial number of students were not clear about the difference between clinical audit and research, and the obligation to obtain ethics approval for such research. The Team considered that all students should be exposed to the complete research process, including the role of the ethics process. The School is encouraged to confirm, as a matter of urgency, that all necessary ethics approvals are being obtained and that students are well informed about ethical requirements as part of their project preparation.

Many of the staff involved in curriculum delivery are research active and instil current research into their teaching.

3.5 Opportunities for students to pursue choices

There are opportunities in the course for students to pursue studies of choice, consistent with course outcomes.

The School offers a number of opportunities for choice within the curriculum, as both elective and selective placements. Specific overseas linkages include to Papua New Guinea, rural Norway, and North Dakota, USA. These offer considerable flexibility, and students were aware of numerous options to increase their personal focus on tropical or Indigenous health experiences if they wished.

3.6 The continuum of learning

There is articulation between the medical course and subsequent stages of training.

To meet its mission to support health workforce development in North Queensland, the School sees as vital the further development of postgraduate vocational training capacity across all major speciality areas. To that end, the School has established the Northern Clinical Training Network (NCTN) in partnership with North Queensland health districts and private hospitals. The NCTN will bring together undergraduate and postgraduate clinical training capacity across a distributed network.

The School also recognises the need for an exit strategy for those not wishing to continue their medical studies. Mechanisms exist to cross-credit training to other programs, such that after three years of the program, only a further semester may be required to complete requirements for the Bachelor of Medical Laboratory Science or Bachelor of Biomedical Sciences.

4. The Curriculum – Teaching and Learning

4.1 Teaching and learning methods

The teaching and learning methods are appropriate for the content and outcomes of the course. They include those that are inquiry-orientated, encourage students to take responsibility for their learning process and prepare them for lifelong learning.

The School continues to use a range of contemporary teaching and learning methods appropriate for a regional and rural medical school with a disseminated program. Methods include: large group lectures, small group guided learning and clinical skills sessions, bedside tutorials, general practice and hospital ward clinical attachments, videoconferencing, and e-learning formats. The final year focuses on vocational preparation and work-integrated learning and includes an eight-week rural internship. The range of methods should help meet medical student learning needs and accommodate the learning styles of the diverse student body.

The School uses LearnJCU to deliver the curriculum and communicate with staff and students in all sites. The major upgrade of the supporting software for LearnJCU in 2010 has allowed easy access to the materials, with one site for each semester in the early years; one site for each of Years 4, 5 and 6; and an overall medicine course site. A major review of the Ecology of Health module has been well received, and students have suggested further reviews of teaching in pharmacology and musculoskeletal medicine (perhaps revisited in Year 4), and the gastrointestinal and nutritional medicine subject module study period, as its structure is no longer appropriate for the larger class sizes.

The School is currently managing the challenges associated with the recent increase in student numbers. A number of strategies have been used to preserve small group teaching and pastoral support of students, particularly in the early years of the course. To date, student/tutor ratios have been preserved for home group tutorials by using student tutors and a wider range of new professionals to facilitate the sessions. Junior students can be disadvantaged by the more content-based approach of student tutors, or lack of familiarity with the course from new professionals in other disciplines. The increased numbers have also put pressure on tutorial space and student access to the tutor in some guided learning sessions. Ongoing recruitment and professional development of small group facilitators and home group tutors is vital to sustain adequate academic and professional development for the increased student numbers.

While students commended pathology resources and sessions, the large size of digital images made access difficult for students in some rural sites. It appeared that download quotas, rather than internet access, was often the problem. The School is encouraged to ensure all students can access the relevant materials when on more remote placements. For example, so that Clinico-pathology Case Studies (CPCs) can be done in a timely manner, linking pathology to clinical experience rather than being completed as a 'catch up' when back at the Townsville campus.

Videoconferencing is useful to deliver the integrated curriculum to all students irrespective of site, for example, in Year 5. However, as highlighted in the 2007 AMC accreditation report, the technology is often unreliable. Lack of presenter expertise with the use of the technology also contributes to the lower value of videoconferencing as a teaching and learning format. The School should consider further Faculty training in the effective use of videoconferencing lectures to dispersed students, or continue to look at alternative methods for delivering whole

of year sessions. For example, prepare equivalent materials that can be tutor-facilitated at each site, or make greater use of podcasts that students may use at their convenience.

The new infrastructure at the Townsville campus has provided impressive facilities for anatomy and clinical skills teaching. The body donation program is now providing additional cadaver material for anatomy teaching sessions and has the potential to facilitate revisiting anatomy in the early clinical years. To help ensure graduates are workforce ready, the School has placed greater emphasis on clinical skills training, including simulations, over the past two to three years. More sessions have been introduced and integrated with concurrent learning activities and a range of health professionals contribute as tutors. Small group teaching has been maintained despite the increased student numbers, with tutor–student ratios varying from 1:4 to 1:8 depending on the topic. The new Director of Clinical Skills is currently mapping the program to the Australian Junior Doctors Curriculum Framework and exploring equal and greater access to simulation facilities and training for students in Townsville, Cairns and Mackay. Currently Year 6 students have 6, 12 and 20 hours of simulation training in Townsville, Mackay and Cairns respectively.

Senior students, allocated to regional sites such as Mackay, report that the small student numbers ‘are a bonus’, offering them one-to-one relationships with clinical supervisors. The latter are offered professional development for their teaching and learning role and have found the students helpful in the clinics. Students were very positive about the rural placements in Year 4 and Year 6, again reporting the benefits of low student numbers, access to an exciting range of hands-on clinical experiences, and support from a diversity of health professionals.

Year 4, currently located in Townsville, remains the transition year between the foundation science, system-based teaching and the clinically-focused learning in Years 5 and Year 6. In Year 4, students complete the Indigenous Healthcare Learning Experience, the clinical skills teaching and rural placements, and a public and private hospital attachment in addition to pathology and family studies subjects. Some students, on reflection, valued the flexibility of this less structured year as it encouraged them to take responsibility for their learning. However many students felt the unstructured public hospital rotation was a difficult challenge. They were uncertain about the learning objectives and reported feeling ‘lost, and without purpose’ when on the hospital wards. It was suggested that they would feel a ‘greater sense of belonging’ if attached to medical teams, as occurs in the later years. The Team encourages the School to better integrate Year 4 students into the clinical environment to facilitate teaching and learning in all hospital settings.

Planning has commenced to move some 40% of the Year 4 cohort to Cairns for the first time in 2011, and future AMC reports should include updates on the success of this initiative, and student outcomes from a Year 4 in Cairns compared to the experience in Townsville.

The School uses an appropriate array of teaching and learning methods, supported by a number of new and planned teaching and accommodation facilities, to achieve the MBBS course outcomes. Further effort is required to ensure all students have equal access to appropriate educational resources and staff, regardless of location, and to maintain the current high-quality student learning experience. Further academic hospital appointments would facilitate communication between the School and the hospital, and support further clinical training capacity.

5. The Curriculum – Assessment of Student Learning

5.1 Assessment approach

The school has defined and documented assessment policy which guides student learning towards attainment of content and outcomes.

The School acknowledges the important role assessment plays in developing a well planned and responsive curriculum. Since the 2007 AMC assessment, the School has devoted considerable energy to establishing explicit policy and sustainable infrastructure for assessment. The Assessment Committee has excellent academic support as well as access to experienced professional expertise, which has been commended in external examiners' reports. The School has also engaged assistance from external experts on specific issues.

The School has strongly pursued an assessment strategy reflecting the vertical and interdisciplinary integration inherent in the course structure. For example, the School expended considerable effort and resources to design, implement and score assessment in a manner reflecting the integration. Many people from different disciplines and schools are engaged in developing and implementing assessment, especially in Years 1 to 3. The example papers the Team saw were generally of a high standard, and had been reviewed by external examiners. Formative and summative assessment was appropriately balanced. Clinical staff told the Team that they were generally satisfied students entered the clinical years with the appropriate breadth of basic knowledge and clinical skills. Staff with experience of the senior students indicated they were of a very high standard.

5.2 Assessment methods

The school uses a range of assessment formats that are appropriately aligned to the components of the medical course.

A wide variety of assessment methods are used, reflecting the broad thematic structure and the aims and objectives of the course, including reflection on practice, personal development plans and clinical performance. In the main, this also has a positive influence on the learning activities of the students. Assessments capable of integrating basic science and clinical perspectives, such as extended matching questions and key feature items, are specified in the blueprints. Methods that focus on competence, such as Objective Structured Clinical Examinations (OSCEs), are widely used throughout the curriculum. Others that focus on direct observation of students' clinical task performance in the clinical environment, such as Mini Clinical Evaluation Exercise (MiniCEX) and medication calculations, are employed in Years 4 to 6. Many Faculty and adjunct staff contribute to developing and administering these assessments.

The School is vigilant in attempting to define standards for the summative assessments appropriate to detect and remedy under- or borderline performance. The scoring rubrics for the major integrated assessments are designed for, and effective in, this purpose.

The Team formed a view that some activities that should underpin assessment delivery, such as blueprinting, could have been progressed more speedily and effectively since the last AMC assessment report, more so with issues that had been the focus of external guidance. For example, the School has developed a number of blueprints across the year levels to guide the assessment strategy. This blueprinting process needs to be strengthened and the blueprint compiled in a way that accurately reflects the aims and objectives of the whole course, to further guide balance and minimise duplication. Students reported some assessment activities

required excessive effort compared to their assigned weighting. Other assessments did not adequately reflect, or diverted them from, their learning activities, especially in the clinical years. Some assignments were reported to take a long time to complete with consequent impact on students' pursuit of more immediate objectives. Blueprints, especially in Years 4 to 6, should be refined and reviewed to ensure assessments are appropriately balanced across years, and weighted to reflect the learning activities being undertaken, the relative importance of the objectives, and the effort expended by the students. The School's recently developed assessment infrastructure should now be harnessed to these important tasks.

5.3 Assessment rules and progression

The school has a clear statement of assessment and progression rules.

The school has clear and transparent mechanisms for informing students of assessment and progression requirements and rules.

New progression rules have been developed that consider holistic performance in assessments and not achievement in small subcomponents. Confidence intervals are used to make judgements about pass, fail and remediation decisions. While the Team was very confident the progression rules for students were working well, it appeared not all students understood how they operated or the implications of the new system. Students also reported inconsistencies in granting re-marks when they considered having grounds for these. The Team suggests the School provide greater clarification of student progression rules to the student body.

5.4 Assessment quality

The reliability and validity of assessment methods are evaluated and new assessment methods are developed where required.

The school has processes for ensuring that the educational impact and utility of assessment items are regularly reviewed.

The school ensures that the scope of the assessment, and assessment standards and processes are consistent across its teaching sites.

The School, through the dedicated Assessment Committee, regularly undertakes conceptual and psychometric analyses of the assessments to ensure that they are operating effectively. For example, the new progression rules relating to summative assessment were developed from research on the impact of performance in some assessments on later performance in the course. This enables appropriate and early remediation for identified students. The Team was given access to many internal and external reports covering these issues. There was sustained effort to ensure the assessment delivery across different sites was equivalent or as 'identical' as is possible in varied clinical settings. This was achieved through meetings, careful assessment planning, the use of external examiners, and internal staff visits made across sites.

Some students reported that the level of detail given to them about their examination performance did not give them an adequate sense of how they were developing compared to course standards and to their peers. They considered that merely knowing which of four quartiles they placed in was not sufficient. This minimal feedback also seemed to be at odds with University policy. Feedback to students about their developmental performance across the years needs to be more detailed. This could include more precisely identifying their scores relating to both the standards and cohort performance, possibly defining confidence limits around individual student scores, and a more precise ranking. Students appreciated that the

current approach was well intentioned to reduce inappropriate competition between individuals, but found the data too vague to be helpful. The Team agreed with this view.

The Team was impressed by the School's attempts to broaden and deepen assessment in the clinical years to include observed clinical tasks, professional behaviour, continuing professional development and other graduate attributes. One unintended consequence of this was that students reported spending a great deal of time chasing staff to sign off on these activities. The School is encouraged to review the efficacy of recording completion of observed clinical performance tasks. The School could also consider developing strategies to allow students to be more responsible for their own monitoring, perhaps with random audit, as currently happens in some continuing professional development programs for qualified doctors and nurses.

The School has developed a laudably comprehensive assessment strategy that the Team wished to commend. Nevertheless, as student numbers increase, the School needs to give some consideration to devising ways to ensure sustainability of current and planned assessment across all years.

6. The Curriculum – Monitoring and Evaluation

6.1 Ongoing monitoring

The school has ongoing monitoring procedures that review the curriculum content, quality of teaching, assessment and student progress, and identify and address concerns.

Teacher and student feedback is systematically sought, analysed and used as part of the monitoring process.

Teachers and students are actively involved in monitoring and in using the results for course development.

In 2009, the University adopted an annual cycle of reporting on every undergraduate and postgraduate course. The course coordinator completes each course performance report, which are used at the Faculty level to identify individual and collective issues. Resulting strategies are intended to feed into the planning cycle. The School has an annual round of course performance reports. The recent appointment of a dedicated evaluation officer with a school-wide remit is a positive step.

In 2009, the School also undertook a review of the social science stream of the curriculum across the first three years, incorporating the modules Health in Practice (HIP); Rural, Remote, Indigenous and Tropical Health (RRITH); Human Development and Behaviour (HDB); and International Health (IH). Fundamentally, the curriculum objectives were found to be satisfactory and did not require any major change. The review process highlighted the need for objectives to be more focused and intentional, for repetition to be reduced, and for integrating concepts to be emphasised to achieve a more educationally sound curriculum. A new objective entitled ‘emerging issues’ has been included at each level to enable contemporary topics to be addressed in a timely manner.

A JCU Student Feedback on Subjects (SFS) system, an ongoing review of the effectiveness of changes, and staff perceptions of issues with their module/rotation were implemented in 2009. These have yet to provide any meaningful data.

6.2 Outcome evaluation

The performance of student cohorts is analysed in relation to the curriculum and the outcomes of the medical course.

Performance is analysed in relation to student background and entrance qualifications, and is used to provide feedback to the committees responsible for student selection, curriculum planning and student counselling.

The school evaluates the outcomes of the course in terms of postgraduate performance, career choice and career satisfaction.

Measures of, and information about, attributes of the graduates are used as feedback to course development.

The School actively engages in outcome evaluation to consider student performance against the expected course outcomes, their postgraduate performance and choices, and their views on effectiveness of the course in preparing them for their future careers. The School should develop proactive strategies to implement curriculum or process modifications identified as necessary through this evaluation process. As noted, the curriculum database has significant curriculum mapping functions, including mapping to course outcomes, year outcomes and objectives, JCU graduate attributes, and a common list of clinical skills and conditions.

The School participates in the Medical Student Outcomes Database. This is linked closely with the School's Graduate Outcomes Project, which tracks the destination of all the School's graduating cohorts. The School is encouraged to engage further in the JCU continuous evaluation and quality assurance processes.

6.3 Feedback and reporting

The results of outcome evaluation are reported through the governance and administration of the medical school and to academic staff and students.

The medical school provides access to evaluation results to the full range of groups with an interest in graduate outcomes. The school considers the views of these groups on the relevance and development of the curriculum.

The School has a number of mechanisms in place to ensure the results of evaluation and review are made available to stakeholders, including staff and students.

Under the evaluation framework, the Evaluation Coordinator will produce a report at the end of each year on all evaluation projects, and all monitored data for that year (comparing to previous years, analysed for major sites).

6.4 Educational exchanges

The medical school collaborates with other educational institutions and compares its curriculum with other programs.

JCU is an active participant in the broader developments around regionally-based medical education. The Head of School is the current Chair of the Federation of Rural Australian Medical Educators (FRAME).

Student exchanges for JCU students extend beyond Australia. The School funds student placement opportunities in North Dakota, USA, with the University of Tromsø in Northern Norway, and in Papua New Guinea.

The JCU medical program has a strong social accountability mandate. It was identified as one of eight such schools around the world and invited to form a foundation to promote international collaboration in socially accountable medical education. This has since been formalised as the Training for Health Equity Network (THEnet).

7. Implementing the Curriculum – Students

7.1 Student intake

The size of the student intake, including the number of fee-paying students, has been defined and relates to the capacity of the medical school to adequately resource the course at all stages.

The school has clearly defined the nature of the student cohort, and quotas for students from under-represented groups, including Indigenous students and rural origin students.

The school has defined appropriate infrastructure and support to complement targeted access schemes for under-represented groups.

In recent years, the number of students entering the course has rapidly increased and there has been an associated increase in the number of clinical schools. The Team noted that student numbers have more than doubled in the last six years (2010 Year 1 cohort 209) with international students increasing ninefold (2010 Year 1 cohort 27). While the School has been expanding its capacity in Townsville and at other clinical sites, the Team considered that the resourcing necessary to meet such increases, for both infrastructure and recurrent funding, requires additional attention, particularly in Years 4 to 6.

The School has committed to admit students from northern Australia as well as from rural and remote Australia. To achieve this, students from rural locations, while still completing the full entry requirements, have an adjustment of the academic performance score requirement to reflect the impact of studying in a rural or remote setting. Of the 2009 student intake, 35% of students had a rural background.

The increase in student numbers in recent years is supported by a substantial increase in the physical infrastructure at JCU in Townsville. The School considers this infrastructure sufficient to accommodate a further increase of some 20%, to a student intake of 250. The Team is aware that current students have experienced some transition issues regarding teaching and learning resources. Both staff and students report the challenges that have arisen have been addressed for subsequent cohorts with changes in teaching style. Students appreciate this responsive approach, but there remain concerns that the 110% increase in the past three years represents a significant issue not yet fully resolved.

7.2 Admission policy and selection

The medical school has a clearly defined selection policy and processes that can be implemented and sustained in practice, that are consistently applied and that are intended to minimise discrimination and bias, other than explicit affirmative action in favour of nominated under-represented groups.

The school publishes details of the process, including the mechanism for appeals.

The school has specific admission and recruitment policies for Australian Aboriginal and Torres Strait Islander or New Zealand Maori students.

The intended relationship between selection criteria, the objectives of the medical course and graduate outcomes is stated.

The student application and selection process is clearly outlined on the Faculty website and in the application information sheet available on the website. Options for unsuccessful applicants are described, but no description of an appeal process is included in the information.

The School has a clearly articulated commitment to meeting the needs of Aboriginal and Torres Strait Islander and rural and remote health by selecting students from these populations. This includes alternative entry requirements and pathways that are well publicised on the Faculty website, in advertisements in relevant newspapers (Koori Mail, for example), and on community and school visits (using current students, staff of the IHU, and the School of Indigenous Australian Studies).

Recruitment and graduation of Aboriginal and Torres Strait Islander students is one of the achievements of the School. The Team noted the collaboration between the School of Indigenous Australian Studies (SIAS), the IHU and the School's Indigenous academics. Strategies such as the Indigenous Health Careers Access Program, the formal 'Welcome to country', and the presence of Indigenous academics enhance the likelihood of a culturally safe learning environment. These are welcome initiatives. The Team noted that Aboriginal and Torres Strait Islander students are expected to see their Year Academic Advisor for academic support, and suggested that the IHU and the Aboriginal and Torres Strait Islander academics on staff play a stronger formal and informal role in this process. The Team also noted that there is no link to medicine as a health career on the Indigenous Health Careers Access Program (IHCAP) website.

The number of Aboriginal and Torres Strait Islander students has steadily increased over the years with 20 currently studying across all years of the course. This indicates the synergy between the School's aspiration, commitment and achievement in this area. Table 1 below summarises the number of newly enrolled Aboriginal and Torres Strait Islander students since the School commenced.

Table 1: Aboriginal and Torres Strait Islander students commencing medicine

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
No of students	4	5	4	5	1	1	7	4	2	3	4

From the information provided by the School, 40 students have commenced medicine, 10 have graduated, and 20 are currently studying medicine in 2010. An approximate (as it includes currently studying students) retention rate of 75% is very good.

7.3 Student support

The medical school offers appropriate student support, including counselling, health and academic advisory services, to cater for the needs of students including social, cultural and personal needs.

The school has procedures to detect and support students who are not performing well academically.

The school has policies on the admission of, and procedures for, the support of students with disabilities and students with infectious diseases, including blood-borne viruses.

The school has procedures for identifying and dealing with students with needs related to mental health or professional behaviour issues.

The school has appropriate support for students with special support needs including those coming from under-represented groups or admitted through widening-access schemes.

The School's accreditation submission to the AMC provided a good overview of the supports available for students. The School's ability to respond to identified potential conflicts is acknowledged, for example, by ensuring that the assessment and pastoral care roles were separated for the senior academic advisor. The School takes student support seriously and has strategies in place to cover the multiple clinical sites used for teaching. These strategies include onsite academic advisors in addition to the local academic coordinator, a 24-hour 1800 number for students who need support but prefer to contact someone away from their clinical site, and email and telephone access to the senior academic advisor.

The School's home group structure in Years 1 to Year 3 continues to offer students a supportive environment and appears to be coping with the increased student numbers over the past three years. Continuing to co-facilitate with senior students remains a positive experience for students in home groups.

The support networks provided for Aboriginal and Torres Strait Islander students are extensive, drawing on staff employed within the School, the IHU within the Faculty, and the SIAS. The former director of the IHU has recently been appointed as the acting Director of the SIAS. The Team noted this improved relationship has helped foster improvements in the supports available for Aboriginal and Torres Strait Islander students.

The School should review how best to meet the particular support needs of the increasing number of international students.

The School has a policy for students who have or acquire an infectious or blood-borne disease.

The School has a policy in place for identifying and dealing with students with needs related to mental health and professional behaviour.

7.4 Student representation

The medical school supports and encourages student representation in its governance and curriculum management.

The School is commended for implementing monthly meetings between the School executive and the student representative body, the JCU Medical Student Association. Students also sit on a range of School committees, including the Board of Studies Medicine, the Assessment Committee, and the Personal and Professional Development Committee.

7.5 Student indemnification

The school has adequately indemnified students for relevant activities.

The University provides appropriate indemnification for students during their course-related activities.

8. Implementing the Curriculum – Educational Resources

8.1 Physical facilities

The medical school has sufficient university-based physical facilities for staff and students to ensure that the curriculum can be delivered adequately.

The school has sufficient clinical teaching site physical facilities for staff and students to ensure that the curriculum can be delivered adequately.

The University provides centralised facilities open to all students, such as library resources, student administration and support, recreational facilities and amenities such as car parking. In 2006, following the announcement of 50 additional Commonwealth Supported Places in medicine, the Australian and state governments agreed to jointly contribute \$30 million funding to expand the School's infrastructure.

An extensive and intensive consultation, planning and design program followed throughout 2007 to enable the construction of a 300-seat lecture theatre, and two large teaching and research buildings. One building houses pharmacy teaching facilities (for which an additional \$9 million was available) and new medical research laboratories. The other houses the new medicine teaching facilities. Approximately 95% of all Years 1 to 3 teaching, and the on-campus teaching for Year 4, are held in the new facilities with medicine having almost exclusive occupancy of the buildings.

The University runs a general access teaching and computing facilities (GATCF) laboratory model. These facilities consist of 23 laboratories, including the libraries in Townsville and Cairns. There are 604 desktop units, with a mixture of Apple and Intel-based PCs. These campus-wide facilities are available to MBBS students in addition to the dedicated School computer laboratory, which is set up and run on the same platform as all University GATCF laboratories.

The School has a number of off-campus clinical teaching sites that house varying numbers and types of staff, students, and teaching and learning facilities. The clinical skills facility and staff in Townsville and other sites are impressive and well used. The new Townsville Hospital facility was co-located with the University when the medical school was established and is a 5 minute walk from the main campus. The Townsville Hospital Clinical School contains tutorial rooms with basic audiovisual (AV) facilities, a videoconference room, a computer laboratory, common room and staff offices. From Year 4 onwards, students are allowed access to the Hospital's library.

The Townsville Mater Hospital hub was significantly improved in 2009 by refurbishing a single-level building in the middle of the hospital campus, provided for medical students by the Mater. This facility has two tutorial rooms, a student study and computer room, staff office and kitchen area. In April 2010, the Commonwealth announced \$5 million in capital funding for Mater Pimlico, in partnership with JCU, to build a new clinical training facility for students and staff of all health disciplines including medicine.

The Cairns Clinical School underwent a major refurbishment in 2009 with funding from the Commonwealth Rural Clinical School Program, and Cairns and Hinterland Health Service District. The Clinical School now includes a large videoconference room, a large flexible tutorial room which can be split into two, four small tutorial rooms and student common area including computer laboratory, study area and kitchen.

As part of the \$408 million redevelopment of the Mackay Base Hospital, the School will contribute \$4.5 million of Commonwealth and \$1 million of University funds in 2010 to a new teaching and study centre, which will be completed as Stage 1 of the redevelopment in time for the 2011 academic year. The current and planned facilities at all sites are positive developments and necessary to accommodate the existing student load.

8.2 Information technology

The school has sufficient information technology resources and expertise for the staff and student population to ensure the curriculum can be delivered adequately.

Library facilities available to staff and students include access to computer-based reference systems, supportive staff and a reference collection adequate to meet curriculum and research needs.

The School and University have a large range of information technology (IT) resources available to staff and students for curriculum delivery and independent study. Innovative IT solutions have been integrated into the new teaching facility AV delivery systems, communications solutions between staff and students, and across School locations and clinical teaching sites. The School and the University continue to invest heavily in maintaining and upgrading IT systems in dedicated School and shared University facilities, and actively monitor changing technological trends in teaching, learning and communications. A number of dedicated staff and student support groups exist at the University, Faculty and School.

The School records lectures in an audio format and makes the files available on the internet. As noted in earlier AMC reports, internet access for students at some rural and remote placement sites has been a problem. For the few such remaining small locations, essential learning resources are made available on a CD and wireless USB modems are provided. The 2010 Team noted that students based in Mackay, Darwin and Cairns continue to have concerns about lecture and tutorial delivery by videoconferencing from Townsville. Students advised that on a number of occasions JCU videoconferencing facilities have either failed or encountered technical difficulties 'significant enough to impair the learning experience'. The Team suggests the School take measures to ensure videoconferencing is reliable and inclusive of peripheral sites, ensuring students on rural placements are not disadvantaged.

The JCU Library facilities are available to staff and students. The library has more than 492,000 books in its collection across Townsville and Cairns. The library has extensive opening hours, wireless facilities for laptop users, individual and group working spaces, printing resources, and more than 290 computer workstations across both campuses. The Queensland Health library facilities at the Townsville Hospital are also an excellent resource for students from Year 4 onwards. Library facilities at Cairns, Mackay and Townsville all have supportive professional librarians and adequate holdings of books, periodicals and other resources.

A proactive process to ensure a satisfactory level of information resources at all sites is encouraged, mindful of the current and future IT network limitations, the need to deliver equivalence of learning experience and increasing student numbers.

8.3 Clinical teaching resources

The medical school ensures there are sufficient clinical teaching and learning resources, including sufficient patient contact, to achieve the outcomes of the course.

The school has sufficient clinical teaching facilities to provide a range of clinical experiences in all models of care (including primary care, general practice, private and public hospitals, rooms in rural, remote and metropolitan settings and Indigenous health settings).

The school provides all students with experience of the provision of health care to Indigenous people in a range of settings and locations.

The school actively engages with relevant institutions including other medical schools whose activities may impact on the delivery of the curriculum.

The school ensures that the outcomes of the programs delivered in the clinical facilities match those defined in the curriculum.

The Team noted that the clinical teaching environment meets the educational objectives of the medical program. The resources required to deliver the clinical training in the curriculum have been developed and expanded every year, as the program has grown and the student numbers increased. The course's early years emphasise simulated learning and experiential placements. Exposure to clinical settings and patients is increased in Year 4, with full student immersion students into clinical training and placement settings in Years 5 and 6.

As noted in Standard 7, the significant increase in student numbers has meant a major focus of School activity is on developing additional clinical training places in Years 4 to 6. Several discussion papers have been tabled at Cabinet, and planning meetings arranged at each of the clinical schools. The focus has been on both total numbers and the student distribution across clinical sites to allow group size planning and appropriate resource development. While this is the largest *absolute* increase in student numbers that the School has managed, it is a similar *relative* increase to that experienced when the School was first established, with its enrolment growth in 2000–2003 from 64 to 100.

Much of the growth in student numbers in clinical training will be outside of Townsville, which is close to clinical capacity. The recent redevelopment of the Cairns Clinical School and the new infrastructure funding announcement in Mackay are important parts of this strategy. To accommodate the increase in student numbers, planning is well advanced for the first Year 4 cohort of 48 in Cairns from 2011. The Team noted the concerns of students who will be affected by the move from Townsville to Cairns, that the changes were not communicated when they commenced their studies at JCU. The balance of Year 4 students (approximately 104) in Townsville is similar to previous years. The lack of facilities for Year 4 students on the Cairns Base Hospital site will make it difficult for them to integrate into the local clinical environment and the Team supports efforts to address this. The students also expressed concern that a Year 4 presence in Cairns may take away from the clinical experience of the Year 5 and 6 students based there.

Additional rural sites and clinical tutors for Year 4 placements have been identified from 2011, with some growth in numbers at the rural hubs in Atherton and Mackay. The Team noted that the Year 6 group is moving towards running all five terms across the year (currently sites run terms three or four times). This will even numbers across terms and will help manage group size, as well as allowing students to undertake their elective in any term of the year. However, the increased pressure on teaching sites is acknowledged. The Year 5 and 6 groups have also commenced planning for the increased cohort size entering Year 5 in

2012. New infrastructure will be constructed in Mackay, Thursday Island and Longreach. Current projections will accommodate a cohort of 160 (the 2012 Year 5 cohort and the 2013 Year 6 cohort), comprising 60 in Townsville, 50 in Cairns, 30 in Mackay and 20 in Darwin. Additional places for 2013 to 2014 will be identified as infrastructure develops and the health system grows.

The Clinical Skills Unit, formed in 2007, enhances clinical training in the first four years of the MBBS program. The Unit is now a fully resourced core element of the teaching program. The teaching facilities in the Unit include a six-bed ward, large tutorial room, small examination rooms with viewing facilities, and a large quadrangle room that can be configured to meet the needs of the group. The available teaching resources include simulation models, examination equipment and disposable equipment. Audiovisual support is available in all the teaching spaces. The Unit also has a bank of approximately 100 volunteers who attend clinical sessions as simulated patients.

The School offers a range of clinical experiences in all models of care, including primary care; general practice; private and public hospitals; rooms in rural, remote and metropolitan settings; and Indigenous health settings. Through a partnership agreement with Flinders University, the NTCS resources are used by JCU students undertaking their Year 5 and 6 clinical years in Darwin.

The Team noted some variation in the relationship between the School and Aboriginal and Torres Strait Islander community health organisations. While recognising that there are multiple demands placed on community organisations, the Team considers that the School, given its location and stated commitments towards improving Aboriginal and Torres Strait Islander health, should consider how to build the capacity of and relationships with Aboriginal and Torres Strait Islander health community organisations across all sites. The excellent personnel and physical resources at the Mt Isa Centre for Rural and Remote Health offer opportunities for further collaborative development of clinical teaching and learning.

The School has established a 'mutually respectful relationship with the University of Queensland Medical School in order to ensure that the quality and quantity of student placements is appropriate for increasing student numbers'.

The Team visited a number of clinical teaching sites and noted that administrative and academic staff supervise and organise the clinical placements. The objectives and assessment of clinical placements are defined and made known to students, teachers and the community. The Year administration coordinators and academic coordinators have established relationships with the appropriate staff in Queensland Health facilities in order to organise placements. These relationships are key to ensuring ongoing clinical placements for MBBS students.

Appendix One: Membership of the 2010 Assessment Team

Professor Peter Ellis BA BM BCh MA Oxf PhD Otago FRANZCP (Chair)

Professor and Head of Department of Psychological Medicine, Wellington School of Medicine and Health Sciences, The University of Otago.

Professor Justin Beilby MBBS Adel MD Adel MPH Adel

Family Planning Certificate Radiology Licence FRACGP DA DRACOG Executive Dean, Faculty of Health Sciences, University of Adelaide.

Professor Geoff Cleghorn MBBS MD Qld, FRACP, FACG, FCA

Deputy Head (Clinical Schools), School of Medicine, Director International of the School of Medicine and Professor of Paediatrics, University of Queensland.

Professor Judith (Nicky) Hudson BSc UWA MSc Queens MBBS Flin PhD Adelaide

Professor of Community Based Health Education, Academic Leader Clinical Competency Theme, Deputy Chair Assessment Committee, Graduate School of Medicine, University of Wollongong.

Professor Brian Jolly BSc Birm MA (Ed) Sussex PhD Limburg

Director, Centre for Medical and Health Sciences Education, Monash University.

Dr David Paul MBBS UWA BPolSt Murd PhD UWA

Senior Lecturer, Centre for Aboriginal Medical and Dental Health, University of Western Australia.

Ms Karin Oldfield (Secretary)

Manager Medical School Assessments, Australian Medical Council.

Ms Sarah Vaughan

Medical School Assessment Officer, Australian Medical Council.

Observers

Dr Elizabeth Chong Intercalated BSc (Hons) *London*, MB BS, MRCPI, MRCP *UK*, MRCPCH, CCST *UK*, Dip Child Health *London*

Deputy Head of Paediatrics and Head of Neonatology, RIPAS Hospital, Brunei and Associate Professor & Head of Brunei Clinical School, University of Queensland.

Dr Haslinda Hassan MBBS (Southampton), MRCP (UK), FRCP (Glasgow), Specialty Certificate in Endocrinology and Diabetes

Specialist Physician, Endocrine Unit, Department of Internal Medicine, RIPAS Hospital, Brunei and Visiting Lecturer Institute of Medicine, University Brunei Darussalam.

Appendix Two: Groups Met by the 2010 Assessment Team

Senior Staff

Faculty Pro-Vice Chancellor
Dean and Head of School
Chief Executive Officer
Director Financial and Business Services
Director Medical Education
School Manager
Director of Mount Isa Centre for Rural and Remote Health (MICRRH)
Director of Students
Head of Dentistry
Director – Mackay Clinical School
Clinical Dean Northern Clinical Training Network
Director of Research and Postgraduate Education
Director – Cairns Clinical School
Director of Integration

Medical School Academic Staff and Students

Students from current course
Clinical tutors
Years 1 to 6 academic staff
Townsville Clinical School staff and adjuncts
Cairns Clinical School staff and adjuncts
Mackay Clinical School staff and adjuncts
Evaluation coordinator
Lecturer Medical Education
Head of Indigenous Health Unit
Acting Head of School, School of Indigenous Australian Studies
Professor, Health Professional Education

Professional and Administrative staff

Librarians- Townsville and Cairns

Medical School Committees

Board of Studies, Medicine
Curriculum and Integration Committee
Assessment Committee
Student Education and Placement Unit
Placements staff – organise student clinical placements
Clinical Skills Unit
Indigenous Working Group

Teaching Health Services

MEU/DCT/TTH

Townsville Hospital Executive
Mater Hospital Townsville
Townsville GPs
Cairns Private Hospital
Cairns Base Hospital Executive
Clinical academics, teachers and general staff
Mater Hospital Mackay

External Bodies

MICRRH

