

ACCREDITATION OF HEALTHCARE PROFESSIONAL EDUCATION PROGRAMS: A REVIEW OF INTERNATIONAL TRENDS AND CURRENT APPROACHES IN PACIFIC ISLAND COUNTRIES

Background paper for the HRH Hub series
on 'Evidence and Policy Options' for
healthcare education and training in
Pacific Island countries

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CONTENTS

- 2 Acronyms
- 3 Summary
- 4 Introduction
- 7 Country examples
- 13 Cooperation between countries
- 14 The funding of accreditation
- 15 Accreditation of healthcare professional education programs in the Pacific
- 19 Models of accreditation
- 21 Policy implications for the Pacific
- 22 Conclusions
- 23 References
- 26 Appendix 1. Fees and payments for accreditation of healthcare education
- 29 Appendix 2. Definitions

LIST OF TABLES

- 5 Table 1. Estimated number of training institutions, graduates and workforce per geographical area
- 8 Table 2. Summary of organisations and processes involved in the accreditation and licensing of medical education in the United States
- 16 Table 3. Health worker education programs in Pacific training institutions (2012)

LIST OF FIGURES

- 6 Figure 1. Accreditation of programs and licensing of graduates

ACRONYMS

AAMC	Association of American Medical Colleges	MCNZ	Medical Council of New Zealand
ABMS	American Board of Specialties	MCQE	Medical Council of Canada Qualifying Examination
ACNM	American College of Nurses Midwives	MEAC	Midwifery Education Accreditation Council
ACME	Accreditation Commission of Midwifery Education	NARM	North American Registry of Midwives
ACGME	Accreditation Council for Graduate Medical Education	NBME	National Board of Medical Examiners
AHPRA	Australian Health Practitioner Regulation Agency	NCFMEA	National Committee on Foreign Medical Education and Accreditation
AMA	American Medical Association	NCSBN	National Council of State Board of Nurses
AMC	Australian Medical Council	NCNZ	Nursing Council of New Zealand
AMCB	American Midwifery Certification Board	NMBA	Nursing and Midwifery Board of Australia
ANMAC	Australian Nursing and Midwifery Accreditation Council	NMC	Nursing and Midwifery Council
BoN	Boards of Nursing	OSM	Oceania School of Medicine
CACMS	Committee of Accreditation of Canadian Medical Schools	OSCE	Objective Structured Clinical Examination
CMA	Canadian Medical Association	OUM	Oceania School of Medicine
CMRC	Canadian Midwifery Regulators Consortium	PAASCU	Philippines Accrediting Association of Schools Colleges and Universities
CMRE	Canadian Midwifery Registration Examination	PIC	Pacific Island Country
CMSA	Canadian Medical Schools Association	RCPS	Royal College of Physicians and Surgeons
CMP	Certificate Maintenance Program	SMHS	School of Medicine and Health Sciences (UPNG)
CPD	continuing professional development	SPBEA	South Pacific Board of Educational Assessment
FNU	Fiji National University	SPC	Secretariat of the Pacific Community
FSMB	Federation of State Medical Boards	UPNG	University of Papua New Guinea
FSMed	Fiji School of Medicine	UPSM	Umanand Prasad School of Medicine
GMC	General Medical Council	USMLE	United States Medical Licensing Exam
LCME	Liaison Committee on Medical Education	UWI	University of the West Indies
LMCC	Licentiate of the Medical Council of Canada	WFME	World Federation of Medical Education
MCCEE	Medical Council of Canada Evaluating Examination	WHO	World Health Organization

A note about the use of acronyms in this publication

Acronyms are used in both the singular and the plural, e.g. NGO (singular) and NGOs (plural).

Acronyms are also used throughout the references and citations to shorten some organisations with long names.

SUMMARY

This review of accreditation for healthcare professionals training and education describes international trends and approaches to the accreditation of education programs or pathways that prepare graduates for entry to a professional register or to extend scopes of practice.

The review is part of a series of “Evidence and Policy Options” papers currently being developed by the Human Resources for Health Knowledge Hub (HRH Hub) at the University of New South Wales. It draws upon examples from countries whose cultural and geographical background may be of relevance and interest to the future development and strengthening of accreditation in the Pacific Island Countries (PICs).

Trends identified from the review include:

- Four broad models of accrediting the education of healthcare professionals are in common use:
 - 1) regional approval with minimal interventions from professional bodies;
 - 2) approvals by professional associations;
 - 3) accreditation by multi-agency, independent bodies; and
 - 4) registration of education providers by government ministries (health or education).

Choices between them and their combinations are largely dependent on the complexity of a country’s geographical/regional relationships, political and administrative structures.

- Regardless of the system adopted, accreditation aims to ensure that the national and/or international standards for healthcare professionals’ education are met both in terms of the quality of their training and educational practices and the quality of their outcomes.
- Collaborations between geographically close countries, such as those within Europe or between the USA/Canada and Australia/New Zealand offer examples of good practice and can result in positive savings of resources. Similar examples are provided by inter-state collaborations within the United States and the Caribbean islands.
- In most countries, the accreditation of educational programs requires that the educational institution pay fees to the standards assessors and the

Accreditation is a process designed to confirm the educational quality of new, developing and established education and training programs. It is usually carried out by peer/third party review against established standards/outcomes.

accrediting body. These may be on a per-visit or per-program basis and vary considerably. In general, the process of accrediting educational institutions or programs does not receive any direct financial support from governments.

- The introduction of new medical schools and an increase in overseas scholarship offerings to Pacific countries highlight the need for a common system of accreditation to ensure graduate competency and transferability between different national health systems.

The review findings and analysis suggest that the accreditation model most relevant to the PICs would reflect collaboration between geographically distinct states/countries to facilitate:

- a. Common definition of standards and accreditation systems.
- b. Intra-regional professional mobility and skills sharing.

INTRODUCTION

This paper is structured in five parts:

1. An overview of the standard definitions and the contextual challenges in health professional education.
2. The international evidence, drawn from three continents, which largely focuses on examples from North America (USA and Canada), Australasia (Australia and New Zealand) and Europe (United Kingdom). It considers how governments define, establish, fund, implement and evaluate the accreditation of the education of doctors, nurses and midwives.
3. Consideration of two 'regional' models (European Union and the Caribbean).
4. The funding of accreditation processes.
5. Some current practices in Pacific Island Countries.

This leads to a discussion and some initial conclusions relevant to accreditation mechanisms in PICs and the Pacific region in response to increasing program diversity.

Healthcare challenges

The healthcare workforce is fundamental to the provision of health services and wellbeing of populations; it is "the human link that connects the knowledge to the health action" [1 p.xv].

Developing a workforce of health professionals that is empowered by knowledge and skills, as well as motivated and supported by adequate policies, is essential both at the national and global level in order to create effective, efficient, safe healthcare systems that are able to deal with the challenges presented today and in years to come [1].

The World Health Organization (WHO) estimates there are approximately 60 million full-paid health workers¹ worldwide, including 26.8 million doctors, nurse and midwives. To maintain this enormous workforce requires approximately 3,000 educational institutions, which produce approximately 1 million new graduates each year (see Table 1, page 5) [2, 3].

In order to provide effective, safe healthcare, it is essential to ensure that the 1 million new doctors, nurses and midwives who graduate each year have achieved the required standards and competencies to practise. The ever-evolving nature of healthcare

Developing a workforce of health professionals that is empowered by knowledge and skills, as well as motivated and supported by adequate policies, is essential both at the national and global level in order to create effective, efficient, safe healthcare systems that are able to deal with the challenges presented today and in years to come.

knowledge, bioscience and practice means that professionals need to continue learning throughout their careers. The postgraduate education of the aforementioned 60 million healthcare professionals also requires accreditation and evaluation.

Additional levels of complexity are added by the diversity of curriculum types employed, diverse health needs, the growth of private healthcare education and, particularly relevant to PICs, the increased mobility of healthcare professionals who wish to practice in a country other than the one in which they were trained.

These represent challenges to the many institutions that provide education of healthcare professionals, and for the accreditation of education programs to meet graduates' licensing and regulatory requirements. Meeting these challenges is essential to guarantee the quality of the healthcare workforce as well as the quality and safety of the care they provide [4-6].

¹WHO definition of health workforce includes the following categories: nurses, midwives, physicians, dentistry personnel, laboratory health workers; environment and public health works, community and traditional health workers, other health workers, health management & support workers.

TABLE 1: ESTIMATED NUMBER OF TRAINING INSTITUTIONS, GRADUATES AND WORKFORCE PER GEOGRAPHICAL AREA

	Population (millions)	Estimated number of schools		Estimated graduates per year (thousands)		Workforce (thousands)	
		Medical	Public health	Doctors	Nurses/midwives	Doctors	Nurses/midwives
Asia							
China	1371	188	72	175	29	1861	1259
India	1230	300	4	30	36	646	1372
Other	1075	241	33	18	55	494	1300
Central	82	51	2	6	15	235	603
High-income Asia-Pacific	227	168	26	10	56	409	1543
Europe							
Central	122	64	19	8	28	281	670
Eastern	212	100	15	22	48	840	1798
Western	435	282	52	42	119	1350	3379
Americas							
North America	361	173	65	19	74	793	2997
Latin America/Caribbean	602	513	82	35	33	827	1099
Africa							
North Africa/Middle East	450	206	46	17	22	540	925
Sub-Saharan Africa	868	134	51	6	26	125	739
World	7036	2420	467	389	541	8401	17684
Webappendix pp 6-11 shows data sources and regional distribution							

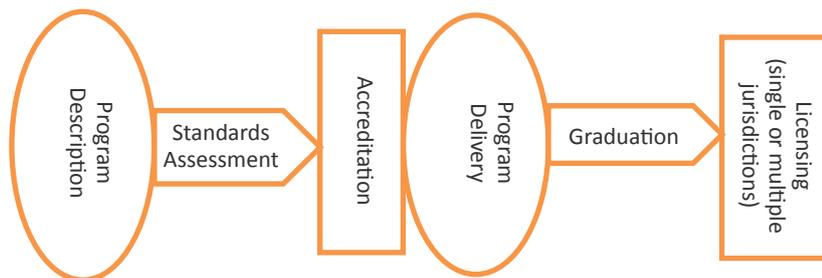
Source: Extracted from [3]

In line with these demands, the World Federation of Medical Education (WFME), in collaboration with the WHO, has developed several documents defining the global standards for medical education (basic, postgraduate and continuing professional development) and on accreditation of medical schools and international graduates [7-8]. In the European Union, European Parliament Directive 2005/36/EC sets common standards for education

and recognition of health professionals across member states [9].

Figure 1 (below) identifies where accreditation of programs and licensing of graduates occur in the continuum of healthcare professionals' education. In regions where professional mobility occurs, licensing may be to a common standard or by a regional organisation, both of which are facilitated by common process of assessment for program accreditation.

FIGURE 1. ACCREDITATION OF PROGRAMS AND LICENSING OF GRADUATES



COUNTRY EXAMPLES

North America: United States and Canada

Context: North America (United States and Canada) has a total of 183 medical and 65 public health schools [3] for a total population of approximately 350 million [10]. There are 815,006 doctors and 3,275,499 midwives and nurses [11] in practice. The North American example typifies accreditation processes in many developed countries, including those in the European Union, Australia and New Zealand.

Accreditation

In Canada and the USA, students usually complete either an undergraduate degree or a pre-medical course before enrolling in a medical school (although they are referred to as undergraduate medical students). Accredited universities award medical degrees providing an M.D. qualification, and 29 institutions grant Doctor of Osteopathic Medicine (DO) degrees.

In the USA there are many private sector institutions (47.3%) but in Canada most are state controlled [12]. “Accreditation is a voluntary, peer-review process designed to attest the educational quality of new and established programs” [13].

Undergraduate medical education

Only students who have graduated from accredited programs can register directly for examinations that lead to licensing: the United States Medical Licensing Exam (USMLE)² and Medical Council of Canada Evaluating Examination (MCCEE)³. Although not mandatory, it is therefore in the best interest of the medical colleges and their undergraduate students to run accredited programs.

Each country has a national committee for accreditation, responsible to and recognised by the national government.

In Canada this is the Committee of Accreditation of Canadian Medical Schools (CACMS) established jointly by the former Canadian Medical Schools Association and the Canadian Medical Association [14].

In the USA the Liaison Committee on Medical Education (LCME), established jointly by the Association of American Medical Colleges (AAMC) and the American Medical Association, performs this function.

These two committees are similar in their composition including members of the faculty of medical colleges, members of the medical associations, medical students and members of the public [15].

Table 2 (page 8) summarises the five entities involved throughout the continuum of accreditation and licensing of medical professionals in the US and their distinct roles.

In 1995, CACMS and the LCME initiated a collaboration to ensure the accreditation and quality of the M.D. programs in Canada. Both committees now jointly carry out accreditation in Canada [14]. The LCME⁴ remains the only responsible body for the accreditation of all medical schools in the USA.

Both LCME and CAMCS share a common set of standards in five main areas:

- 1) Institutional setting,
- 2) Educational Program,
- 3) Medical Students,
- 4) Faculty, and
- 5) Educational resources.

These areas are broadly in common with the assessable accreditation standards. Each of these areas is subdivided into more detailed guidelines and standards covering organisational and governance procedures, curriculum design and evaluation, appropriate teaching and learning practices, assessment policies and practices, student support policies and resource allocation and financial aspects [14].

The required undergraduate medical student outcomes in the USA and Canada are defined by a group of documents developed by the AAMC⁵, the Accreditation Council for Graduate Medical Education

² United States Medical Licensing Exam

³ Medical Council of Canada Evaluating Examination

⁴ The remit of the LCME is limited geographically to medical schools or medical students located in the USA and Canada territories.

⁵ Medical Schools Objective Project

(ACGME), the American Board of Medical Specialties (ABMS) and the Royal College of Physicians and Surgeons of Canada [16].

The accreditation procedure encompasses three phases, all based around a survey:

- 1) pre-survey preparation,
- 2) the survey phase, which includes visits to the medical school, and
- 3) a survey report and report evaluation.

The accreditation process is carried out by survey teams, appointed by the LCME from a pool of 200 medical practitioners, basic science and clinical educators, educational researchers and administrators. In Canadian medical schools, one member of the accreditation team is from the USA, in an effort to reinforce the common standards between countries.

Pre-survey preparation: Medical schools are sent materials and instructions around 12 months before the survey phase. Medical schools are asked to complete an institutional self-study, which includes

compiling a database containing information about the program in each of the five areas required to obtain accreditation⁶ with an additional area: required courses and clerkships [13].

Survey visits and survey report: Survey teams visit the medical schools in order to gather information to complement the self-study and database information received previously.

This team develops a report on their findings that includes institutional strengths and weaknesses, points of non-compliance with the accreditation standards and areas in which changes are foreseen, such as areas in which the school is expected to improve based on planned actions, or areas in which future compliance with the LCME standards could be at risk.

Types of accreditation

Three types of accreditation can be given: preliminary, provisional and full. The first two are granted during the accreditation process allowing medical schools to start to advertise, recruit and

TABLE 2. SUMMARY OF ORGANISATIONS AND PROCESSES INVOLVED IN THE ACCREDITATION AND LICENSING OF MEDICAL EDUCATION IN THE UNITED STATES

Abbreviation	Full name	Role	Link
LCME	Liaison Committee on Medical Education	Accreditation of Undergraduate Programs	http://www.lcme.org/
NBME	National Board of Medical Educators	Administers Licensing Exam	www.nbme.org/
USMLE	United States Medical Licensing Exam	Licensing Exam (3 steps)	http://www.usmle.org/
FSMB	Federation of State Medical Boards	Licensing decisions	http://www.fsmb.org/
ACGME	Accreditation Council for Graduate Medical Education	Accreditation of Postgraduate Programs	http://www.acgme.org/acWebsite/home/home.asp

⁶ Institutional setting, Educational Program, Medical Students, Faculty and Educational resources.

accept students. Full accreditation is achieved once the accreditation process is completed [17].

Postgraduate medical education

Postgraduate medical education in the USA is accredited by the Accreditation Council for Graduate Medical Education (ACGME), a “non-governmental agency of peers” [18 pp.4] constituted by members of the professional bodies, universities and hospital representatives, the American Board of Medical Specialties, American Hospital Foundation, American Medical Association, Association of American Colleges and Council of Medical Specialists Societies.

The ACGME accredits 8,887 residency programs in a total of 133 specialties and sub-specialties that trained a total of 113,142 postgraduate medical students (residents) in 2010-2011. Programs seeking accreditation apply to the ACGME and are responsible for the payment of application and annual accreditation fees of \$5,500 and up to \$4,400 respectively, depending on the number of residents they want to admit [18].

The ACGME defines the professional and educational standards to be met by the programs and evaluates the institutional capacity to deliver them and support postgraduate students during postgraduate medical education.

Upon satisfactory completion of an accredited medical training postgraduate program students can register with specialty or sub-specialty boards/associations.

In Canada, postgraduate programs are accredited by the Royal College of Physicians and Surgeons (RCPS) and/or by the specialty professional associations (e.g. Council on Education for Public Health, College of Family Physicians in Canada).

The RCPS accredits 17 postgraduate programs provided by Canadian medical schools. The accreditation process is based on a framework defined by the CanMED [19] framework of doctors' competencies and roles, and takes place in cycles of six years.

Similarly to accreditation in undergraduate medical education performed by the LCME, information is provided by the programs to an evaluation team (pre-survey phase), followed by a survey phase in which

a team of experts visits the program and delivers a report on their findings and analysis of documents.

After successful completion of accredited programs in Canada and USA candidates who wish to be certified in their area of speciality in Canada may sit the Royal College of Physicians and Surgeons examination [19].

Undergraduate and continuing nursing education

In 2011 there were 4,503 nursing programs in the United States, 2056 of which were at the Bachelor level or above [20]. In Canada, as at May 2012, there were 205 nursing programs, 114 of which were at the post Registered Nurse (RN) level [21].

Each of the 50 states of the USA has its own ‘nursing board’. Undergraduate nursing education regulations are diverse depending on each nursing board's own rules and regulations. Data on nursing education accreditation suggests that the large majority of the nursing boards have authority over new and existing nursing programs [23] of which there are 3 types: Licensed Practical Nurses (LPN), Registered Nurses (RN) and Advanced Practice Nurses (APN).

The National Council of State Board of Nurses (NCSBN) aims to set the standards and guarantee the quality of nursing training and education in the USA [24] and has been working towards improving the approval/accreditation practices in nursing education.

The NCSBN has proposed an evidence-based model for pre-licensing nursing program approval in order to deal with the diversity of practices among the nursing boards and to guarantee the quality of the training provided to the nurse workforce [25].

This model proposes that accreditation and evaluation of nursing programs be a shared responsibility between the regional Boards of Nursing (BoN) and national accrediting agencies, to be implemented by 2020.

At the regional level the BoN should be responsible for evaluation and enforcing standards, and assure the programs comply with them.

At the national level, agencies would be responsible for assessing quality and improvements, defining national standards, providing a global perspective on nursing education, and sharing, with the BoN, a national overview of nursing education.

This model allows, on one side, to ensure that education is addressing local communities and contexts, while simultaneously maintaining the national consistency of training standards, by combining local and national perspectives.

In Canada, all provinces/territories require a bachelor's in nursing degree (BN or BScN or Baccalaureate in Quebec) to enter the profession. The BN, BScN and Baccalaureate are broad-based programs, therefore, as in the USA, there is a great degree of variability in rules and regulations between the states, and accreditation is a provincial responsibility [26].

Midwifery and nursing-midwifery

In the USA, the Accreditation Commission of Midwifery Education (ACME) accredits programs conferring the qualification of midwife or nurse-midwife. This is a financially independent committee of the American College of Nurses-Midwives (ACNM) responsible for the regulation of the profession.⁷ ACME program accreditation is conducted by a visiting panel that “arranges, conducts, and evaluates accreditation visits to midwifery education programs or institutions” [27 pp.1] and a board of review that “is responsible for review of an applicant’s Pre-accreditation Report or Self-Evaluation Report and the Site Visit Report (SVR), and for determination of accreditation status” [27 pp.1].

The process of accreditation is similar to the one carried out by the LMCE in medical education. The ACME is the recognised institution for accreditation of midwifery programs, although programs can alternatively be accredited by the Midwifery Education Accreditation Council (MEAC), leading to a registration with North American Registry of Midwives (NARM) [28].

In Canada, midwifery is a recognised profession in British Columbia, Alberta, Manitoba, Nova Scotia, Ontario and Quebec, licensed by the Canadian Association of Midwives (CAM). The education programs are a four-year baccalaureate and they work closely with the provinces for accreditation, therefore rules and regulations are province dependent [29].

United Kingdom

Context: The United Kingdom (UK) has 45 medical schools [30], 166,006 qualified doctors and 631,201 nurses and midwives (in 2010) for a total population of 62,262,000 [31]. Two main types of medical schools can be found in the UK:

- 1) schools that admit high school students after the successful completion of their secondary education stage (usually age 18+), and;
- 2) graduate entry medical schools that admit students with an existing university degree (usually age 21+).

Many medical schools offer both high school (traditional) and graduate entry, and in all cases students are referred to as ‘undergraduates’.

Accreditation

The General Medical Council (GMC) is responsible for the accreditation of undergraduate and postgraduate medical programs, licensing of newly qualified medical students and revalidation of medical professionals.

Undergraduate medical education

In order to be able to teach undergraduate medicine and award a PMQ (Primary Medical Qualification) in the UK, university-based medical schools have to be accredited by the GMC. The GMC has responsibility for and oversight of both the accreditation and the regulatory licensing processes at all stages of training which is different from the process in many other countries.

The accreditation process, Quality Assurance of Basic Medical Education (QABME), aims to ensure the quality of education within different medical schools and that this education will lead to graduates meeting outcomes as defined by the GMC in its outcomes and standards documents termed “*Tomorrow’s Doctors*” [32].

⁷ Further information available at: http://www2.ed.gov/admins/finaid/accred/accreditation_pg7.html#health

The accreditation process is similar to that carried out by the LCME in the USA and includes reports from schools, visits and reports of findings from teams of experts and a final decision by the council regarding accreditation. Additionally the GMC works with the Medical Schools Council to provide guidance to UK medical schools developing undergraduate medical programs overseas [33].

Postgraduate medical education - Foundation Program

The first two years of postgraduate training in the UK is known as the 'Foundation Program', after which graduates begin the path to a particular medical specialty. As with undergraduate education, the GMC defines the required standards for the Foundation Program and makes approval decisions about postgraduate education programs.

Postgraduate specialty curricula are determined by Medical Royal Colleges whereas postgraduate training and continuing professional development is managed and overseen by regional organisations, known as 'Deaneries' or Local Education and Training Boards (LETBs), depending on which of the four devolved countries of the UK training is carried out [34].

Fourteen Deaneries are spread across the UK and Northern Ireland, each with a geographically defined catchment area. Deaneries ensure that the training posts offered within postgraduate medical education provide the necessary learning and development opportunities for core and speciality trainees to acquire the expected outcomes. Deaneries also have the power to commission training posts to the National Health Service and evaluate how those services are contributing towards the development of junior doctors [34].

Nursing

The UK Government-appointed Nursing and Midwifery Council (NMC) is ultimately responsible for the approval and annual monitoring of nursing and midwifery education and training. However, the quality assurance process leading to accreditation of programs, and the ongoing review of those programs, has recently been changed and is now managed in a partnership between the NMC and an independent, for-profit third party (see Case Study on page 12).

Australia and New Zealand

Context: Australia has 19 medical schools registered in the IMED database [30], 62,800 qualified doctors and 201,300 nurses and midwives (in 2009) [35] for a total population of 22,893,487 [36]. Australia has two main types of undergraduate medical school - entry level for people who have just completed secondary education or graduate entry programs. New Zealand has 2 medical schools registered in the IMED database [30], 11,412 qualified doctors (in 2010) and 44,491 nurses and midwives (in 2007) for a total population of 4,433,890 [37]. New Zealand does not currently offer graduate entry medical programs.

Accreditation

Undergraduate medical education

The Australian Medical Council (AMC) is responsible for the accreditation of medical programs (undergraduate and postgraduate), allowing students who successfully complete them to seek registration. The AMC is also responsible for developing guidelines and standards for accreditation and overseeing their application by medical schools, and for recognising and assessing medical specialties and specialist training [38].

In cooperation with the Medical Council of New Zealand (MCNZ), the AMC also assesses medical schools in New Zealand, although the AMC does not have the authority to make decisions on accreditation – these are made upon the evaluation of the ACM reports by the MCNZ.⁸

Postgraduate medical education

Postgraduate medical education positions in Australia are assessed by regional Postgraduate Medical Councils (PMCs), and then approved by the Medical Board of Australia.⁹ Since 2010, completion of accredited specialist training has been a mandatory requirement for registration as a medical specialist.

⁸ Further information available at: www.mcnz.org.nz/

⁹ Further information available at: www.amc.org.au/

BOX 1. THIRD PARTY MANAGEMENT OF THE ACCREDITATION OF NURSE EDUCATION IN THE UK

Case Study: Third-party Management of the Approval and Monitoring of Undergraduate Nursing Education Programs in the United Kingdom

In principle, the process of approving and monitoring of undergraduate nursing programs in the United Kingdom is the same as for many other healthcare education programs in many other countries. A government-appointed regulator defines the standards/outcomes that graduates must meet in order for the program to become/remain accredited and the educational institution provides evidence that its program will generate graduates who meet those outcomes.

However, the management of that process, including the appointment of external reviewers, management of site visits and gathering/management/preparing of evidence and reports, is devolved to a for-profit, third party consultancy firm (Mott MacDonald). The consultancy firm provides advice to both the educational institution and the regulator.

The rationale for devolving these responsibilities to a third party included a desire for consistency and financial accountability, plus a desire for the regulator to take a more strategic and less operational role. The change started in 2006, but it is too early to tell whether this model is more effective than the more traditional accreditation and monitoring models described elsewhere in this review.

Source: [39]

In New Zealand the Education Committee of the Medical Council of New Zealand assumes those responsibilities.¹⁰

Nursing and midwifery education

Similar to medicine, the Nursing and Midwifery Board of Australia (NMBA) is “responsible for accrediting education providers and programs of study for the nursing and midwifery profession” in Australia [40]. It does not actually perform the accreditation process, but takes the decisions about whether to approve programs that have been accredited.

The Australian Nursing and Midwifery Accreditation Council (ANMAC) is the “independent accrediting authority for nursing and midwifery under the National Registration and Accreditation Scheme. It sets standards for accreditation and accredits nursing and midwifery courses and providers” [41].

The accreditation process follows the same generic scheme, including reports from institutions, visits from experts and a final report sent from ANMAC to the NMBA for decision on approval of accreditation.¹¹

In New Zealand, the Nursing Council of New Zealand (NCNZ)¹² has a similar role to the NMBA. It provides accreditation for nursing programs jointly with either the Tertiary Education Quality Validation Agency, the Council for University Academic Process (CUAP, for universities), the New Zealand Qualifications Authority (NZQA) or the Institute of Technology and

Polytechnics of New Zealand Quality (ITPNZ), for polytechnics and institutes of technology.

The accreditation process is similar to the processes described previously, encompassing reports and visits for both the undergraduate and the postgraduate education programs.

¹⁰CPMEC. Postgraduate Medical Councils (PMCs) [internet]. 2008 [cited: July 24 2012]. Available from: <http://www.cpmecc.org.au/Page/postgraduate-medical-councils> [accessed July 24 2012]

¹¹National Guidelines for the Accreditation of Nursing and Midwifery Programs Leading to Registration and Endorsement in Australia.

¹²NCNZ. Nursing Council of New Zealand Website [internet] 2008. [cited 24 July 2012]. Available from: <http://www.nursingcouncil.org.nz/index.cfm/1,25,html/Home> [accessed July 24 2012].

COOPERATION BETWEEN COUNTRIES

Some models of cooperation between countries exist to develop and standardise accreditation and licensing. Two examples are provided below.

Europe: Automatic mutual recognition

The European Economic Area (EEA) was established on 1 January 1994 following an agreement between the member states. In 1999, 29 European countries signed 'the Bologna declaration'¹³ to create and adopt a system leading to more comparable degrees within these countries, including health professional degree programs.

Since then, efforts have been made to change existing models to fit the new standards and models defined by the Bologna declaration, so that the mobility of qualified professionals in Europe could be made easier for practitioners and regulators [42].

Having comparable degrees with automatic recognition of qualifications between countries, thus removing the need for further costly assessment procedures, has clear financial benefits. The European Parliament and Council of the European Union subsequently approved Directive 2005/36/EC to allow recognition of professionals across borders in the EU/EEA zone.

However, this directive not only established the principle of mutual recognition of professionals' qualifications but also set the standards for basic and advanced training of doctors, nurses and midwives across European countries, providing a list of accredited institutions and programs. Licensing continues to be under the remit of professional bodies, however, this directive provides a legal framework for the recognition of EU/EEA zone doctors, nurses and midwives within Europe.

It should be noted that many concerns have been expressed about poor communication skills of EU doctors practising in a second language although in most countries a proof of language proficiency is part of the procedure for licensing individuals [43].

Caribbean: Medical Education

The Caribbean is a group of island nations, each with distinct cultural and political identities. There are two major types of medical school in the Caribbean – 'regional' and 'offshore'. Regional schools train graduates for the country in which they are located

(and for the wider Caribbean). Offshore schools are effectively satellite campuses for foreign universities, usually from the USA. These will not be considered further in this review.

Registration to practice medicine in the Caribbean Community (CARICOM) has, historically, varied from country to country, with most countries having their own Medical Board. Graduates from accredited schools in the UK, USA and Canada from accredited programs are able to register for a licence to practice in the Caribbean, while some Caribbean countries had their own licensing exams.

The Caribbean Association of Medical Councils (CAMC) has proposed that all graduates, including those from the University of the West Indies (UWI) and the Cuban medical programs, should pass the CAMC exam before being licensed to practise.

CAMC was formed in 2003 to bring some consistency to the registration process and facilitate movement of doctors across the region. CAMC examinations are administered by the UWI. The formation of the CAMC presented issues of establishing cross government agreements, establishing itself as a legally constituted body able to issue licenses, defining its roles relative to the sovereignty of the National Medical Councils, and of the allocation of sufficient resources for administering the examination [44].

For the accreditation of educational programs, the Caribbean Accreditation Authority for Education in Medicine and other Health Professions (CAAM-HP) performs a similar role to that performed by the CAMC with licensing and registration, bringing consistency and unity to accreditation.¹⁴

¹³<http://ec.europa.eu/education/policies/educ/bologna/bologna.pdf>

¹⁴Further information available at: <http://www.caam-hp.org/about.html>

THE FUNDING OF ACCREDITATION

The accreditation processes described earlier require a substantial amount of investment in time and resources. The financial costs are largely dependent on the number of candidates, institution or individuals involved in the process, but also on the process steps and organisation. Therefore making an informed decision on accreditation systems requires an understanding of the costs associated with different modalities.

An analysis of the Annual Reports (where available) of the accrediting bodies described previously was carried out in order to understand the fees charged for these processes and to determine whether or not they have direct governmental funding.

In most countries, the educational institution pays fees to the assessing or accrediting body for program accreditation on a per-program or per-visit basis and vary considerably. In general, the process of accrediting educational institutions does not receive any direct financial support from governments. See Appendix 1 (page 26) for full details and country-by country breakdown.

ACCREDITATION OF HEALTHCARE PROFESSIONAL EDUCATION PROGRAMS IN THE PACIFIC

Accreditation of health professions educational programs is a relatively recent international phenomenon and is yet to be widely applied in the Pacific. Quality assurance of educational programs has relied on the more traditional approach of using external examiners from affiliated organisations and professional bodies.

International accreditation of Pacific health professions' training institutions applies to the medical programs and the colleges in the American Associated States of Micronesia. Nursing programs are accredited by national Nursing Councils while a multiplicity of essentially national regulations and authorities and informal arrangements have facilitated training in the region over many years. The common requirement is that graduates hold a qualification from a government-recognised training provider.

Recent changes in medical education arising from the provision and acceptance of many international scholarships from new donors; and the intra-regional mobility of nursing staff have brought issues of accreditation and licensing to the fore in the interests of service quality.

Medical education

The Association for Medical Education in the Western Pacific Region has conducted World Federation of Medical Education (WFME) pilot accreditation visits to two medical schools in the region – the Papua New Guinea School of Medicine and Health Sciences in 1996 and the Umanand Prasad School of Medicine (UPSM) in 2009.

In July 2011 an external review team headed by Tokyo University was asked to assess UPSM's progress towards achieving WFME standards for Quality Improvement in Medical Education and gave a report consistent with the 'embryonic development' of the school and its inaugural curriculum roll-out. The first students from UPSM will graduate at the end of 2015 and seek registration and licensure by the Fiji Medical and Dental Council.

The oldest and most established medical school in the region, the Fiji School of Medicine at Fiji National University (FNU), was assessed by external reviewers against WFME standards in 2012. Nationally the MBBS program is accredited by the Ministry of Education on recommendation of the Academic Board of the University of the South Pacific, which

Accreditation of health professions educational programs is a relatively recent international phenomenon and is yet to be widely applied in the Pacific.

will award the MBBS degree until the first FNU intake of medical students graduate in 2015.

Oceania School of Medicine (OUM) program was accredited in 2010 by the Philippines Accrediting Association of Schools Colleges and Universities (PAASCU), which in turn, is recognised by the United States National Committee on Foreign Medical Education and Accreditation (NCFMEA).

Achieving common accreditation in the Pacific region is clearly some way off. The current variable accreditation status of the two 'traditional' regional medical schools (FSMed and UPNG) and the two new medical schools (UPSM and OUM) is further confounded by the growing number of international donors offering scholarships for Pacific Islanders to study in the donor country.

Pacific institutions and licensing authorities are yet to address the complex issues of quality assurance associated with integrating significant numbers of new graduates of diverse training programs into their national health systems. Achieving common accreditation standards across the Pacific region may now be best achieved through the South Pacific Board of Educational Assessment (SPBEA), a regional coordinating and advisory body of the Secretariat of the Pacific Community (SPC), currently extending its role from secondary to tertiary education [45].

Developing specific standards for university-based medical education under this umbrella would provide the opportunity for PICs to identify and agree generic standards for the Pacific doctor, nurse and midwife. Agreeing common requirements for program accreditation while maintaining the sovereignty of national systems is one step towards ensuring that Pacific graduates are trained to common standards in preparation for what is increasingly becoming a regional career.

TABLE 3. HEALTH WORKER EDUCATION PROGRAMS IN PACIFIC TRAINING INSTITUTIONS (2012)

Country	Institution	Program	Students	Accreditation
Cook Islands	Cook Islands School of Nursing	Diploma in Nursing	National	Ministry of Health
	In-country dental worker training	Certificates in Dental Therapy, Dental Nursing, Dental Assistant	National	Ministry of Health
Fiji	Fiji National University	<i>Undergraduate</i> Medicine Dental Health Sciences <i>Postgraduate</i> Medicine Nursing	National and Regional	Undergraduate Medicine assessed against WFME standards in 2012 All accredited by Ministry of Education
	Umanand Prasad School of Medicine (Private)	Undergraduate Medicine	National and Regional	Preliminary WFME standards assessment 2011. Accredited by Ministry of Education
	Pacific Eye Institute	Postgrad Certificate, Diploma and Master in Eye Care Postgrad Diploma and Masters in Ophthalmology	Regional	
	TISI Sangam School of Nursing (Private)	Diploma in Nursing	National	Ministry of Education
Kiribati	Kiribati School of Nursing	Diploma in Nursing	National	Ministry of Health
Marshall Islands	College of the Marshall Islands	Diploma in Nursing	Regional	Western Association of Schools and Colleges (US)
Micronesia	College of Micronesia	Diploma in Nursing	National	Accrediting Commission for Community and Junior Colleges of the Western Association (US)
Nauru	In-country training programs	Nurse aides, district public health workers	National	Ministry of Health
Niue	No health worker training in the country			
Palau	Palau Community College	Associate Degrees and Certificates	Sub-Regional	Western Association of Schools and Colleges (US)
	Palau Area Health Education Center	Postgraduate Diploma in Medical Sciences	Sub-Regional	Joint program between PCC, Palau MOH, Uni of Hawaii and Uni of Auckland Part of UH AHEC program
Papua New Guinea	University of Papua New Guinea	<i>Undergraduate</i> Medicine Dental Health Sciences <i>Postgraduate</i> Medicine Nursing	National and Regional	Undergraduate Medicine assessed on WFME standards 1996 All accredited by Ministry of Higher Education
	Divine Word University	Bachelor Health Management	National	Ministry of Higher Education
	University of Goroka	Diplomas in teaching health and health education	National	Ministry of Higher Education
	Pacific Adventist University	Bachelor Nursing Bachelor of Midwifery	National	Ministry of Higher Education

Country	Institution	Program	Students	Accreditation
Papua New Guinea (cont.)	7 nursing schools: Highlands Regional College of Nursing Mendi (public), St Barnabas; Lae, St Mary's Vunapope, Lutheran, Nazarene (Church)	Certificates in Nursing	National	Nursing Council for Papua New Guinea
	12 CHW schools: Kapuna; Raihu; Ruminginae; Lemakot; Salamo; St Gerard's; Tinsley; St Margaret's; Braun; Kumin; Onamuga; Gaubin	Certificate in Community Health Work	National	Nursing Council for Papua New Guinea
Samoa	National University of Samoa	Diploma and Bachelors of Nursing Bachelor of Health Science	National	Ministry of Education
	Oceania University of Medicine (commenced private now public)	Undergraduate Medicine	National and Regional	Philippines Accrediting Association of Schools, Colleges and Universities (PAASCU) in 2010. PAASCU is recognised by the United States National Committee on Foreign Medical Education and Accreditation (NCFMEA).
Solomon Islands	Solomon Islands College of Higher Education	Diploma of Nursing, Midwifery (3yrs)	National and Regional	Institutional accreditation from EDU, a treaty-based Intergovernmental Organisation for Accreditation and Promotion of Global Education Nursing Council Ministry of Health and Medical Services
		Diploma of Community base Rehabilitation (2yrs) Diploma of Public Health Awareness (2yrs) Bachelor of Nursing (18 months– In-service)		
	Helena Goldie College of Nursing	Diploma in Nursing	National	Nursing Council Ministry of Health and Medical Services
	Atoifi Nursing School	Diploma in Nursing	National	Nursing Council Ministry of Health and Medical Services
Tokelau	No training schools in country			
Tonga	Queen Salote School of Nursing	Diploma in Nursing	National	Nurses Board
	In-country training	health assistant, pharmacy assistant, dental therapist, environmental health workers, lab technicians	National	Nurses Board Ministry of Health
Tuvalu	No health worker training schools in country			
Vanuatu	Vanuatu College of Nursing Education	Diploma in Nursing Diploma in Midwifery Nurse Practitioner	National	Vanuatu Nurses Council Ministry of Health
	Vanuatu Health Training Institute	Postgraduate training for nurse practitioners and midwives	National	

Source: Compiled from Human Resources for Health Knowledge Hub, 2013 (unpublished) and Kafoa 2011.

The accreditation of nursing programs occurs largely within countries

The USA affiliated PICs have achieved accreditation with US agencies, such as the Western Association of Schools and Colleges. The Solomon Islands has an educational accreditation for its college of Higher Education (SICHE) through the Organisation for Accreditation and Promotion of Global Education but this is not specific to their nursing program.

There is generally no international accreditation of nursing schools in the Pacific region, nor a regional approach to accreditation. An inter-government arrangement exists between Vanuatu and the Solomon Islands for Solomon Islander nurses to be employed for contracted periods in Vanuatu, and some informal intraregional mobility occurs.

Most PICs have Nursing Councils, a Nursing and Midwifery Board or a combined function such as a Board or Council for Health Professions. In recent years the Pacific nursing schools have begun addressing the need for defined and shared competencies based on the agreed Western Pacific and South East Asia Region (WPSEAR, 2003) common competencies, although progress has been slow and applications have been variable, as countries contextualise the competencies for their particular social needs [46].

Allied health professionals

Apart from the American associated sub-region of Micronesia there are no international or regional accreditation of courses for allied health professionals. However, registration requirements for pharmacists in Fiji refer to having passed an examination in an approved Commonwealth country, while both Solomon Islands and Kiribati refer specifically to The Pharmaceutical Society of Great Britain and Northern Ireland. In Samoa, standards and competencies have been identified for all health professionals, including biomedical scientists.

There is generally no international accreditation of nursing schools in the Pacific region, nor a regional approach to accreditation.

MODELS OF ACCREDITATION

Broadly speaking, accreditation of institutions and programs at the undergraduate and postgraduate levels is a collaborative process among educational institutions, government Ministries/ Departments of Education and/or health, and professional/regulatory bodies [47].

Undergraduate medical, nursing and midwifery programs are increasingly awarded by higher education institutions, mainly universities, and follow the successful completion of primary and secondary education.

Regardless of the system adopted, accreditation aims to ensure that the national and international standards for health professionals' education are met both in terms of the quality of their training and educational practices and the quality of their

outcomes, thus ensuring that their graduates are equipped with the necessary attributes, skills and knowledge to provide safe and effective care to citizens.

In some cases, such as the USA and Canada, accreditation of institutions is by independent non-profit institutions, including representatives of governments, professional bodies, students and other stakeholders (such as public members).

Professional or statutory bodies are responsible for defining the standards and expected outcomes of medical programs, which educational institutions and accreditation bodies then use to define, manage and evaluate the accreditation process [48]. Their regulatory powers are usually enshrined in law.

BOX 2. GENERIC MODELS OF ACCREDITATION

- *Regional approval with minimal intervention from professional bodies.* The initial and continuing approval of education programs is largely the responsibility of individual regional authorities (e.g. states in the USA) with advice from the professional bodies. Professional bodies are then responsible for licensing professionals and guaranteeing the quality standards for licensing and graduation exams which candidates must pass before they can register. There is often a national organisation to provide support for the regional organisations.
Example: The accreditation of nurses in the USA.
- *Single national agency accreditation and licensing.* Professional bodies, appointed by and accountable to the government, are responsible for accreditation of education and training of all healthcare professionals including undergraduate students. The professional body defines the national standards to be achieved in each part of the training process and then advises, assesses and approves institutions and individuals. All stages of the education process from entry requirements to licensing and revalidation are within the remit of the professional bodies.
Example: General Medical Council in the UK, Australian Medical Council, Australia and New Zealand.
- *Multi-agency independent accreditation bodies.* Independent agencies, with the specific role of accrediting the education and training of health professionals, are formed with representation from governments, health professional bodies, universities and other stakeholders. These independent bodies collaborate closely with the professionals' bodies in defining national standards and are responsible for carrying out comprehensive processes of accreditation and continuous processes of evaluation of the educational practices of the institutions. Professional bodies hold the responsibility for licensing the health professionals.
Example: Liaison Committee on Medical Education (LCME) and the Accreditation Council for Graduate Medical Education (ACGME) in the USA and Canada.

In other countries, such as the UK, the professional body assumes a central role, defining the outcomes and managing the accreditation process of the medical schools. The General Medical Council (GMC) performs this role, and is accountable to the UK government [49].

In most countries, but not in the Pacific region, accreditation is mandatory for institutions to be able to offer medical, nursing or midwifery degrees. Although different countries deal in different ways with the challenges presented by these processes, generic models can be identified.

In the Pacific, the South Pacific Board of Educational Assessment has embarked on an ambitious program to sort, classify and accredit not only institutions offering secondary education but also those offering tertiary qualifications (through to PhD). While this process specifically omits health training institutions in the region, it clearly has the potential to include them in future.

Regulating the regulator

A relatively recent development in many countries is a 'regulator for the regulator'. These are generally government-appointed independent bodies with varying powers and responsibilities.

In Australia the Australian Health Practitioner Regulation Agency (AHPRA) oversees the registration and accreditation of all health practitioner programs, including nursing, midwifery and medicine implementing the 'National Registration and Accreditation Scheme' of 2010.¹⁵ Supporting the AHPRA, each discipline then has its own 'board', responsible for registration and decisions about accreditation.

A similar model operates in the United Kingdom, where the government-appointed Council for Healthcare Regulatory Excellence (CHRE), established in 2003, regulates the professional 'Councils' for each profession (e.g. the General Medical and Dental Councils and the Nursing and Midwifery Council).¹⁶

Membership of the Medical and Nursing Councils of the Pacific generally includes appointees of the Minister for Health, often the Permanent Secretary for Health.

In most countries, but not in the Pacific region, accreditation is mandatory for institutions to be able to offer medical, nursing or midwifery degrees.

As an example, in Fiji the Medical Council consists of the Permanent Secretary for Health, Deputy Secretary, registered practitioners elected by medical practitioners, vocational practitioners, representative of Fiji Medical Association, representative of the Fiji College of General Practitioners, and the Deans of the Fiji School of Medicine at FNU and the Umanand Prasad School of Medicine [50].

¹⁵Further information available at: <http://www.ahpra.gov.au/>

¹⁶Further information available at: <http://www.chre.org.uk/>

POLICY IMPLICATIONS FOR THE PACIFIC

Based on the international trends presented, context-specific options need to be developed in PICs in relation to the following:

Educational programs

1. Good practice entails regularly reviewing educational programs to ensure graduates can meet a population's health needs.
2. Evidence suggests a beneficial accreditation process includes consensus on acceptable graduate learning outcomes, curriculum design, teaching/learning methods, assessment and the learning environment which can be adapted to meet specific needs.
3. With the diversity of existing educational programs, there is merit in mapping these against existing global standards for health professionals' education (basic/undergraduate, postgraduate and continuing professional development) for benchmarking purposes.
4. There is value in defining common competencies required for health professionals across cadres and sectors in the Pacific context, detailing key knowledge, skills and attitudes and taking regional and local specific needs into account.
5. Program accreditation can be aligned with licensing and registration processes so that only graduates of accredited programs are eligible for registration.
6. The South Pacific Board of Educational Assessment has the potential to become the Pacific agency coordinating regional program accreditation across health professions' training organisations.

Accreditation Process

7. International comparison shows common accreditation systems allow for multi-country comparison of qualifications to facilitate professional mobility and skills sharing.
8. A lack of common accreditation systems in the Pacific is evident and could benefit from multi-country collaboration to ensure a comparable level of education and training across all cadres and sectors.

9. Clear guidance regarding implementation and enforcement of the accreditation process is valuable to promote clarity and accountability for education and training institutions.
10. There is value in establishing and maintaining partnerships with existing national accreditation bodies, in order to share information on context and examples of best practices.

Health Workforce Planning

11. Thorough investigation and review of the existing informal arrangements in health workforce planning and deployment would inform improved governance and stewardship in future accreditation mechanisms.
12. Leadership is needed to adopt an overarching framework that links common sets of standards for health professionals' education programs with accreditation processes and regulatory and licensing mechanisms.
13. PICs may wish to commit to standardisation of program accreditation in order to facilitate intraregional skills sharing and multilateral investments from development partners.

CONCLUSIONS

The review of international trends and approaches suggests there are a number of areas with potential relevance to PICs, although current arrangements across the region also suggest that achieving a common regional accreditation system will require commitment from PICs to regional outcomes related to intra-regional professional mobility and regional skills retention [51].

When comparing the situation in the Pacific with international accreditation models, it is clear that current arrangements require further development to accommodate the influx of new graduates from diverse programs both within and outside the Pacific region.

The most robust systems provide clear structural links between a defined, common set of standards used to accredit programs and the regulatory and licensing processes for graduate health professionals to work in a specific profession and geographic context.

In order to provide a Pacific health workforce with geographic mobility across the region medical, nursing and allied health graduates need to have measurable, comparable knowledge and skills. This will require collaboration between sovereign countries to facilitate a common definition of standards and the use of comparable or the same accreditation systems.

It is suggested that the unique standards and competencies required of a Pacific doctor, Pacific midwife and Pacific nurse should be developed and agreed as a starting point to underpin the development of a common approach to education and training and accreditation standards.

Such standards would be developed to meet current and future population needs specific to the region, (in particular the 'epidemics' of non-communicable diseases that threatens many PICs) while remaining mindful of international education, licensing and continuing professional development (CPD) standards, and the need for compatibility with future career choices and vocational training.

In particular, the acceptance of donor scholarship for overseas training needs to be reviewed to limit the extent of diversity in medical and other health professionals' training, by awarding places only in courses that meet international accreditation standards.

It is suggested that **the unique standards and competencies required of a Pacific doctor, Pacific midwife and Pacific nurse should be developed and agreed as a starting point** to underpin the development of a common approach to education and training and accreditation standards.

A shift towards focussing on graduate outcomes rather than graduate intake will greatly facilitate health workforce planning across the region and contribute to regional skills retention by facilitating professional mobility as an alternative to migration.

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APPENDICES

APPENDIX 1. FEES AND PAYMENTS FOR ACCREDITATION OF HEALTHCARE EDUCATION

All fees are given in local currency

Country	Profession	Accreditation body	Fees to be paid by applicant institution		Other sources of funding		Source
			Undergraduate	Postgraduate	Memberships or Professional body grants	Government (direct funding)	
USA	Medicine	LCME-CACMS collaboration (undergraduate) ACGME (postgraduate)	\$25,000 application fee	\$5,500 application plus \$3,500 per year (programs of < 5 trainees) or \$4,400 (programs with 5+ trainees) Additional \$10,000 fee to appeal ACGME decisions. \$3,200 fee to cancel program visits.	Only for LCME ACGME funded mainly by the accreditation process and other activities such as course and workshops.	No	lcme.org
	Nursing	National Council of State Board of Nurses (NCSBN) and state boards of nursing (BoN)	Individual boards have different fees and cost systems. In the 2011 Annual report, 18 boards report charging fees during the site visit, 9 on renewal site visit, 3 on annual site visit and 10 on paper review of the programs. As an example, application fee for educational accreditation is \$1,500 in Alabama.	Membership fee applicable to BoN part of the NCSBN (membership fee \$3,125 per year calculated on the basis of the annual report/ total number of members). NCSBN revenue sources: Exam fees; Investment earnings; Membership fees, other program services.	No	Annual report 2011 https://www.ncsbn.org/	
	Midwifery	Accreditation Commission of Midwifery Education (ACME) leading to registration with ACNIM Midwifery Education Accreditation Council (MEAC), leading to registration with North American Registry of Midwives (NARM)	No data found on institutional fees for accreditation by the ACME. MEAC-NARM route accreditation and re-accreditation fees vary between \$2900-\$4700 depending on gross income of the institution, derived from tuition and student fees, plus an annual fee of \$5,000.00 (base rate).	NA	NA	Annual report 2011 http://www.midwife.org/acnm/files/cclibraryFiles/FileName/00000000256/ACME%20Annual%20Report%202009.pdf	

Country	Profession	Accreditation body	Fees to be paid by applicant institution		Other sources of funding		Source
			Undergraduate	Postgraduate	Memberships or Professional body grants	Government (direct funding)	
Canada	Medicine	LCME-CACMS collaboration (undergraduate); RCPSC (postgraduate)	See US for data on undergraduate credentialing model; Postgraduate accreditation.	No information available on accreditors website or the RCPSC about accreditation fees, although there is information about fees for financing of the RCPSC activities.	NA	NA	http://www.royalcollege.ca/public
	Nursing	Canadian Association of Schools of Nursing (CASN)	Dependent on applicant institution, fees being charged by site rather than by program. Example fees include: Application fee of \$500.00 per site Accreditation fee \$7,000.00 for initiating partner/site \$2,500.00 per additional partner/site or additional program (undergraduate or Post-RN) Interim Accreditation Visit Fee of \$1,500.00 Accreditation Extension Fee \$1,000.00 (per visit) Review Team Expenses are met by the educational institution.		NA	NA	http://www.casn.ca/en/FAQs_64/items/2.html
	Midwifery	Canadian Association of Midwives (CAM)	NA	NA	There are grant initiation and membership duties as revenues for CAM.		Annual report 2011 www.canadianmidwives.org/
UK	Medicine	General Medical Council (GMC)	No fees	No fees	GMC income comes mainly from certification and memberships.	GMC has no direct government funding. Postgraduate deaneries are directly funded by public money.	Annual report 2011 www.gmc-uk.org/
	Nursing & Midwifery	Nursing and Midwifery Council (NMC)	No fees	No fees	NA	Grant from Dept of Health of £189,000 to assess the NMC's fitness to practise data.	www.nmc-uk.org/

Country	Profession	Accreditation body	Fees to be paid by applicant institution		Postgraduate	Other sources of funding		Source
			Undergraduate	Accreditation fees (value not available on sources)		Memberships or Professional body grants	Government (direct funding)	
Australia	Medicine	Australian Medical Council (AMC)	Accreditation fees (value not available on sources)		Postgraduate	Medical Board Grants	Commonwealth Grants	Annual report 2011 www.amc.org.au/
	Nursing & Midwifery	Australian Nursing and Midwifery Accreditation Council (ANIMAC)	Programs <6 months in duration \$10,000 Programs of 6-12 months duration \$22,000 Programs 12+ months duration \$35,000 Further charges for changes to programs	N/A		No indication on annual report	No indication on annual report	Annual report 2011 http://www.anmc.org.au/
New Zealand	Medicine	Medical Council of New Zealand (together with the Australian Medical Council)	No data on accreditation fees in annual report		No indication in annual report	No indication in annual report	No indication in annual report	www.mcnz.org.nz
	Nursing	Nursing Council of New Zealand (NCNZ)	Application for change of condition in scope of practice \$179.00; Accreditation or monitoring audit of nurse entry to practice program \$2,780.00; Accreditation of post-graduate nursing program (Year 1 or year 2) \$5,571.00; Accreditation and monitoring audit of program leading to registration as a registered nurse (Year 1) \$11,060.00; Accreditation and monitoring audit of program leading to registration as a registered nurse (Year 2) \$11,060.00; Accreditation or monitoring audit of enrolled nurse program (Year 1) \$3,629.00; Accreditation or monitoring audit of enrolled nurse program (Year 2) \$3,629.00; Monitoring audit of postgraduate nursing program (Year 1 or Year 2) \$6,430.00; Accreditation or monitoring audit of competence assessment program \$2,218.00.			NA	NA	Annual report 2011 www.nursingcouncil.org.nz/
	Midwifery	Midwifery Council of New Zealand (MCNZ)	No data on accreditation fees in annual report		N/A	The main source of revenues is certification of practicing midwives.	No	Annual report 2011 www.midwiferycouncil.health.nz/

APPENDIX 2. DEFINITIONS

These are meant to be used **in the context of this report** and are derived from the multiple definitions used by different healthcare systems in different countries.

Accreditation is a process designed to confirm the educational quality of new, developing and established education and training programs. It is usually carried out by peer/third party review against established *standards/outcomes*.

Approval is sought via *accreditation*. Decisions to approve (or not) an educational program are often taken by a different body from the one that has carried out the accreditation process.

Assessment refers to a determination of student/learner performance/competence, often via examinations.

Bonded/Bonding: An arrangement where trainees/students agree to return to a particular geographical location and/or specialty after completing their education in return for financial assistance with the cost of their education or other benefits.

Commissioning is used to describe the scheme and processes by which education and training programs (and in particular the numbers of students/trainees involved in those programs) are funded and allocated to education and healthcare training organisations. Commissioning activities include the allocation of scholarships and subsidies and self-funding schemes and typically involve some type of formal quality assurance of the education and training provided.

Continuous Professional Development (CPD) (also known as Continuing Medical Education, CME) is the process by which fully qualified professionals demonstrate that they are maintaining and updating their education and clinical competence. It usually involves completion of a specified number of accredited activities over a fixed recurring time period (e.g. 1-5 years).

Competency: A broad composite statement, derived from professional practice, which describes a framework of skills, knowledge, attitudes, psychosocial and psychomotor elements.

Curriculum: The totality of the education program, that is coherent in structure, processes and outcome

and that links theory and practice in the professional education of a doctor, nurse or of a midwife.

Credentialing is the process of reviewing and confirming the qualifications and profile of a healthcare professional, for example when they apply for positions in different institutions or countries. It is particularly important in countries with regional registration systems.

Licensing generally involves conferring upon an individual a license to practise their particular healthcare profession. Many countries do not distinguish between licensing and *registration* (below) and both may be partial/temporary/conditional in certain circumstances (for instance, newly qualified professionals in some countries).

Local: Applicable to individual Pacific Island Countries and Territories (PICT).

Numerus Clausus (closed number) is a system of regulating student numbers (usually medical students) wherein a fixed number of places are available each year, usually determined by the government and based upon future workforce planning. The opposite form of student number regulation is a **free market**, wherein there is no regulation of student numbers – graduates compete for jobs and universities compete for students (and funding, from students and/or government).

Postgraduate refers, in the context of the education of healthcare professionals, to education that occurs after initial registration with/licensing from a professional body.

Regional: Applicable to all PICT across the Pacific region.

Registration generally refers to the actual process of enrolling with a professional regulatory body following graduation from an accredited program. Many countries do not distinguish between registration and *licensing*, but some do and a license to practise may be issued by a separate authority, particularly in countries where the processes are managed at a regional level. Both licensing and registration may be partial/temporary/conditional under certain circumstances (for instance, newly qualified professionals in some countries).

Revalidation (or relicensing) refers to the renewal of a license to practise. Many countries have some sort of regular renewal or re-registration, generally every few years (although the term revalidation is one most commonly associated with UK doctors and dentists). Revalidation typically involves providing evidence of continuing professional development (CPD).

Specialty/Specialist refers to the latter stages of postgraduate training, generally for doctors, where they attain their final career status (e.g. surgeon, psychiatrist).

Standard: A definition or statement for evaluating performance and results established by evidence and approved by a recognised body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the requisite degree of compliance in a given context.

Undergraduate refers, in the context of the education of healthcare professionals, to education that occurs before, and usually leads to, registration with/licensing from a professional body/regulator. It is sometimes called pre-qualifying or pre-registration education. Students engaged in undergraduate education of this sort may already have a previous degree (and so may, in *academic* terms, be considered postgraduates, but will always be referred to here as undergraduates).

THE KNOWLEDGE HUBS FOR HEALTH INITIATIVE

The Human Resources for Health Knowledge Hub is one of four hubs established by AusAID in 2008 as part of the Australian Government's commitment to meeting the Millennium Development Goals and improving health in the Asia and Pacific regions.

All four Hubs share the common goal of expanding the expertise and knowledge base in order to help inform and guide health policy.

Human Resource for Health Knowledge Hub

University of New South Wales

Some of the key thematic areas for this Hub include governance, leadership and management; maternal, newborn and child health workforce; public health emergencies; and migration.

www.hrhhub.unsw.edu.au

Health Information Systems Knowledge Hub

University of Queensland

Aims to facilitate the development and integration of health information systems in the broader health system strengthening agenda as well as increase local capacity to ensure that cost-effective, timely, reliable and relevant information is available, and used, to better inform health development policies.

www.uq.edu.au/hishub

Health Finance and Health Policy Knowledge Hub

The Nossal Institute for Global Health (University of Melbourne)

Aims to support regional, national and international partners to develop effective evidence-informed national policy-making, particularly in the field of health finance and health systems. Key thematic areas for this Hub include comparative analysis of health finance interventions and health system outcomes; the role of non-state providers of health care; and health policy development in the Pacific.

www.ni.unimelb.edu.au

Compass: Women's and Children's Health Knowledge Hub

Compass is a partnership between the Centre for International Child Health, University of Melbourne, Menzies School of Health Research and Burnet Institute's Centre for International Health.

Aims to enhance the quality and effectiveness of WCH interventions and focuses on supporting the Millennium Development Goals 4 and 5 – improved maternal and child health and universal access to reproductive health. Key thematic areas for this Hub include regional strategies for child survival; strengthening health systems for maternal and newborn health; adolescent reproductive health; and nutrition.

www.wchknowledgehub.com.au

Human Resources for Health Knowledge Hub

Send us your email and be the first to receive copies of future publications. We also welcome your questions and feedback.



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