
	<b>BQA NCQF QUALIFICATION TEMPLATE</b>	Document No.	DNCQF.QIDD.GD02
		Issue No.	01
		Effective Date	04/02/2020

<b>SECTION A: QUALIFICATION DETAILS</b>														
<b>QUALIFICATION DEVELOPER (S)</b>		University of Botswana												
<b>TITLE</b>		Master of Medicine in Paediatrics and Adolescent Health								<b>NCQF LEVEL</b>		9		
<b>FIELD</b>		Health and Social Services		<b>SUB-FIELD</b>		Paediatrics and Adolescent Health				<b>CREDIT VALUE</b>		640		
New Qualification						<input checked="" type="checkbox"/>		Review of Existing Qualification						
<b>SUB-FRAMEWORK</b>		General Education				<input type="checkbox"/>		TVET		<input type="checkbox"/>		Higher Education		<input checked="" type="checkbox"/>
<b>QUALIFICATION TYPE</b>		Certificate	I	II	III	IV	V	Diploma	Bachelor					
		Bachelor Honours		Post Graduate Certificate				Post Graduate Diploma						
		Masters				<input checked="" type="checkbox"/>		Doctorate/ PhD						
<b>RATIONALE AND PURPOSE OF THE QUALIFICATION</b>														
<p><b>RATIONALE:</b></p> <p>The Master of Medicine (MMed) in Paediatrics and Adolescent Health is designed to address the severe shortage of Paediatric specialists or Paediatricians in Botswana. The need for specialist paediatricians in Botswana is great. There are currently 30 registered hospitals in the country at different levels: three referral, seven district and sixteen primary; there are also two mission-run and two private hospitals. Each of these requires Paediatrics and Adolescent Health services on a regular basis. Paediatricians are also required at child health policy and programme formulation and implementation level in the Ministry of Health, key partners such as UNICEF, WHO, etc. and academic partners such as UB, Botswana Harvard, Botswana Baylor etc. The number of positions currently required in these services in the country far in excess of the number presently</p>														

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registered with the Botswana Health Professions Council (BHPC) An international standard for the number of specialist Paediatricians per 100 000 children is 32; in Botswana, the current figure (2019) of active paediatricians per 100,000 population is between 5 and 9 (Harper BD et al). The 2019 Human Resources Development Council of Botswana Priority Skills and Employment trends report lists Paediatric specialists one of the top occupations in demand for Botswana.

In the Botswana Vision 2036 document 'Health and wellness' is a key component of Pillar 2, 'Human and Social Development'. To achieve the goal that 'Botswana will live long and healthy lives' there is a clear need to 'develop world class health care services' of which medical practitioners are a key component – this includes paediatricians.

According to the integrated Health Service Delivery Strategic Plan for 2010-2020 of the Botswana Ministry of Health and Wellness, the principal issues affecting Botswana are:


- High infant and child mortality including post-neonatal mortality
- High mortality and morbidity from communicable diseases (HIV/AIDS, diarrhoeal diseases, acute respiratory infections, etc.)
- Under nutrition of mothers and children
- High incidence of infectious diseases such as HIV/AIDS and TB
- Poor quality of care
- Excessive shortage of skilled human resources
- Poor quality management and regulation in both public and private sector.

It is imperative that Paediatricians be trained in order to address the issues and dire needs stated in the plan. Graduates will further qualify to go on to sub-specialty training to address sub-specialist shortage within healthcare systems in Botswana and the region.

#### **PURPOSE:**

The purpose of this qualification is to provide graduates with knowledge, skills and competencies to:

- Apply advanced knowledge of health-related disciplines (Anatomy, Physiology, Pathology, Pharmacology, Microbiology, Bioethics, Psychology and Clinical Medicine) in paediatric care.

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- Apply a variety of communication and manual skills related to the practice of a paediatrician to the assessment and management of patients.
- Manage paediatric patients safely and effectively in settings at the different levels of the health care system.
- Contribute effectively to the management of paediatric units in which they are placed in health care systems and provide care within a multi-disciplinary team.
- Educate members of their care team (including medical students, interns and nurses).
- Provide critical input in policy and programme development and implementation.
- Conduct clinical research and audits in their practice and partake in quality improvement.

#### **ENTRY REQUIREMENTS (including access and inclusion)**


- Bachelors Honours degree (NCQF Level 8), in Medicine (MBBS or equivalent) from a recognized university
- Registration as a medical practitioner with the Botswana Health Professions Council (BHPC)
- Completion of at least two years of clinical practice that must include at least 12 months in a recognized supervised internship programme

Recognition of Prior Learning (RPL) and Credit Accumulation and Transfer (CAT) are applicable as per the policies of individual Educational Training Providers.


<b>SECTION B</b>		<b>QUALIFICATION SPECIFICATION</b>	
<b>GRADUATE PROFILE (LEARNING OUTCOMES)</b>		<b>ASSESSMENT CRITERIA</b>	
1. Deliver <b>Patient Care (PC)</b> that is patient-centred, compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.		1.1 Competently perform a clinical interview and physical examination	
		1.2 Accurately identify and interpret relevant clinical findings	

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	<p>1.3 Succinctly define clinical problems and formulate a working plan for the safe management of the sick child or child in need.</p> <p>1.4 Initiate appropriate treatment based on best available evidence and refer patients for further specialised care, when appropriate</p>
<p>2. Develop a <b>System Based Practice (SBP)</b> approach to patient care as manifested by actions that demonstrate an awareness of, and responsiveness to, the larger context of health care. This includes developing skills to effectively call on system resources to provide optimal health.</p>	<p>2.1 Plan and provide appropriate follow-up of patients within the context and infrastructure of the Botswana healthcare system</p> <p>2.2 Maintain adequate clinical records of all practice activities</p> <p>2.3 Demonstrate an awareness of Botswana's health promotion and disease prevention priorities and strategies</p>
<p>3. Develop <b>Interpersonal and Communication Skills (ICS)</b> that result in effective information exchange and collaboration with patients, their families, and other health care professionals.</p>	<p>3.3 Effectively communicate with parents, families and other health care workers</p> <p>3.4 Educate patients, their care givers and families comprehensively regarding clinical conditions as well as paediatric procedures</p> <p>3.5 Co-manage patients with other specialists to address complex clinical problems- in a multidisciplinary team</p>
<p>4. Integrate <b>Medical Knowledge (MK)</b> to address the mechanisms of health and disease. This involves a solid foundation in the established and evolving biomedical, clinical,</p>	<p>4.1 Apply knowledge of physiology, biochemistry, anatomy, pharmacology and clinical science and reasoning.</p> <p>4.2 Perform a wide variety of procedures and techniques required in the investigation and management of patients</p>

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<p>epidemiological, and social-behavioral sciences that impact patient care.</p>	<p>4.3 Engage in continuing professional development activities</p> <p>4.4 Appraise and apply evidence-based approaches to child health problems</p>
<p>5. Develop skills for <b>Practice Based Learning and Improvement (PBL)</b>. These skills are necessary to investigate and evaluate the delivery of patient care; appraise and assimilate scientific evidence; and implement continuous improvements for patient care. Collectively this goal reflects routine self-evaluation and life-long learning.</p>	<p>5.5 Critically consider the quality, relevance and utility of new information</p> <p>5.6 Educate medical students and healthcare professionals in the medical management of children and adolescents through participation in academic and teaching activities</p> <p>5.7 Facilitate Paediatric Skills courses</p>
<p>6. Develop <b>Professionalism (PR)</b> as manifested through a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.</p>	<p>6.1 Establish a professional team approach with patients, families, colleagues and staff</p> <p>6.2 Treat all health care workers with respect</p> <p>6.3 Facilitate conflict resolution</p> <p>6.4 Recognise the roles other health care workers play and consult them appropriately</p>

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<b>SECTION C</b>	<b>QUALIFICATION STRUCTURE</b>		
<b>COMPONENT</b>	<b>TITLE</b>	<b>Level</b>	<b>Credits</b>
<b>FUNDAMENTAL COMPONENT</b>  <i>Subjects/ Courses/ Modules/ Units</i>	Communication, Ethics and Professionalism	9	4
	Introduction to Clinical Research	9	4
	Introduction to Medical Literature	9	4
	Public Health Principles & International Health	9	4
	Principles and Techniques of Medical Education	9	4
<b>CORE COMPONENT</b>  <i>Subjects/ Courses/ Modules/ Units</i>	Preparation for Part I examination	9	4
	Preparation for Part II examination	9	4
	Introduction to Paediatrics and Adolescent Health I, II	9	135
	Intermediate Paediatrics and Adolescent Health I, II, III, IV	9	270
	Advanced Paediatrics and Adolescent Health I, II	9	135
	Research and Dissertation	9	72
Total hours for all courses			640

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### **SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL**

#### **TOTAL CREDITS PER NCQF LEVEL**


<b>Components</b>	<b>NCQF Level</b>	<b>Credit Value</b>
<b>Fundamental</b>	9	20
<b>Core</b>	9	620
<b>TOTAL CREDITS</b>		640

#### **Rules of Combination:**

**(Please Indicate combinations for the different constituent components of the qualification)**

- The minimum time during which the programme can be completed is four (4) years.
- All the Fundamental Courses (credit value 20) must be passed during the first year of the programme.
- The core courses Introduction to Paediatrics and Adolescent Health I and II (credit value 135) must be satisfactorily completed before proceeding to the next group of core courses (Intermediate Paediatrics and Adolescent Health I, II, III, IV)
- The core courses Intermediate Paediatrics and Adolescent Health I, II, III, IV (credit value 270) must be satisfactorily completed before proceeding to the next group of core courses (Advanced Paediatrics and Adolescent Health I, II)
- All the Fundamental and Core Courses (credit value 640) and a Research Dissertation must be satisfactorily completed before the qualification can be awarded.
- There are no electives in this qualification.

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## ASSESSMENT ARRANGEMENTS

For Fundamental Courses: each course is assessed on a pass/fail basis based on attendance and production of a project related to the content of the course.

For Core Courses:

- Formative assessment takes place throughout the programme and is clinical in nature (100%): clinical evaluation, assessment of competences and logbook.
- Summative assessments are conducted by the College of Paediatricians of South Africa.
  - The Part I examination assesses the theory of basic medical science related to Paediatrics and Adolescent Health and must be passed before the Part II examination can be attempted.
  - The Part II examination consists of two stages:
    - a. Two theory papers. This must be passed for admission to the next stage.
    - b. A comprehensive clinical assessment (100% clinical).

The clinical examiners will be suitably qualified in the field of Paediatrics and Adolescent Health, registered with the Botswana Health Professions Council and or BQA, or recognised professional bodies/authorities.

- A dissertation based on formal research must be assessed as satisfactory by internal and external examiners.


## MODERATION ARRANGEMENTS

There will be internal and external moderation as a quality assurance measure, in line with the policies of the Educational Training Provider.

Internal moderators must be suitably qualified in the field of Paediatrics and Adolescent Health and registered with the Botswana Health Professions Council.

External examiners are appointed for their teaching and disciplinary expertise and subject to the approval of Departmental and Faculty Boards.



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### **RECOGNITION OF PRIOR LEARNING**

Recognition of Prior Learning (RPL) will be applicable for award of the qualification on a case-by-case assessment and as per the regulations of individual Educational Training Providers and in alignment with national policies.

### **CREDIT ACCUMULATION AND TRANSFER**

Credit Accumulation and Transfer (CAT) will be applicable for award of this qualification on a case-by-case assessment and as per the regulations of individual Educational Training Providers and in alignment with national policies and those of the Botswana Health Professions Council.

### **PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)**


Candidates who have completed this qualification will be registered with the Botswana Health Professions Council to practise independently Paediatrics and Adolescent Medicine specialists.

Horizontal progression qualification holders can enroll in relevant Masters programmes such as:

- Master of Science in Biomedical Sciences
- Master of Science in Clinical Epidemiology
- Master of Philosophy in Health Economics
- Master of Philosophy in Health Systems Management

Candidates may choose to register for sub-speciality training in any branch of Paediatrics and Adolescent Medicine (Board certification). MMED in Paediatrics and Adolescent Medicine is a prerequisite for this subspeciality training.

- Paediatric Renal Medicine
- Paediatric Gastroenterology
- Paediatric Pulmonology, Paediatric Rheumatology
- Paediatric Critical Care Medicine
- Paediatric Infectious Diseases, Paediatric Epidemiology

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- Paediatric Cardiology
- Paediatric Endocrinology
- Paediatric Oncology.

Vertical progression qualification holders can enrol PhD or Doctor of Medicine programmes in fields related to Paediatrics and Adolescent Health.

- Doctor of Medicine
- Doctor of Philosophy in Internal Medicine.
- Doctor of Philosophy in Epidemiology
- Doctor of Philosophy in Cardiovascular Medicine
- Doctor of Philosophy in Preventive Medicine
- Doctor of Philosophy in Clinical and Translational Sciences
- Doctor of Philosophy in Infectious Diseases


Employment pathways open to qualification holders include:

- Specialist paediatrician
- Medical academic
- Medical researcher
- Medical administrator
- Advisory capacities (e.g. medical boards, medical insurance, drug company or medical device boards)

### **QUALIFICATION AWARD AND CERTIFICATION**

The qualification of Master of Medicine in Paediatrics and Adolescent Health may be awarded to candidates who have achieved a minimum of 640 credits, have passed the Part I and Part II examinations, and have produced a satisfactory dissertation.

Candidates who have achieved the minimum number of credits and have adhered to the Rules of Combination will be awarded the certificate.

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## REGIONAL AND INTERNATIONAL COMPARABILITY

The qualification has been compared to the following qualifications:

### Regional:


1. University of the Witwatersrand, South Africa; Master of Medicine in Paediatrics, NQF level 9, 180 credits, 4 years full-time
2. University of Cape Town, South Africa; Master of Medicine in Paediatrics, NQF level 9, 180 credits, 4 years full-time

### International:

3. Royal College of Paediatrics and Child Health, United Kingdom. Member of the Royal College of Paediatrics and Child Health, UK Ofqual level 7, 5 years full-time

### Summary of similarities and differences observed

- The programmes of the University of the Witwatersrand and the University of Cape Town (NQF level 9) are very similar to the proposed MMed (Paediatrics and Child Health) programme at the University of Botswana. The duration of the programmes is the same (4 years) and the summative exams for all three programmes are conducted by the same institution, namely the College of Paediatricians (South Africa). All three programmes produce specialist paediatricians.
- The 5 year programme of the Royal College of Paediatrics and Child Health (UK Ofqual level 7) is longer than the University of Botswana one (5 years instead of 4 years) and is structured differently, although the concept of starting at a basic level of skill and progressing to more complex and responsible work is maintained. The 'domains of learning' seem very similar to the outcomes specified in the UB programme. The examination system is different in that there is only one set of exams which are undertaken at 2-3 years, after which further progress is monitored by means of portfolio evidence.

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The exams are however very similar to those that UB candidates undertake with CMP(SA), as is the portfolio system as a form of continuous assessment. Both programmes aim to produce competent specialist medical paediatricians.

### **Comparability and articulation of the proposed qualification with the ones examined**

The proposed qualification compares well with the qualifications studied, since the scope of the exit-level descriptors are aligned to and typical of this level and type of qualification in the region and beyond. The duration of training is also comparable. The competencies resulting from the programme are similarly aligned to those required for registration and accreditation with professional bodies such as the Health Professions Council of South Africa and the General Medical Council of the UK. The significance in the University of Botswana programme is that it will produce locally trained Botswana paediatricians, to fill a critical gap in the nation's current health services.

### **REVIEW PERIOD**

The qualification will be reviewed within 5 years of being registered on the NCQF framework, and thereafter every 5 years. This rule also holds for the Botswana Health Professions Council.