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

SECTION A: QUALIFICATION DETAILS													
<b>QUALIFICATION DEVELOPER (S)</b>				University of Botswana									
<b>TITLE</b>		Master of Medicine in Public Health Medicine – M. Med (Public Health Medicine)								<b>NCQF LEVEL</b>		9	
<b>FIELD</b>		Health & Social Services		<b>SUB-FIELD</b>		Public Health Medicine				<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	
<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					
RATIONALE AND PURPOSE OF THE QUALIFICATION													
<p><b>RATIONALE:</b></p> <p>Botswana's Vision 2016 states "...By the year 2016, all Batswana will have access to good quality health facilities, including both primary and curative services within reasonable travelling distance. Mental health treatment will be accessible to all...Botswana will be fully equipped and able to deal with unexpected epidemics, or the outbreak of new and hitherto unknown disease". Currently, there is no training programme in the country for Batswana doctors who wish to specialise in Public Health Medicine. Public Health refers to the art and science of preventing disease; protecting populations and individuals from hazards; prolonging life; promoting and improving health through the organised efforts of society. This aim is aligned with the long-term strategic development plans of Botswana as expressed in Vision 2036, national Human Resource development strategy 2009-2022, the revised National Health Policy (2011) and the National Development Plan 11. It is also aligned with the new structure of the Ministry of Health and Wellness (MoHW) which requires skilled citizen doctors who can manage and head district health management teams providing leadership, management, economic evaluations, research, epidemiology of diseases, disease prevention, control and management using limited resources that the country has.</p>													

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Public Health Medicine is concerned with the health of populations and communities using the bio-psychosocial model of approach to healthcare, in contrast to clinical medicine that focuses on the health of individuals and families. Graduates with the MMed (Public Health Medicine) will be physicians who understand health care problems in biological, psychological and socio-economic context, equally committed to preventing as well as managing illness, apply information management to educate and motivate communities to take personal responsibility for their health care, make appropriate evidence-based recommendations for preventive and therapeutic interventions through their knowledge of epidemiology, biostatistics and health care management and leadership principles which are critical for strengthened primary care based health systems.

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 the skills of Public Health Medicine Specialists will play a key role. The collision of communicable diseases such as HIV, TB, Malaria to name a few with non-communicable diseases such as diabetes, hypertension, mental health, environmental pollution has significantly impacted life expectancy globally and in Botswana. The emergence of new diseases including viral diseases such as SARS-COV-2 and its variants means that the country needs high level expert physicians trained in public health principles and international health, bioterrorism, epidemiology and biostatistics, health economics, Health systems & Policy intersection with medicine, preventive and promotive medicine who can solve these complex problems nationally, regionally and internationally. These are the specialist that this programme aims to produce. This offering addresses a severe shortage of Specialist doctors in Botswana as per the 2017 national Human Resource Development Committee (health sector). Public Health Medicine is concerned with the health of populations and communities using the bio-psychosocial model of approach to healthcare, in contrast to clinical medicine that focuses on the health of individuals and families.

**PURPOSE:**

The purpose of this qualification is to produce physicians with knowledge, skills and competence to:

- Design appropriate evidence-based disease prevention and therapeutic interventions through research, knowledge of epidemiology, biostatistics, health care management & leadership principles which are critical for a strengthened primary care-based health system.

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- Prevent and manage communicable and non-communicable diseases at community and population level through their understanding of health care problems in biological, physiological, psychological and socio-economic context.
- Undertake complex healthcare measurement at population level through conducting research, programme evaluations, health surveillance and assessment of the population's health and well-being to inform public health strategic decision making.
- Provide technical expertise in public health using information management to educate and motivate communities to take personal responsibility for their health care.
- Provide technical expertise in quality improvement principles and apply those principles to contribute towards quality health care services by undertaking and supervising the implementation of quality improvement projects, clinical audits and other quality improvement initiatives that inform service provision in the health system.

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


##### **Minimum entry requirement for this qualification is a:**

- Bachelor **Honours** degree in Medicine (MBBS), NCQF level 8 or equivalent.
- Have completed at least two years of clinical practice that must include at least 12 months in a recognized supervised internship programme.
- Be registered or registrable with the Botswana Health Professions Council (BHPC)


##### **Recognition of Prior Learning (RPL):**

There will be access through Recognition of Prior Learning (RPL) and Credit Accumulation and Transfer (CAT) in accordance with the RPL and CAT National Policies.


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<b>SECTION B QUALIFICATION SPECIFICATION</b>	
<b>GRADUATE PROFILE (LEARNING OUTCOMES)</b>	<b>ASSESSMENT CRITERIA</b>
<p>1. Demonstrate a high level of competency in assessment of the population's health and well-being to inform public health strategic decision making across all tiers of a health care system.</p>	<p>1.1 Set up disease surveillance programmes to monitor current and emerging diseases at national and district level.</p> <p>1.2 Conduct different types of epidemiological studies based on local, national and international need.</p> <p>1.3 Develop a strategic plan for a district health management team.</p> <p>1.4 Conduct outbreak investigation of communicable diseases.</p> <p>1.5 Manage diseases of national and global public health importance in line with recognised standards.</p> <p>1.6 Respond to public health emergencies including disease outbreaks and health related emergencies due to natural disasters.</p> <p>1.7 Design a public health disease control programmes at hospital, district health and national level of the health system.</p> <p>1.8 Use special software for medical research and practice.</p> <p>1.9 Use medical and epidemiological data to inform healthcare delivery at hospital, district and national level.</p> <p>1.10 Identify ways in which data collected in the clinical setting may be used to inform disease prevention, treatment and control in clinics, hospitals, workplaces, district and national health levels.</p>
<p>2. Apply advanced knowledge and clinical skills in medicine and public health to promote and protect the population's health and well-being</p>	<p>2.1 Develop a health promotion strategy for prevention and control of communicable and non-communicable disease.</p> <p>2.2 Develop workplace health and safety programmes for prevention and control of communicable and non-communicable diseases.</p> <p>2.3 Design workplace disaster management plans.</p>

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	<p>2.4 Conduct environmental impact assessments to inform national planning policy.</p> <p>2.2 Evaluate a health programme in a workplace, district, and at national health level.</p>
<p>3. Develop quality and risk management within an evaluative culture for healthcare organizations</p>	<p>3.1 Develop a quality improvement framework for a healthcare organisation.</p> <p>3.2 Design a quality improvement programme for an organisation.</p> <p>3.3 Provide technical expertise in setting up quality improvement teams at different levels of the health system.</p> <p>3.4 Lead district health quality improvement teams.</p> <p>3.5 Independently undertake and complete clinical audit projects at district health team and national level.</p> <p>3.6 Present a critical appraisal of a research article on various health topics to a local and national audience to inform medical decision making.</p> <p>3.7 Independently conduct and complete a quality improvement project for various healthcare organisations.</p>
<p>4. Demonstrate effective collaboration with other professions for improvement of health outcomes at community and population level</p>	<p>4.1 Quantify and prioritize health risks facing individuals, families, communities and society, from the perspective of clinical and non-clinical members of the healthcare teams.</p> <p>4.2 Analyse the nature, pattern and quality of health services working with multi-disciplinary teams in the healthcare system.</p> <p>4.3 Provide expert advice and recommendations for appropriate, acceptable, and affordable health care provision that is effective, efficient and equitable to other members of the healthcare system.</p> <p>4.4 Design effective public health interventions for health improvement, disease prevention and health promotion in collaboration with other stakeholders in the health system.</p>


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	<p>4.5 Provide expert advice to clinicians and other members of the healthcare system on the clinical effectiveness of interventions at district and national health care level.</p> <p>4.6 Conduct economic appraisals such as cost effectiveness and cost-benefit analysis in conjunction with health economists to inform clinical and epidemiological interventions nationally.</p> <p>4.7 Critically assess the legal and human rights context of providing good quality health care in collaboration with medico-legal experts.</p> <p>4.8 Use databases of evidence-based practice such as Cochrane and NICE to inform own professional practice as a public health physician.</p> <p>4.9 Conduct a needs assessment to enable community diagnosis in collaboration with other members of the healthcare teams.</p>
<p>5. Apply clinical and advanced public health knowledge of diseases to develop health programmes and services that reduce inequalities in health across different healthcare entities</p>	<p>5.1 Use clinical knowledge of disease pathology, disease causation and treatment to undertake retrospective and prospective policy analysis.</p> <p>5.2 Write and present a policy brief to inform national and international health policy based on clinical, pathological, pharmacological and epidemiological knowledge of disease.</p> <p>5.3 Conduct evaluation of equity, effectiveness and efficiency of clinical, epidemiological, and public health interventions in collaboration with health economists and accountants.</p> <p>5.4 Conduct studies on estimation of costs of public health interventions in collaboration with economists and accountants</p> <p>5.5 Critically appraise health economics literature to inform national economic policy.</p> <p>5.6 Perform different types of health economic evaluations in collaboration with health economics and health policy makers</p> <p>Demonstrate academic writing and public speaking skills to</p>

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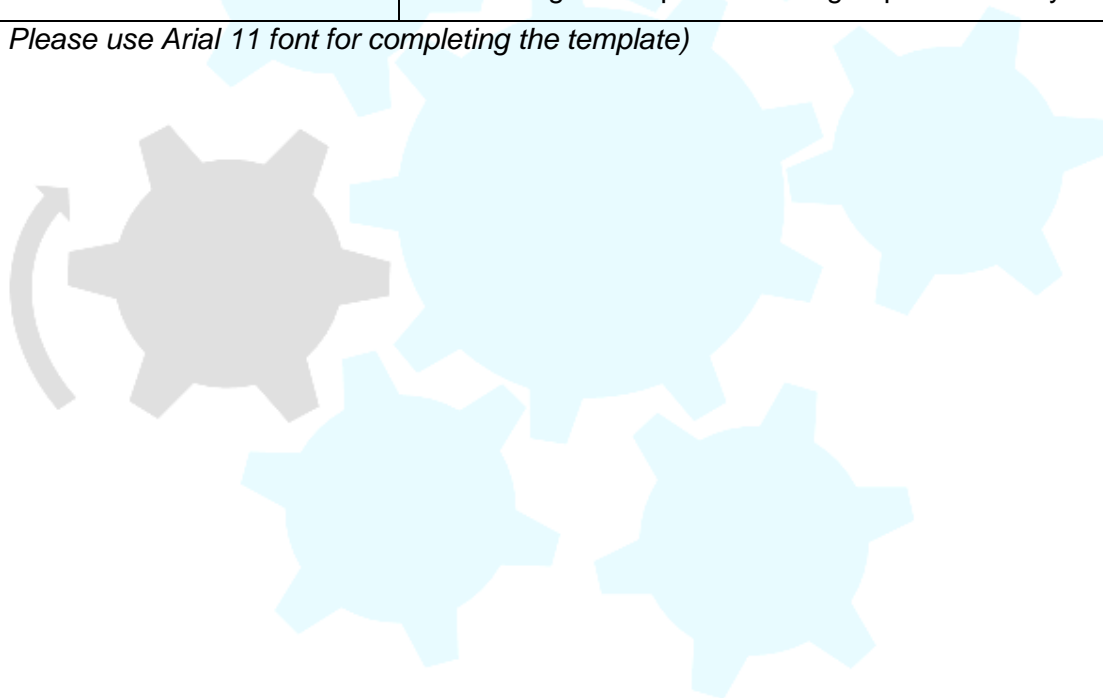
	communicate medical issues that contribute to healthcare inequity.
6. Apply advanced knowledge of disease causation models and advocacy principles to improve social determinants of health of communities	<p>6.1 Write a commentary on the relevance of different organizational cultures among the organizations influencing public health, including in the voluntary sector, and their interaction with each other.</p> <p>6.2 Conduct a detailed situational analysis of a district, its population, health facilities and disease burden.</p> <p>6.3 Analyse and use routinely available clinical and demographic data to describe the health of a local population and compare it with that of other populations, in order to identify localities or groups with poor health within it.</p>
7. Demonstrate strategic leadership for health in a hospital, at district and national health level	<p>7.1 Practise regular self-reflection.</p> <p>7.2 Apply advocacy principles to solving public health issues within organizations.</p> <p>7.3 Build multi-professional healthcare teams that excel at local, district and national level.</p> <p>7.4 Demonstrate emotional intelligence when dealing with health and wellness issues at individual patient, organizational and population level of care.</p> <p>7.5 Apply the human rights approach to public health issues at individual patient, organizational and population level of care.</p> <p>7.6 Manage time effectively during healthcare provision at all levels of care.</p>
8. Conduct advanced research and institute public health development projects based on the findings	<p>8.1 Design complex epidemiologic and clinical trials to address local, district and national healthcare needs.</p> <p>8.2 Manage complex research data with integrity and with adherence to research ethical principles.</p> <p>8.3 Write a scientific report based on findings from complex studies.</p>




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	8.4 Lead multidisciplinary research teams.
9. Exhibit ethical standards and professional behaviour in managing self, people and resources	9.1 Demonstrate professional attitudes and behaviours at all times. 9.2 Demonstrate community consultative skills. 9.3 Make difficult decisions in the workplace. 9.4 Describe and apply public health ethics. 9.5 Manage an impaired colleague professionally with empathy.


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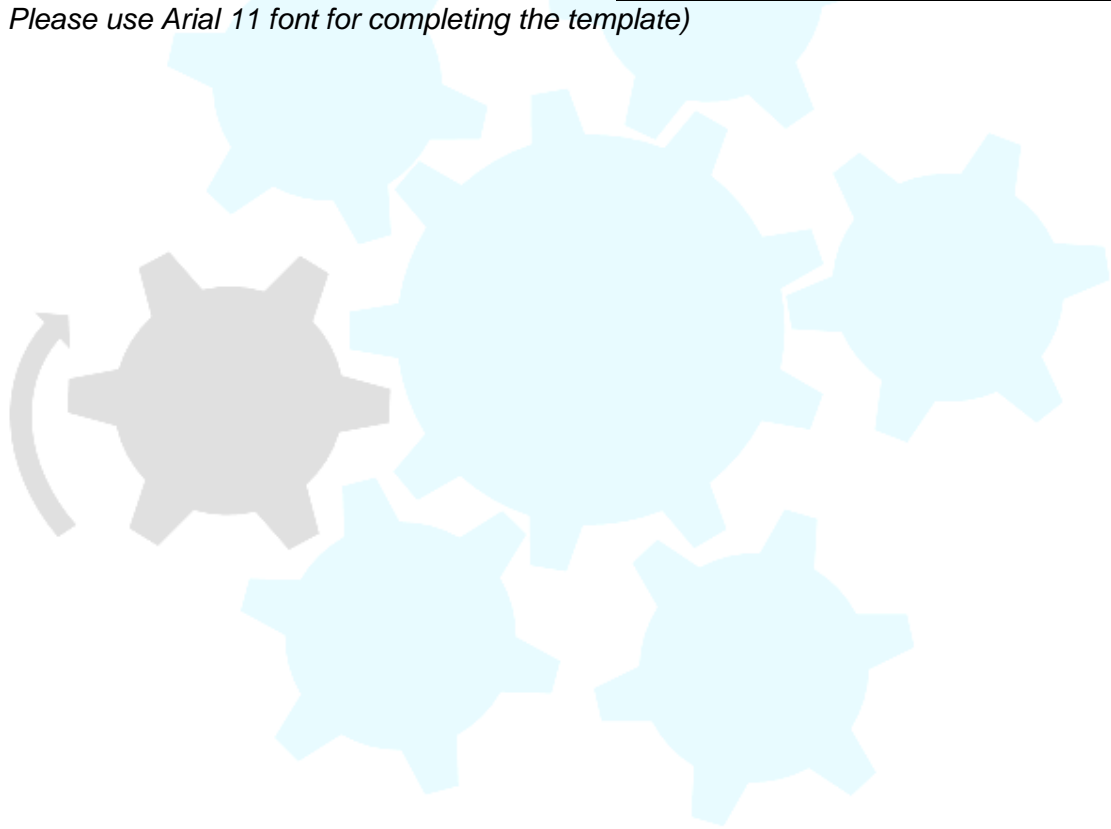
 <b>BOTSWANA</b> Qualifications Authority	<b>BQA NCQF QUALIFICATION TEMPLATE</b>	Document No.	DNCQF.QIDD.GD02
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<b>SECTION C</b>	<b>QUALIFICATION STRUCTURE</b>				
<b>COMPONENT</b>	<b>TITLE</b>	<b>Credits Per Relevant NCQF Level</b>			<b>Total (Per Subject/ Course/ Module/ Units)</b>
		<b>Level [7]</b>	<b>Level [8]</b>	<b>Level [9]</b>	
<b>FUNDAMENTAL COMPONENT</b> <i>Subjects/ Courses/ Modules/Units</i>	Communication, Ethics and Professionalism			4	4
	Public Health Principles and International Health			4	4
	Introduction to Clinical Research			4	4
	Introduction to Medical Literature			4	4
	Principles and techniques of medical education			4	4
<b>CORE COMPONENT</b> <i>Subjects/ Courses/ Modules/Units</i>	Dissertation (I, II, III, IV & examination)			72	72
	Introduction to Healthcare organization and Management			7	7
	Introduction to Public Health Medicine (I&II)			130	130
	Intermediate Public Health Medicine (I,II,II,IV)			274	274
	Advanced Public Health Medicine (I & II)			137	137
<b>ELECTIVE/ OPTIONAL COMPONENT</b>	<b>Not Applicable</b>				

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<b>Subjects/ Courses/ Modules/Units</b>					
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<b>SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL</b>		
<b>TOTAL CREDITS PER NCQF LEVEL</b>		
<b>Component</b>	<b>NCQF Level</b>	<b>Credit Value</b>
<b>Fundamental</b>	<b>9</b>	<b>20</b>
<b>Core</b>	<b>9</b>	<b>620</b>
<b>Elective</b>	<b>n/a</b>	<b>n/a</b>
<b>TOTAL CREDITS</b>		<b>640</b>
<b>Rules of Combination:</b> <b>(Please Indicate combinations for the different constituent components of the qualification)</b>		
Fundamental component contributes 20 credits, core component contributes 620 for total credits of 640.		

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### **ASSESSMENT ARRANGEMENTS**

**Assessment will comprise of formative and summative assessments.**

**FORMATIVE ASSESSMENT = 40%** comprising of assessment of competencies, portfolio of learning, assignments, presentations and research work

**SUMMATIVE ASSESSMENT= 60%** comprising of examinations and final dissertation presentations.

### **MODERATION ARRANGEMENTS**

There will be internal and external moderation as a quality assurance measure in line with the national and ETP policies for moderation. Assessors and Moderators must be suitably qualified and registered or accredited in Public Health Medicine or its different disciplines and subspecialties or a related field. They should also be registered with BQA or any other recognized authority.

### **RECOGNITION OF PRIOR LEARNING**

Recognition of Prior Learning will be applicable for award of Master of Public Health Medicine on a case-by-case basis, and as per the regulations of individual ETP and in alignment with national policies.


### **CREDIT ACCUMULATION AND TRANSFER**

Credit accumulation and transfer will be applicable for award of this qualification on a case-by-case basis, and as per the regulations of individual ETPs and in alignment with national policies

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

#### **Horizontal articulation: (NCQF level 9)**

- Master of Medicine in Occupational Medicine
- Master of science in Occupational Medicine
- Fellowship of the Faculty of Public Health Medicine
- Master's in Global health
- MSc In Epidemiology & Biostatistics
- Master's in health economics
- Master's in Health systems and Health policy

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- Master's in health services management
- Master's in Business Administration

### Vertical articulation: (NCQF level 10)

Admission to any healthcare related PhD programme

- Doctor of Science
- Doctor of Philosophy
- Doctor of Medicine
- Doctor of Public Health

### Employment pathways:

- Public Health Physician
- Public health specialist
- National Health Programme managers
- Public Health Medicine researcher
- Medical administrator
- Academic (Medicine)
- Public health consultant
- Medical Director

## QUALIFICATION AWARD AND CERTIFICATION

### Minimum standards of achievement for the award of the qualification


For the candidate to earn the award of **Master of Medicine in Public Health**, they should earn a total of **640** credits. The Candidate should pass all the **Fundamental** and **Core** modules.

### Certification

If the candidate has achieved the minimum number of credits and adhered to the rules of combination the certification and a transcript will be awarded.

## REGIONAL AND INTERNATIONAL COMPARABILITY

- The Master of Medicine in Public Health qualification is modelled on the College of Public Health Medicine of South Africa. Universities that offer the same qualification in South Africa also model their qualifications

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on the Colleges of Public Health Medicine (CPHM) curriculum. Therefore, this qualification has more similarities than differences to that offered by the University of Pretoria in terms of domains, learning outcomes and assessment. The main difference is that in Botswana there is no entity called Colleges of Medicine or Colleges of Public Health Medicine which administer fellowship qualification and therefore we do not call it a fellowship exam. The examination is however modelled on the CPHM fellowship exam but administered locally. The length of training for both programmes is 4 years, therefore similar.

- The Faculty of Public Health Medicine Ireland qualification also shares many similarities with ours in terms of domains and learning outcomes. They have a stronger focus on public health intelligence. These differences reflect the different contexts in which public health medicine is practiced in Ireland and in Botswana. Assessment requires passing MFPHMI Part I and Part II again because of the affiliation to the Royal College of Physicians of Ireland, an entity that is not yet existent in Botswana. These differences reflect the many decades of existence of these qualifications compared to our qualification.
- A key difference across all the above is that there are designated training posts which ensure continuity and viability over many years. Credits are also calculated differently but the duration of the degree is the same and the outcomes compare closely. Other qualifications may not include learning incurred during service hours within their calculation of notional hours/credit value. Additionally, in Botswana the approved number of credits by the Botswana Health Professions Council is 640. This is the professional body that recognizes and awards specialist status to our trainees post completion of the qualification.

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

- The M. Med Public Health Medicine qualification is comparable in terms of length of training, exit level outcomes and registration of graduates as specialist public health physicians by the health professions councils of the countries of the programmes examined

#### **REVIEW PERIOD**

The qualification will be reviewed every 5 years in line with the NCQF regulations.

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