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

SECTION A: QUALIFICATION DETAILS														
QUALIFICATION DEVELOPER (S)		University of Botswana												
TITLE	Bachelor of Medicine, Bachelor of Surgery										NCQF LEVEL	8		
FIELD	Health and Social Services			SUB-FIELD		Medical practice				CREDIT VALUE	1040			
New Qualification						<input checked="" type="checkbox"/>		Review of Existing Qualification						
SUB-FRAMEWORK		General Education			<input type="checkbox"/>		TVET			<input type="checkbox"/>		Higher Education		<input checked="" type="checkbox"/>
QUALIFICATION TYPE	Certificate	I	<input type="checkbox"/>	II	<input type="checkbox"/>	III	<input type="checkbox"/>	IV	<input type="checkbox"/>	V	<input type="checkbox"/>	Diploma	<input type="checkbox"/>	Bachelor
	Bachelor Honours		<input checked="" type="checkbox"/>	Post Graduate Certificate				<input type="checkbox"/>	Post Graduate Diploma					
	Masters						<input type="checkbox"/>	Doctorate/ PhD						
RATIONALE AND PURPOSE OF THE QUALIFICATION														
<p>RATIONALE:</p> <p>For over three decades the Government of Botswana had sent students to other countries for medical education. Doctors trained in these countries increasingly tended not to return to Botswana, with those trained in Europe least likely to do so.</p> <p>When the medical programme was conceived only 10-11% of approximately 1000 doctors practising in Botswana were citizens of the country. Only a handful of them were among the almost 600 working for Government. Low as it is, this '10-11%' statistic has always concealed an even more disturbing fact. This is that not a single citizen doctor (bar one individual for a five-year period to 2005) has been practising in the districts where around 90% of patients present for treatment at the hands of the health care delivery system.</p>														

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

These two facets of the ‘10-11%’ figure were the prime reason for the Government decision, through the Presidential Directive of September 1998, to establish a medical school for Botswana. It was a solution to a problem that had previously been addressed by a Government Task Force (1988) and, most significantly, a Government-commissioned Feasibility Study Team Report (1995) – all of which, in different ways, recommended that Botswana set up its own medical school.

With the current development of new upgraded district hospital facilities with greatly enhanced capacity in Maun, Serowe, Molepolole, Lobatse and Mahalapye, the already dire need for medical doctors is likely to intensify considerably.


According to the World Health Organisation (WHO) the minimum number of doctors to manage an effective health service is 1 for every 1000 of the population.

- Against this number Botswana currently has 1744 medical practitioners registered (of which 29.7% are citizens and 43.1% work in the private sector). This translates into a ratio of 0.775 per 1000 population (2016 data). The population is currently growing at 1.9% per year.
- Other upper middle level income countries such as Peru, Algeria and Malaysia all have rates of doctors per 1000 population of well over 1.

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 – in sufficient numbers, as stated by WHO.

There is therefore a need for the training of doctors in Botswana, to localise the medical workforce, to cater for the expected population increase, to reach WHO targets and to catch up with peer countries.

Information sources: World Health Organisation: Global Health Observatory, 2017; World Bank Data Catalog, 2017; Botswana Health Professionals Council: Annual Report 2012/2013; HRDC. Final health sector HRD plan, 2016; Botswana Vision 2026: Achieving Prosperity for All, 2016.

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

PURPOSE:


Upon qualification graduates from this qualification will:

- Apply detailed knowledge of health-related disciplines (Anatomy, Physiology, Pathology, Pharmacology, Microbiology, Bioethics, Psychology, Health Systems and Clinical Medicine) to the care of patients.
- Apply a variety of communication and manual skills related to the practice of a medical doctor to the assessment and management of patients.
- Manage patients safely and effectively in a variety of settings at the different levels of the national health care system of Botswana.
- Contribute effectively to the management of health care units in which they are placed in in the national health care system of Botswana.


ENTRY REQUIREMENTS (including access and inclusion)

Certificate IV, NCQF Level 4 (BGCSE) plus year 1 of BSC or equivalent from a recognized university


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

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


SECTION B		QUALIFICATION SPECIFICATION	
GRADUATE PROFILE (LEARNING OUTCOMES)		ASSESSMENT CRITERIA	
1. Apply current scientific knowledge and principles to independent medical practice		1.1 Apply biomedical principles and knowledge to medical practice 1.2 Apply psychological and behavioural principles, methods and knowledge to medical practice 1.3 Apply social science principles, methods and knowledge to medical practice 1.4 Apply public and population health principles, methods and knowledge to medical practice 1.5 Apply scientific knowledge and principles to the management of clinical conditions	
2. Carry out an effective and comprehensive consultation with a patient independently		2.1 Take an accurate, succinct, problem-focused medical history from patients, and/or their families and/or their carers, using the Calgary-Cambridge approach 2.2 Perform an accurate general physical, organ-specific and mental state and psychological examination 2.3 Explain the findings and proposed next steps clearly concisely and in easily understood language to patients, their families and/or carers 2.4 Make clear accurate patient records at the time of the consultation, which report the relevant clinical findings, information given to the patient, decisions made and treatment prescribed	
3. Apply clinical findings accurately and scientifically to lead to a comprehensive management plan		3.1 Apply clinical reasoning to interpret the history and examination findings 3.2 Generate a reasonable differential diagnosis 3.3 Select the most appropriate and cost-effective investigations which will positively contribute to the ability to make an accurate diagnosis	

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


	<p>3.4 Interpret the results of common investigations</p> <p>3.5 Reach the most likely working diagnosis, based on the results of history, examination and appropriate investigations</p> <p>3.6 Assess patients' fitness to understand the diagnosis and treatment options, to choose or decline specific treatment, and to give consent for procedures and/or treatment</p> <p>3.7 Construct an appropriate management plan in cooperation with patients, their relatives, their carers, and other members of the healthcare team</p>
4 Assess the psychological and social aspects of a patient's illness when devising a management plan	<p>4.1 Interpret patients' clinical presentation in the light of their culture, social situations, psychological states and religious beliefs.</p> <p>4.2 Interpret patients' illness conditions in the light of their social situations and psychological states.</p>
5 Provide immediate and effective care of patients presenting with a range of medical emergencies in any situation in which general medical practitioners find themselves	<p>5.1 Recognise and diagnose acute, life-threatening emergencies with minimum delay</p> <p>5.2 Instigate timely interventions including first aid, basic life support, cardiopulmonary resuscitation and/or advanced life support in order to manage acute medical emergencies appropriately</p>
6 Carry out a range of practical procedures required in independent medical practice	<p>6.1 Perform practical procedures related to the examination of all body systems of patients</p> <p>6.2 Perform a range of procedures required to support diagnostic conclusions</p> <p>6.3 Perform a range of therapeutic procedures required of practice as an independent medical practitioner</p>

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


7 Prescribe a wide range of relevant drugs competently to patients presenting in general medical practice	<p>7.1 Prescribe drugs accurately, safely, appropriately and economically for the management of all common conditions, taking potential interactions between drugs into account</p> <p>7.2 Provide appropriate information regarding drugs (including their side-effects) to patients and their families and/or carers</p> <p>7.3 Consult colleagues or other reliable sources of information when required to prescribe an unfamiliar drug or for an unfamiliar condition</p>
8 Communicate effectively with patients, their relatives, other health professionals and community members in a medical context	<p>8.1 Communicate clearly with all patients and their relatives, colleagues, nurses and other health professionals and the public, using the method preferred by these persons, be it spoken or written</p> <p>8.2 Employ two-way communication, having regard for non-verbal communication and the importance of active listening.</p> <p>8.3 Provide adequate explanation to patients regarding their conditions, and advise on possible management options and likely prognosis in a sensitive, caring and respectful manner</p> <p>8.4 Counsel, advise, reassure, comfort and support patients and their relatives, and break bad news to patients and relatives in a compassionate and caring manner</p> <p>8.5 Communicate readily through an interpreter when this is required</p>
9 Apply the principles, skills and knowledge of evidence-based medicine to their practice	<p>9.1 Define and carry out an appropriate literature search</p> <p>9.2 Critically appraise published medical literature and sources of medical information (websites and digests)</p> <p>9.3 Interpret research findings appropriately and accurately</p> <p>9.4 Apply currently available published evidence to their clinical practice</p>
10 Use information and information technology effectively in the context of their practice	<p>10.1 Make effective use of computers and other information systems, including locating, storing and retrieving information.</p> <p>10.2 Access relevant and varied sources of medical information and use such information appropriately and consistently</p>

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


11 Apply scientific methods and approaches to medical research to inform their practice	11.1 Commit to and use the scientific method to acquire future knowledge through study or research throughout their careers 11.2 Participate in regular and systematic audits, reviews and appraisals 11.3 Respond constructively to audits, reviews and appraisals
12 Consistently promote individual patient health in their practice, and promote population health and service quality in interaction with the wider healthcare system	12.1 Provide patient-centred care that minimises the risk of harm to the patient 12.2 Engage patients in risk reduction strategies for the prevention of disease and/or injury 12.3 Apply measures to prevent the spread of infection 12.4 Engage in health education, screening and disease prevention on an individual and population basis 12.5 Use their expertise and influence in advocacy measures to advance the health and wellbeing of individuals, communities and populations. 12.6 Work effectively in various health care delivery settings and systems.
13 Apply ethical principles and legal requirements to all aspects of their medical practice, including research	13.1 Apply the ethical principles of beneficence, non-maleficence, justice and autonomy to clinical care at all times 13.2 Maintain patient confidentiality except in circumstances where permitted by law or in the best interests of others 13.3 Obtain informed consent for all procedures and treatments 13.4 Certify death according to the Botswana certification procedure 13.5 Request a post-mortem examination in appropriate circumstances 13.6 Apply the stipulations of relevant laws of Botswana as they pertain to individual and public health and wellbeing.
14 Practise in a professional manner at all times, adhering to the principles set out in the Botswana	14.1 Practise with commitment and accountability to patients and their communities 14.2 Develop own career choices and plans 14.3 Manage their own personal and professional lives, constantly

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

Health Professions Council document 'Core competencies required of medical school graduates in Botswana' of July 2012	<p>reflecting on and self-regulating their lives and their practice</p> <p>14.4 Demonstrate commitment and accountability to the profession including willingness to teach students</p> <p>14.5 Collaborate effectively with other healthcare and related professionals</p> <p>14.6 Engage in sustained lifelong personal and professional learning</p>
15 Demonstrate social responsiveness and social accountability in their practice as a medical generalist	<p>15.1 Exhibit a willingness to work in areas of need, commit to stay working in Botswana, and avoid profit as a primary professional orientation</p> <p>15.2 Exhibit a willingness to take up positions of leadership in the health system and exercise initiative as a change agent in dealing with problems encountered</p>


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

SECTION C	QUALIFICATION STRUCTURE		
COMPONENT	TITLE	Level	Credits
FUNDAMENTAL COMPONENT <i>Subjects/ Courses/ Modules/ Units</i>	Foundations of Medicine	5	25
	Basic Biomedical Science	6	135
	Applied Biomedical Science	6	160
	Clinical Skills and Practice	7	40
	Integrated Medical Science	7	20
	Community Attachment for Public Health	5	30
CORE COMPONENT <i>Subjects/ Courses/ Modules/ Units</i>	Internal Medicine (General, Infectious Diseases, Dermatology, Radiology)	8	120
	Family Medicine	8	80
	Surgery (General, Orthopaedics, Otorhinolaryngology, Ophthalmology)	8	120
	Paediatrics and Adolescent Health	8	80
	Obstetrics and Gynaecology	8	80
	Psychiatry	8	40
	Public Health Medicine	8	40
	Medical Research	8	30
	Integrated Clinical Practice	8	10
ELECTIVE COMPONENT <i>Subjects/ Courses/ Modules/ Units</i>	Medical Elective	8	30

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

SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL		
TOTAL CREDITS PER NCQF LEVEL		
Component	NCQF Level	Credit Value
Fundamental	5	55
	6	295
	7	60
Core	8	600
Elective	8	30
TOTAL CREDITS		1040
Rules of Combination: (Please indicate combinations for the different constituent components of the qualification)		
<p>All the Fundamental Courses (credit value 410) must be passed before the core courses can be attempted.</p> <p>All the Core Courses (credit value 600) and the Elective Course (credit value 30) must be passed before the qualification can be awarded.</p>		

ASSESSMENT ARRANGEMENTS
<p>For Fundamental Courses:</p> <ul style="list-style-type: none"> Continuous assessment will be conducted by practical methods e.g. engagement with the learning process, biopracticals and Objective Structured Clinical Examinations (40% of the final mark) Summative assessment will be conducted by written examinations (60% of the final mark) <p>For Core Courses:</p>

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

- Continuous assessment will be conducted by patient presentations, workplace-based assessment, management plan formulation and engagement with the learning process (40% of the final mark).
- Summative assessment will be conducted by written examinations (20% of the year mark) and practical/ clinical examinations (40% of the final mark)

The Elective Course will be assessed by a student report on the learning undergone and a supervisor's report on student attendance and application.

MODERATION ARRANGEMENTS

The qualification includes a commitment to rigorous internal and external moderation as a quality assurance measure. Internal moderators must be registered and accredited by the BQA.

RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning will be applied for admission to the programme. It will be evaluated on a case-by-case basis by each Educational Training Provider according to its policies.

CREDIT ACCUMULATION AND TRANSFER


Credit Accumulation and Transfer will be applied for contributions toward awarding the qualification. It will be evaluated on a case-by-case basis by each Educational Training Provider according to its policies, and as agreed by the regulatory body (the Botswana Health Professions Council).

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

In terms of horizontal progression qualification holders can enroll in:

- Post-Graduate diploma in Biomedical Sciences
- Post-Graduate Diploma in Health Economics
- Post-Graduate Diploma in Health Law
- Post-Graduate Diploma in Health Systems Management

In terms of vertical progression qualification holders can enrol in:

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

- Master of Medicine in Internal Medicine
- Master of Medicine in Public Health Medicine
- Master of Medicine in Anatomical Pathology
- Master of Medicine in Clinical Pathology
- Master of Medicine in Psychiatry
- Master of Medicine in Family Medicine
- Master of Medicine in Emergency Medicine
- Master of Medicine in Paediatrics and Adolescent Health
- Master of Medicine in Surgery
- Master of Medicine in Obstetrics and Gynaecology
- Master of Medicine in Anaesthetics and Critical Care
- 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


Employment pathways open to qualification holders include:

- Medical intern
- Generalist medical practitioner/ medical officer (after successful completion of internship)
- Medical researcher
- Medical administrator

QUALIFICATION AWARD AND CERTIFICATION

The qualification of Bachelor of Medicine, Bachelor of Surgery may be awarded to candidates who have achieved a minimum of 1040 credits: 410 credits in Fundamental Courses, 600 credits in Core Courses and 30 credits in Elective Courses.

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

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

REGIONAL AND INTERNATIONAL COMPARABILITY

The qualification has been compared to the following two similar qualifications (both undergraduate medical qualifications):

Regional:


- University of the Witwatersrand, South Africa
- Bachelor of Medicine, Bachelor of Surgery (MBBCh), NQF level 7, 720 SAQA credits

International:

- Hull York Medical School, United Kingdom
- Bachelor of Medicine, Bachelor of Surgery (MBBS), Ofqual level 6, 600 UK credits

Summary of similarities and differences observed

- The MBBCh programme at the University of the Witwatersrand is a six year programme, with the first year focusing entirely on physical and human sciences. Exit level outcomes are very similar to the proposed Botswana qualification. Both programmes aim to deliver a competent generalist physician who can function as an intern, under supervision. The main differences are that the programme allows graduate entry and full-time clinical rotations take place in the final two years only (in contrast with three years in the proposed Botswana qualification). In common with the South African qualification the young doctor that the proposed Botswana qualification is intended to produce is expected to be able to deal competently with the wide range of medical conditions that doctors in relatively underdeveloped health services will face.
- The MBBS programme at Hull and York Medical School is a five year programme. The broad exit level outcomes hardly differ from those of the proposed Botswana qualification. Both programmes aim to deliver a competent generalist physician who can function as an intern, but the proposed Botswana qualification equips graduates with a wider set of clinical skills, e.g. in Obstetrics and Gynaecology, Paediatrics, district level Family Medicine and Psychiatry. These enable graduates to deal competently with the range of medical conditions that doctors in relatively underdeveloped health services will face.

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

- In summary: the proposed qualification compares satisfactorily with the two programmes above and exceeds the British one in terms of the width and depth of clinical competencies it aims to produce.

A detailed comparison is given in the attached appendix.

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.