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The University of the Witwatersrand, Johannesburg
FACULTY OF HEALTH SCIENCES

MBBCh CURRICULUM

Presentation to the Health Portfolio Committee

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1. STUDENT SELECTION, ADMISSION AND STUDENT NUMBERS

1.a Selection and admission

1.a.i The School's/ Faculty's admission policy/ requirements

Each year, the Faculty's Advisory Committee on Admissions Policy, which is chaired by the Assistant Dean (Student Affairs), will propose any changes to the Faculty's Admissions Policy and changes to the Admissions criteria. These are then considered and approved by the Faculty's Executive Committee and the Faculty Board before being submitted to the Senate Committee on Academic Planning and Development and the Senate. Each year a document entitled 'Criteria for Admission' is published and approved.

At present the Wits MBBCh programme admissions policy has the following characteristics:

1. There are two points at which students enter the programme: in MBBCh 1 (for school leavers) and MBBCh III (for graduates). For each of these groups the current minimum admission requirements are:

| <i>Programme</i> | <i>Faculty minimum admission requirements</i> | <i>Minimum scale of achievement</i> |
|--------------------|--|---|
| MBBCh I | <ul style="list-style-type: none">▪ English Home Language/ 1st Additional Language▪ Mathematics▪ Life Science and/ or Physical Science | 5 (60%) 5 (60%) 5 (60%) |
| MBBCh III (GEMP 1) | <ul style="list-style-type: none">▪ Mathematics▪ Completed undergraduate (or higher) degree (Honours, Masters, PhD)▪ Full university course in Biology, or acceptable equivalent (e.g. Physiology 1, Zoology 1, Life Sciences 1, Anatomy 1)▪ Half university courses in Chemistry and Physics or acceptable equivalents | Pass at the Higher Grade (pre-2008) or 5 (60%) NSC An average of at least 60% over the final two years Pass at least at first year level Pass at least at first year level |

2. Students for both types of entry are divided into two pools. Within each pool selection takes place independently of the other pool, according to merit within the pool:
 - Black and Coloured (65% of places)
 - Asian/ Indian and White (35% of places).
3. There is no gender bias in selection. At present approximately 70% of places are offered to female applicants.

In summary: The Faculty of Health Sciences aims to produce graduates able to contribute to the full range of health skills for the community. We aim to select for diversity and excellent human potential, and to admit students who can succeed in our curricula. We ensure that within the

policy guidelines above no applicant is advantaged or disadvantaged by the admissions process. Admission is determined by merit.

1.a.ii The School's/ Faculty's selection procedures

1. Whom we select

(a) Applicants for MBBCh I entry

- Applications to first year are selected from:
 - * Eligible South African scholars who will matriculate at the end of the previous year (2010 for 2011).
 - * Eligible South African matriculants from earlier years.
 - * Undergraduates studying towards non-Health Sciences degrees at any South African university, other than those eligible to apply to Medicine or the Graduate Entry Medical Programme (GEMP).
 - * Graduates of any South African university, other than those eligible to apply to Medicine or the Graduate Entry Medical Programme (GEMP).
 - * Foreign applicants (criteria for admission are based on foreign school qualifications)
- Approximately 190 students can be admitted to the first year. The University does not have the resources to increase this number nor is there space in the academic hospitals to train more, bearing in mind that an additional number of students will be admitted into the MBBCh III year as graduate entrants.
- Applications to first year are **not** normally considered from:
 - * Students studying Health Sciences degrees at other South African universities.
 - * Applicants from other African countries with health training programmes in their home country.
 - * Those graduates who are eligible to apply to the Graduate Entry Medical Programme (GEMP).

(b) Applicants for MBBCh III entry

Applicants are selected from:

- Graduates (not necessarily in the Health Sciences) from South African universities
- Foreign graduates with degrees approved by SAQA to be equivalent to those offered by South African universities.

2. How we select

Four criteria are used to admit students in the Faculty of Health Sciences:

- (a) Academic rating
- (b) Selection tests
- (c) Biographical questionnaire
- (d) Interviews – special cases (any degree if deemed necessary) and GEMP applicants.

Each of these is scored to arrive at a composite index, as follows:

- The Academic Rating, together with the Health Sciences Selection test (HSST) average percentage, contributes 80% to each applicant's final aggregate score
- 10 % is comprised of a biographical questionnaire (BQ) score
- The remaining 10% is comprised of the HSST score which is based on benchmarked descriptors.
- An interview may also be used to separate applicants with equal scores for all degrees within the Faculty and for all short-listed GEMP applicants.

The final Composite Index (CI) used to rank applicants for admission is calculated as follows:

$$\text{CI} = (\text{AR}\% + \text{HSST}\% \text{ equally}) + \text{BQ} + \text{HSST score [80 + 10 + 10]}$$

Academic ability is the most important and constitutes 90% of the assessment. The non-academic assessment constitutes 10%. Applicants are ranked according to their CIs to determine who is offered a place. In more detail:

(a) Academic rating

i. *Calculation of the Academic Rating for school leavers/ applicants with no tertiary experience*

- The initial academic rating is based on Grade 11 marks. This rating is revised after the results of the matriculation examinations have been received. Early offers may be made, based on Grade 11 marks, but firm offers are only made on the basis of final Grade 12 marks once they have been received.
- Actual Grade 12 marks (%) are used. Grade 12 subject symbols and aggregate symbols are not used.
- The actual marks are provided electronically to the University by the Department of Education as soon as they are available.
- Five subjects are rated: English, Mathematics, the higher of Physical Science or Life Science and the next best two subjects.
- The percentages obtained for each rated subject are averaged and then multiplied by a factor to reduce the average percent to a mark out of 80 (academic rating or AR)
- The Faculty uses percentages and not symbols.

ii. *Calculating the Academic Rating for graduates applying to enter at MBBCh III level*

- The average mark obtained by the candidate during her/ his last year of study is taken.

(b) Selection tests

There are two of these:

i. *The Health Sciences Selection Test (HSST)*

All candidates applying to the Faculty of Health Sciences are required to write the HSST, which is a standard requirement for most medical schools in South Africa. The test measures students' levels of proficiency in Academic Literacy, Quantitative Literacy and Mathematics and does not require prior studying.

ii. *The Wits Additional Placement Test (WAPT)*

- This test applies to graduate applicants for direct entry to MBBCh III only.
- At meetings of the MBBCh Undergraduate Committee it had been identified that there was a need to upgrade the competencies required for entry to the Graduate Entry Medical Programme in the disciplines of the existing MBBCh II programme. Once these competencies had been defined the additional criteria for admission could be determined.
- A working group was given the task of defining the competencies and based on their findings a Wits Additional Placement Test (WAPT) has been set up. The details of the test are as follows:
 - * The test will be held in October each year and will be comprised of equal proportions of Anatomy, Physiology and Molecular Medicine.

- * The test will take place in October and only shortlisted applicants, according to the Composite Index, will be required to write.
- * The outcome of the test will be a pass/fail and applicants who fail the test, even though they may qualify for an offer of a place based on their final admissions score or Composite Index, will not be offered a place.
- * Shortlisted applicants who have completed a BHSc (Biomedical Sciences) or an equivalent degree, where the students have completed full Anatomy, Physiology and Molecular Medicine course in said previous degree, will be exempted from writing the test.
- * The detailed competencies that will be tested are published on the Faculty website, together with source material that applicants can use to prepare themselves for the test.
- The aim of the WAPT is therefore to bring students entering the MBBCh III programme by the two existing routes (as school leavers from MBBCh II, and as graduates from other programmes) to a similar academic level.

Details of both tests are sent to candidates when they have submitted their applications.

(c) Biographical questionnaire

In the questionnaire applicants are invited to give particulars of their non-academic interests and attributes, thus enabling credit to be given for other areas of personal achievement and development which illustrate the 'rounded person' that the Faculty wishes to attract to the programme. Each questionnaire is scored according to clearly defined criteria.

(d) Interviews

In 2002 the following interview process was approved, which is still being used:

- The interview will be given a consensus score out of 10 by 3 interviewers (to be determined by the interview group).
- Interviews are unstructured as structured interviews allow applicants to pass on information and allow others to prepare answers. Assessment should be based on:
 - * Motivation
 - * Reason for applying and for change of career path
 - * Ability to work independently and in groups
 - * Ability to seek/enquire/investigate with minimal supervision/guidance – self initiated enquiry
 - * Compassion
 - * Future plans should the candidate be (a) successful, (b) unsuccessful
 - * Constraints to finishing the programme in minimal time: financial, family commitments, living away from familiar environment.

The selection procedure may, at the discretion of the Senate, include additional evaluations such as an interview and/ or other tests.

3. The extended First Year programme

Black and Coloured students who obtain Composite Index scores within one point of the cutoff for admission to MBBCh 1 are offered places on this programme (a maximum of 40 such students per year). The programme develops as follows:

- In Year 1 the students enroll for special courses in Biology, Physical Science (Physics and Chemistry) and Mathematics. These courses are at an intermediate level between Grade 12 and first year university standard.

- In Year 2:
 - * Students who obtain 60% or more in Year 1 are admitted to the full MBBCh I programme.
 - * Students who pass with marks between 50 and 60% are offered places in other Health Sciences first year programmes.
 - * Students who fail are encouraged to apply for other first year programmes in the University.

All students in the programme benefit from considerable tutor and mentor support.

1.a.iii Recruitment policy/ procedures

The Faculty is involved in two particular recruitment procedures: the University's Targeting Talent programme and the WIRHE (Wits Initiative for Rural Health Education) programme.

1.b Student numbers

1.b.i Current actual number of students in the MBBCh programme (2010)

| Year of study | Number of students |
|---------------|--------------------|
| 1* | 273 |
| 2 | 209 |
| 3 | 250 |
| 4 | 192 |
| 5 | 226 |
| 6 | 230 |
| TOTAL | 1380 |

* number includes applicants who have been admitted to the Foundation programme

2. THE CURRICULUM

2.a Aim, purpose and outcomes of the medical programme

2.a.i Aim/broad purpose of the programme (macro-level: overall competency of the student on successful completion of the programme)

In one sentence:

- A medical graduate who will have been trained appropriately and equipped professionally at nationally and internationally recognized standards of excellence, to serve all the communities of South Africa.

More expanded:

- The first purpose of the qualification is to produce medical graduates who will have been trained appropriately to meet the challenges of the supervised internship and vocational training years with confidence, and to pursue a rewarding career which provides continued personal intellectual growth.
- The second purpose of the qualification is to produce medical graduates who (following the internship and vocational training years) will be professionally equipped at nationally and internationally recognised standards, to serve all the communities of South Africa and to function independently in the community at a primary health care or general practice level.
- The third purpose of the qualification is to train doctors who will meet the requirements to register with the Health Professions Council of South Africa and will be able to specialise further in specific medical or health care management fields.

2.a.ii Exit-level outcomes(capabilities constituting the overall competence)

These are given below in the accepted South African Qualifications Authority (SAQA) format. Specific outcomes given are Exit Level Outcomes (ELO) and Associated Assessment Criteria (AAC).

1. Medical problem solving (collecting, researching, documenting, analysing, organising and critically evaluating information)

- Exit Level Outcome
At the end of the MBBCh programme the qualifying learner will be competent to assess the range of health problems that are presented to doctors and use a range of solutions for their recognition, investigation, treatment and prevention.
- Associated Assessment Criteria
The qualifying learner will demonstrate the ability to:
 - * apply a problem solving model to the assessment of patients to develop and test hypotheses

- * analyse information from history, physical examination, diagnostic tests, patient notes to arrive at a diagnosis
- * make appropriate decisions regarding management and treatment or referral based on the above and on current evidence
- * demonstrate enterprise in solving problems.

2. Acquisition and application of fundamental and specialist knowledge to the practice of medicine, including proficiency in basic clinical skills

- Exit Level Outcome
At the end of the MBChB programme the qualifying learner will be competent to apply knowledge and skills acquired to determine the causes of disease and to solve medical problems.
- Associated Assessment Criteria
With the available evidence, the qualifying learner will determine the causes of disease and solve medical problems by applying:
 - * fundamental knowledge of the natural sciences (e.g. physics, chemistry, biology)
 - * core knowledge of the scientific basis of normal human structure and function (anatomy, physiology, biochemistry)
 - * core knowledge of human disease processes (e.g. pathology, pathophysiology and microbiology)
 - * core knowledge of clinical disciplines
 - * knowledge of mental, physical and social disease processes (e.g. psychology, human behavioural sciences)
 - * knowledge gained through the critical evaluation of medical literature and the effective use of a modern library in order to keep up-to-date with new developments
 - * basic clinical skills in a safe manner

3. Understanding of the world as a set of related systems by recognising that problem-solving contexts do not exist in isolation

- Exit Level Outcome
At the end of the MBChB programme the qualifying learner will have knowledge of health and its promotion, and of disease and its prevention and management, in all the contexts of the whole individual: his or her place in the family, society, the population and the environment.
- Associated Assessment Criteria
In the context of the individual patient, the qualifying learner will show the ability to integrate basic science and clinical skills with an understanding of the consultative process, and will demonstrate the ability to:
 - * obtain an appropriate history and understanding of the patient's reasons for encounter
 - * perform a complete physical examination, including assessment of the mental state
 - * interpret the findings to reach a provisional assessment of the patient's problems and formulate with the patient plans for investigation and management, including opportunistic health promotion
 - * collate and interpret all relevant information, including data obtained from laboratory and special investigations, and make a diagnosis

- * maintain a functional relationship with the patient, even if the patient rejects investigation and management
- * appropriately and effectively record all the above.

In the context of population health:

- * collect and record health-relevant information in a systematic and reliable way; use this information to identify health problems, and apply it to manage these problems
- * analyse the burden of disease within the community, and the environmental, socio-economic, political, ecological and behavioural determinants of disease
- * apply the principles of disease surveillance and the means by which disease may spread, and apply the principles of disease prevention and health promotion in promoting a healthy environment
- * play a role in the organisation, management and provision of health care both in the community and in hospital, taking into consideration the economic and practical constraints within which it is delivered, and the audit process to monitor its delivery.

4. Working with others as a member of a team, group, organisation, community

- Exit Level Outcome

At the end of the MBBCh programme the qualifying learner will be competent to work with others as a member of a team, group, organisation, community.

- Associated Assessment Criteria

The qualifying learner will:

- * recognise the nature and scope of the various professional health disciplines, such that he or she will be able to make informed decisions with regards to his or her future career direction and development in medicine
- * work effectively with others in the health care team, understanding the need to have managerial, communication, research and educational skills for this purpose
- * demonstrate understanding of the essential roles which other health workers play in health care and show a willingness to work effectively within a team.

5. Attitudes and values outcomes

- Exit Level Outcome

At the end of the MBBCh programme the qualifying learner should have acquired appropriate attitudes and values essential to the practice of medicine, and should demonstrate the attitudes necessary for the achievement of high standards of medical practice, both in relation to the care of individuals and communities and to his or her own personal development.

- Associated Assessment Criteria

The qualifying learner will:

- * incorporate the ethical and legal issues in the practice of medicine
- * show respect for patients and colleagues that encompasses, without prejudice, diversity of background and opportunity, language, culture and way of life
- * demonstrate an awareness, through actions or in writing, of the moral and ethical responsibilities involved in individual patient care and in the provision of care to communities, including the recognition of patient and community rights, particularly with regards to confidentiality and informed consent
- * strive to improve patient care, to reduce inequalities in health care delivery, and to optimise the use of health care resources in our society

- * be able to use his or her professional capabilities to contribute to community as well as to individual patient welfare by the practice of preventive medicine and the encouragement of health promotion.

6. Professional and general communication

- Exit Level Outcome
At the end of the MBBCh programme the qualifying learner will be competent to communicate effectively.
- Associated Assessment Criteria
The qualifying learner will demonstrate the ability to communicate effectively
 - * orally and in writing, with the patient, the family, the health care team and the community at large
 - * using appropriate structure, language and style.

7. Organising and managing activities for self development responsibly and effectively

- Exit Level Outcome
At the end of the MBBCh programme the qualifying learner will have acquired and will demonstrate self direction and independence in her/ his learning in order to become a lifelong learner, and will recognise personal educational needs, utilise appropriate learning situations and evaluate her/ his own progress.
- Associated Assessment Criteria
The qualifying learner will
 - * use appropriate strategies for learning that will prepare him her for continued professional development throughout life, both as a doctor and as a responsible citizen
 - * acknowledge responsibility for vocational training in whatever field of medicine is chosen and for continuing professional education in order to keep up-to-date with new developments
 - * identify personal limitations and develop the capacity of self audit and participate in the peer review process, showing a willingness to seek help when necessary.

2.a.iii Specific outcomes (in terms of the knowledge, skills, attitudes and abilities students must demonstrate to be considered capable, in terms of exit level outcomes)

The specific outcomes of the MBBCh programme are given at three different levels:

Level 1 Overall programme objectives of knowledge, skills and attitude

1. Knowledge goals

At the end of the MBChB programme the student will have acquired and will have demonstrated an acceptable standard of knowledge and understanding of:

- The principles of scientific research as applied to the health sciences.
- The scientific basis of normal and abnormal human structure and function, of causes of disease, of mental, physical and social disease processes; and of different therapeutic modalities required to manage such disease.
- The range of health problems that are presented to doctors and the range of solutions that have been developed for their recognition, investigation, treatment and prevention. These will include:
 - * The way in which patients of all ages react to illness or to the belief that they are ill, and how illness behaviour varies between social and cultural groups.
 - * Analysis of the burden of disease within the community and the environmental, socio-economic, political, ecological, and behavioural determinants of disease; the principles of disease surveillance and the means by which disease is spread; the principles of disease prevention and health promotion.
 - * The organization, management and provision of health care both in the community and in hospital, the economic and practical constraints within which it is delivered, and the audit process to monitor its delivery.
 - * Human relationships, individual, family and community, and the importance of good communication.
 - * Ethical and legal issues relevant to the practice of medicine.
 - * The nature and scope of the various disciplines, such that s/he will be able to make informed decisions with regards to her/his future direction and development in medicine.

2. Skills goals

At the end of the MBChB programme the student will have acquired and will have demonstrated an acceptable standard in the essential skills of medicine, especially:

- In the context of the individual patient, the ability to integrate basic science and clinical skills with an understanding of the consultative process, and to demonstrate the ability to:
 - * Communicate effectively with the patient.
 - * Obtain an appropriate history and understanding of the patient's reason for encounter.
 - * Perform a complete physical examination, including assessment of the mental state.
 - * Interpret the findings to reach a provisional assessment of the patient's problems and formulate with the patient plans for investigation and management, including opportunistic health promotion.
 - * Collate and interpret all relevant information, including data obtained from laboratory and special investigations, and make a diagnosis.
 - * Maintain a functional relationship with the patient, even if the patient rejects investigation and management.
 - * Appropriately and effectively record all the above.
- In the context of population health, the ability to collect and record health relevant information in a systematic and reliable way; to use this information to identify health problems, and to apply it to manage these problems.

- In the context of health delivery, the ability to work as a member of a small group, understanding the need to have managerial, communicative, research and educational skills for this purpose.
- In the context of research, the ability to evaluate medical literature critically and to use a modern library effectively, in order to keep up to date with developments.

3. Attitudes and values

At the end of the MBCh programme the student should have acquired appropriate attitudes and values essential to the practice of medicine, including:

- Respect for patients and colleagues that encompasses, without prejudice, diversity of background and opportunity, language, culture and way of life;
- Awareness of the moral and ethical responsibilities involved in patient care and in the provision of care to populations, including the recognition of patient and community rights, particularly with regards to confidentiality and informed consent;
- Awareness of the need to strive to improve patient care, to reduce inequalities in health care delivery, and to optimise the use of health care resources in our society;
- Willingness to use her/ his professional capabilities to contribute to community as well as individual patient welfare by the practice of preventive medicine and the encouragement of health promotion;
- Awareness of personal limitations and the development of the capacity of self-audit and for participation in the peer review process; and a willingness to seek help where necessary;
- Appreciation of and respect for the essential roles which other health workers play in health care, and willingness to work effectively within a team;
- The recognition of the need for vocational training in whatever field of medicine is chosen; and the need for continuing professional education.

Level 2 Educational objectives for each year of the MBCh programme

MBCh I

In this year the objectives (as revised/ determined in 2008/2009) are described for each course in the year separately:

- Introduction to Medical Science (BIOL1027)
- Chemistry 1 for health science students (CHEM1027)
- Physics 1 for health science students (PHYS1007)
- Psychological Foundations of Health
- Sociological Foundations of Health
- Medical Thought and Practice 1. Note that the 2008/2009 revision ensured that objectives judged to be unnecessary as a basis for further learning in MBCh II and later on were removed; content judged to be necessary for later learning in the programme was added; and duplication of objectives between courses was eliminated.

MBCh II

In this year the objectives (as revised/ determined in 2009/2010) are described for each course in the year separately:

- Human Anatomy
- Physiology and Medical Biochemistry
- Molecular Medicine
- Medical Thought and Practice 2 (to commence in 2011)

These objectives will be made available in the reading material provided to the accreditation team. Note that the 2009/2010 revision has ensured that objectives have been brought up-to-date; that course objectives build on new learning in MBBCh I; and that the problem of unnecessary duplication of material between MBBCh I and II has been addressed.

MBBCh III and IV

In these two years learning objectives are grouped into four themes:

- Theme 1: Basic medical and clinical sciences About 80% of content
- Theme 2: 'Patient-Doctor' (PD) theme
- Theme 3: 'Community-Doctor' (CD) theme } About 20% of content
- Theme 4: 'Personal and Professional Development' (PPD)

The learning for these two years is organised into eleven integrated blocks: a preliminary concepts block followed by ten systems based ones. The objectives for each block are elaborated per week, since learning is problem based and takes place around weekly problem cases:

Note that all objectives are fully available to staff and students, being published on the course website at <http://gemp.health.wits.ac.za>

MBBCh V and VI

These outcomes have been fully defined, in four categories:

1. The *clinical conditions* that students should be able to manage. Each of these has been graded as follows:

| |
|---|
| 1 = only has to know about it: three sentences' worth |
| 2 = can make a provisional diagnosis, then refers |
| 2D = can make a full diagnosis, refers for management |
| 2E = can diagnose and give emergency treatment, refers for further management |
| 2T = can diagnose and manage fully |

These definitions guide staff and students to a very definite set of learning goals.

Each clinical department is allocated a set of these conditions, for which it is primarily responsible. The full list is available on the course website. An expanded version of the classification is also included.

2. The *skills* that students should be able to perform. Each has been graded as follows:

| |
|---|
| 1 = has heard about it, understands it |
| 2 = has seen it being done |
| 3 = has done it a few times under supervision |
| 4 = can do it independently |

Each clinical department is allocated a set of skills, for which it is primarily responsible. The full list is available on the course website

3. The *presenting problems* that students should be able to manage. Each of these has been graded as follows:

1 = rare, or relating to few linked clinical conditions, or a diagnosis in itself
2 = useful for students to be able to approach correctly
3 = common and/or serious, and which students have to be able to approach correctly

4. Content related to the 'Patient-Doctor', 'Community-Doctor' and 'Personal and Professional Development' *themes*:

- The objectives set out in MBBCh III and IV are explicitly carried through into MBBCh V and VI, and taught/ learnt in special sessions.
- In addition the Faculty has designed a related set of '*core competencies*' that each graduate should have:

- (i). Developing the competencies to provide comprehensive patient care in a plurality of health and social contexts. This includes:

- * clinical competencies
- * providing care in differentially resourced settings
- * a working understanding of clinical and patient care guidelines and protocols, and the ability to adapt these to local settings
- * insight into local cultures and their consequences for belief systems – as this relates to understanding illness and disease, and the design of health services
- * understanding the interface between hospital and home-based care in a range of family and community environments in South Africa
- * problem solving and management skills that enable independent decision making based on the best available evidence
- * awareness of one's own competence and the limits to this.

- (ii). The competencies necessary for developing and delivering appropriate care beyond the immediate consultation/short-term management plan. This involves:

- * awareness and experience of the competencies of other health professionals
- * structuring follow-up and ongoing care, and modifying this to suit the local health care environment
- * ensuring, when indicated, competent patient referral appropriate to the local health care setting
- * working understanding of home- and community-based care in poorer and better resourced settings
- * insight into the potential contributions of community support groups.

- (iii). Sufficient 'professional cultural and social competency' to function effectively with respect to:

- * *individual* patients (involves, in particular, interpersonal communication skills)
- * particular *groups*, whether professional colleagues, families or community groups
- * health care *teams*, as a member or as leader
- * *education* of patients and communities on health issues
- * development of culturally appropriate public health interventions including health promotion *programmes*
- * ongoing improvement in *quality of care* provided.

- (iv). The competencies necessary to providing effective health care to geographically defined communities. This includes the knowledge and skills to:
- * establish health priorities for that area, drawing on the best burden of disease/ risk factor evidence available
 - * appraise existing primary care practice and community health programmes, and *advise on their appropriate modification*, with particular reference to: child health and nutrition, maternal health, non-communicable disease in adults, and HIV/TB
 - * evaluate the 'effectiveness' of primary care practice and community health programmes, and strengthen functional links between primary care and public health efforts. ['Effectiveness' includes: operational effectiveness and the quality of care provided, health outcomes achieved / possible, responding to equity indicators such as service 'coverage', responsiveness to vulnerable groups (children, the elderly etc.)]

Each of these "competency sets" is constructively informed by a graduating student/doctor having appreciation of:

- The strengths and relative contributions of other members of the health care team, as a basis for establishing his/her role and to inform multidisciplinary team management
- The organisation of general primary care and community health services, referral systems to first and secondary hospital level (and beyond), and the associated human resource needs in the main health care settings in South Africa
- The common clinical conditions presenting to primary, secondary and tertiary care settings.

The implementation of this group of objectives is by means of '7 questions' used when teaching during the consultation.

| |
|--|
| <p>Level 3 Objectives at the level of each delivery (i.e. interaction between staff and students)</p> |
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MBBCh I and II

In both these years there is for each course a defined lists of objectives/ outcomes/ competencies/ skills (these are the terms that are used). Each learning opportunity (lecture, laboratory session, tutorial etc.) is linked to one or more of these, with the understanding that the linked outcome/ objective/ competency is to be achieved as a result of the opportunity concerned.

MBBCh III and IV

- In these years learning material is presented to students in the following ways (termed 'deliveries' in this setting):
 - * Learning topics: documents posted on the web.
 - * Lectures: to the full class.
 - * Theme sessions: small group learning sessions (this was the original intention but due to staff shortages the groups are often bigger).
 - * Skills sessions: learning skills in small groups.
- All of these lower level objectives are also available to staff and students on the course website at <http://gemp.health.wits.ac.za>

MBBCh V and VI

(a) Objectives during teaching and learning in informal situations

A considerable proportion of the teacher-student interaction in these years is informal, taking place during clinical practice and at the patient's side. In such situations the congruence between the learning objectives of the teacher and those of the block depends on the teacher's knowledge of the Level 2 classification and the '7 questions'. At the moment this appears to be variable; however the staff development programme for clinical departments recently started should go a long way towards remedying this problem.

(b) Objectives during formal teaching

There are currently three types of formal contact teaching/ learning operating in these years:

| <i>Method of teaching/ learning</i> | <i>Formulation of objectives</i> |
|---|---|
| Full class lectures during 'Medical School Day' | Clear objectives for each group of sessions in that day (see below). |
| 'Theme sessions' (small group sessions dealing explicitly with PD, CD and PPD objectives) | A topic and a clear understanding that this is a session during which students discuss problems – but no clear objectives for each session. |
| Other small group teaching: lectures and seminar/ discussions | Quality of formulation varies – some never explicitly done, but teacher 'knows what s/he wants to teach.' |

Example of objectives given for a whole 'Medical School Day':

28.08 Breathing Difficulties

- | | | |
|------------|----|---|
| Delivery | 1. | Discuss the anatomy and mechanics of breathing. |
| Objectives | 2. | Discuss the control of respiration. |
| | 3. | Define dyspnoea and discuss its various descriptions, mechanisms and causes. |
| | 4. | Discuss the approach to dyspnoea in paediatrics, otorhinolaryngology and psychiatry. |
| | 5. | Describe an approach to the adult patient with dyspnoea including history, examination and investigation. |
| | 6. | Describe the investigation of dyspnoea through lung function testing and arterial blood gases. |
| | 7. | Discuss the definition, diagnosis and management of anxiety, fear and panic attacks. |

2. b Specific Programme information

2. b.1 A community-based and Primary Health Care orientation in the programme/ School

Measures concerning content

The initial statement of intent of the new MBBCh curriculum includes the following sentence:

*The second purpose of the qualification is to produce medical graduates who (following the internship and vocational training years) will be professionally equipped at nationally and internationally recognised standards, to serve all the communities of South Africa and to function independently in the community at a **primary health care or general practice level.***

The content of the curriculum is derived from this statement. It informs for example the grading of clinical cases and the definition of 'core' for the basic sciences, and feeds directly into the 'Community-doctor' (CD) theme and the '7 questions in the consultation'. This is a key feature of the programme and demonstrates its commitment to producing a doctor who understands how environment produces disease and influences management choices. The theme is elaborated throughout the years MBBCh I-VI.

In MBBCh I:

- The new compulsory course 'Sociological Foundations for Health' sets the scene by including content areas such as:
 - * The social context within which health and disease are located (including the socio-economic, political, cultural and environmental dimensions of health)
 - * The impact of socio-economics on health: diseases of the poor as well as diseases of the rich; and the differential access and impact of public versus private healthcare
 - * The role that 'culture' plays in health, illness, and health-seeking behavior; the need for doctors to practice in a culturally sensitive and ethically appropriate manner:
 - * The impact of the social context on both the patients' and healthcare practitioners' understanding of health and disease
 - * The complexity of social layering presented by HIV and AIDS and how it continues to shape health, disease, illness and healthcare at both the local and global context.
- In the 'Health systems dynamics' module of the MTP 1 course environmental causes of disease are modelled and discussed.

In MBBCh III and IV:

- The nature of the 63 problem cases in the PBL process is largely primary.
- There are 66 deliveries directly dealing with CD issues (lectures, theme/ practical sessions, learning topics). CD issues are covered in every examination.
- There are two substantial service learning projects (one in each year) in which students work with health professionals in the community to identify a problem, make a plan to improve the situation, implement it and evaluate it. In the 'community oriented primary care' (COPC) project students select an underserved community, investigate its health profile and embark on a small project in cooperation with community members/ members of local health care staff to promote health.
- The Centre for Rural Health is active in encouraging students to undertake their MBBCh III electives in district settings, and an increasing number of them do – up to a third of the class.
- Students run a primary health care project in a nearby church hall (the 'Trinity project') and many serve there.

In MBBCh V:

- A 2 week Family Medicine block exposes students to primary practice of high quality.
- A 2 week Community Health block at the Wits Rural Campus at Acornhoek/ Tintswalo Hospital familiarizes students with practice in a district setting.
- Structured CD theme sessions continue during all 5 major clinical rotations.
- The use of the '7 questions' during bedside teaching promotes inclusion of key community level issues in the discussion.
- Care is taken to include key primary care concepts in other relevant rotations: immunization and IMCI, maternal health, screening (for a variety of conditions).
- A number of the student research projects deal with questions related to PHC and community health.
- The Faculty's SOA₃P₄+ model of the consultation teaches students that health promotion is a part of every patient treatment plan
- The health promotion projects that students have to carry out further clarifies the potential of health promotion in the practice of every doctor.

In MBBCh VI:

- The use of the '7 questions', primary care content, the SOA₃P₄+ model continues.
- The culmination of the PHC/ community health learning is the 6 week 'Integrated Primary Care' block which takes place entirely in a primary care clinic setting. Students learn to manage unselected patients; to provide ongoing/ chronic care; to undertake health promotion; to evaluate and improve the primary care delivery system etc.

Administrative measures

- The Faculty has a Committee for Community Based Health Sciences Education which plans the community-based and primary health care programmes, also for MBBCh.
- The large and active School of Public Health supports and manages the CD theme content throughout the MBBCh programme, as described above.
- The Centre for Rural Health in the Department of Family Medicine is internationally renowned and plays a key role in promoting a community and Primary Health Care orientation in the MBBCh programme. It is this Centre which has negotiated the Faculty's contract with North-West Province, established the new learning centre at Lehurutshe and negotiated the use of additional district hospitals and PHC clinics in North-West Province and Gauteng for training purposes.
- A recent development has been the establishment of a Community Based Education (CBE) unit in the Centre for Health Science Education. The two staff members in the unit will support CBE initiatives in the Faculty and the MBBCh programme. An immediate responsibility will be the identification of suitable PHC clinics in the City of Johannesburg for student placements in MBBCh III and IV.

2.b.2 The place and role of self-directed learning in the programme

The following are included in the concept 'self-directed learning' in this section:

| <i>Class of learning activity</i> | <i>Definition</i> | <i>Examples</i> |
|-----------------------------------|---|--|
| Self-directed learning | Activities during which students work out for themselves what they are supposed to learn and then set about learning it | <ul style="list-style-type: none"> ▪ PBL sessions ▪ Electives ▪ Independent clinical work ▪ COPC project |
| Reflection and self-study | Time in the normal timetable which is not allocated to a particular learning activity, but which students are nonetheless expected to use to achieve course 'knowledge' objectives. | <ul style="list-style-type: none"> ▪ Writing reflective portfolios ▪ Individual studying ▪ Studying in small groups |

The table below lists the forms which self-directed learning takes in years and courses:.

| <i>Year</i> | <i>Types of self-directed learning</i> |
|------------------|---|
| MBBCh I | <u>Chemistry</u> <ul style="list-style-type: none"> ▪ Computer assisted learning (CAL) sessions <u>Medical Thought and Practice</u> <ul style="list-style-type: none"> ▪ Learning styles and methods exercise and drawing up a personal plan ▪ Individual exercises in logic and integrated learning <u>Psychology and Sociology</u> <ul style="list-style-type: none"> ▪ Essays on topics of personal choice |
| MBBCh II | <u>Anatomy</u> <ul style="list-style-type: none"> ▪ Independent work in the Hunterian Museum: prosected specimens, computer based Histology sections, models, cd-roms, posters, slides <u>Physiology</u> <ul style="list-style-type: none"> ▪ Computer based clinical physiology lessons |
| MBBCh III and IV | <u>Systems blocks (2-11)</u> <ul style="list-style-type: none"> ▪ Problem based learning (one case per week) ▪ Service learning projects (one per year) ▪ Community oriented primary care project (one over two years) ▪ Reflective portfolio writing (4 per year) ▪ Independent work in wards/ clinics (½ day per week). <u>Elective in MBBCh III</u> <ul style="list-style-type: none"> ▪ Two weeks; students find their own sites and set their own objectives |

| | |
|---------------------|---|
| <p>MBBCh V</p> | <p><u>All rotations</u></p> <ul style="list-style-type: none"> ▪ There is no lecture programme in the rotations in this year. Students are expected to learn theory and examine patients based on the graded 'case competency' objectives they have been given for each block. They use prescribed textbooks and (in some cases) notes that are provided as well as the opportunities offered in the wards/ clinics. The following rotations mention specifically that they give time for this (others may do as well): Ophthalmology, Paediatrics, Psychiatry, Surgery, Urology. ▪ Students are responsible for finding and carrying out what they need to complete their logbooks. ▪ Problem based learning sessions run by students (with tutor facilitation) in most of the major rotations. ▪ Case reports on patients selected by students in some rotations ▪ Students are responsible for adhering to the principles in the 'Professional behaviour' rubric, on which they will be assessed. <p><u>Integrated Practice rotation</u></p> <ul style="list-style-type: none"> ▪ Research project (tutor supported) in groups of 8-10 ▪ Health promotion project in groups of 2 <p><u>Public Health rotation</u></p> <ul style="list-style-type: none"> ▪ Group project on a family in the community ▪ Individual research project ▪ Group project on designing an effective public health programme <p><u>Paediatrics rotation</u></p> <ul style="list-style-type: none"> ▪ Evidence Based Medicine project <p><u>Psychiatry rotation:</u></p> <ul style="list-style-type: none"> ▪ Individual substance abuse project (presented at a tutorial) <p><u>Elective (2 weeks)</u></p> <ul style="list-style-type: none"> ▪ Students have to find their own sites and set their own objectives |
| <p>MBBCh VI</p> | <p><u>All rotations</u></p> <ul style="list-style-type: none"> ▪ As in MBBCh V: no lecture programme in the rotations in these two years and students have to achieve objectives themselves by study and ward work. The following rotations specifically state this as an educational method: Orthopaedics, Paediatrics, Psychiatry, Surgery ▪ Again students are responsible for their logbooks; for leading problem based tutorials; for selecting patients for their case reports; for acting according to the professional behaviour rubric. <p><u>Integrated Primary Care</u></p> <ul style="list-style-type: none"> ▪ The structure of the IPC block is very much focused on self-directed learning: students need to learn from their patients as well as the set of about 30 activities they must fulfill and document, as per the IPC guide. ▪ This includes a substantial 'Facility Quality Improvement' project <p><u>Psychiatry:</u></p> <ul style="list-style-type: none"> ▪ Student-led PBL tutorial on 'The Impaired Physician'. |

2.b.3 Support students receive for self-directed learning (resource-based learning)

| <i>Area of support</i> | <i>Initial support</i> | <i>Ongoing support</i> |
|---|--|---|
| Preparing MBBCh I students for self-directed learning | Workshops on using the libraries, computer literacy, using the computer laboratories and WebCT/ KEWL, study methods | |
| Web-based material for self-directed learning | Providing the websites for each year, including 'tutor deliveries' and named additional sources of information: <ul style="list-style-type: none"> ▪ MBBCh I: WebCT and KEWL ▪ MBBCh II: WebCT ▪ MBBCh V-VI: GEMP website | <ul style="list-style-type: none"> ▪ Maintaining the websites ▪ Facilities for students to print from the web |
| Computers for self-directed learning in MBBCh II-VI | <ul style="list-style-type: none"> ▪ Approximately 1250 computer seats are available for MBBCh I students. ▪ A total of 250 computer seats are available for MBBCh II-VI students (30 for MBBCh III and IV, 40 for MBBCh V and VI, 180 for all five years) | Technical support from the Faculty IT unit |
| Using the web | MBBCh III gradate entrants are tested for basic skills, remediation if necessary | Individual support as needed from Faculty IT Unit |
| Problem based learning | Practical training in the Wits PBL process at the start of MBBCh III | A trained facilitator for each group |
| Textbooks for self-directed learning | <ul style="list-style-type: none"> ▪ MBBCh III and IV: every PBL room has a full set of prescribed textbooks ▪ All years: libraries at all training sites stock relevant material (hard copy and electronic textbooks and journals) | |
| Notes for self-directed learning | MBBCh V and VI: some departments provide notes for students to work from. | |
| Printing | <ul style="list-style-type: none"> ▪ MBBCh I: printers in CNS computer laboratories ▪ MBBCh II-VI: networked printers (pull-printing system at 4 sites in Medical School, one at the Learning Centre at Chris Hani-Baragwanath Hospital. | Maintaining the printers: paper, cartridges, repairing breakdowns |
| Using the library | Specific course at the start of MBBCh III: <ul style="list-style-type: none"> ▪ Locating hard copy. ▪ Locating electronic copy (several databases covered) | <ul style="list-style-type: none"> ▪ Assessing ability to in OSCEs ▪ Refresher courses in database searches |
| Self-study | No specific support | No specific support |

Support is mostly forthcoming from the Centre for Health Science Education (CHSE) and the Faculty IT unit housed in it, and the Wits Health Sciences Library (WHSL).

2.b.4 Teaching of Professionalism and Ethics

Ethics is explicitly taught in four of the six years of the MBBCh programme, with development in the application of ethical principles in spiral fashion.

MBBCh I

In the Sociological Foundations of Health course a conceptual base for ethics and professional practice is laid in the following ways:

- As the course introduces students to the social dimensions of health, it approaches the question of ethics from a political, socio-economic and cultural perspective. This discussion emerges from (although does not focus on) constitutional provisions and both local and international declarations that emphasize the rights of patients (as well as the rights of healthcare practitioners) to information, dignity and respect and to be treated equally irrespective of race, socio-economic class, gender, sexual orientation, age, etc.
- Issues of informed consent and principles of non-maleficence and beneficence are discussed, as well as the socio-political issues connected to topics such as healthcare pluralism, health worker strikes and conditions of service, termination of pregnancy, cultural prescriptions on medical practices such as transfusions and transplants.
- In this way an attempt is made to broaden students' perspective on the existence of a variety of different ways of thinking and practicing and to sensitise them to be able to respect patients and fellow co-workers who may have differences of opinion on key issues.
- In the context of South Africa and the USA the issue of the commercialisation of medical care as a profit industry is also dealt with, and the implications this has for patients especially in regard to free healthcare versus medical insurance.
- Through field trips and guest lecturers students also experience some of these issues first hand in interacting with a variety of healthcare practitioners and patients/ communities.

3. ASSESSMENT OF STUDENT PERFORMANCE

3.a The Faculty's assessment policy and philosophy

The assessment policy of the Faculty is in line with that of the University which is laid down by the Senate Teach and Learning Policy on Assessment (a bulky document which will be made available to the accreditation team). In brief the philosophy is that assessment should be in line with international standards and processes. Assessment processes are thus promoted that strive for validity, reliability, educational value, acceptability and feasibility. A criterion referenced approach is used, feedback is compulsory to ensure the formative value, and reliance on high stakes assessments is minimized.

3.c.1 General principles

- All the assessment methods used in the whole programme are listed in Section 12.c above. In summary the methods of *clinical* assessment used are the following:
 - In the MBBCh III and IV years: two OSCEs per year (stations testing history taking and examination skills) and an observed consultation of an unselected patient at the end of the MBBCh IV year.
 - In the clinical rotations a number of clinical assessment modalities are used, in different combinations:

| |
|--------------------------------------|
| Case report |
| Case commentary |
| Patient study |
| Patient profile |
| Discharge summary |
| Objective structured clinical exam |
| Clinical case: short, long, observed |
| Structured clinical case oral |
| Clinical case presentation |
| Patient referral plan |
| Log book |

| |
|--|
| Problem based learning session |
| Evidence based medicine assignment |
| Community Paediatrics assignment |
| Anaesthetics task |
| Quality assurance task |
| Health facility audit |
| Home visit |
| Chronic patient portfolio |
| Professionalism rubric (clinical elements) |
| Computer based clinical case (SACS) |
| Slide test |

- Each department decides what constitutes the 'clinical components' for its assessment. This plan is presented to the GEMP 3&4 Assessment Committee for approval.
- The assessment is criterion referenced (pass mark 60%) – so in some rotations no students fail, in others up to six. According to HPCSA regulations students have to pass the clinical component of their block exams (each of which is a 'Final Exam') – so even if they pass the whole rotation they may fail if the total mark for the clinical component is under 60%.
- In two rotations (Family Medicine and Integrated Primary Care – IPC) and in the final Integrated Exam students are assessed for their ability to conduct a consultation for an unselected patient. In the IPC rotation the 7 departments that contribute to the block are all involved in setting and reviewing questions for each end of block exam – truly an integrated clinical examination.
- There is no *formal* self or peer assessment by students of clinical skills.

3.c.2 Formative assessment of clinical skills

Within the 6 week rotations there is always a formal summative exam at the end of the rotation; however a variety of formal formative assessment methods is also used, but not in all rotations. The following should be noted in this regard:

- There is a constant informal evaluation of students in the clinical situation, with feedback.
- In the summative exam system students are assessed at least 7 times per year for some or all of the elements of the key clinical skill of conducting a consultation – which is in reality a formative process spread over 2 years..
- The logbooks are used to monitor student progress over time, and to guide students about the activities and skills that they are expected to undertake. They monitor whether students have:
 - Taken part in the management of particular cases/diseases/conditions
 - Achieved competencies in particular skills
 - Attended particular clinical events (e.g. assisting in theatre, attending an outpatients' clinic, being on intake after hours)

The logbook is marked, and contributes to the 'Year mark' (i.e. the formative portion) for each rotation. A satisfactory logbook is also a requirement for admission to the block examination.

- Other formal formative clinical assessment include: written case studies, the 'Professionalism' assessment (which evaluates student effort, professional behaviour and contribution to the firms in which they are allocated) and student presentation seminars on presenting problems they have worked out in the PBL groups
- Individual departments/ rotations report as follows concerning formative clinical assessment:
 - * *Paediatrics*: In MBBCh V course co-ordinators monitor performance during the block and identify weaknesses. In MBBCh VI the unit they are attached to provides formative assessments and alerts the course co-ordinator if problems arise
 - * *Orthopaedics*: Formative clinical assessment does take place. The students write case reports and present the patients they looked after during the night call to the whole department and that is assessed.
 - * *Otorhinolaryngology*: Skills are assessed day by day and reviewed.
 - * *Ophthalmology*: Each student reports the findings from 10 fundoscopies performed and also is assessed by a consultant regarding their skills in doing fundoscopy, and given encouragement and guidance as to doing it better.
 - * *Integrated Primary Care*: Observed consultation assessments and mini-CEX's are used
 - * *Psychiatry*: In MBBCh V and VI students' clinical progress is monitored at regular intervals during the programme. There is a mixture of formative and summative assessment in each block.
 - * *Urology*: Presenting cases in the grand ward rounds allows for formative assessment. Students are accredited for these activities as well as marks for their log books, case reports and ward performance which are also taken into account to give students a final mark.
 - * *Surgery*: Particular attention is paid to students' clinical progress during each 6 week programme (MBBCh V and MBBCh VI).