

Master of Disaster Medicine

Vrije Universiteit Brussel

Initial Accreditation

NVAO Panel report

14 November 2008

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1. Executive Summary

The Accreditation Organization of the Netherlands and Flanders (NVAO) has received a request for an initial accreditation procedure, including programme documents, regarding a proposed *Master of Disaster Medicine* ("master na master") offered at the Vrije Universiteit Brussel (VUB). The programme is the result of a longstanding collaboration between the Vrije Universiteit Brussel and the Università del Piemonte Orientale (UPO), Navarro (Italy). The NVAO convened an expert panel which has examined the information available and discussed the programme with various stakeholders during a site visit.

The programme has been offered since 2000. As a result of the Bologna directives UPO and the VUB decided in 2002 to fit the programme into the description of an advanced master's programme. Due to the fact that no new master programmes could be started in Belgium at that time the programme was based on the Italian law. However, the VUB has been involved in this programme since 2002.

The accreditation request for the current programme offered by the VUB was labelled 'Master of Disaster Medicine' and the panel will refer to it as such. However, in the request documents the programme is labelled European Master of Disaster Medicine (EMDM). The panel strongly advise the programme to reconsider the addition of "European" in the name of the programme as the programme is very internationally oriented. Students and faculty come from all over the world, and the programme content is also of a more broad international orientation.

The panel wants to explicitly compliment the Master of Disaster programme with its request. The field of disaster medicine is rapidly evolving. An academic programme, however, to educate professionals and researchers was missing. The panel is impressed by the high level of enthusiasm it observed during the site visit. Both the professional field, and the staff and alumni from the already existing course spoke with great passion about the programme.

The board of the medical faculty and the institution expressed their enthusiasm to start up this proposed master's programme. The VUB is very interested in playing a role in creating an academic research community in disaster medicine. The board was very positive about the development of this proposed programme. The VUB is determined to guarantee the quality of the programme. It believes that it is a very positive development of a very attractive and renewing field of medicine. Additionally, the programme will play an important role in the internationalization policy, through the collaboration with the Italian university and other universities active in this field. This will allow the VUB to further extend international cooperation and further increase the academic development of the field of disaster medicine.

The following considerations have played an important role in the assessment of the panel.

Considering the aims and objectives of the programme, the panel wants once again explicitly to compliment the programme management for the aim to make the field of disaster medicine more academically oriented. The panel is consequently confident that the programme will become a central part of the academic community of disaster medicine.

The panel found a very broad, detailed and intensive curriculum, divided over two semesters. The study load is very high. However, experiences from the previous years learn that the content is divided over core content and extra information. Therefore, the panel believes that the study load is satisfactory and students are able to finish the programme in the time set.

The programme itself employs very little staff. Most of the lecturers of the programme are visiting professors. All these lecturers are of very high standing in the field. The programme attracts sufficient personnel of a very high quality to be able to offer the programme.

Since most of the curriculum is presented to the students through the e-learning environment the programme does not need many facilities. The residential course in the beginning of the programme is held

in conference hotels. Study counselling in the programme is done on a very personal basis through facilities on the e-learning platform and e-mail. This seems to work well for both students and staff.

The internal quality assurance is incorporated into the internal quality assurance system of the VUB which is rather comprehensive. The programme has also established an academic affairs committee for the two joint universities, to ensure the quality of the programme. This committee will meet several times a year to discuss the quality of the programme and measures that need to be taken to improve this quality. The panel considers these measures more than adequate to guarantee the internal quality of the programme.

One of the initial concerns of the panel regarding the continuity of the panel was due to the seniority of the programme management. This concern was during the site visit immediately taken away by making it clear that the necessary steps were already taken. Since the programme has been successfully self-supporting for several years the panel sees no reason to doubt the terms for continuity.

The panel has also reviewed several masters' theses written over the past eight years. Over the years the numbers of theses that have been published in peer reviewed journals has been increasing, which supports the finding that the programme is aiming to play a central role in the research and professional field of disaster medicine. The panel is positive about the level of the theses reviewed, and the manner of assessment by the programme. Since the field is evolving rapidly, it is not surprising that the older theses are written at a more descriptive level while some of the theses of the last year are of very high quality. With the development of research through this programme the panel is confident that the level of all the theses will rise accordingly.

During the site visit the panel also met the most important faculty members from UPO. This Italian university has been offering the programme for the past eight years, together with the VUB. The panel saw a strong cooperation between the two universities on every aspect of the programme. Board and staff of both universities meet several times a year to discuss the content of the programme and the internal quality assurance. Both universities have employed staff of high quality. The panel believes that the cooperation with UPO is properly developed to ensure a high level of education, and quality assurance for the entire programme.

Given these considerations the panel advises the NVAO to take a positive decision regarding the quality of the proposed programme *Master of Disaster Medicine* of the *Vrije Universiteit Brussel*.

The Hague, 28 November 2008

On behalf of the panel convened to assess the Master of Disaster Medicine of the Vrije Universiteit Brussel, in Brussels, Belgium,

Prof. dr. F. Sturmans
(chair)

I. Boertjes
(secretary)

2. Introduction

2.1 The Procedure

NVAO received a request for an initial accreditation procedure including programme documents regarding a new masters programme, the Master of Disaster Medicine.

An initial accreditation procedure is required when a recognized institution wants to offer a programme and award a recognized bachelor or master's degree. To a certain extent, initial accreditation demands a different approach to the accreditation procedure for programmes already being offered. Initial accreditation is in fact an *ex ante* assessment of a programme, and a programme becomes subject to the normal accreditation procedures once initial accreditation has been granted.

NVAO convened a panel of experts. This panel consisted of:

- Prof. dr. F. (Ferd) Sturmans, chair, Erasmus University Rotterdam
- Prof. dr. J. (Joost) Bierens, VU University Medical Centre Amsterdam
- Prof. dr. J. (Jean) Bernard Gillet, Academic Medical Centre Leuven
- Dr. R. (Roel) R.R. Huijsman-Rubingh, Dutch Ministry of Health (till 1 January 2007)

This composition reflects the expertise deemed necessary by NVAO. (Annex 1: Composition of the panel). All the members signed a statement of independence and confidentiality, which is available at the NVAO upon request.

The following procedure was undertaken. The panel studied the documents regarding the proposed programme. Based on their first findings, the panel organized a preparatory meeting the day before the site visit. The site visit took place on 1 October 2008 at the *Vrije Universiteit Brussel*. (Annex 3: Programme of the site visit).

The panel formulated its preliminary assessments per theme and standard immediately after the site visit. These were based on the findings of the site visit, and building on the assessment of the programme documents.

On 20 October 2008 the draft version of this report was finalized taking into account the available information and relevant findings of the assessment. Where necessary the panel corrected and amended the report.

The panel finalized the report on 14 November 2008.

2.2 The Report

This report is made up of several chapters in which the panel outlines its findings regarding the advanced master's programme Master of Disaster Medicine offered at the Vrije Universiteit Brussels.

The previous chapter provides an executive summary of the conclusions of the panel. The current chapter functions as an introduction, which means that it outlines the followed procedure and the panel composition.

The third chapter gives a description of the programme as a whole, including its position within the university, the higher education system of Flanders (Belgium), and the international context into which it can be placed.

In the fourth chapter the panel will present its assessment. The programme is assessed by examining the themes and standards in the Initial Accreditation Framework. For each standard and theme the panel presents an outline of its findings, considerations and the conclusion.

The outline of the findings are the objective facts as found by the panel in the programme documents, in the additional documents and during the site visit. The panel's considerations are made up of the panel's subjective evaluations regarding these findings and the importance of each. The considerations presented by the panel logically lead to a concluding assessment.

The report will be concluded with a summarizing table containing an overview of its assessment per theme and per standard.

The annexes contain the programme of the site visit on 1 October 2008, a short outline of the panel, and a list of abbreviations and documents reviewed.

3. Description of the Programme

3.1 Overview of the Programme

Country	Belgium
Institution	Vrije Universiteit Brussel
Programme	Master of Disaster Medicine
Level	Master after Master
Orientation	Academic
Degree	Master
Title	Master of Disaster Medicine
Location(s)	Brussels/Italy/e-learning
Mode of study	Full time
Field of study	Health

3.2 Overview of the Institution

According to its website the Vrije Universiteit Brussel is the only Flemish university that has incorporated the principle of 'free inquiry' in its statutes. This principle is based on a text by the French mathematician and philosopher Henri Poincaré (1854-1912). Another basic principle, also incorporated in the university statutes of the Vrije Universiteit Brussel, is that the institution must be managed according to the model of democracy. In concrete terms, this means that all echelons, from professors and assistants over researchers, students, administrative staff and technical personnel, are represented on all its governing bodies. Thus the university guarantees that every echelon has a voice in its decision-making processes and participates in its management.

A total of 9157 students were registered at the Vrije Universiteit Brussel in the 2006-2007 academic year.

The Vrije Universiteit Brussel employs a total of 2697 people, of whom 1546 are full-time and 1151 part-time employees. Of the 2697 employees, 1789 are academic staff: 28% professors, 17% assistants (with a research and education assignment) and 55% research staff (without an education assignment). 908 people are employed as administrative and technical staff, a slight decrease on the previous year.

The Vrije Universiteit Brussel offers 28 bachelor programmes, 60 masters programmes and 35 postgraduate masters programmes, as well as a teaching diploma. In 2007, the Institute for Post-Academic Training (iPAVUB) offered 55 permanent and post-academic training programmes to professionals.

All initial BAMA programmes were approved for the first time in the spring of 2007. This is the first time approval has been given for all bachelor and initial masters programmes. The masters programmes were initiated in 2007-2008, while the first bachelor diplomas were awarded at the end of the 2006-2007 academic year. With the start of the masters programmes, the integration of the BAMA structure and decline of the old structure with candidatures and licentiates is a reality.

3.3 Profile of the Programme

According to the programme documents the decision to start an international programme in disaster medicine was taken in 1998 during the First European Congress on Emergency Medicine in San Marino. The European Centre for Disaster Medicine (San Marino) and the EUR-OPA project of the European Council (an intergovernmental project to ensure better prevention, protection and organisation in disaster situations), were supportive of this initiative. As a result an agreement was signed between the Università del Piemonte Orientale (UPO), the Vrije Universiteit Brussel (VUB), the Università della Repubblica di San Marino, and the European Centre for Disaster Medicine (CEMEC) to organize an "European Certificate of Disaster Medicine". The first cycle of the programme was launched in 2000 by the UPO.

The programme was created to educate professionals in the field of disaster medicine. Especially as the chances that health professionals will be confronted with the effects of disaster are increasing in the light of the growing world population and the increase of technological and social developments. The programme will deal with both man-made and natural disasters.

The aim of the programme is to educate professionals capable of planning and responding adequately to disasters.

The *Master of Disaster Medicine* of the Vrije Universiteit Brussels is a one-year, 60 ECTS, programme which means to integrate many elements of emergency medicine, public health, and disaster management. The programme will be jointly organized with the Università del Piemonte Orientale, the university in Italy which has been offering the programme since 2000. The programme is divided into two semesters. During the theory based first semester, the students are introduced to various aspects of disaster medicine in several web-based modules. During this semester most of the programme takes place on the e-learning platform, Moodle. In addition, the first semester also includes a two-week live-in session in which the students and faculty meet, and several simulation exercises are carried out. The second semester again mainly takes place on the e-learning platform, as the students continue to study the theory and participate in simulation exercises. The students also write their master's thesis during this semester. At the end of the semester the students take an on-line final examination in which all the knowledge from the theory and the simulation exercises is integrated.

Although there are a few institutions in Flanders which offer courses in disaster medicine, an academic master's programme such as the *Master of Disaster Medicine* of the Vrije Universiteit Brussels is a new development.

Programme new for Flanders

The Master of Disaster Medicine is a new programme for Flanders.

Programme new for the Institution

The Master of Disaster Medicine has been offered since 2000 by the Università del Piemonte Orientale (Italy) in cooperation with the Vrije Universiteit Brussels, although the certificates were given out by Italian university.

4. Assessment per Theme and per Standard

This chapter presents the evaluation by the assessment panel of the six themes and nineteen standards. The panel has reproduced the criteria for each standard. For each standard the panel presents (i) a brief outline of its findings based on the programme documents provided by the institution and the site visit, (ii) the considerations the panel has taken into account and (iii) the conclusions of the panel.

4.1 Aims and Objectives

4.1.1 Level and Orientation (standard 1.1)

The intended learning outcomes of the program correspond with the following descriptions of a Master's degree:

- *general competences at an advanced level such as the ability to reason and act in an academic manner, the ability to handle complex problems, the ability to reflect on one's own thoughts and work, and the ability to convert this reflection into the development of more effective solutions, the ability to communicate one's own research and solutions to professional colleagues and laymen, and the ability to develop an opinion in an uncertain context*
- *general academic competences at an advanced level such as the ability to apply research methods and techniques, the ability to design research, the ability to apply paradigms in the domain of the sciences or the arts and the ability to indicate the limits of paradigms, originality and creativity regarding the continuously expanding body of knowledge and insight, and the ability to collaborate in a multi-disciplinary environment*
- *advanced understanding and insight in scientific, discipline- specific knowledge inherent to a certain domain of the sciences or the arts, insight in the most recent knowledge in the subject/discipline or parts of it, the ability to follow and interpret the direction in which theory formation is developing, the ability to make an original contribution towards the body of knowledge of one or several parts of the subject/discipline, and display specific competences characteristic for the subject/discipline such as designing, researching, analysing and diagnosing*
- *the competences needed for either independent research or the independent practice of the arts at the level of a newly-qualified researcher (in the arts), or the general and specific professional competences needed for independent application of academic or artistic knowledge at the level of a newly-qualified professional*

Outline of the findings

The academic approach to disaster medicine is a rather new development. At the start of the Master of Disaster Medicine in 2000, no similar study programme existed. Therefore, an external reference framework was missing. This new study programme in disaster medicine aims to establish such a framework on an academic level.

According to the programme documents education and training in disaster medicine is not or insufficiently developed in the traditional medical and paramedical education programmes. There are some existing curricula that address specific issues. However, the majority of programmes are provided at the level of continuing education. This new academic programme Master of Disaster Medicine aims to fill a gap in national and international preparedness through the application of high standards for workforce education based on evidence based practices, sound educational methods, and quantitative outcome measures.

Additionally, the Master of Disaster Medicine aims to serve as a valuable reference point for the promotion of disaster medicine both nationally and internationally. It aims to do this through a newly established research centre in Geneva (EMDM Academy) which will be dedicated to research and education in Disaster and Humanitarian Medicine, integrating the highest level of international expertise through its international expert staff.

In the development of the study programme for the Master of Disaster Medicine the guidelines as proposed by the various national (Belgium Society for Emergency and Disaster Medicine [BeSEDiM]) and international (European Society for Emergency Medicine [EuSSEM] and World Association of Disaster and Emergency Medicine [WADEM]) organisations of disaster and emergency medicine have been taken into consideration.

Considerations

The panel believes that the learning outcomes and the programme goals reflect the willingness of the Master of Disaster Medicine to comply with national and international needs regarding the establishment of academic education in the field of disaster medicine.

Much emphasis is put on applying recent knowledge and developments in a research context to contribute to the further development of the field. This is for example illustrated by the cooperation with the Belgian Ministry of Defence and the Royal Military Academy.

The panel recognizes the international need for an academic approach to disaster medicine. It believes that the efforts made by the Vrije Universiteit Brussels to create an education and research environment dedicated to this specific field of study is a very good development that meets the nationally and internationally expressed need for such a programme.

Conclusion

The panel assesses the standard 1.1 'Level and Orientation' as satisfactory.

4.1.2 Subject Specific Requirements

The intended learning outcomes of the program correspond with the requirements set by professional colleagues, both nationally and internationally, and the relevant domain concerned (subject/discipline and/or professional practice or practice of the arts). In case of regulated professions, the requirements correspond with the regulation or legislation concerned. The learning outcomes stem from requirements set by the academic and/or artistic discipline, international academic practice and, for study programmes to which this applies, practice in the relevant professional field.

Outline of the findings

According to the programme documents there is an international call for an academic study programme in the field of disaster medicine, since the chances that health professionals will be confronted with the effects of disasters increase as the world population grows and as technological and social developments increase. The programme deals with both natural and man-made disasters; such as the Tsjernobyl disaster, the fireworks accident in Enschede, and the Toulouse disaster. Through the new Master of Disaster Medicine the Vrije Universiteit Brussels aims to provide an international academic approach to the field of disaster medicine.

The study programme of the Master of Disaster Medicine aims to provide its students with the necessary skills to make decisions in unfamiliar environments, based on incomplete information but valid assumptions. Much emphasis is put on applying knowledge in a research context in order to contribute to

the further development of disaster medicine as an academic discipline. Furthermore, given the rapid development of the field and the shortage of disaster medicine education and training the Master of Disaster Medicine aims to provide skills to teach and train other health specialists in the field, and to study in a manner that is largely self-directed or autonomous.

The main aims of the *Master of Disaster Medicine* programme are:

1. to improve the competence in disaster medicine and the medical disaster management competencies for health workers in order to form high-level professionals in the field of disaster medicine qualified to work as academics, staff members or field workers for international, governmental, and non-governmental organisations,
2. to highly contribute to the global development of disaster medicine as an academic discipline through the creation of a global network of education and research.

Additionally, the programme aims to provide graduates with a number of skills which are important in the pursuance of disaster management: leadership, decision making, problem-solving, communication and coordination skills, stress management, working in multidisciplinary teams, learning from peers, and the use of information technology.

The learning outcomes formulated for the Master of Disaster Medicine are:

- to understand the basic characteristics (features and objectives) of disaster medicine;
- to assess the epidemiological impacts of disasters;
- to assess the health risks in disaster situations and propose measures for primary prevention;
- to participate in the medical preparedness and planning for disasters;
- to direct the medical response in disaster situations;
- to master the medical managerial and care aspects of specific disasters;
- to organize and manage the psychosocial support of victims and rescuers in disaster situations;
- to organize and manage evaluation and debriefing sessions;
- to organize education and training in disaster medicine and medical disaster management;
- to master the medical managerial aspects in complex humanitarian emergencies;
- to understand the legal, ethical and moral aspects of disaster medicine;
- to supervise, develop and conduct research on the medical aspects of disasters in multidisciplinary and applied settings.

Considerations

The panel recognizes that international statistics show that major incidents and disasters have become significantly more common in recent decades. The proposed programme has succeeded in creating an academic and research oriented programme curriculum in the field of disaster medicine. Through the international orientation of both curriculum and faculty the programme ensures a high level of education and research in this developing field.

During the development of the programme the professional field has been consulted about several aspects of the programme. Unfortunately, this is a small field of medicine, which results in limited possibilities for feedback. This has been made up for by the international orientation and background of the faculty.

During the site visit it became clear to the panel that the programme's aims comply with the described master's level. Additionally, the panel established that the learning outcomes meet the terms formulated by the International Society of Disaster Medicine. However, the panel suggest a re-formulation of some of the learning outcomes in order to have them reflect the programme's objectives to a greater extend. Disaster medicine also deals with politicians and governmental policymakers regarding a disaster situation and psychosocial aspects following the disaster. These aspects are slightly underrepresented in the programme.

Furthermore, the name proposed by the programme is European Master of Disaster Medicine. The panel, however, advises to keep the original name "Master of Disaster Medicine" in order to reflect the broader internationally oriented nature of the programme.

Conclusion

The panel assesses standard 1.2 'Subject-discipline-specific requirements' as satisfactory.

4.1.3 Concluding Assessment of Theme 1 'Aims and Objectives'

The panel has assessed the two standards element of the theme 'Aims and objectives' as satisfactory. The panel therefore considers the master-after-master Master of Disaster Medicine regarding the theme 'Aims and objectives' as satisfactory.

4.2 Curriculum

4.2.1 Requirements for Academic Orientation

The proposed curriculum meets the following criteria for an academic orientation:

- *Students develop their knowledge through the interaction between education and research (including research in the arts) within relevant disciplines.*
- *The curriculum corresponds with current developments in the relevant discipline (s) by the verifiable links with current scientific theories.*
- *The programme ensures the development of competences in the field of research and/or the development and practice of the arts.*
- *Where appropriate, the curriculum has verifiable links with the current relevant professional practice.*

Outline of the findings

The programme documents indicate that the study programme is build up in two semesters.

The first semester consists of two elements:

1. A self-directed study provided on the e-learning platform. The fields of knowledge are included in eight programme units:
 - I) Introduction to disaster medicine;
 - II) Research in disaster medicine;
 - III) General medical disaster management;
 - IV) Specific medical disaster management;
 - V) Disaster mental health;
 - VI) Education and training in disaster medicine;
 - VII) Complex humanitarian emergencies;
 - VIII) Legal, ethical and moral aspects of disasters.
2. A two-week residential session during which the students meet the faculty and interact in exercises and debates, applying the integrated knowledge in solving problems in simulated disaster situations. The students must also present their thesis project, including the aim, methodology and means for research, and intermediate results, if available.

The second semester consists of (i) a number of electronic simulation exercises on the e-learning platform, and (ii) the master's thesis supervised by a local tutor and a faculty member of the Master of Disaster Medicine programme. The simulation exercises are meant to teach the student to integrate the knowledge and skills that have been acquired in the first part of the programme.

According to the programme documents the master's thesis forms an important part of the curriculum. It takes up 15 of the 60 ECTS that make up the programme. The research module includes a topic on thesis design and development in order to support the student. The aims of the thesis are:

- to critically apply the acquired knowledge and understanding from the study programme;
- to develop skills and attitudes concerning the design and organization of scientific research on disaster medicine;
- to contribute to the further academic development of disaster medicine.

The knowledge and skill acquisition is based on interaction between research and teaching in the programme and is linked with the current relevant professional practice. Students have to perform research activities in the majority of exercises provided by the programme. Additionally, the faculty members have been chosen for their active participation in research and/or practice in the field (see also theme 3 Staff).

The curriculum is updated on a yearly basis by the programme's Executive Committee in collaboration with the coordinators of the different modules. When updating the curriculum the assessments of the faculty and the students are taken into account.

Considerations

The panel has considered the content of the curriculum and found that the emphasis in the first semester is on education, whereas in the second semester the emphasis is placed on research. The panel is aware of the fact that this academic approach to disaster medicine is a new development in this field. The curriculum is presented in such a way that new developments in the field can be taken up into the programme on short notice. It is clear from the curriculum that the Master of Disaster Medicine took great effort to comply with the standards set by the international community.

The panel fully supports the efforts of the Master of Disaster Medicine to build up contacts with several international research and academic institutes (e.g. the Disaster Medicine Academy in Geneva) and would encourage further development of these international contacts, especially since the aims and objectives are very internationally oriented, and the composition of the staff and the student body is of such an international nature.

At this point, the panel would like to offer some recommendations to the programme. First of all, the curriculum is very theory based. The panel recognizes the strong ambition of the programme to develop an evidence-based approach to disaster medicine. However, she believes that the analytical aspects of the programme could be written out more specifically. The panel would recommend including research skills into the curriculum. Secondly, from the programme documents the curriculum seemed to much detailed. However, during the site visit it became clear that the content can be divided into core knowledge and additional knowledge. This panel believes that making this division clearer will allow for research skills to be incorporated into the curriculum.

Conclusion

The panel assesses standard 2.1 '*Requirements for academic orientation*' as satisfactory.

4.2.2 Correspondence between the Aims and Objectives and the Curriculum

The intended curriculum, the educational concept, the study methods and the learning assessments reflect the intended learning outcomes.

The intended learning outcomes have been adequately transferred into the educational goals of (parts of) the intended curriculum.

Outline of the findings

According to the programme documents the curriculum includes four different parts that must be completed successfully by the students:

1. A structured self-directed study under faculty guidance on competence-based didactic activities, integrated in an e-learning curriculum, provided on the website of the programme. After successful completion of this part of the programme the student is awarded 39 ECTS points.
2. A two-week live-in session, during which the students meet the faculty and interact in debates and exercises, assessing the student's ability to recall and apply an integrated knowledge base, meant for solving problems in disaster situation. The students will also participate in a functional or full-scale exercise organized by regional civilian authorities. For this part of the programme the student is awarded 6 ECTS points.
3. A thesis related to a topic of disaster medicine or disaster management, under the supervision of a local tutor and a faculty member, specialized in the field related to the chosen topic. For the final thesis project, the student will be awarded 15 ECTS points.
4. A final online examination provided on the programme's e-learning environment.

The educational materials are reinforced by asynchronous discussion forums which are moderated and facilitated by students and complemented by exercises which apply course concepts and principles to disaster situations similar to those that the students will encounter in their work after completion of the programme.

One of the most important tenets of the Master of Disaster Medicine programme is recognition and use of the relevant experience of the students. They contribute to the learning process by giving feedback to one other, sharing their knowledge and voicing their opinions and feelings. These interactions help them to build competence and confidence in their abilities, as well as a greater commitment to the learning experience. This approach stimulates intense involvement and allows participants to establish their credibility and earn the respect of their peers.

The assessment of the students is carried out at different stages of the programme. The assessment tools and final grading are matched to the learning objectives to be assessed.

Considerations

The panel found an appealing curriculum that presents its students with different approaches to disaster medicine. All different kinds of disaster situation are incorporated into the programme. The central idea when forming the curriculum seems to have been to present the students with theory and simulation exercises in the first semester, and to incorporate this knowledge in a research project in the second semester. The panel considered the use of simulation exercises an important aspect of the programme because it allowed the students to put the acquired knowledge into practice, while at the same time the role of the students during the exercises were assessed and allowed to estimate the skills of the students.

There is a strong relationship between the intended learning outcomes and the courses taught in the first semester. However, the panel believes that the subject division in the first semester is perhaps too fragmented; quite a number of courses go very much into detail. The panel is concerned that in these specific courses it might be difficult to maintain an academic level. Although the panel at first had some concerns about the e-learning platform used in the programme, this opinion changed during the site visit. The Master of Disaster Medicine was able to show that it uses the e-learning platform, Moodle, very

effectively, and interaction between students and between students and faculty is greatly encouraged. The panel was positively surprised by the many possibilities this e-learning platform had to offer, and the way these various options were used by the programme.

The panel is assured that the curriculum, the educational concept, the study methods and the assessments tools reflect the intended learning outcomes.

Conclusion

The panel assesses the standard 2.2 '*Correspondence between the aims and objectives and the curriculum*' as satisfactory.

4.2.3 Consistency of the Curriculum

<i>The contents of the curriculum are internally consistent.</i>
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Outline of the findings

The programme documents indicate that the Executive Committee, in collaboration with the Scientific Committee, is responsible for the development of the curriculum. The programme director is responsible for the implementation of the programme and is assisted by several facilitators.

According to the programme documents each of the eight modules (as described above) represents one or several competencies and consists of a number of topics necessary to acquire the core competencies of the module.

The first semester is meant to provide the students with the knowledge and skills needed to optimally participate in the activities in the two week residential course and in the online exercises of the second semester. The module on research skill will aid the students in the design and development of their master's thesis.

All the courses are built up according to a uniform template consisting of:

- aim and learning outcomes;
- pre-test;
- core content;
- reading materials;
- self-evaluations (tests and/or exercises);
- post-test;
- possible subjects for master's thesis.

Considerations

The panel thinks the programme is developed in a consistent way. The two semesters are built up in a way that allows for the student to gain knowledge and to incorporate this knowledge in the master's thesis in the last part of the programme. During the whole programme the students are encouraged to do exercises and participate in online discussions which contribute to their learning. The panel was worried about the amount of material presented to the students in the first semester of the programme. As mentioned earlier, some of the courses in the first semester go into great detail. However, during the site visit it became clear that the content is made up of mandatory material and extra material. The panel recommends the programme to make this division between core content and additional material more explicit.

Additionally, the panel recommends increasing the research component of the programme. This will further enhance the academic orientation of the programme. At the moment the research component of the

programme is limited to the master's thesis. This is partly due to the restricted research possibilities in the field, however, incorporation of a greater research component in the programme will aid in the development of research in the entire field.

The e-learning platform allows for the faculty to monitor the students closely. The panel recommends the programme to make more use of this, in order to gain more insight in the progress an individual student is making.

Conclusion

The panel assesses the standard 2.3 '*Consistency of the curriculum*' as satisfactory.

4.2.4 Workload

The program meets the legal requirements

Outline of the findings

The Master of Disaster Medicine programme is a "master na master" programme of 60 ECTS credit points. These credits are divided over the programme as follows:

- a self-directed study integrated in an e-learning curriculum (39 ECTS);
- a two week live-in session (6 ECTS);
- a master's thesis (15 ECTS).

According to the programme documents the Master of Disaster Medicine takes the initiative to organize an internal evaluation by the students, where the study load is one of the surveyed items.

Considerations

The programme meets the legal requirements set in the Royal Decree. However, the panel believes that the study load of the programme may be somewhat high. In general, the students of the Master of Disaster Medicine programme have a fulltime job besides their studies. The vast majority of the students are medical doctors who work in hospitals. A study load of 60 ECTS in one year is a full time study programme. The panel doubts whether this is realistic for a student who also has a fulltime job. Nevertheless, the alumni present during the site visit were positive about the workload of the programme. Although they considered the programme intensive and demanding they found it possible to finish the programme within one year. The level of motivation among the students is very high. According to the staff and alumni present during the site visit the level of motivation of medical doctors is already very high by nature. The students in the field of disaster medicine are even more motivated because of their interest in the field. However, the programme presented a success rate of between 60 and 75 %, meaning that about one-fourth of the students do not finish the programme within the one year. The panel advises the programme to take this in consideration. The panel supports the initiative of the programme to evaluate the study load amongst the students.

Conclusion

The panel assesses the standard 2.4 '*Workload*' as satisfactory.

4.2.5 Admission Requirements

The structure and contents of the intended curriculum are in line with the qualifications of the incoming students for an advanced master's programme:

A master's degree, with a qualification or qualifications specified in more detail by the management of the institution, possibly supplemented with an assessment concerning the fitness or capability, or with a preparatory programme.

Outline of the findings

According to the programme documents the full application of a student consists of the following items:

- a fully completed application form;
- certified and translated (if applicable) transcripts of a master's degree programme related to the field of health, and grades prior to application;
- all documents that could be considered valuable for the admission to the Master of Disaster Medicine programme;
- a curriculum vitae;
- a proof of access to reliable email and internet facilities.

The selection of the students will be performed by the Executive Committee taking into consideration:

- master degree obtained in a field of health;
- final grades of this degree;
- additional academic experiences/courses/publications;
- fluency in English (TOEFL: 550, IELTS: 6.5).

Selection of participants is also guided by the programme's emphasis on a multidisciplinary and multicultural approach.

The number of students enrolled in previous years amounts to 30 to 35 students. They originated from 51 countries worldwide. Due to the educational concept the programme has limited the enrolment to 35 students per year.

The programme encourages students from various master's programmes to apply. The existing master's programmes at the VUB which give access to the new master's programme *Master in Disaster Medicine* include:

- Master of Medicine;
- Master in Biomedical Sciences;
- Master in Health Management and Policy;
- Master in Nursing and Midwifery.

Considerations

The panel considers the admission requirements suitable for the programme. The policy from the programme documents describes a transparent admission policy, from which it becomes clear that the programme actively prefers students of a superior quality and achievement. However, currently the student population is made up for about 99.5% of medical doctors. The panel believes that this is what is most appropriate for the current programme. Although the programme has a strong multidisciplinary character, there are some aspects (e.g. triage) that are specifically suitable for medical doctors, and not for other professionals. Therefore, the panel would recommend re-considering the admission requirements of the programme.

Additionally, the panel finds the selection process by the Executive Committee appropriate. However, she believes that the programme could consider video conferences, as a means to interview the prospective students. This will allow for a more personal interactive approach of the admission procedure, which would be in line with the personal and interactive approach of the programme as whole.

In general, the panel can conclude that the qualifications of the incoming students are appropriate for the structure and contents of the intended curriculum.

Conclusion

The panel assesses the standard 2.5 'Admission Requirements' as satisfactory.

4.2.6 Credits

The programme meets the legal requirements regarding the range of credits.
- *Advanced master's programme: 60 ECTS.*

Outline of the findings

The *Master of Disaster Medicine* programme comprises 60 ECTS credit points for a one year programme.

Findings

The panel has reviewed the curriculum and programme documents, and concludes that the programme meets this legal requirement.

Conclusion

The panel assesses the standard 2.6 '*Credits*' as satisfactory.

4.2.7 Master's Thesis

The master's programme is concluded with the master's thesis. The master's thesis corresponds to at least a fifth of the total number of credits with a minimum of 15 and a maximum of 30 credits.

Outline of the findings

The master's thesis of the *Master of Disaster Medicine* takes up 25 % of the study programme, or 15 ECTS points.

The thesis is a work that should contribute to the academic development of disaster medicine. The thesis is written individually and independently by the student. The thesis should include a clear hypothesis or the development of a tool for further research, and should not simply be a compilation of literature data or a description of existing systems.

The Executive Committee of the programme proposes a list of topics for the thesis. If the student wants to propose a topic that is not on the list, he has to formulate together with the local tutor a clear motivation for this choice of subject. The Executive Committee will approve the thesis subject and methodology and will appoint two tutors for the finalization of the thesis, one proposed by the student, and expert or authority from his own environment, and one selected by the Executive Committee. The tutor proposed by the student should submit a letter of acceptance and motivation to the Executive Committee.

The student will present, in a power-point presentation of maximum 15 minutes, the project of the thesis, to the faculty and fellow students, during the live-in session course. The hypothesis, methodology and means for research will be discussed by the fellow students and faculty present.

The tutors are expected to keep themselves informed about the progress of the thesis work. A draft of the thesis should be sent to the tutors and one of the members of the Executive Committee, at the latest one month before the submission date of the thesis.

The thesis is assessed jointly by the tutors and two members of the Executive Committee, using a specialized framework. They shall propose a mark to the Executive Committee, whose task it is to grade all final papers of the *Master of Disaster Medicine* programme, in order to ensure consistency in the marking.

The quality and novelty of the thesis is expected to result in a presentation at international congresses on disaster medicine and in a publication in a peer reviewed journal.

Considerations

The panel has studied 8 theses in which different assessments of the programme direction were included, ranging from unsatisfactory to good. After studying the articles and the assessment of the programme management the panel concludes that the assessment of the thesis is done in an appropriate manner. The panel has also reviewed several masters' theses written over the past eight years. Over the years the numbers of the theses that have been published in peer reviewed journals has been increasing, which supports the finding that the programme is aiming to play a central role in the research and professional field of disaster medicine. The panel is positive about the level of the theses reviewed, and the manner of assessment by the programme. Since the field is evolving rapidly, it is not surprising that the older theses are written at a more descriptive level while some of the theses of the last year are of very high quality. With the development of research through this programme the panel is confident that the level of all the theses will rise accordingly.

Currently, the master thesis' constitutes up to 25 % of the study programme (15 ECTS points). The programme aims to contribute to the research field of disaster medicine. Additionally, during the site visit it became clear that the programme management considers the thesis as a major component of the programme. Therefore, the panel advises to reconsider the amount of credits awarded for the thesis.

Conclusion

The panel assesses the standard 2.7 '*Master's thesis*' as satisfactory.

4.2.8 Concluding Assessment of Theme 2 'Curriculum'

The panel has assessed the seven standards element of the theme 'Curriculum' as satisfactory. The panel therefore considers the master-after-master Master of Disaster Medicine regarding the theme 'Curriculum' as satisfactory.

4.3 Staff

4.3.1 Requirements for Academic Orientation

The programme meets the following criteria for the deployment of staff for a programme with an academic orientation:

- *teaching is principally provided by researchers who contribute to the development of the subject/discipline;*
- *in addition, and where appropriate, the sufficient staff will be deployed with knowledge of and insight in the professional field.*

Outline of the findings

The faculty of the *Master of Disaster Medicine* programme is composed of experts in their respective fields of interest, both nationally and internationally. According to the programme documentation they have been chosen for their contribution to the academic development of disaster medicine, their experience in the field and their expertise in research as reflected in their publications on the relevant subjects.

In addition to the faculty, the programme contracted a number of facilitators (teaching-assistants), facilitating the link between the students and the faculty by providing the technical assistance, support and mentoring during the self-directed study, the residential session and the exercises in the second term.

Considerations

The MDM programme calls on internal academics from both organizing universities and on external honorary visiting professors from collaborating universities such as Harvard, Linköping, Yale and Lausanne. The panel was presented with the CV's of the faculty, and also met some of the faculty members during the site visit. Most of the staff is active researchers in the field, and each of the staff members contributes to the development of the disaster medicine discipline. The panel is satisfied by the fact that the programme is primarily taught by active researchers in the field of disaster medicine. The alumni present during the site visit also spoke highly of the teaching staff of the present Master of Disaster Medicine.

Conclusion

The panel assesses the standard 3.1 '*Requirements for academic orientation*' as satisfactory.

4.3.2 Quantity of Staff

- *Sufficient staff is deployed to be able to start the proposed programme.*
- *Sufficient staff is deployed to be able to continue the proposed programme.*

Outline of the findings

The MDM programme calls on academics from both organizing universities and external honorary visiting professors and lecturers. The staff from the MDM programme does not receive a salary. Therefore not many members of the staff are connected to one of the two organizing universities. The VUB and UPO both employ 2 internal academic staff. Further staff is comprised of 19 honorary visiting professors, 7 visiting lectures, and 15 alumni of the programme.