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Annex 1: Interview guide

Annex 2: FHML PhD procedures and regulations (see PowerPoint presentation)

1 Introduction

During the past years, the Faculty of Health, Medicine and Life Sciences (FHML) and the Maastricht UMC+ (MUMC+) have put into place lots of procedures, guidelines and policies for PhDs. The aim was to foster an open and stimulating culture in which PhDs thrive and develop themselves from Master-level starting PhDs, into well-equipped, well-prepared and capable independent researchers who are able to function well in an international academic or professional context. To reach this, PhDs should receive high-quality supervision and opportunities to develop competencies that enable them to pursue a career in research, as well as outside academia. To support PhDs and supervisors to complete the trajectory successfully, FHML/MUMC+ has set up structures and procedures/regulations for support and monitoring. These are not goals in themselves, but intended to stimulate PhDs and supervision teams to take up their responsibilities to communicate regularly with each other from the start, both about the content of the research, as well as about the process of receiving supervision and providing guidance, thus enabling PhDs to grasp opportunities to develop themselves. These structures, forms, procedures and monitoring instruments support all stakeholders involved in PhD projects to provide each other feedback on how their PhD projects are progressing and how the PhDs are getting more mature.

To investigate to what extent the PhD procedures/regulations are put into practice, to find out whether these implemented structures and instruments are effective means of support and quality assurance, to what extent these procedures/regulations are put into practice, and to learn what the experiences of the PhDs and PhD coordinators are, an analysis of the prevailing PhD research culture at the FHML and MUMC+ was performed, at the request of the Faculty Board.

First, the plan of action is described in chapter 2. Then, an overview of the current structures and FHML/MUMC+ PhD procedures/regulations are summarised in chapter 3. In chapter 4, an analysis is provided of a recent internal PhD Survey, initiated by the PhD representatives in the Faculty PhD Committee (FPC) and available internal reports. In chapter 5 and 6, the FHML/MUMC+ PhD research culture is described from the perspective of PhDs and PhD coordinators of the 6 Schools and 2 Institutes. In the last chapter, conclusions are drawn and recommendations are given. In addition to this report, a PowerPoint presentation (see annex 2) was drawn up with the aim to provide an overview of existing PhD procedures to School/Institutes, departments, staff and PhDs.

2 Plan of action

To investigate the PhD research culture within the FHML/MUMC+, the following actions were undertaken by three Policy Advisors of FHML¹. First, we analysed existing documents related to the FHML PhD policies, such as: the recent internal PhD survey on well-being, PhD TRACK outcomes, SEP visitation reports and recommendations, annual reports of the Faculty PhD Committee (FPC) and the FHML/MUMC+ Platform for Scientific Integrity (PSI). Secondly, we performed a set of group interviews with several PhDs and all PhD coordinators of the FHML Schools/Institutes (see chapter 6 and 7). Of each School/Institute, some PhDs were approached who were asked to invite colleague PhDs, preferably of a different department, to participate. The PhDs who eventually participated in the interviews were all internal PhDs, mostly in their third or fourth year of their PhD trajectory. It was a combination of male and female PhDs, PhDs from the Netherlands and international PhDs, and from a diversity of work settings: for example PhDs working in the laboratory, in collaborative settings with supervisors from outside the university, and in the clinic. The PhDs were interviewed in small groups of 2-4 PhDs of the same School/Institute. They were promised that their input would not be traceable to individuals and that the minutes will not be disclosed to anybody other than the three policy advisors doing the interviews (authors of this report). In addition, all 10 PhD coordinators were interviewed, divided over three groups of 2-4 persons as well. Thus, in total, 8 group interviews have taken place with 2-4 PhDs and separate group interviews took place with the PhD coordinators (2-4 persons). All the interviews took place via Zoom (1,5 - 2hrs) in January and February 2021, in the presence of two policy advisors to do the interview and take notes. The separate interview guides for the PhDs and PhD coordinators are added in annex 1.

¹ Hannerieke van der Boom, Ingrid Leijts and Els Swennen

In this document, we describe the PhD research culture at the FHML and MUMC+, based on the outcomes of the above analysis of reports and interviews. The PhD community of our Faculty includes both PhDs who are employed by FHML (as PhD candidate or researcher) and those employed by MUMC+, as well as external PhD candidates doing their PhD with staff employed at either FHML or MUMC+. All will finally graduate at Maastricht University. In this document, we will consistently speak of 'the PhD research culture at FHML/MUMC+'.

3 Summary FHML/MUMC+ procedures and regulations for PhDs

(see also annex 2 for a PowerPoint presentation)

3.1 Role supervisor and composition supervision team

The responsibilities of the supervisor and the PhD are described in the chapter 'good mentorship' in the [Research Code Maastricht UMC+](#). Supervisors have a key role in coaching and supporting PhDs through the phases of the PhD trajectory. A supervision team consists of 2 to 3 (co-) supervisors, of which one is a 'promotor' (professor or associate professor) of UM/MUMC+ and one is a daily supervisor. Each supervision team consists of at least two supervisors, as laid down in the [Regulations for obtaining the doctoral degree Maastricht University, 2020](#).

3.2 Contact persons for PhDs²

3.2.1 PhD coordinators

Each School/Institute has a PhD coordinator, some have several. The PhD coordinator informs PhDs about PhD regulations and procedures, policies and course opportunities. They act as low-threshold contact point in case of questions or experienced problems and support PhDs in finding the appropriate information or kind of support. They make sure that all PhDs are registered in PhD TRACK and draw up a [Training & Supervision Plan \(TSP\) and a Personal Research Plan \(PRP\)](#) at the start, and monitor the progress of PhD trajectories as well as the well-being of PhDs. The PhD coordinator is involved in all aspects and developments of the School/Institute related to PhD trajectories and advises the School/Institute Board on these matters. The PhD coordinators of FHML regularly meet each other in the Faculty PhD Committee (FPC) and twice a year in the UM PhD coordinators meeting. They also coordinate the activities of the PhD representatives of their School/Institute.

3.2.2 PhD representatives

Each School/Institute also has one or more PhD representatives (and some have an additional PhD council, PhD panel) and other structures that allow PhDs to spread information from the School/Institute to their peers and vice versa. In general, they organise activities such as PhD meetings and have a role in the Annual Research Day and reviews. They are a main channel to signal problems that PhDs experience and bringing these to the attention of the PhD coordinator, confidential advisor and/or School/Institute Board. They function as important sounding boards.

3.2.3 Confidential advisors

Each School/Institute also has one or more confidential advisors for PhDs, sometimes this is combined with the role of PhD coordinator (in the case of CARIM, MHeNs, NUTRIM, and GROW), in other cases the PhD coordinator is a confidential advisor for another institute (this applies to MERLN and M4I), or, in the case of SHE and CAPHRI, this role is assigned to one or more separate staff members.

In addition, an independent confidential advisor for FHML/MUMC+ has recently been installed, who is an emeritus professor independent of the Schools/Institutes.

² Also see the list and links in the PowerPoint presentation

3.2.4 Other contact persons

PhDs can also turn to their HR advisor, the coaches of the Staff Career Centre, the UM confidential advisor for employees, confidential advisors for scientific integrity and the UM ombudsman, depending on the question or problem.

3.3 Embedding in Schools/Institutions: Registration in PhD TRACK

To enable PhDs to go through their PhD trajectory in a successful way, an online registration and monitoring system, PhD TRACK, was established by FHML and an external ICT company. TRACK is a quality management system that actively monitors both the progress of PhDs and the quality of the supervision. The aim is to support PhDs during their trajectories by reminding them of important milestones, such as signing the Declaration of Scientific Integrity, drawing up and annually revising their TSP and PRP and preparing for their annual appraisal interview by reviewing their working circumstances, progress and planning, and the quality of the supervision they receive. Supervisors are supported to actively manage and report on the progress of their PhD projects. This enables FHML/MUMC+ to timely detect problems and delay. Two Schools have used TRACK since 2010 now, the other Schools and Institutes implemented it in 2014-15. It is covering the entire FHML/MUMC+ PhD population for several years already. All PhDs, irrespective of whether they are appointed at FHML, MUMC+, have a Scholarship or other ways of funding or do an external PhD project, are registered in TRACK by the Schools/Institutes. In addition to this enrolment, they are also either appointed or registered (currently in the form of an 'hospitality agreement') by the Faculty to get access to the facilities such as the University Library, several PhD courses and an email address and receive UM, Faculty and School newsletters. This way, PhDs are embedded in one (or several) of the Schools/Institutes as well as in the overarching Faculty and receive regular updates with all necessary information.

3.4 Quality of the supervision

FHML/MUMC+ considers it important that the supervision provided by the supervision team is of high quality. Supervisors are expected to discuss their performance with regards to PhD projects in their annual appraisal meeting with their head of department, or in case they are a head of department themselves, with the (vice-)Dean. Feedback on their supervision skills and stance towards their PhDs is gathered on a structural basis from PhDs, asking them how they experience their PhD trajectory in a broad sense. For this purpose, PhDs are requested to fill out a questionnaire in PhD TRACK each year, one month prior to the end of each PhD-year, to sensitise them regarding aspects to discuss in their annual appraisal interview. The parts of the PhD TRACK questionnaire in which PhDs provide feedback on how they experience their supervisors' performance are confidential; only the PhD coordinator of the School/Institute that the PhD is part of has access to this information. If the progress of the PhD trajectory, or the performance of an individual supervisor, is scored suboptimal by a particular PhD (= lower than seven out of ten), the PhD coordinator receives a signal by email. Consequently, the PhD coordinator can gain more insight into the situation via the questionnaire and contact the PhD to ask whether the PhD needs support. It has been agreed upon before the implementation of PhD TRACK, that PhD coordinators will never reveal the scores of individual PhDs to supervisors, nor within their School/Institute, nor to the FHML Board, only on an aggregate level. Supervisors can get an anonymised overview of their average ratings when four or more different PhDs have filled these out. Aspects that are rated are the frequency, amount and content of the supervision provided, support with regards to the writing process, content-related and methodological expertise, encouragement, interest in and enthusiasm for the PhD and the project, sticking to mutual agreements, providing useful and timely feedback and stimulating the PhD to expand their professional network. Every year, the PhD rates these aspects for each supervisor, keeping the role of this person in the team in mind, and gives an overall score for the team functioning as a whole as well. In TRACK a message is included on the Dashboard of supervisors on how they can access their performance scores and it is mentioned under 'Quality of the supervision' on the [PhD at FHML/MUMC+](#) website.

In addition, FHML offers a four-day course in Competence Development for supervisors of PhDs since 2017. This course is intended for FHML/MUMC+ staff who were recently offered a permanent position as assistant (or associate) professor, those with whom a tenure track has been agreed upon, or participating in the MUMC+ Toptalents programme, or have otherwise identified as promising staff that the Faculty, School or Institute wants to invest in. The course is provided by

an external training bureau that receives exceptionally high evaluations and aims to provide supervisors with tools to further develop their competences, support PhDs more effectively to complete their PhD within a reasonable time and to lead them successfully into the labour market.

3.5 Training and development of PhDs

Within the first three months of a PhD trajectory PhDs are asked to set up a PRP with a publication plan and feasible planning, and a TSP. For internal PhDs, the TSP should contain 20-35 ECTS points, to be gathered by a range of activities, such as participating in content-related and career-oriented trainings and courses, seminars, journal clubs, retreats, conference visits and executing educational tasks such as tutoring or mentoring students, as well as tasks such as organising a workshop or symposium, or being a PhD representative. Both plans should be approved by the supervision team and sent to the PhD coordinator who monitors their receipt (and for internal PhD candidates: be sent to HR to have it included in their personnel file). PhDs should upload both Plans in PhD TRACK themselves. The TSP is tailored to the particular project and individual career development and path. For internal PhDs who do teaching activities, the course in the role of tutor in Problem-Based Learning is compulsory, as well as some specific School-related courses to the core of the School's fields, in clinical research or the use of equipment. For all UM PhDs, some UM compulsory courses are being developed on scientific integrity and ethics, open science and impact and communication.

3.6 Publications and authorships

FHML/MUMC+ follows the rules and regulations for authorships as described in the [Research Code Maastricht UMC+](#), which is in line with the Netherlands Code of Conduct. Furthermore, the Schools make use of the [Vancouver protocol](#), describing uniform Requirements for Manuscripts Submitted to Biomedical Journals.

3.7 End-terms for the PhD thesis

FHML/MUMC+ follows the rules regarding end-terms for PhD thesis as described in the [Regulations for obtaining the doctoral degree Maastricht University](#), 2020. Most common is a thesis consisting of several mutual coherent papers, including an introduction, conclusion, summary, propositions and impact paragraph. Some of the papers may be accepted or published. The number of papers is to be decided by the promotor, keeping the quality of the thesis and the feasibility within the contract time in mind.

3.8 Assessment of PhDs

The progress of each PhD trajectory is assessed every half year in PhD TRACK by the supervisors. Internal PhDs have a go- no-go interview in the 10th month after the start, in presence of their supervisor(s) and HR advisor, on the basis of which it is determined whether the appointment will be extended for the further three years. External PhDs are advised to request their supervisors to plan an annual evaluation meeting with their supervisors. All types of PhDs have to update their TSP and PRP, including the planning, for this annual meeting and are reminded to do so by an email from PhD TRACK. An information leaflet and annual appraisal of their progress, workload and supervision in an annual questionnaire in PhD TRACK helps them to prepare for this interview.

3.9 Prolongation PhD trajectory

In case of an internal, employed PhD trajectory, the aim is to finish a PhD within 4 years, according to the standard contract period. When the PhD trajectory is finished within 48 months (until approval of the manuscript), the FHML gives an incentive of €5000 to the first promotor, to be divided over the members of the supervision team. The FHML has a policy in place concerning the prolongation of internal PhDs³: if the contract is to expire while the manuscript has not been completed yet, the PhD's appointment will be extended until the assessment committee has

³ <https://www.maastrichtuniversity.nl/about-um/faculties/health-medicine-and-life-sciences/phd-fhmlmumc>, see the letter of the Faculty director under 'HR advisors'

approved the PhD thesis. The PhD thesis supervisor is responsible for funding the contract extension.

4 Analysis

4.1 Main outcomes of the internal FHML PhD well-being survey

In the first half of 2020, the FHML PhD representatives who are gathered in the Faculty PhD Committee, performed a [survey](#) with the aim to investigate work pressure and the prevalence of related mental health issues amongst PhDs within the FHML/MUMC+. The main outcomes of the survey are:

- Of all PhDs 62 percent report to currently being on schedule and 51 percent expect a delay, i.e., to not finish within their appointment;
- Despite the delay, 65 percent of PhDs work more hours than stated in their contract on a weekly basis;
- More than 70 percent states they generally feel happy during their PhD trajectory;
- More than 40 percent of PhDs agree with the statement that they feel constantly under strain, and less than 30 percent state they are not;
- More than 30 percent feel overworked, and 40 percent report that they are not;
- Five percent of PhDs report to regularly consider quitting their PhD. The large majority of reasons were related to pressure: the workload or expectations would be too high or the work-life balance would be too far out of balance. Other frequent answers were poor communication or not getting along with the supervision team, a lack of feedback or supervision, or a wrong career choice or project fit.
- In contrast with the above findings, the survey showed that PhDs are generally quite positive about the amount of trust they have in their daily supervisor, the supervision team and the extent to which they can discuss their problems with colleagues, family or friends.

The PhD representatives formulated some recommendations:

- Facilitating courses (mainly in an online format so they are also easily accessible to external PhD students), and making them known more broadly (for example through an FHML-wide newsletter dedicated to courses relevant for PhD candidates);
- Encouraging and facilitating extracurricular activities;
- The necessity of making supervisors also follow supervision courses. Although we are aware that this issue is already known by both the FPC and the faculty board, its repeated mentioning serves as another reminder of its importance;
- More attention for external PhD candidates, for example regarding supervision.
- The need for a competent confidential advisor especially for mental health-related issues and for people of colour;
- Organizing counseling / intervision meetings (which will be discussed in more detail below);
- Making TRACK more useful to PhD candidates, making it more user-friendly, and including an option to track if the thesis writing is completed within the duration of the contract;
- More attention to career options after a PhD trajectory, both within and outside of academia;
- Pay more attention to the management of expectations regarding the amount of work it.

4.2 Annual report PhD TRACK

All FHML Schools and Institutes work with PhD TRACK. Each PhD and the supervisors involved should be registered in PhD TRACK from the start onwards and receive their own TRACK account. The School/Institute Offices each have several accounts with different rights in PhD TRACK, to enter data on PhD trajectories and update them, and produce management data for overviews and reports, to be able to develop PhD policies based on these. The PhD coordinator of each School/Institute monitors several aspects in order to support PhDs and their supervisors to a successful completion of the PhD trajectory. Over the years, the well-being of the PhD and good-quality supervision have been cornerstones of the monitoring via PhD TRACK and policies of the Schools/Institutes.

FHML/MUMC+ has an overarching PhD TRACK coordinator, who works closely together with the FHML Information manager with regards to the compliance to PhD TRACK and the maintenance

and further development of the system. Every year, they issue an annual PhD TRACK report with data on key elements of PhD trajectories that are registered in PhD TRACK, which is discussed by the Faculty PhD Committee members and by FHML Board with the School/Institute directors. The reports show that there are about 1800 PhDs doing a PhD trajectory at FHML/MUMC+. Just over half of them are employed by FHML or MUMC+, the other half consist of PhDs having a Scholarship or who do an external PhD project.

The length of internal PhD trajectories at the FHML Schools/Institutes is 45 to 63 months on average and is diminishing slightly, that of externals varies according to their level of experience and the time they have available and agreements they made about this with their supervisors. The reports show that about two-thirds of the internal PhD candidates have a TSP and PRP. It may be the case that more PhDs have these plans, but either forgot to send it to their PhD coordinator, or the PhD coordinator or School Office forgot to register this in PhD TRACK. Most Schools/Institutes take action to improve this figure.

As the reports also show that the half-yearly progress assessment of all types of PhD trajectories are filled out by less than half of the supervision teams, the Schools/Institutes have also been asked to request their supervisors to do so structurally. The Schools/Institutes can use this information to predict necessary extensions and number of upcoming PhD defences. Of the FHML PhDs doing a PhD trajectory in 2019, the progress of one-third was qualified as good and on or ahead of schedule, 7% was qualified as having some delay and progress requiring attention, and only 2% was assessed as insufficient, being seriously behind schedule. Of the other trajectories, either no progress evaluation was done as yet, or the PhD had started less than half a year ago and there was no period to assess as yet.

Also, the number of PhDs that is supervised by a particular supervisor was reported: 79% of the supervisors have 1-4 PhDs, 13% 5-9 and 8% 10 or more PhDs. Supervisors who have many PhDs are generally principal supervisors who have less frequent contact with their PhDs (meaning about once a month with the whole team) than (daily) co-supervisors who generally have weekly meetings with their PhDs.

The dropout rate of the cohorts of internal PhDs who started in the period 2014 – 2020 at FHML/MUMC+ as a whole is 7,3%, of which 3,8% drop out during their first year. The striving figure for the overall dropout is 5% so this is a point of attention for FHML, especially because many of these projects have not been completed yet, so the final dropout rate figures are likely to increase further. The first year is meant as a probation year with a go- no-go meeting in the 10th month, so if dropout occurs, it is preferred during this first year.

Advice was provided to the School/Institute PhD coordinators and directors with regards to these issues, to improve the adherence to PhD TRACK as this is meant to support PhD candidates with important milestones in their project, as well as to improve the insights into how PhD trajectories are faring at the Faculty.

4.3 SEP visitation reports and recommendations on PhD related topics

In the latest SEP visitations of the Schools, no critical attention points concerning PhD policy came up. In general, the assessment committees expressed their appreciation for the high-quality PhD programme, the structural monitoring of the progress via PhD TRACK, the dedicated PhD coordinators and confidential advisors, and the existence of committees providing advice on PhD related topics, including the Faculty PhD committee and School-specific PhD panels and platforms. A summary of the recommendations of the assessment committees concerning PhD related topics and the reactions/implementations of the Schools are described below.

One of the recommendations concerned paying more attention to an appropriate introduction to PhD TRACK for new PhDs to the School/Institute, including a (regularly updated) PhD guide to introduce PhDs to the organisational aspects of the School. Based on this recommendation, every School/Institute has now regular introduction meetings for new PhDs in which information on the School/Institute, the PhD programme, PhD TRACK and other relevant regulations is shared. In addition, some Schools organise more specific annual PhD-PhD meetings or retreats, addressing topics such as career planning (in academia, industry, government), training in professional skills or scientific integrity.

Related to the recommendation to create an easily accessible infrastructure for questions and advice for (new) PhDs, and to be able to recognise problems in an early phase, a buddy system is

developed within several Schools, in which a more experienced PhD (preferentially from another department) will be linked to a new PhD. In one School an additional coaching-system was set up, in which a coach (staff member of another department) is assigned to each new PhD. The coach will meet the PhD approximately six months after the start of the PhD trajectory for a first time. Additional meetings will be based on the need of the PhD. The meeting should provide an opportunity to discuss secondary aspects (first experiences, problems encountered, etc.), to be able to prevent potential misalignments at an early stage.

Concerning a recommendation of the assessment committee to put more effort into monitoring the quality of supervision of PhDs and into training supervisors on a regular base, the following actions were taken by the Schools/Faculty: PhD coordinators regularly evaluate the supervision of PhDs (using the PhD TRACK system and the regular meetings with the PhDs). In addition, Schools encourage supervisors to follow the training of supervisors (BKB) and the requirement of a minimum of two supervisors is monitored regularly by the PhD coordinator via PhD TRACK.

The implementation of the recommendation concerning the lack of an obligatory course for PhDs on scientific integrity and research data management has been taken up at the faculty level by means of the development of an online course on scientific integrity by the FHML/MUMC+ Platform Scientific Integrity (PSI) and at the UM level as part of the Graduate School project. The goal of the PSI is to perform a pilot of the FHML/MUMC+ online course scientific integrity end of 2021. To inform PhDs about the regulations and procedures regarding scientific integrity, a lot of attention was given to the launch of the updated [Research Code Maastricht UMC+](#) (every new staff member/PhD receives a folder of this code). Moreover, PhDs were encouraged to play the dilemma game and a [list of aspects related to scientific integrity](#) was developed and shared by the PSI.

All these PhD related initiatives by the Schools/Institutes, resulting from recommendations of the assessment committees, are collected in a document 'best practices Schools/Institutes' and are regularly shared and discussed in the meeting of the Faculty Board with the directors of the Schools/Institutes.

4.4 Annual report Faculty PhD committee (FPC)

The PhD coordinators, and a PhD representative from each School/Institute, are gathered in the Faculty PhD Committee (FPC), an advisory organ to the FHML Board that has been in place for over 15 years, and who meets every six weeks. In the FPC, the topics PhD monitoring, supervision and PhD education have been on the top of the agenda since the beginning. The central theme for the next three years will be 'The development of the PhD as a scholar'. This theme incorporates all aspects related to being a PhD candidate and developing into an independent scientific researcher. The theme is divided in three subthemes: (1) PhD well-being, (2) PhD teamwork and supervision, and (3) PhD academic competence development. For these three subthemes working groups were installed, consisting of members of the FPC, that are asked to each take one of the suggested subthemes to hand and take it to the next level. The PhD representatives in the FPC have the freedom to bring in any subject they like, and are encouraged to discuss issues they experience. Recently, they took the initiative to do an FHML-wide survey on "Work pressure and well-being among FHML PhDs (see above).

4.5 Annual report FHML/MUMC+ Platform Scientific Integrity (PSI)

Within FHML/MUMC+ the Platform Scientific Integrity (PSI) is installed to create a culture of awareness regarding scientific integrity. Moreover, the goal is to create an approachable and safe environment in which the topic scientific integrity is discussable among all employees involved in scientific activities, including faculty, supportive staff contributing to research, and PhDs, as well as students. The PSI is active since September 2018 and consists of representatives from each School/Institute. This platform meets every 6-8 weeks. The main focus of the PSI for the coming year is 1) education of PhDs and other staff as well as 2) creating awareness and an open discussion on the topic of scientific integrity.

The annual report 2019-2020 of the PSI showed the update and launch of the new [Research Code Maastricht UMC+](#) (see figure 1) in January 2020. Moreover, the PSI developed a [list of aspects related to scientific integrity](#). This list includes information such as links to useful websites/tools regarding scientific integrity. The aim is not only to abide by the principles set out in the Research Code Maastricht UMC+ but also to engage in a broader dialogue between researchers about

scientific integrity and good practice in research. The overview can be used by all persons involved in scientific activities, including faculty, supportive staff contributing to research, PhDs, as well as students. Moreover, this overview is designed for use by supervisors and PhDs at the start of a PhD trajectory, for discussion throughout the project and during the annual assessments. Both the Research Code Maastricht UMC+ and the list of aspects related to scientific integrity were added to PhD TRACK.



Figure 1: Aspects of Scientific Integrity covered in the Research Code Maastricht UMC+

In relation to one of the aims of the PSI to stimulate the discussion about issues and dilemmas related to scientific integrity, the PSI disseminated the [Dilemma game](#) (developed by the Erasmus University Rotterdam), to all Schools/Institutes and departments with the advice to play the game and discuss dilemmas in small groups, including PhDs. Furthermore, members of the PSI are regularly contacted by Schools/Institutes for support regarding interactive workshops on scientific integrity for PhDs within Schools/Institutes. Finally, the PSI informed the Faculty PhD Committee about its actions and developments regarding scientific integrity and the PhD coordinators and PhD representatives of the FPC were encouraged to facilitate/play the dilemma game with both internal and external PhDs as part of a PhD retreat or lunch activity.

To make the contact points and routes for researchers in case of questions or complaints regarding scientific integrity more clear and transparent, the PSI will set up an overview/roadmap for researchers in case of questions/complaints regarding scientific integrity. Moreover, the PSI seeks to explore the feasibility of a remunerated Scientific Integrity Consultant/Advisor within each School/Institute to have a contact point for questions but also to create awareness and inform researchers about the available tools.

In 2019-2020 the PSI mainly focused on development of education on scientific integrity for PhDs and other staff. To reach all the PhDs (internal and external) the PSI decided to develop an FHML/MUMC+ online course scientific integrity (1 ECTS) with Problem Based Learning tailored to the Maastricht UMC+/FHML own context. As already mentioned above, the goal of the PSI is to perform a pilot of the FHML/MUMC+ online course scientific integrity in October 2021.

Because PhD supervisors play a central role in research ethics and scientific integrity of research projects and (should) serve as a role model for their PhDs, the PSI will pilot in March 2021 a full workshop on scientific integrity for PhD supervisors (who participated in the BKB in 2020). This project is financially supported by the UM platform Research Ethics and Integrity who granted this proposal called 'Staff development: getting PhD supervisors on board for research ethics and scientific integrity' in 2019.

5 Interviews PhDs

In the next part of this documents, we will elaborate on the results from the group interviews we performed with PhDs of every School/Institute. The following topics were addressed in the interviews with the PhDs, as described in the interview guide (see annex 1).

5.1 *Contact and communication between PhDs and supervisors*

5.1.1 Supervision teams

Supervision teams consist of two or three supervisors, sometimes four, who are involved from the beginning. One of them is the principal supervisor ('first promotor'). This can be a professor or, since recently, an associate professor. Sometimes one team member is from a different Faculty or university in the Netherlands or abroad or working at a different kind of organisation. A supervisor must have a PhD degree. In almost all cases it is clear who the daily supervisor is. In several cases, the promotor has taken up the role of daily supervisor.

5.1.2 Frequency of contacts with different team members

The general picture is that most PhDs have a weekly meeting with their daily supervisor in which they can talk about research as well as about more personal matters, and a meeting with all team members once a month. In some cases, especially where the PhD is in the last phase of the project, there is less contact, e.g. every 2-3 weeks with the daily supervisor and every 1-3 months with the promotor as well. By then, they know what to do and can proceed with less frequent guidance, so they actually prefer this themselves.

In contrast, a (clinical) PhD tells that only few meetings were scheduled with the supervisors throughout the whole trajectory and the PhD is faring on haphazard encounters with the supervisor in the corridor during clinical work. PhDs of another School also have the impression that those who work in the clinic or have supervisors working in the clinic find it more difficult to have regular contacts, both with their peers and with their supervisors. But for internal PhDs, at least one supervisor is there when needed and can also be contacted in between the regular meetings, by email, phone or Zoom/Whatsapp. In one case, where the supervisor is now residing abroad, there is still frequent contact.

There is a clear difference in the frequency of contact with the daily supervisor and the promotor. In cases where the daily supervisor is an associate professor or professor, the PhD generally receives less guidance, which is interpreted as being due to the busy schedule and managerial tasks of the supervisor(s). In those situations, the PhDs do not take the effort to approach them for minor things or more frequent contact, as they are very understanding that the supervisor in this position is very busy. However, this does lead to the PhDs having to find out more by themselves and planning strategically and well-beforehand when to send work-in-progress or questions to receive proper feedback. This requires good planning skills and thoughts about how to allow for supervisors to provide feedback in the most convenient manner (how to manage the supervisor's support and cope with the mental pressure about this). When a postdoc or assistant professor is involved, of whom they have the impression that this person has more time available for PhD supervision, the contact is more frequent, and the PhD feels more comfortable to approach this person with smaller questions as well. They experience an easy-to-access supervisor as very helpful.

In some cases, a team member is absent because of personal circumstances (pregnancy leave, sickness, or the supervisor has left the University). It seems that in these situations, the supervision team does not always ensure that another person is found to (temporarily) replace this team member. The PhDs indicate that in those circumstances, they miss the involvement of an additional person.

5.1.3 Kind and nature of the contact

The kind and speed of the response of supervisors is considered very important, for example, it feels really good and encouraging to receive a supportive and personal response when an article is rejected or accepted. Most PhDs receive relevant feedback. Having several supervisors, especially when they are from different departments or elsewhere, gives the opportunity to get different things from each supervisor. For example, from one supervisor the PhD may expect detailed content-related feedback and from the other a more general picture.

5.1.4 Feeling supported and protected and the difficulty of giving signals

Several PhDs of a particular School/Institute say that their supervisors are very protective and concerned for their well-being and work-life balance and make sure that they do not overload themselves (e.g. with educational tasks). They appreciate that the contact is frequent and supportive and they feel safe to discuss all kinds of matters and feel really heard and taken seriously. PhDs of other School/Institutes say the same about their particular supervisor, who also inquires about their well-being, but there are differences in the level of support between supervisors and across departments within the School. A lot depends on the 'click' they have with the supervisor. They find it important that supervisors ask how they are doing, but stress that this interest should be genuine and not just a mere introduction to the meeting. However, not all PhDs feel the need to share matters of a more personal or emotional nature with their supervisor(s) but have a more content-related communication and prefer to focus on the content so that they can go ahead with the research. Only in very serious situations, they would talk to their supervisor(s) about personal matters.

Speaking in general terms, they say that it is not easy for PhDs to bring personal things up and PhDs may be hesitant because they feel uncomfortable showing vulnerability towards their supervisor, or fear that the supervisor might not be understanding. PhDs often think that supervisors will pick up certain signals, but this is not always the case and supervisors generally do not take initiative to ask for matters of well-being and coping, they seem to expect that to be brought up by the PhDs themselves. It would certainly help if they would take the initiative; then the PhD knows that there is room to bring up matters. Bringing up extension of the contract is considered a threshold by most PhDs, who are afraid they will not get a response, or it will be said that they should have worked harder. For those who have to do a lot of logistics and organisation of their own PhD research, graduating within the contract time is hardly possible. It really helps if the co-promotor is supportive in addressing this with the rest of the team. In general, the communication and relationship with supervisors in general becomes better when PhDs dare to express themselves and indicate what they need. They find this easier during their later PhD-years.

5.1.5 Less favourable situations

Sometimes, a PhD has a different kind of research than the colleagues at the department and the supervisors are not really experts on the topic (for example because the original expert has left the university). Then it feels to be working in isolation and having to be very independent. Or another difficult situation is when several supervisors are involved who have a very different disciplinary background, or they just have opposing opinions. In such a situation, the PhD feels crushed in the middle and it requires a lot of communication skills to get what you need from each of them separately, or find out how you can find your way between these opposites. Then the feeling of being thrown back upon yourself is quite pronounced, although even in these cases, when the PhDs do speak up, the supervisors are taking them seriously and are supportive. It however requires a reasonable degree of assertiveness to be able to express dissatisfaction and a joint point of view from the supervisors. Considering the strain put on a PhD in this position, it is not recommendable to involve supervisors in the same project if they are not open for one another's professional and methodological opinions with regards to the research topic. Some PhDs have the feeling that supervisors are checking upon them, resulting in an awkward sense of being controlled, which is also less favourable for the wellbeing of the PhD and the progress of the research.

5.1.6 A good relationship with the supervisor

It is often mentioned by PhDs that they are lucky when they have a good team of supervisors and a good relationship with them. However, at the same time, a backlash of having a good relationship is, that the PhD may not want to disappoint the supervisor, for example with regards to different future plans. Another disadvantage of having a good relationship with the supervisor is that the PhD feels the obligation to be understanding when the supervisor indicates to not have time to give feedback or to have a meeting, because of a busy schedule. It also happens that two supervisors in a supervision team have such a good relation that, if you confide in one of them, the other person will also be informed. Also, when supervisors always agree because they are from the same department and have the same line of thinking, this may feel suffocating. Having a third supervisor from another department would help in giving more air in that situation.

5.1.7 Low level of hierarchy at FHML

The relation with a lot of supervisors almost feels like working as colleagues at the same level, instead of hierarchical. The PhDs feel valued and taken seriously and stimulated to think and come

up with ideas. Striking is that several PhDs indicate that when a supervisor from another Faculty or University is involved, they experience a large difference in the relationship that they find difficult to deal with. The approach and attitude is far more formal and hierarchical outside FHML. They sense that these external promoters are of the opinion that you should work overtime, just do what you are told and accept that they have more power. The PhDs find it difficult to find a good *modus operandi* for communication with them, and especially in the beginning, they feel overwhelmed or even somewhat intimidated and experience difficulties to cope with it. The impression emerging from the stories is that, within FHML, the communication with supervisors is on a rather equal level, being quite direct, fast, efficient and supportive, more so than elsewhere.

5.1.8 High workload of supervisors and insight of supervisors in the workload of PhDs

Many of the PhDs that we have spoken to see their supervisors struggling with the workload, and mention that these supervisors are not easy to reach. This is experienced as a problem, especially when the supervisor is both promotor and daily supervisor at the same time. However, the PhDs have a lot of understanding for this. It happens in several cases, especially for PhDs in their last phase, that they have meetings with their supervisor(s) in the evening. On the one hand, this phenomenon may be COVID-related, as organising a Zoom-meeting outside working hours is easier now, and because supervisors work at home with children present during daytime, and work-pressure of supervisors and PhDs has increased quite a lot during the COVID-pandemic due to educational tasks. However, it becomes clear that it is a quite common practice that PhDs receive emails from their supervisors in the weekends (or late in the evening). This also shows that FHML staff has become used to working outside office hours to provide their PhDs with feedback on their work-in-progress. Especially in the last phase of their PhD trajectory, the PhDs do not mind, because they work overtime anyway and they prefer to be given feedback and guidance at short notice, even if it means having meetings in the evening.

However, PhDs have the impression that supervisors do not have a good insight in the daily workload of PhDs. Most of them express that they want to set limits to their working hours, but find it tempting to respond to emails that supervisors send in the evenings and weekends. They say that you have to keep an eye on how much you can handle yourself and, apart from one department where supervisors were experienced as really supportive and protective, supervisors will hardly ever say that the PhD is working too hard. Many are prepared to do so by themselves, especially during the end-phase because they want to finish in time, but they are not addressed by supervisors in the sense of "you are working too hard".

5.1.9 Influence of COVID on the contact with supervisors

For some PhDs, the COVID measures have made contact with their closest supervisor more easy, due to Zoom and app possibilities, while others clearly experience less contact, because the supervisor's days are already filled with Zoom meetings with students during their days and the PhD assumes or knows that this person is reluctant to plan yet another Zoom with their PhD. When most people currently working from home, you can't just knock on the door of the supervisor or someone else, when you have a small question. During COVID-times, it is often hard to do anything else than work, and some supervisors even tend to encourage that. Another drawback of working from home is that signals are picked up less easily now.

5.1.10 Starting up a new trajectory

Several PhDs have experienced the start of their project as a difficult period. They were more or less thrown into the deep while the workload is already high. In some cases, the supervisors were helpful and supportive, in other cases they were rather absent. You have to find out a lot by yourself. You don't want to bother them too much, as you know that they are very busy and have many responsibilities. PhDs indicate they understand that supervisors do not have the time to teach the PhDs all kinds of practical or technical details. Having experienced these difficulties in the beginning themselves, PhDs at several Schools/Institutes try to support and introduce new PhDs. Especially with regards to lab procedures and techniques, this takes up a lot of time that you cannot spend on your own research. Although this works quite well, it would be good for the next generation of PhDs to have somebody on the team, such as a postdoc or a younger staff member who could supervise on a more frequent basis and would be easier to approach, also for smaller questions.

5.1.11 Overall impression

In general, PhDs find the content-related guidance they receive sufficient. Also, the relationship with the supervisors is experienced by the PhDs we have spoken to as good to very good, both in quality as in quantity. They are quite pleased with the availability and accessibility of their

supervisors. There are differences between supervisors, but contacts are quite regular and they are available rather quickly if needed. FHML staff are experienced as easy to reach and accessible, and they respond fast and well and are helpful when needed. However, there are some difficulties, but these seem to be related to particular situations and are not associated with particular Schools. The overall impression emerging is that there are large differences between the situations that PhDs work in, differences between supervisors and how teams function, how each supervisor takes up the supervision role and how PhDs themselves grow in taking up their own role. Some PhDs are very satisfied and dare to discuss everything, while others find it more difficult to discuss personal matters, hope that their supervisors would show more initiative in this, or prefer not to talk about these things and are happy to just focus on the content. The PhDs indicate to have different kinds of contacts with each of their supervisors, which allows them to gain different insights and kind of input learn different things from each of them.

Although some PhDs have indicated that they have relatively few contact moments and feel hesitant to bother their supervisor (in particular when this concerns the promotor with a high workload due to many managerial tasks), in general the satisfaction of PhDs with regards to their supervisors is quite good. FHML staff is easy to reach and they respond well in most cases.

Attention may be drawn, though, to the fact that some supervisors are temporary absent from teams or on leave. As the PhD trajectory only lasts for four years, 'just a few months' in these cases are experienced as very long by PhDs. The remaining supervisors may not always be aware of this.

The terms being 'lucky' or 'unlucky' with regards to supervisors and work-related circumstances are often used, especially with regards to the relation with the supervision team and their responsiveness. In general, the prevailing culture is to talk about the content of the research. The possibility to bring up personal matters and problems is generally there, but the way supervisors listen or act in response to this varies. Mostly, PhDs seek understanding from and prefer to exchange thoughts with their peers about things they find difficult, while they are more hesitant to address issues with their supervisors, not wanting to affect the relationship.

5.2 Organised activities for PhDs within Schools/Institutes and departments

PhDs mention that both regularly organised meetings and activities that are either content-related or more informal, as well as lots of informal peer contacts and activities take place. The majority of these are organised by the PhDs themselves.

5.2.1 Content-related peer meetings

The first type are content-related meetings and entail discussing research, work-in-progress or inviting a speaker. In one of the Institutes, colloquia where PhDs present their work are organised on a weekly basis and small working groups are created around certain techniques or topics, in another department every other week. At most other Schools/Institute, these meetings are held as well, but less frequently. Next to this, some departments also organise Journal clubs or other research-related theme meetings regularly. Presenting your work to peers feels rather comfortable and low-threshold and they value giving each other constructive feedback. Only in a minority of departments, PhDs seemed unfamiliar with the idea of having these kinds of meetings.

5.2.2 Informal peer meetings and social activities

In the other type of meetings, that are more informal meetings, all sorts of things can be discussed amongst peers. At most departments, PhDs regularly connect with each other as they feel a need for peer contact and social initiatives. For example, they organise regular drinks or lunch meetings. Also, PhDs go sporting or have a coffee together. It is quite easy and common to get into contact with other PhDs, maybe even easier since COVID, because of the use of app groups, joint Zooms replacing coffee breaks or the online Slack environment of the department. Nevertheless, they miss the direct contact with roommates now. It helps you to get through difficult situations when you can share your thoughts with your direct colleagues. They all really appreciate the contacts with other PhDs and express the importance of being connected.

5.2.3 Meetings with both PhDs and staff

At some departments, but this seems less wide-spread, PhDs also have regular meetings where staff and/or the PhD coordinator are joining. These are experienced as really valuable. However, when review meetings are held, PhDs sometimes felt uncomfortable because of the critical and not constructive feedback given and became hesitant to share their work. This has improved since this was discussed. Several PhDs remarked that at their department, there is little interaction between

PhDs and younger staff, such as postdocs or assistant professors, or this level is missing almost altogether, and they express that they miss the opportunity to exchange academic matters with staff that is just one step ahead of them. Also, some tell that when senior supervisors show no interest in the PhDs as a group, they feel miss out and left out. In departments with a relatively young and energetic staff, you have a larger sense of belonging because they often interact with the juniors.

The overall picture is that it is quite common that PhDs have peer research meetings to discuss and present their work. Meeting others, be it peers, or staff in different functions, has a clear and very important function for PhDs. According to the PhDs, the PhD culture is not only shaped by the supervisors and the PhD team alone; it also consists of peers, postdocs and others, who can be really important. Regularly meeting a variety of colleagues in different settings is experienced as genuinely favourable for their well-being, sense of connection, academic and personal development. It helps them to find out what is normal to ask and discuss in various settings. Finding this out helps them over time to get more comfortable to speak up. Joint activities and meetings are helpful in this.

5.2.4 Activities and meetings School/Institute level

Next to the contact between PhDs within departments, there are also contacts between PhDs across departments within a School or Institute, as well as at Faculty level. Also, the PhD representatives of the FHML Schools/Institutes (one representative of each School/Institute) meet each other every six weeks in the Faculty PhD Committee and in a preparatory meeting prior to the FPC. In addition, one of them is also interacting with PhDs at UM level. Within each School/Institute, the PhD representatives organise activities, generally in cooperation with the PhD coordinator. Almost all PhD representatives organise themed PhD meetings for their School/Institute and most of them also an introductory meeting or several introduction days, a course week, or even a summer weekend. Topics range from printing your thesis, presenting your work/poster, a career event, to a workshop on communication. Also, in some Schools/Institutes, surveys are performed to gain information from PhDs, and several have a special PhD newsletter or magazine. The PhD representatives continually brainstorm about setting up things for PhDs. For example, some Schools have taken initiatives to build an online PhD community so that all types of PhDs can easily contact each other. The meetings and information organised by the Schools/Institutes have two purposes: informative as well as meeting peers, also across departments. It depends on yourself how active you would like to be. Online, externals can also join, but on-site it is generally the internal PhDs who join. Apart from one School that continued to organise these meetings during COVID online but had no Annual Research Day, most other Schools/Institutes did not organise these online PhD activities during the lockdown but had an online Research Day.

5.3 Information and contact persons available for PhDs

5.3.1 Need for information and contacts persons when starting up

At the beginning of a new PhD trajectory, most internal PhDs are introduced to their peers at their department, which in some cases is also their School/Institute. The PhDs we have spoken to realise that it is difficult for new PhDs to build a good support system and feel worried for the new ones, in particular those who start during the COVID period. They refer to their own experiences of confusion and uncertainty at the start in a totally new environment and workplace and that you have to get to know your way around. One PhD was not introduced on the first working day and there was no desk, nor workspace, which was experienced as not very welcoming and disappointing. It is easier for those who were a student at UM before and know quite a few people already and know how things work. It also helps if supervisors are very supporting. Out of concern for the new PhD candidates, several PhDs, sometimes being a PhD representative, contact a new PhD and some Schools have set up a buddy system. The ones that are a buddy feel very responsible.

PhDs also indicate that there is little practical or logistical support for PhDs, for example by a secretariat, so they have to find out and arrange a lot themselves, such as letters, inclusion, measurements. They also don't always know who is responsible. Many tell that they pick things up themselves so they get what they need, which costs a lot of time. Sometimes an intern or someone who helps at the lab is arranged as support.

5.3.2 PhD guide and introductory meeting by the PhD coordinator

Most Schools/Institutes have a guide as an introduction, sometimes covering all aspects of doing a PhD, sometimes very practical and focussing on the use of the equipment. Several

Schools/Institutes have an introductory conversation with the PhD coordinator, but not all, and some also have a PhD introduction day, or an introduction event of several days. PhDs find it difficult to get familiar with the existing structures. PhDs who take up an active role within a School/Institute or in a different sense, are more informed about the way things are organised and the role of diverse contact persons.

5.3.3 Organised meetings at the department or School

About all Schools/Institutes organise specific meetings for PhDs, such as an introduction meeting with the PhD coordinator, or one or several introduction days, and something for PhDs during the Annual Research Day. The goal next to content-related exchange with peers is the opportunity to meet other PhDs. However, the experience is that PhDs of certain -more active- departments show up regularly, while it is difficult to reach others. Thus, it is difficult to know whether there are PhDs who experience problems. The PhDs do not know how to solve this. During COVID, most of the more official meetings of the School/Institute were continued, but not the more informal ones, such as the drinks that were organised every few months by one of the Schools, because of 'Zoom-fatigue'.

5.3.4 Contact in case of problems

Depending on the subject or situation, PhDs turn to different people for emotional support. It seems that personal problems, related to work or having an effect on work, is first and primarily shared with their peers/roommates, family and friends. They find it difficult to discuss larger matters that also affect their work with the supervisor(s). Expressing this to the person is difficult, as it may harm the relationship.

Across most Schools/Institutes, PhDs have little insight in what could be done and whom to contact in case there are problems with a particular supervisor. They think it is difficult for most PhDs to find out where they can go for what kind of problems, and whether it is confidential. They find it important that there is more information available on this because they think there are people who don't know whom to turn to.

5.3.5 PhD coordinator

In about half of the Schools, the PhD coordinator is hardly mentioned as point of contact. Those PhDs indicate that they are not aware that the PhD coordinator can play a role in case of problems, or say they would not to turn to this person to discuss personal or emotional matters, as they hardly know them. In contrast, two Schools have organised more frequent contact moments between PhDs and PhD coordinator(s): one School has a PhD coordinator who has a group meeting with all internal PhDs every six weeks, and another School has three PhD coordinators who each have a set of internal PhDs that they talk to every year. This is considered helpful.

However, in several Schools there is a feeling that in case feedback is given or problems with supervisors are discussed, too little is done with this. PhD TRACK could be taken more seriously, one can enter information, but it only seems to be picked up if several PhDs have difficulties with a supervisor. Picking this up earlier, also in individual cases, can be beneficial for other PhDs in the same position in the sense of learning from these cases. A 'red flag' should really be taken seriously, as it is a large step to give a bad score, indicating that a lot has happened already. A PhD who had several arguments with the promotor and felt not being trusted, turned to the PhD coordinator as well as the confidential advisor. It was helpful for putting things into perspective and feeling supported, but it was difficult to follow-up some of the advice given, as this would mean revealing to have spoken to someone else about it.

5.3.6 Confidential advisor

There is also some confusion about which subjects you can discuss with a confidential advisor. Most PhDs feel that problems have to be really big before you go to a confidential advisor.

5.3.7 PhD representatives as trust persons

PhD representatives are considered easier to talk to and, especially in the smaller Institutes, also pick up the role as support person with whom PhDs confidentially share problems with.

5.4 Training and development

5.4.1 Use of TSP and PRP

All PhDs have a TSP and PRP, but the way that supervisors and PhDs deal with it, seems to differ a lot. Although the documents are filled out and uploaded in PhD TRACK, the majority of PhDs does not actively use it after their first year. Many PhDs indicate to have a TSP and PRP “because you have to have one” and mention that the documents have to be uploaded in PhD TRACK, and need to be discussed in the first appraisal meeting in which someone from HR will be present. Other than that, these PhDs do not seem to take the TSP and PRP very seriously, and do not regularly update the documents. There are also PhDs though, who – although they do not regularly update their TSP and PRP – still appreciate the fact that they have those documents and like the fact that there were clear agreements made. Some of the PhDs take it one step further and use the TSP and PRP as a tool to evaluate their progress and discuss the updated documents every year during their yearly assessments, or even more often, in the regular team meetings. One PhD explains that the documents are being used in a very systematic way, as suggested by the supervisor: every quarter the TSP is being discussed in the team meeting and charts are being made about courses and conferences the PhD wants to follow. Not all PhDs however are keen on the idea of using the TSP and PRP as a tool to keep track of their progress: one PhD indicated to appreciate the flexibility of not having to deal with the documents, as it is very difficult to make an efficient long-term planning.

5.4.2 Overview of courses

Although many of the PhDs seem quite aware of all the courses and trainings that are on offer, this is certainly not the case for everybody. One of the PhD coordinators gives regular overviews on courses that might be relevant for PhDs and this is really appreciated.

5.4.3 Perceived freedom to choose courses/trainings

Many PhDs indicate that they feel there is real openness to discuss possibilities for training and development with their supervisors. However, this is not true for all supervisors. A remark that was often made by the PhDs was, that although one is stimulated to do a couple of practical courses, such as statistics, academic writing or presenting skills, this is not always the case for courses in the area of personal development. Especially now that the courses from the UM Staff Career Centre are not for free anymore, there is a lot of hesitation among PhDs to ask supervisors to follow such training.

5.4.4 Conferences

Many of the PhDs are stimulated to present their work at (inter)national conferences, and often the department/supervisor would have clear rules around it: ‘if you want to go to a conference you can, as long as you do something there’, or ‘everybody can go to one international and one national congress per year (even in the early stages if you do not have anything to present)’, or ‘you have to have done (or at least planned) your educational tasks and you have to have 70% of your research data’. The initiative for this is sometimes being taken by the supervisor, and sometimes by the PhD. Sometimes PhDs would feel some hesitation to suggest that they would like to go to a conference abroad, because of the costs. Some PhDs indicate to have applied for a grant to be able to go to a conference abroad. There are however also PhDs who are quite advanced in their PhD trajectory but have never been to a conference. In part this is due to the COVID pandemic.

5.4.5 Extra-curricular activities

Some PhDs have indicated that they would have liked to do some extra-curricular activities, such as organising conferences or acting as a PhD representative, but their supervisors would object to it, arguing that it was much more important to finish the thesis first.

5.4.6 ECTS points

PhDs seem to recognise the fact, that the EC points and the corresponding certificate that is being handed out by the School is there to stimulate them to develop as an independent researcher. They however also feel some pressure: as a PhD you want this certificate, but if there is hardly any time to follow a course, and your supervisor keeps telling you that your project comes first, it

is difficult. As one of the PhDs concludes, there seem to be conflicting interests: for the supervisor the first priority lies with the output, whereas for the PhD this lies with their development as a researcher.

5.4.7 Budget for training

As far as the available budget is concerned for training purposes, it seems there are as many different rules as there are supervisors: what is good for one person is not necessarily good for the other. Some PhDs would indicate that their supervisors let them free to choose whatever training or workshop they like and money does not seem to be an issue. This is however entirely the opposite for some other PhDs who feel indeed really frustrated, because they want to do some courses, but there is never any money.

As one of the PhDs puts it: "a PhD trajectory should be seen as a training, in which you should be able to develop your skills, on a professional level as well as on a personal level. It seems however, that sometimes a PhD trajectory is seen as a job rather than a learning trajectory. It seems especially difficult to find resources to do something to help you develop on a more personal level, for example to learn about a good work-life balance".

In general, the PhDs would really appreciate some clarity about the budget (in clear figures) that is available for PhDs to be spent on courses and development.

Among some PhDs there is a suspicion, that supervisors tend to want to invest more money in PhDs for whom they would envisage a future at their department, than for PhDs who will most likely leave after their PhD is finished.

5.5 Educational tasks for PhDs

The teaching obligations for PhDs differ between departments and supervision teams. Moreover, the rules and regulations for educational tasks and the communication about the teaching obligations are not always clear for PhDs. For some PhDs, educational responsibilities are part of the contract (10% educational tasks or 70-80 hours) and for others there are no teaching obligations. So, in practice there are PhDs who do educational tasks while other PhDs are not engaged in education at all.

Educational tasks vary from tutor-roles, a practical/lab supervision, lectures, correcting assignments, and supervising students during their internship. The PhDs report that in most cases the assignment of educational roles to the PhD takes place in consultation with the supervisor.

The workload for educational tasks for PhDs differs between departments/supervisors. For some PhDs educational tasks takes a lot of time (8 hours per week), for other it fits well within the 10% rule.

In the departments that oblige PhDs to do educational tasks, a strict follow-up of the 10% obligation rule for the PhD takes place. However, the recognition for teaching hours to PhDs differs between departments. It is noticed by the PhDs that hours coupled to the supervision of students (which takes a lot of hours) are not included as teaching hours for the PhD in the calculation system, these hours are assigned to the supervisor.

Some PhDs without educational obligations noticed that they see education as part of their development as a researcher working in academia. On their own initiative, some of these PhDs were able, in consultation with their supervisors, to do some educational tasks on a voluntary basis. However, there were also cases where PhDs were advised not to do any educational tasks. This was mainly due to the protective role of the supervisor (with regards to the work-life balance of the PhD) or because the principal supervisor was afraid that the project would not end in time.

The possibility for a PhD to follow the BKO course differs between supervision themes. Some PhDs were able to follow this course, while others were advised by their supervisor not to follow this course due to high time investment of the course.

5.6 Workload and work-life balance

5.6.1 Workload experienced by the PhDs.

Most PhDs acknowledge, that there is a difference in workload, depending on the stage of the PhD trajectory. When you are at the beginning of the trajectory, it feels that there still is quite a lot of freedom, although the amount of work is really big and it takes a lot of time. However, when you are in the process of finalising a PhD thesis, it is quite a different story and the workload can get really high. PhDs in the final stages of their projects sometimes work around the clock. In this context however, the caveat should be entered, that for PhDs who are just starting their PhD trajectory it is important that the instructions are clear and they know what to do. One PhD experienced a very high workload in the beginning of the trajectory, which was due to an unclear communication with the supervisors. As soon as the PhD student became more familiar with the whole situation, the workload lessened.

Some PhDs do experience a high workload and believe that it is important to know your own limits and indicate them to the supervisor, because a supervisor does not seem to have sufficient insight into what the workload actually is. Especially for a PhD who is just starting a PhD trajectory it is quite difficult to know one's limits. Furthermore, PhDs are very aware of the supervisor's overcrowded work schedule. Often emails arrive late at night or in the weekend and it is easy to be tempted to respond immediately. A PhD will not likely hear from supervisors: "Take it easy, you are working too hard".

Trust between supervisor and PhD, clear communication in the supervision team and a certain freedom to plan your own work seem to be key elements to ensure that the workload does not get too high. It is noted that some PhDs name these facts in the same breath: they feel free to plan their own work, no strict deadlines are imposed, and they do not feel too much work pressure. On the contrary, for one of the PhDs the workload felt extremely high and when the demands increased even more and yet more deadlines were set, the PhD felt on the verge of a burn-out. For this PhD a lack of trust and clear communication was certainly key to the problem. The PhD is not alone: another PhD indicated to have problems with the same issue as well.

Obviously, it is not necessarily bad to work very hard if you want to: part of doing a PhD is about being challenged and being pushed. It is considered normal to work more than 40 hours a week. Especially when working on multiple projects, everything tends to come at the same time. According to the PhDs, it is important that you learn to manage everything and sometimes you also need to learn to say "no". This is also part of the learning strategy.

Not all PhDs indicate to experience a high workload. There are PhDs who do not feel a lot of pressure and do not work a lot of overtime. They indicate to have full working days and sometimes also do some work in the weekends, but they cannot say it is too much. A point of attention concerns the balance between clinical work and research work for clinical PhDs. Clinical work is always more pressing, especially now during the COVID pandemic, which means that it is difficult to make a clear distinction between 'research time' and 'time in the clinic'.

Sometimes PhDs need the protection of their supervisor. One PhD explains, that in a collaborative project, the supervisor from outside the university had asked the PhD to do one more study on top of what was agreed before, and the PhD felt pressured. The FHML supervisor however clearly said that an extra study would not be feasible, as the PhD had a high enough workload already. The PhD really appreciated this and felt protected by the FHML supervisor.

PhDs refer to the competitive nature of the field they are working in as a source for work stress. However, how workload is experienced also depends on the personality of the PhD. If you are very ambitious, very perfectionistic or simply like to work in sprints and stops, this will give extra pressure. This is however mostly internal pressure. Quite a few of the PhDs admit to having quite a high workload, but feel that this is being imposed upon them by themselves. As one of the PhDs put it: "I do it for me, not for somebody else".

One remark that was heard more often was that it helps to have somebody on your team who has a low threshold, but still is very knowledgeable on your subject, such as a postdoc. This is especially important when your promotor and co-promotor are very busy people.

5.6.2 Workload and the lab

Working in the laboratory can be particularly stressful for different reasons. For one, it does take quite a lot of time and often multiple attempts to achieve some good results. There is simply a lot of failure. For one successful experiment you have to do a lot; you always feel the pressure to get it right. Furthermore, you can run into some bad luck, when your samples get lost for example, or something arrives late. That does add to the workload of a PhD.

Secondly, everyone who works with animals or cells in the lab experiences the pressure of also having to work on weekends or during the holidays. There is quite a lot of difference in the amount and nature of the work that PhDs do in the laboratories. Some people have to be at the lab almost day and night, other carry out experiments that can be planned well in advance, which is a lot less stressful.

One problem mentioned by most PhDs who are working in the lab is actually an inherent feature of the COVID measures. To make sure that the lab would not be too crowded at any moment, a planning system was created, where PhDs could choose shifts in the lab for the next month or so. For some PhDs however, this was not realistic, because it is difficult to plan so far ahead for the particular kind of work they need to do, but they did feel the pressure to fill in the schedule. As a result, the PhDs felt criticized when working at the lab at the 'wrong hours'. On the positive side, one of the PhDs explained that by being forced to plan ahead (on lab work that actually can be planned more easily), the PhD had learned to be more efficient.

The PhDs indicate to feel some pressure to go to the lab. As they know that the staff went out of their way to organise the lab in such a way, that everybody would be able to go in again, the PhDs feel the pressure to do so. Although it is not directly mentioned to any of the PhDs, there are some complaints that there is 'nobody in the lab' and the undertone is clearly that you are expected to go to the lab. According to the staff "it is a privilege to be able to work in the lab". Although the PhDs are grateful that they can do their work in the lab, they don't like the fact that they cannot do much else because of the COVID restrictions, and it does not always feel like a 'privilege' to only be able to go to work. One of the PhDs indicates to easily make 12-hour workdays.

5.6.3 Workload and publishing

PhDs feel a pressure to publish, and also a pressure to obtain good research results to be able to publish better. Furthermore, when working on publications, it takes a lot of planning and flexibility to keep everything going and to ensure that feedback is received in time. One of the PhDs had learned in the end to make sure that if one article would be with the supervisor for feedback, the PhD would be able to work on two or three other publications in the meantime.

Some PhDs indicate that they do not mind to work hard and feel pressure, as long as they are rewarded with an incentive, which gives them a feeling of achievement. For example, if you are working on projects and tasks, which are not immediately related to your own PhD study, and the projects have an outcome, it is important that a paper is written about it and that you are included as a co-author. As one of the PhDs puts it: "after all, in the end, nobody will ask you how many projects you have finalized, the only thing that matters is, how many papers you have written, that is what you will be judged on".

5.6.4 Work stress due to unrealistic expectations

It is noted that some PhD grant proposals seem to pursue unrealistic objectives, considering the time frame of a PhD trajectory of four years. This means that the demands on a PhD are too high from the onset and it will be close to impossible to live up to the expectations. Thus, the PhD has to cope with a project that is actually doomed to fail in advance, because it involves an unrealistic amount of work. Even though a PhD can be talented and hard-working, they can get really frustrated, because they are faced with an impossible task.

The same goes for PhDs who enter a PhD project in the second year, because the PhD who was previously on the project has stopped after the first year. This means that there is only three years of funding left, and the PhD student will have to complete the project in three years, which might not be realistic.

5.6.5 Work-life balance

PhDs indicate that it is important that supervisors are understanding, when they experience personal circumstance that interfere with their work, such as moving house or the death of a family member. Most PhDs seem to be able to discuss these matters and supervisors seem sensitive to the personal needs of the PhDs in these cases.

Some supervisors very explicitly invite their PhDs to talk about how they are doing, and they are really interested. One PhD student explains that in every monthly meeting, 10 minutes are reserved to NOT talk about work, but about personal life and other things. This is similar for another PhD student, whose supervisor will ask every meeting how the work-life balance is.

5.7 Publications, authorships and end-terms for PhD theses

5.7.1 Authorship

The PhDs indicate to have no conflicts or discussions regarding the first author place of a PhD on an article (written by the PhD). The involvement and places of the other authors is, in the opinion of the PhDs, a decision of the supervision team. The PhDs declare to have less or no influence on this, or do not want to get involved in the decision-making around the authorships and leave it up to the supervisors, because it has no further implication for themselves.

The PhDs remark that the commitment and involvement of co-authors in the research/writing process ranges from supplying a dataset, to providing feedback on a draft version/final version, or to having no involvement at all. The PhDs report that sometimes researchers are included in the list of authors, whereas they did not really contribute to the publication. They assume that researchers are sometimes put on the list of authors only for political reasons. In other groups, however, there are specific and clear rules about co-authorship (if the co-authors do not give any feedback, they are taken off the list).

Some PhDs report a discussion within the team about the last authorship on a publication, this mainly concerns articles in which several departments or groups are involved.

5.7.2 Writing article/feedback

In all interviews it was noticed that the PhD writes the article him-/herself and that supervisors give feedback. This feedback varies from re-writing a small part to making it more clear, or giving suggestions for better sentences, English grammar check and advice to rewrite a specific part. The comments and feedback by the supervisors are seen as added value by the PhDs and in the end the PhDs continue to feel the owner of the article. In one case it was reported that a supervisor had written a small part concerning a certain topic that both first authors were not entirely familiar with yet. Moreover, one of the PhDs signals that for some clinical PhDs, supervisors may write some parts of the article because clinical PhDs spend a lot of time in the clinic. Other PhDs experience this as unfair because in the end the value/degree of the PhD title is the same for everyone. This also is the case for the differences between starting PhDs who are presented with a completed database versus PhDs who have to write a METC application/inclusion of patients before the start of their project.

The main process of feedback is described as follows: the PhD writes a draft of the article; this will be sent to the daily supervisor first for feedback and it will go back and forth a couple of times. When they decide it is good enough to be sent to the co-authors, it will be sent to all co-authors, give them some weeks for feedback, incorporate the feedback, send it one last time to all co-authors for approval and then it will be submitted.

The decision related to the finalization of an article for submission is made by the main supervisor. The time taken by the supervisors to give feedback varies between PhDs. There are cases where this process of feedback takes a long time due to, for example, collaboration with multiple authors or an extensive supervision team in which the opinions of the members can differ. These situations are difficult to cope with as a PhD.

5.7.3 End-term for a PhD theses

Agreements between the supervisor and the PhD about the end-terms for the finalization of a PhD thesis mostly involve having an outline of the thesis and some guidelines. For some Schools/supervision teams these guidelines are stricter (for example 3-5 chapters of which 1 published). It is recognized that the content of a PhD thesis can change over time.

5.8 Annual assessments

5.8.1 Frequency

Nearly all PhDs have annual assessment meetings with their supervisors. Usually all supervisors of the team try to be present at these meetings. It is also mentioned that, aside from the annual meeting, twice a year the evaluation in TRACK is being filled out.

Two of the PhDs indicate that they did not have 'real' assessment meetings any more after the first year. One PhD explains that it took some time and many reminders from TRACK to get the first assessment meeting organised. Sometimes a head of department will really push supervisors to organise annual assessment meetings. In some cases the initiative to organise the annual meetings lies merely with the PhD.

5.8.2 First assessment meeting with HR

The PhDs remember their first assessment well, and mostly appreciated it. For some PhDs this marked the deadline before which the TSP and PRP needed to be finished, because somebody from HR would be present at the meeting as well. Many PhDs remember their first assessment interview as an official moment in which their performance was openly discussed, and the supervisor would tell the PhD what is going well and what could be improved. This kind of feedback is seen by the PhDs as important for their personal development. As somebody from HR is present, it becomes easier to talk about personal development and really look at the positive and less positive things. This was sometimes missed in the follow up annual assessments.

5.8.3 Content of assessment meetings

In general, in the annual assessment meeting, the PhD and supervision team together will look at the broader picture: they will look back on what has happened the year before, and will look to the future, at what still needs to be done. Some PhDs prepare for these meetings by drawing up an agenda for the meeting or making a presentation, based on the PRP and TSP, to give an overview of what has been done and what still needs to be done. Some PhDs keep a list of core competences that are being discussed during the annual meetings, based on the list of core competences in TRACK.

It seems that for some, the focus of the annual meetings changes over the years: the first two years the annual meetings seem to be more project-focused; the last two years it is more oriented towards the future of the PhD student. There is however quite a lot of variation in scope of the assessment meetings. While some PhDs indicate that assessment meetings mainly focus on planning and technical details, others indicate that they would have expected (and wanted) more information on the overall planning, but have the feeling that the supervisors would rather not talk about this in too much detail, because things are not entirely clear.

Some supervisors seem more at ease talking about subjects such as performance of the PhD, or career perspectives, than others. Their PhDs indicate that they took the initiative to talk about these things.

5.8.4 Experiences of PhDs with annual assessments

Most PhDs appreciate the annual assessments, and indicate that they like to hear what the thoughts are of their supervisors about their performance: are they doing well, what can be improved? They like to brainstorm with the whole team as researchers about the research project, and obviously they also like to hear that they are appreciated. Sometimes PhDs would have liked to get more clarity on the overall planning and some practical agreements, and get some reassurance on when the PhD would be finished. PhDs really appreciate a conversation on their personal development and their career perspectives.

One of the PhDs does not have very good experiences with the annual assessment meetings, because the supervisor never gave the feeling that the development of the PhD comes first. This PhD has learned that it is important to take initiative and not be too cautious. Right at the other end of the spectrum however, there is another PhD, who explains that the supervisor invites all PhDs once for a more personal meeting in an environment outside of the university to be able to sit down and have a proper one-to-one conversation about the development so far and career perspectives. That is really appreciated.

5.9 Prolongation of a PhD

5.9.1 Finishing in four years has become the norm for both PhDs and supervisors

In general, PhDs have the feeling that the end date is being kept in mind, that the demands are doable and not stretched to add yet another article if there is no time. All PhDs have it clear in their minds that they have to finish the thesis in essentially 4 years. They find it important to keep track of the timeline. In particular, the end date of Chinese Scholarship PhDs is monitored strictly, as this is a fixed situation. This seems a clear shift in comparison with previous years, when it seemed quite normal for both supervisors and PhDs to finish the thesis in their own time at home, after the contract had expired. This is not common at all anymore. The PhDs say they work extra hard to finish in time and hope that supervisors are willing/able to extend the contract, if needed. Clinical PhDs usually want to finish their PhD well before the end of the fourth year, because they are eager to pursue their career in the clinic.

5.9.2 Working overtime in the final phase

All PhDs who are in the final phase express that the work pressure is very high when you are finalising your PhD thesis and includes working in the evenings and weekends, but they also admit that this is because they are very motivated and competitive themselves and want to finish and deliver a very good job. Almost all interviewees could be labelled as 'workaholics': they express themselves that they really like to work. Supervisors do not always see the time pressure of PhDs who want to finish their PhD in time.

5.9.3 Information about guidelines and arguments with regards to extension

With regards to extension of the contract, most PhDs agree that the emphasis is put on finalising the thesis in time, and that PhDs are pressured at first to finish as quickly as possible and are told that there will be no extension. Then suddenly, sometimes just two weeks or just days before the end date, an extension is given. There seems to be a lot of uncertainty and they don't seem well-informed with regards to the existing guidelines for extension of the contract. PhDs have the impression that some get an extension while others do not, or it remains unclear when and if it will be discussed. They find this uncertainty difficult, especially when you are looking for another job. However, they don't seem to look for the actual procedures and information or approach HR or the PhD coordinator. It is not a question that they think the PhD coordinator can be helpful with.

5.9.4 Discussing the planning is difficult and options for extension are unclear

Although the planning is being discussed in the annual meetings and can be brought up, it is experienced as something in which you have to take the initiative yourself. It is a difficult subject for the PhD, as they then feel as if they should have worked harder, and it is not a nice feeling that you have to admit that you will not make it in the contract period. The impression is that this is often a sensitive point with regards to supervisors, which obviously has to do with money and something supervisors prefer not to discuss at length, as long as they have no answers themselves yet to the question 'what if you don't make it in time?' Only in the last phase there is attention for that, when it becomes an acute situation. One PhD adds that a co-supervisor can play an important role in this; if this person pushes a little bit and signals that it is really necessary to make sure there will be an extension, it generally is arranged. As PhD you have little influence on this, they presume. There seems to be no clear general line.

5.9.5 Difficult circumstances to finish in time

Often, it is clear from the start that projects are not feasible and it is not realistic to expect to be able to finish within 4 years, and everyone knows that according to the PhDs. Projects are very different, and external factors also play a role, but the content of some grant applications were clearly not feasible from the start, e.g. with regards to the recruitment size, setting up an intervention study, or the amount of measurements. This is a struggle for the PhD doing the research and quite unfair, because even if you are very good and work very hard, it is an impossible task to finish within the contract period. It has happened that the thesis could not be rounded off in the very last phase, because the PhD already found a new job and was not able to finish the project anymore. Other examples mentioned several times are projects that are not feasible in the case where a new PhD starts in the second year, because the previous PhD dropped out and only three years of funding are left. These matters are of course not easy to solve within the Faculty, according to the PhDs. An aspect that is also mentioned is that getting green light to finally submit an article (until all supervisors stop providing feedback and request changes) can be a lengthy and dragging process slowing them down and frustrating their motivation.

5.9.6 Flexibility to adapt the project

It happens that a part of the original plan is skipped to make the project more feasible to round off. Or, on the other hand, it becomes more ambitious over the years as a result of mutual agreements. It may work either way, because supervisors do not always have a good insight in how things will go during the research project and what will appear to be feasible in the end. Therefore, the end result will mostly look different than imagined in the beginning. A PhD remarks that deciding not to include or publish a paper really feels like a pity, especially if projects have an outcome (referring to a setting with experiments). In the end, nobody will ask you how many projects you have finalised, the only thing that matters and what you will be judged on is how many papers you have written. It feels like a shame not to publish about all the projects that you have done. And sometimes it is tempting to do more experiments or add the extra paper that was planned at the start. In case one of the supervisors wishes to do more than fits the available time and the PhD is already working very hard to finish, it is very important and appreciated a lot when the co-supervisor protects the PhD.

5.9.7 Finishing in time in relation to allowing for personal and professional development

In incidental cases, PhDs indicate that their supervisor(s) give finishing the thesis priority over allowing their PhD to participate in courses, conferences or extra-curricular activities. They only allow them to learn on the job, and not from other sources. Whenever proposing a course or activity, the supervisor questions whether the project planning allows for this, which is felt as pressurising. The general picture is that career development and what to do after the PhD is not actively brought up by supervisors; there doesn't seem to be a lot of interest in what will follow after the PhD. The PhDs that bring it up themselves, get good suggestions and advice from their supervisors who are willing to help, for example with their network. Some supervisors do take the initiative to sit down and have a proper conversation about their development and career perspectives, which is really appreciated.

5.9.8 Not entrenched in the system to discuss life after the PhD

What seems to be missing, according to the PhDs, is structural attention and advice concerning the question: what would you like to do after your PhD, and on how to get there. This is not included in the backbone of the system and is something you need to bring up yourself. When it is discussed, this is considered as stimulating and motivating. However, it may also be difficult to discuss that you may have other plans than your supervisors had in mind for you, because you don't want to disappoint them, but you also do not want to act against your own interests and keep the possibility open to be offered the possibility to stay.

5.10 General remarks

5.10.1 Different cultures, backgrounds and exclusion

At two Schools, PhDs themselves actively bring up that it is more difficult for foreign PhDs to mingle and get a feeling of belonging. Dutch PhDs easily relate to each other and that way exclude others. In particular those who have jointly followed a Master's programme, feel mutually connected and as a result form a separate little group. Even a Dutch PhD would not easily approach them, let alone someone with a different background and language. Also more specifically with regards to the Chinese Scholarship PhDs, a cultural and language barrier is noticed. They work very hard, hardly seem to say no, and get paid less. The Dutch PhDs pity them. In particular cases with regards to foreign PhDs, efforts were undertaken to actively approach them to participate in activities and work on cultural and communication differences, but these seem to have failed.

6 Interviews PhD coordinators

The following topics were addressed in the interviews with the PhD coordinators.

6.1 *Role and tasks of a PhD coordinator*

The role of the PhD coordinator differs between Schools/Institutes. It includes in every case the role of first point of contact for PhDs in case of questions or problems and providing of information. The type of questions the PhD coordinators get are not content- or science related, but involve PhD procedures and regulations, and can also concern more subjective issues such as well-being of the PhD and communication with the supervision team. Whether or not the PhD coordinator can play a more pro-active role largely depends on the policy and labelling of the PhD coordinator, as determined by the management of the School/Institute. If a PhD coordinator receives labelling in fee or exemption from other tasks, this enables them to be more involved and execute a diverse range of activities, whereas a PhD coordinator who is not granted a lot of hours to this role, is more restricted in what can be done. Whether or not a PhD coordinator is given time to perform the role of PhD coordinator, and how much time or labelling is granted, depends on the PhD policy and size/composition of the PhD population of the particular School/Institute. Therefore, the role of PhD coordinator varies from a mere informative role, monitoring data and documents for PhD TRACK, and simply being available upon request, to a role of pro-actively monitoring the entire PhD trajectory to be able to intervene early if necessary, organising events for PhDs to give them a sense of belonging, but also to empower them, and acting as an advocate on behalf of the PhDs. Other activities that are mentioned include: organising meetings for PhD supervisors, acting as an intermediary when there is a problem between a supervisor and a PhD, organising the review and acceptance process for new PhD research proposals. All PhD coordinators participate in the Faculty PhD Committee (FPC). The PhD coordinators stipulate the independent role of the PhD coordinator.

Within their own School/Institute, all PhD coordinators have access to the outcomes of the questionnaire in PhD TRACK concerning the process and supervision of the PhDs. All PhDs are invited to fill this out. If PhD coordinators receive a signal from PhD TRACK that the score, as experienced by the PhD, on the progress, and/or on one of the supervisors, and/or on the supervision team as a whole, is lower than 7, the PhD coordinator invites the PhD for a meeting to talk about this. However, some PhD coordinators indicate that this information/red flag from PhD TRACK is the only way for them to find out if there are any problems, and in some cases it is already too late to be able to tackle the problem, as most of the time, the red flags are lagging behind the present situation. Moreover, the PhD coordinators have a strong feeling that the information in PhD TRACK is filled in more positively than the actual situation would justify. Therefore, the advice of the PhD coordinators would be to include the matter of the performance of the supervisor(s) in the planning and control (P&C) annual meetings of the director of the School/Institute with the individual PIs.

At the moment, the PhD coordinators in GROW are taking a very pro-active stance, which enables them to provide advice and support to the PhDs before things are getting out of control. This also seems the case in SHE, where the ties between the internal PhDs and the PhD coordinator are very close because they are working in the same Department and have regular group meetings.

6.2 *Contact and communication between PhD coordinators and PhDs*

The frequency and type of contact between the PhD coordinator and the PhDs vary between Schools/Institutes. The contact of the PhD coordinator with PhDs within nearly all Schools/Institutes starts with an introductory meeting. However, the concrete implementation of these introductory meetings is different between the Schools/Institutes. It varies from a one-hour meeting with a few new PhDs, a three-day introduction event once a year for all new PhDs, to a personal one-on-one introduction by the PhD coordinator. Mostly, the Schools/Institutes have one PhD coordinator for all PhDs. In the School where the PhD coordinator has annual meetings with all internal PhDs, the work is divided between three PhD coordinators.

In all Schools/Institutes the PhD representatives and PhD coordinator(s) have regular meetings/contact to discuss developments, organise certain activities and contribute to an increased awareness of the needs and expectations of PhDs. In some Schools/Institutes, these meetings are more frequent than in other Schools/Institutes.

PhD coordinators are mostly contacted for rather practical questions e.g. related to PhD TRACK and course offers. In some cases PhDs contact the PhD coordinators (or the confidential advisors of the Schools/institutes) in the event of problems. In some Schools the PhD coordinators have also taken on the role of confidential advisor for the PhDs, whereas in other Schools this role has been delegated to somebody else. In the case of the Institutes the decision was taken to appoint the PhD coordinator of the one Institute as the confidential advisor for the other Institute and vice versa. This was done to lower the threshold, based on the idea that neutrality is important. The main issues that come up in these meetings have to do with a lack of communication between the PhD and the supervisor. This is not formulated as a structural problem by the PhD coordinators but merely as incidental cases. The PhD coordinators do not report frequent referrals of PhDs to other contact persons such as HR-advisors or the confidential advisors. In case of a major problem or a recurring problem with the same supervisor/department, the PhD coordinator informs the director of the School/Institute who will then take over to take the necessary steps.

One of the Schools is setting up a coaching system for PhDs in which staff members from another department and PI group than the PhD serve as a coach for individual PhD candidates. It is not the intention that content-related matters are being discussed with this coach, but rather issues such as problems in communication or well-being. The reason to assign coaches across departments lies in the fact that the School realises that every PI-group has a certain culture, and sometimes it is helpful to look beyond the borders of that PI-group, especially when there might be any problems. In addition, the PhD representatives of several Schools/Institutes have set up a buddy system in which a new PhD from a certain department within the School can be coupled to a more experienced PhD from another department, who will act as a buddy. The idea behind this is that the new PhD will get to know people from across the entire School/Institute and are supported in getting to know their way around with regards to practical matters and contact persons.

Two Schools have set up an online platform within the School to stimulate the interaction between staff at the School level. Within Schools, PhD meetings are organised by the PhD representatives, sometimes in collaboration with the PhD coordinator. This varies from social events (coffee, lunch, quiz meetings) to PhD panels/PhD retreat were relevant topics such as career possibilities, scientific integrity, or FAIR data are discussed.

6.3 Communication within the supervision team

The PhD coordinators notice many different supervision styles between individual supervisors. The relationship/working method between the supervisor and the PhD depends on the dynamic between the PhD and the supervision team, and the personalities of all people involved. It is the task of a supervisor to know how to adjust his/her approach depending on the competences and personality of a new starting PhD. Some PhDs are more independent than others. Thus, in case of a less independent PhD, a supervisor should be both instructive and challenging.

As far as the frequency of the contact concerns, there are often weekly meetings of the PhD with the daily supervisor and monthly meetings with the whole supervision team, but also that differs a lot, depending on the availability of the team members. Some staff also struggle with their workload, also due to COVID. Over the last year, while most people are working from home, the meetings seem to have continued as planned, except for the fact that the teams are now meeting by zoom.

Overall, the PhD coordinators remark that there are a lot of good supervisors, who are quite approachable. Problems between PhDs and their supervisors seem to be incidental. The PhD coordinators report that in cases where problems did occur, one of the main reasons was a lack of communication and agreement on mutual expectations between PhD and supervisor. Therefore, a good balance/complementarity in the supervision team is relevant for the communication with the PhD. Moreover, a clear understanding of the role of the different members of the team by the PhD is the start of a good working environment.

The PhD coordinators realize themselves that the supervisors, and especially the daily supervisors, act as a role model to the PhDs. When a supervisor often works in the evenings and weekends, and sends messages to the PhD at those times, the PhD tends to copy that behaviour.

A general remark is that a good, effective, responsive and respectful communication by both supervisor and PhD in combination with a well-informed PhD are key contributions to a mutual atmosphere of trust and inspirational flow and thus to the progress of PhDs and their wellbeing. A non-hierarchical relationship between the supervisor and the PhD also helps. How the PhD experiences the relationship with the supervisors and the team as a whole is very important for how they experience their PhD trajectory (apart from the topic and kind of research).

6.4 Training and development of PhDs

6.4.1 Use of TSP and PRP

PhD coordinators check the TSP and PRP of the PhDs and in most cases these plans are indeed filled in at the beginning of the PhD trajectory and registered in PhD TRACK. PhDs receive several reminders from TRACK, and, depending on the active monitoring role taken up by the particular PhD coordinator, they will also receive a reminder from the PhD coordinator if these plans are not yet uploaded in PhD TRACK. The PhD coordinator checks the documents mainly on technicalities, and checks for example whether more than one supervisor is registered or what kind of courses are mentioned, and some PhD coordinators will also check the PRP, not on scientific content, but more on the structure and feasibility of the proposed research.

Although the PhD coordinators make sure that the TSP and PRP are in place at the beginning of the PhD trajectory, in practice these plans are merely perceived (by the PhD and supervisors) as an obligatory administrative tool, whereas the PhD coordinators would like to stipulate the importance and usefulness of these plans. The PhD coordinators see these plans as an important basis for the communication between PhD and supervisor. According to the PhD coordinators, these plans should be dynamic documents which are frequently updated and discussed during the annual assessments, but this does not happen often enough. Both PhDs and supervisors should take up a more active role and responsibility themselves. Furthermore, the FPC is engaged in proposing an update and adjustment of the TSP, among others to make it appropriate for the use of internal as well as external PhDs, as currently some Schools make exceptions.

6.4.2 Budget for training

Concerning the available budget for the training of PhDs, this often seems to be dependent on the type of project labelled to the PhD or the budget of the supervision team. In most projects (e.g. EU) no budget cost are provided for training of PhDs and so the costs for these trainings have to be paid by the PI him/herself. Because of the differences in project types/ budget between PIs (ABR), this leads to inequality concerning opportunities for PhDs from different teams to follow courses. The PhD coordinators would like to see that more free of charge courses would be provided by the Schools, Faculty or UM. A taskforce within the Faculty PhD Committee has sent a questionnaire to all PhD coordinators to find out what is organised within the Schools/Institutes on the subject of funding of PhD training and courses, communication around this subject, and the desirability of EC points. The results will be discussed in the FPC with the goal to learn from each other's arrangements and ideas. It is noticed by a PhD coordinator that the costs for courses at the UM staff career centre, that used to be for free (for example the course 'Clear & effective communication with your supervision team') now have to be paid, which instantly presents a serious threshold for a PhD to ask for permission from the supervisor to attend this course. The problem of being dependent on your supervisor for money also goes for being able to go to conferences: some PI-groups are richer than others, which means that some PhDs can go to transatlantic conferences, whereas others do not get that opportunity.

The PhD coordinators conclude that a clear statement of the supervision team on possibilities and available finances for training for the PhD is necessary. Moreover, a clear overview of the free course offer and a set of guidelines of which courses are important for the development of PhDs would help.

There is a difference between the PhD coordinators when it comes to the most important reason for supervisors in their School/Institute to turn down a request of a PhD to do a training or workshop or go to a conference: for some Schools/Institutes 'money' seemed the most important factor, whereas for other Schools 'time' was a more serious obstacle. Other PhD coordinators were under the impression, that there was a rather low threshold for PhDs to ask for training, and money nor time seemed to be an impediment. Some Schools offer a certificate on the basis of ECTS points and other Schools do not. Within one of the Schools, the fulltime internal PhDs have

to make a budget plan and allocate money for courses, which has as an advantage, that PhDs are their own financial manager and they do not have to ask permission for every course/training they want to do.

6.4.3 ECTS points

The rules and guidelines concerning the desirability of a requirement of a certain amount of ECTS points after finishing a PhD trajectory differs between Schools/Institutes. Publications, authorships and end-terms for PhD theses

The PhD coordinators do not receive questions or signals from PhDs regarding authorships. The supervision team has the task to inform the PhD about the rules and regulations regarding authorships. The PhD coordinators express the feeling that the rules for authorship are mostly known but are not being applied uniformly everywhere. Meetings and workshops on scientific integrity, with a focus on authorship, would make researchers more aware of the rules and would stimulate a uniform application. One of the PhD coordinators explains that the School/Institute tries to raise awareness on this topic and they had organised a meeting for all PhD supervisors on authorships and shady practices, and is planning to do something similar for PhDs. In general, the international criteria are being followed, but sometimes there are challenging cases of including an external person as a co-author for example. The climate around this practice seems to be changing though; more and more Journals for example want a clear description of the contribution of every co-author on the list.

Regarding the requirements for finishing a PhD manuscript, there are no specific rules within Schools/Institutes. The guidelines as described in the MU regulation for doctoral degrees are followed. The decision for finalization of a PhD thesis lies with the supervision team. The PhD coordinators add that a clear agreement in the beginning of the PhD trajectory about the expectations for finishing a PhD and the content of the manuscript is very important. Some Schools/Institutes use guidelines, for example four research chapters and one published paper or five chapters (of which three as a first author), of which at least one chapter needs to be published and 2 submitted. However, in the end, the supervision team decides, in alignment with the PhD, when a PhD thesis is ready to be submitted.

6.5 Assessment Committee

There are no differences between Schools/Institutes for the role and working procedure of an assessment committee: the rules of the UM doctoral regulations are being followed. The involvement of PhDs in the determination of the composition of the assessment committee depends on the working method of the supervision team/supervisors.

6.6 Prolongation of a PhD trajectory

The main aim of the Schools/Institutes is to finish a PhD trajectory in 4 years. The implementation of the FHML prolongation rule depends on the supervision team and the available resources. In some Schools/Institutes, the PhD coordinators have the task to regularly check the progress of the PhD trajectories. PhD coordinators rarely receive questions from PhDs about issues related to prolongation of the PhD trajectory. For some Schools the issue of prolongation is a topic that is being discussed between HR and the supervision team. However, it is noticed that there is a kind of pressure from the Faculty/Schools to finish a PhD within 4 years because of the FHML financial model and the incentive. In contrast, some PhD coordinators give a signal that some PhDs seem to take advantage of the prolongation rule, knowing it is their right as a PhD, to alleviate the pressure of finishing the trajectory in time.

6.7 Workload for PhDs

The majority of the PhD coordinators have a feeling that, in line with national surveys and reports, the workload for PhDs can be quite high. Several PhD coordinators add however, that this is quite normal for a PhD trajectory, and that mostly the work within the trajectory is doable, provided that PhDs are not overloaded with other responsibilities as well. A certain element of luck is also involved: sometimes PhDs simply have bad luck when things go wrong, for example with the

inclusion of patients, the departure of a supervisor or technical aspects in the lab. PhDs do not often seem to go to the PhD coordinator however, when they might experience problems with their workload. The PhD coordinators did not receive any direct signals of problems related to workload. PhDs who are struggling seem to vent a lot amongst their peers.

6.8 General remarks

According to the PhD coordinators, the situation of the external PhDs and clinical PhDs differs from that of the internal PhDs. There seems to be some difference in supervision and research practices (PhD culture) for clinical PhDs, whose focus is primarily on their clinical work, who feel pressure to work in the outpatient clinic and aim for a training place in the hospital. One of the PhD coordinators notes that sometimes these clinical PhDs are given too many responsibilities in their research project at an early stage, while they are not ready, which can lead to problems. Also, with regards to the China Scholarship PhDs, who are external but based full-time at one of the School's departments, some worrying signals have been received, both from the PhD coordinators and the PhDs. External PhDs having an employer elsewhere in the Netherlands or abroad, generally work with their supervision team and have less contact with PhDs and staff at the departments. Mostly, they are welcome to join PhD-related workshops and other activities organised by the PhD representatives of the Schools/Institutes, but the physical distance generally prohibits this. Some Schools have experienced an increased participation of external PhDs during the COVID-period due to the workshops and activities that are now organised online and are intending to continue this.

One of the PhD coordinators states that the go no-go moment at the end of the first year of internal PhDs is an important moment, but since a School is being judged on dropout, the supervisor is sometimes hesitant to finish the contract and decides to continue the PhD trajectory, even though there is serious doubt about the competence of the PhD.

All PhD coordinators indicate that, in general, the atmosphere within their School/Institute is good and non-hierarchical and that social events are regularly organised to enhance social cohesion. As far as the contact between PhDs is concerned, there seem to be clusters of PhDs, based on their cultural background. Especially the PhDs from China seem to interact mostly with each other. Some departments within the organisation sent out signals that a ceiling has been reached as far as the large influx of PhDs from different cultures is concerned. Some groups therefore have put a limit to the number of these external PhDs who can join the department. Two PhD coordinators have proposed a plan to conduct research into the different cultures / origins among PhDs, to be able to solve this problem.

7 Main findings and points of attention

As a summary of the above outcomes of the reports (chapter 4) and the interviews (with the PhDs and PhD coordinators (chapters 5 and 6), the main findings and attention points are formulated below.

From the analysis of the recent internal PhD survey and internal reports such as the annual report of the PSI, PhD TRACK, FPC and PhD related recommendations in visitation reports (see chapter 4), it becomes clear that FHML/MUMC+ has structures and instruments in place for the support and monitoring of PhDs as well as supervisors. Moreover, new supervisors are stimulated to follow the four-day course in Competence Development for supervisors of PhDs. Regarding scientific integrity, the PSI provided some tools to stimulate the discussion about issues and dilemmas related to scientific integrity, including authorships. In addition, the PSI is developing an online course on scientific integrity for PhDs (pilot in September 2021) and a workshop on scientific integrity for supervisors (pilot in May 2021). In the regular meetings of the FPC, the topics PhD monitoring, supervision and PhD education have been on top of the agenda since the beginning. Moreover, the PhD representatives in the FPC have the freedom to raise any topics they like and are encouraged to discuss issues of interest. As part of this, recently the PhD representatives took the initiative to do a FHML-wide survey on "Work pressure and well-being" among FHML PhDs which led to some recommendations. The recent SEP visitations of the Schools led to some PhD related recommendations, which were all taken up. One example is the implementation of a buddy- and coaching system for PhDs.

In chapter 5 and 6, the FHML/MUMC+ PhD research culture is described from the perspective of the interviews with the PhDs and PhD coordinators of the 6 Schools and 2 Institutes. Below, per theme, the main findings and attention points are formulated.

Introduction and information for new PhDs

- All PhD coordinators try to inform the new PhDs as good as possible with written information, such as a practical PhD guide, but also by organising introductory meetings. The concrete implementation of the introductory meetings for new PhDs differs between Schools/Institutes;
- Not all new PhDs are properly introduced to all aspects that are important to the PhD study and work environment at the beginning of their PhD trajectory, which makes it difficult for these new PhDs to make a good start and build up a good support system, which leads to confusion and uncertainty (*in particular for those PhDs who started during the COVID period*).

Communication and contact with supervisors

- Supervision teams consist of two or three supervisors, sometimes four, who are involved from the beginning;
- There are large differences between the situations that PhDs work in, differences between supervisors and how teams function, how each supervisor takes up the supervision role and how PhDs themselves grow in taking their own role and responsibility;
- There is a clear difference in the frequency of contact with the daily supervisor and the promotor: in the cases where the daily supervisor is an associate professor or professor, the PhD receives less guidance. Where a postdoc or assistant professor is involved, of whom they have the impression that this person has more time available for PhD supervision, the contact is more frequent, and the PhD feels more comfortable to approach this person with smaller questions as well;
- In general, the relationship with the supervisors is experienced as good to very good, both in quality as in quantity, by the PhDs we have spoken. They are quite pleased with the availability and accessibility of their supervisors. There are differences between supervisors, but contacts are quite regular and they are available rather quickly if needed. FHML staff are experienced as easy to approach and accessible, and they respond fast and well and are helpful when needed. However, in two particular cases there seemed to be a quite difficult relationship between supervisor and PhD, characterised by a lack of trust. This is however a problem that is specific to these particular supervisor-PhD relationships.
- How the PhD experiences the relationship with the supervisors and the team as a whole is very important for how they experience their PhD trajectory (apart from the topic and kind of research);
- The communication and relationship with supervisors in general becomes better when PhDs dare to express themselves and indicate what they need. They find this easier during their later PhD-years;
- Several PhDs indicate that when a supervisor from outside FHML is involved, they often experience a large difference in the relationship. Although there are positive exceptions, in general, the approach and attitude towards PhDs by supervisors from outside FHML seems to be far more hierarchical and formal. The impression emerging from the stories is that, within FHML, the communication with supervisors is on a rather equal level, quite direct, fast, efficient and supportive, more so than elsewhere;
- The insight of supervisors in the daily workload of PhDs differs and also the way supervisors inquire about or act upon personal matters or problems of the PhDs varies;
- During COVID, signals of PhDs with problems are picked up less easily due to a lack of spontaneous and person-to-person contact with the supervisor.

Organised activities for PhDs within Schools/Institutes and departments

- Regularly organised meetings and activities that are either content-related or more informal, as well as lots of informal peer contacts and activities for PhDs take place within Schools/Institutes and departments;

- PhDs appreciate the contacts with other PhDs and express the importance of being connected. Also meeting others, be it peers, or staff in different positions, has a clear and very important function for PhDs;
- Regularly meeting a variety of colleagues in different settings is experienced by PhDs as genuinely favourable for their well-being, sense of connection, and academic and personal development.

Information and contact persons available for PhDs

- Depending on the subject or situation, PhDs turn to different people for emotional support. It seems that personal problems, related to work or having an effect on work, is first and primarily shared with their peers/roommates, family and friends;
- Across most Schools/Institutes, PhDs have little insight in what could be done and whom to contact in case there are problems with a particular supervisor.

Training and development of PhDs

- The available budget for training and development of PhDs differs between supervision teams and the rules regarding this budget are unclear for PhDs; this leads to inequality concerning chances opportunities for PhDs from different teams to follow courses.
- The regulations concerning recognition for teaching hours for PhDs differs between supervision teams and departments;
- The rules and guidelines concerning the desirability of a requirement of a certain amount of ECTS points after finishing a PhD trajectory differs between Schools/Institutes. Some Schools offer a certificate on the basis of ECTS points and other Schools do not;
- The current costs of courses in the area of personal development at the UM Staff Career Centre, that used to be for free (for example the course 'Clear & effective communication with your supervision team') instantly present a serious threshold for a PhD to ask for permission from the supervisor to attend this course;
- The TSP and PRP are mainly used as an obligatory administrative tool and are not used, nor updated in the annual assessments meetings of a PhD with the supervisor;
- There is a difference between the impression of the PhD coordinators when it comes to the most important reason for supervisors in their School/Institute to turn down a request of a PhD to do a training or workshop, or to go to a conference: for some Schools/Institutes 'money' seemed the most important factor, whereas for other Schools 'time' seemed to be a more serious obstacle. Other PhD coordinators were under the impression, that there was a rather low threshold for PhDs to ask for training, and money nor time seemed to be an impediment;
- Some PhDs remarked that a focus on (the loss of) time by the supervisors limits the PhDs in following courses, going to conferences or doing extra-curricular activities;
- The possibility for a PhD to follow the BKO course differs between supervision teams. Some PhDs were able to follow this course, while others were advised by their supervisor not to take the course due to the big time investment.

Educational tasks for PhDs

- The teaching obligations for PhDs differ between supervision teams and departments;
- Some PhDs reported to be advised by their supervisor not to do any educational tasks. This was mainly due to the protective role of the supervisor (work-life balance of the PhD) or in case the promotor was afraid that the project would not be finalised in time. Furthermore, in one of the Schools, PhDs have no teaching obligation;
- In general, the assignment of educational roles to the PhD takes place in consultation with the supervisor.

Authorships and writing an article

- PhDs do not want to get involved in the decision-making around the authorships and leave it up to the supervisors because it has no further implication for themselves. However, the role and contribution of a co-author are not always in line with the guidelines for authorship;

- The PhDs indicated to have no conflicts or discussions regarding the first author place of a PhD on an article (written by the PhD);
- In all interviews it was noticed that the PhD writes the article him-/herself and that supervisors give feedback. The comments and feedback by the supervisors are seen as added value by the PhDs and in the end the PhDs still feel like the owner of the article.

Work load and work-life balance

- Trust between supervisor and PhD, clear communication in the supervision team and a certain freedom to plan your own work seem to be key elements to ensure that the workload does not get too high;
- A point of attention concerns the balance between clinical work and research work for clinical PhDs;
- One remark that was heard more often was that it helps to have somebody on the team who has a low threshold, but still is very knowledgeable on your subject, such as a postdoc. This is especially important when the promotor and co-promotor are very busy people. The availability of a knowledgeable daily supervisor could really help PhDs
- Quite a few of the PhDs admit to having quite a high workload, but feel that this is being imposed upon them by themselves.
- Working in the laboratory can be particularly stressful for different reasons and depending on the nature of the work: 1) it is prone to bad luck, 2) it takes a constant effort to keep living cells/ organisms alive and 3) work in the laboratory is sometimes difficult to plan, which is a problem in combination with COVID restrictions.

Annual assessments

- Nearly all PhDs have annual assessment meetings with their supervisors, but in some cases no formal assessment meetings are planned after the first official (go – no go) assessment meeting at the end of the first year.
- PhDs want to gain insight into the overall planning of the research and get clarity about what needs to be finished when. Furthermore, they want to talk about their performance and career perspectives.

End-terms for a PhD theses

There are no specific rules within Schools/Institutes regarding the requirements for finishing a PhD manuscript. Some Schools have guidelines for this (for example 3-5 chapters of which 1 published), but the supervision team decides, in alignment with the PhD, when a PhD thesis is ready to be submitted.

Implementation of the FHML prolongation rule

- The implementation of the FHML prolongation rule depends on the supervision team and the available resources;
- Both PhDs and supervisors want the project to be finished within 4 years;
- Supervisors seem not sufficiently aware of the perceived pressure and massive overtime by PhDs during the last phase;
- PhDs are not well-informed about the prolongation procedures and are therefore hesitant to bring this up with their supervisors, which is reinforced because they feel it as a personal let-down;
- In some Schools, the issue of prolongation is a topic that is being discussed between HR and the supervision team. PhD coordinators are hardly approached about this;
- Some supervisors tend to give priority to finishing the thesis over allowing their PhD to participate in courses, conferences and extra-curricular activities;
- Discussing the career possibilities after a PhD is currently not structurally incorporated in the system.

Assessment Committee

- There are no differences between Schools/Institutes for the role and working procedure of an assessment committee: the rules of the UM doctoral regulations are being followed. The

involvement of PhDs in the determination of the composition of the assessment committee depends on the working method of the supervision team.

Role of the PhD coordinator

- The role of a PhD coordinator and the type and frequency of contact of a PhD coordinator with the PhDs differ between Schools/Institutes. There is a marked difference in policies with regards to PhD coordinators waiting for signals and proactive coordinators;
- Annual meetings of the PhD coordinator with PhDs is noticed as very helpful to monitor the progress and tackle problems in an early stage.

Questions or issues communicated to the PhD coordinators

- The main issues that come up in the meetings of a PhD coordinator and a PhD have to do with a lack of communication between the PhD and the supervisor. This is not formulated as a structural problem by the PhD coordinators but merely as incidental cases;
- The PhD coordinators do not report structural referrals of PhDs to other contact persons such as HR advisors or the confidential advisors;
- PhD coordinators rarely receive questions from PhDs about issues related to prolongation of the PhD trajectory;
- The PhD coordinators do not receive questions or signals from PhDs regarding authorship;
- Overall, the PhD coordinators remark that there are a lot of good supervisors, who are quite approachable. Problems between PhDs and their supervisors seem to be incidental.

Use of PhD TRACK by PhD coordinators

- Relevant information in PhD TRACK concerning the quality of the supervision only seems to be picked up if several PhDs have difficulties with a supervisor.
- The signal (red flag) from PhD TRACK is not enough for a PhD coordinator to signal a problem in time

8 Conclusion

FHML/MUMC+ has set up many structures and instruments for the support and monitoring of PhDs as well as supervisors and actively communicates these in Faculty newsletters, on general pages of the Faculty website and on the particular '[PhD at FHML/MUMC+ website](#)'. Also, individual PhDs and supervisors are informed by emails from PhD TRACK about what steps PhDs and/or supervisors should take during the PhD trajectories. These are the same with regards to all FHML/MUMC+ Schools/Institutes. Also, the Faculty has several substructures, such as at least one PhD coordinator and confidential advisor per School/Institute and several PhD representatives. PhD coordinators and PhD representatives work closely together to inform PhDs in a variety of ways, by individual emails, newsletters, PhD meetings, School/Institute websites, and most Schools/Institutes have a PhD guide. Within the School/Institute, PhDs and supervisors are embedded in Research Programmes or Divisions, and furthermore they belong to a department, which also spreads relevant information. Nevertheless, in cases where PhDs are not informed sufficiently, we noticed that they are hesitant to discuss things with their supervisors. In particular, this is the case with regards to co-authorships and rules with regards to prolongation of the contract.

PhDs and supervisors do not always see the added value of some of the tasks that are inherent in a PhD trajectory, for example milestones such as the TSP and PRP and annual meetings are not always adhered to or used to its maximum potential. The idea that these documents can be important to discuss their development and shape their academic stance as a research professional could be advocated more. Also, this would bring more attention to the felt need of PhDs to discuss their career perspectives and life after the PhD with their supervisors.

What we found most striking is that the PhD population, as well as the supervisors, are as diverse within Schools/Institutes as per department. We would like to conclude that one can speak of 'micro-climates', consisting of the whole context surrounding PhD projects, ranging from the character, assertiveness and way of working of the PhD to the content of the research-project, and

the composition and dynamics of the supervision team. In the supervision team, the characters, roles, coaching styles and backgrounds of the individual supervisors play an important role, as does the embedding in a department, or multiple departments (large, small, hierarchical or flat, many or few staff in-between PhDs and seniors), and finally the embedding in a particular School/Institute. The relationship between PhD and supervision team in particular has many facets, in which the personal click with each other, mutual communication skills & styles, assertiveness of the PhD, mutual openness and trust (and available time of the supervisors!) all play a large role. Arguments and discussions do take place from time to time, and some PhDs feel the pressure to work hard and live up to the expectations of supervisors to do so and copy their work-related behaviour, or work very hard out of their own motivation.

The overall picture of FHML supervisors is that they have a high workload and, perhaps also for this reason, are not always taking initiative to ask about personal matters and well-being of PhDs, or to discuss career opportunities. However, if PhDs take the initiative, the supervisors are generally open for discussing this. In general, supervisors are perceived as being supportive and helpful, and willing to meet on a regular basis and provide feedback. They are experienced as approachable and hierarchy is virtually non-existent. .

9 Recommendations

Some of the recommendations below are based on structural facts mentioned throughout the interviews. These recommendations have priority and are underlined. Some other recommendations however are drawn up based on a limited number of cases reported in the interviews. These latter recommendations should therefore be seen as an awareness strategy.

Introduction for new PhDs

- More attention should be paid to the instruction and support of new starting PhDs;
- Informing PhDs and setting up clear expectations at the beginning of a PhD trajectory are crucial factors for a successful PhD trajectory and well-being of a PhD.

Contact and communication with the supervisor, including annual assessment meetings

- A good balance/complementarity in the supervision team is relevant for the communication with the PhD. Moreover, a clear understanding of the role of the different members of the team by the PhD is the start of a good working environment.
- Attention should be paid to the fact that several PhDs have indicated that when a supervisor of another Faculty or University is involved, they experience a large difference in the kind of communication and relationship. The approach and attitude outside the FHML seemed to be a far more hierarchical and formal approach and attitude.
- Inclusion of a knowledgeable daily supervisor in the supervision team who has a low threshold, such as a postdoc. This is especially important when the promotor and co-promotor are very busy people.
- Emphasize the importance of organizing annual assessments with PhDs to the supervisors and provide them with tools to help them with the content of such assessments, including the use (and continuous updating) of TSP and PRP.
- The performance of the supervisor(s) could be included as a recurring issue in the planning and control (P&C) meetings between the director/management of the School and the individual PIs.

Contact persons for PhDs

- More information should be available for PhDs about the role of the available contact persons in case of questions, problems or need for emotional support.

Education and training of PhDs

- The TSP and PRP should be more than an administrative tool. These plans should be dynamic documents, which are frequently updated and discussed during the annual assessments. Action points should be on the one hand, to stress the own responsibility of the PhDs and supervisors at all kinds of levels and in different ways, by way of clear general policies at the level of the Board, School directors, and FPC, and on the other

hand, information provision by individual PhD coordinators, supervision teams and PhD representatives.

- A clear statement of the supervision team on possibilities and available finances for training for the PhD is advised.
- A clear overview of the free course offer and a set of guidelines on which courses are important for the development of PhDs would help.
- More free-of-charge courses (especially in the area of personal development) should be provided by the Schools, Faculty or UM.

A working group within the Faculty PhD Committee exists which focuses on aspects concerning the training and development of PhDs

Educational task for PhDs

- There is a need for clear rules and regulations regarding educational tasks and teaching obligations for PhDs;
- There is a need for a harmonised regulation concerning recognition for teaching hours for PhDs
- Open up the BKO for PhDs during their second half or final year of the PhD trajectory

Authorship

- The guidelines on authorship should be brought to the attention of both PhDs and supervisors time and again as there appears to be a lack of knowledge on their role amongst PhDs (e.g. Research Code, national Code of integrity);
- There should be clear communication in the supervision team about the role and task of a co-author of an article. However, the climate around this practice seems to be changing to a situation in which more and more journals request a clear description of the contribution of every co-author on the list;
- Meetings and workshops on scientific integrity, with a focus on authorship, would make researchers more aware of. Also the online course scientific integrity, which is set up by the PSI, will inform all stakeholders involved better by paying particular attention to this point.

End-term for a PhD thesis

- Inform supervisors again about the UM (and also) faculty end-terms of a PhD thesis.

Use of PhD TRACK

- PhD TRACK could be taken more seriously, for example by picking up signals earlier, also in individual cases. A 'red flag' should really be taken seriously, as it is a large step for a PhD to give a bad score, indicating that a lot has happened already.

Career opportunities after a PhD

- More attention should be paid by the supervision team to discussing career possibilities after a PhD

Annex 1: Interview guide

PhDs

Contact and communication with supervisors

- Availability: How often do you see your supervisors? Is it easy to contact them? Are they accessible?
- Feedback: Do they provide useful feedback within a reasonable time span?
- Support / responsiveness / empathy: Do you feel heard, motivated and supported, or do you often feel disheartened?
- Ability to discuss matters: can you bring up everything you would like to discuss, or do you feel any reluctance? Is there enough trust? Are supervisors open for suggestions? Is the team harmonious?
- Pressure / workload: how do you experience your workload? Do you feel pressured? Are you expected to work overtime?
- Appraisal meetings: do you have annual appraisal meetings?

Peer-to-peer support and other support

- How is the contact with other PhDs? Spontaneous contacts, official buddy system?
- Are PhD meetings being organised? What level? On scientific subjects or social meetings?
- Other meetings within department or School for PhDs? Including researchers at other levels?
- Awareness of and availability/approachability of contact persons for PhDs within School, FHML, UM

Possibilities for training and development

- Do you have a TSP and PRP and do you use it?
- Do supervisors allow you to participate in courses and conferences?
- How are decisions made with regards to participation in courses and conferences?
- Do you feel free in your choice of courses, that according to you are most suitable to your PhD trajectory and future career?

Educational tasks

- Fulfilling different kinds of tasks or (educational) roles (10% obligation?)

Publications, authorships and thesis

- Could you describe how the process of writing an article and receiving feedback from your supervisors works in your case?
- Can you describe in what way other authors have been involved in the realisation of your articles in practice? Did each co-author provide feedback? Did a particular author write parts as well?
- Submission of articles: who decides when a paper is ready?
- Who decides when the thesis is ready?
- Requirements / end terms and finalisation of the thesis: Is there openness and willingness to discuss possible prolongation of the contract or changes to the plan to be able to finish in time?
- Composition of the assessment committee?

How do you experience that you are approached/treated as PhD?

- Whose project is it; does it feel like it your own project?
- Do you feel like being a lab rat/worker/executor/servant, or researcher/scientist/thinker?

PhD Coordinators

Contact and communication between PhD coordinators and PhDs

- How often do you have contact with the PhDs?
- What do you do as PhD coordinator, to support PhDs in general?

Contact and communication between PhDs and supervisors

- Composition of supervision teams: How do most supervision teams look like? On paper and in reality?
- Availability: what is your impression of the availability of the supervisors?
- Support / encouragement
- Impression of the openness to discuss matters and for mutual feedback (in general and during appraisal meetings)
- Pressure / workload of PhDs, and by whom is this exerted (themselves, project, supervisors)

Possibilities for training and development

- Is a TSP and PRP made by all (types of) PhDs in your School/Institution? If not, why not and who decides on this? (School policy, supervisors, PhD)
- What is your role as PhD coordinator with regards to the TSP and PRP of PhDs?
- What is your impression or what kind of signals do you receive with regards to participation in courses and conferences (is this encouraged, is money a problem/unclear, are PhDs are hesitant to ask)
- Does your School/Institution require (a minimum amount of) EC points or a certificate?

Support and monitoring of PhD projects and PhDs

- What kind of signals do you receive and what kind of problems reach you?
- How is TRACK used in your School/Institute (TSP / PRP / annual questionnaire/progress reports, signals of problems)?
- What is the role of the PhD representatives?
- Availability/approachability of contact persons for PhDs

Publications, authorships and thesis

- What is your impression on how PhDs and supervisors deal with the following topics, and are you informed of any problems?
- Authorships and degree of involvement of co-authors
- Submission of articles: who decides when a paper is ready?
- Requirements / end terms and finalisation of the thesis, incl. extension of the contract: Is there openness and willingness to discuss possible prolongation of the contract or changes to the plan to be able to finish in time?
- Role and composition of the assessment committee

Ownership of projects

- In your view, how are PhDs in your School approached/treated and are you aware of any problems?
- Whose project is it
- Is pressure being exerted
- Who decides when the thesis is ready
- Are PhDs being taken seriously as a researcher/scientist/thinker, or merely 'used' as a lab rat/worker/executor/servant?

Atmosphere and circumstances

- In general, how would you describe the atmosphere and circumstances to do a PhD project in your School/Institute with regards to openness, trust and transparency?

- Are there any positive or negative aspects that have not been mentioned yet?

Other important subjects?

Annex 2: FHML PhD procedures and regulations (see PowerPoint presentation)