Medical Informatics Initiative

Supporting Project – Central Office of the National Steering Committee

MII Roadmap for Strengthening Research, Teaching, and Continuing Education

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Draft by the MII Board of Directors

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Under the patronage of the Medical Informatics Initiative Funding Plan from Germany's Federal Ministry of Education and Research (BMBF), the consortia and in particular the individual university hospital locations will be undertaking sweeping measures to strengthen research, teaching, training and continuing education in the field of medical informatics. Such measures are to include in particular:

•   Establishing new professorships in the field of medical informatics at universities and institutions of higher learning

•   Bolstering research and teaching activities in the fields of medical informatics, biometry, bioinformatics, and epidemiology

•   Creating and expanding courses of study in the fields of medical informatics, bioinformatics, and "medical data science"

•   Imparting methods, tools, technologies, and rules for the use of large, heterogeneous volumes of data in the field of medicine

•   Developing the profile of and strengthening "medical data science"

•   Establishing junior scientific researcher groups

•   Opening up opportunities for young postdoctoral researchers

•   Sustainably reducing the current problem finding up-and-coming researchers

Furthermore, continuing education strategies are to be developed, and medical personnel are generally to be trained in the data protection-compliant and ethically acceptable use of data (from the DICs) for patient care and clinical/translational research.

It is not the task of the overarching Medical Informatics Initiative Roadmap to relate these work plans and responsibilities of individual locations and consortia, even though such measures are absolutely essential pillars of the initiative.

Learning objectives and the criteria for teaching and continuing education are to be coordinated across all of the consortia, whereby it will be practical to include existing structures, partners, and stakeholders (such as the Association of Medical Faculties in Germany (MFT), the Association of Scientific Medical Societies (AWMF), the German Medical Association (BÄK), the German Association for Medical Education (GMA), and the German Association for Medical Informatics, Biometry and Epidemiology (GMDS)) in the dialog. There are consequently two essential milestones planned in this area for the setup and networking phase of the Initiative's Roadmap:

1. Workshop and learning objectives "Digital Competence in Medical Studies" – Q2/Q3 2018

Initially, the subject of training will be addressed as it relates to medical studies. The necessary competence working with IT systems as well as data collection and data evaluation is to be redefined ("digital competence"). In this regard, the Medical Informatics Initiative can provide ideas for the revision of the National Competence-Based Catalogue of Learning Objectives for Undergraduate Medical Education (NKLM) currently in progress (being worked on by the MFT and GMA). Deadlines are to be set practically such that the results are able to be incorporated into this process; the revision of the NKLM is planned for 2020.

• Holding a workshop on "Conveying Digital Competence in Medical Education" with representatives from all of the university hospital locations – jointly with the MFT (mid-2018)

• Developing learning objectives for "digital competence" for the NKLM (mid-2019)

• Integrating the learning objectives into the revised NKLM (2020)

2. Status symposium "Teaching in the Field of Medical Informatics and 'Medical Data Science'" – Q1/Q2 2020

After two years of the setup phase, the setup achievements and initial experiences of the university hospital locations relating to teaching in the field of medical informatics are to be gathered together and the developments evaluated. The findings from the status symposium will provide impetus and serve as a corrective for further work toward:

• Forming a planning and program committee (beginning of 2019)

• Holding a status symposium on "Teaching in the Field of Medical Informatics and 'Medical Data Science'" with representatives from all university hospital locations – as applicable including the GMDS and the MFT (beginning/middle of 2020)

• If appropriate, representatives from polytechnic institutes/institutions of higher learning – especially those that are partners in a consortium – and from the German Association of Medical Informatics Professionals (BVMI) can also be included.

• Preparing a final communiqué as input for the expansion and enhancement phase (end of 2020)

3. How any potential need for coordination and for external dialogue on the topic of continuing education can be implemented from the Medical Informatics Initiative side should also be reviewed. For example, holding a workshop on "Conveying Digital Competence in Continuing Education and Advanced Training" together with the BÄK and AWMF would be conceivable (not before 2019). Whether other occupations at university hospitals will also require digital competence (nurses, health care professionals, pharmacists, administrators, etc.) and what kind of support can be provided to impart such competence would also need to be dealt with at a later date.

The National Steering Committee will address these issues and come to its decisions at a later date (during the setup and networking phase).

Glossary

AWMF	Arbeitsgemeinschaft der Wissenschaftlichen Medizinischen Fachgesellschaften e.V. (www.awmf.org); Association of Scientific Medical Societies
BÄK	Bundesärztekammer (www.bundesaerztekammer.de); German Medical Association
BMBF	Bundesministerium für Bildung und Forschung (www.bmbf.de); Federal Ministry of Education and Research
BVMI	Berufsverband Medizinischer Informatiker e.V. (www.bvmi.de); German Association of Medical Informatics Professionals (Note: This association represents not only academic medical informatics professionals but also those in industry and administration.)
DIC	Data Integration Center in the Federal Ministry of Education and Research's Medical Informatics Initiative Funding Plan
GMA	Gesellschaft für Medizinische Ausbildung e.V. (http://gesellschaft-medizinische-ausbildung.org); German Association for Medical Education
GMDS	Deutsche Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie e.V. (www.gmds.de); German Association for Medical Informatics, Biometry and Epidemiology
MFT	Medizinischer Fakultätentag (www.mft-online.de); Association of Medical Faculties in Germany
MI	Medical informatics
NKLM	Nationaler Kompetenzbasierter Lernzielkatalog Medizin; National Competence-Based Catalogue of Learning Objectives for Undergraduate Medical Education. This is being drafted by the GMA and MFT with representatives from medical associations, self-governance organizations, the relevant ministries and government agencies, as well as scientific organizations.