Specialisation – Master's in Biomedical Sciences

Health Technology Assessment

Learn to assess the consequences of employing health care interventions, while striving to make a visible impact on healthcare

The BMS Master's has seven specializations to choose from. Each specialization contains a number of courses that reflect its central topics and methodology. HTA involves scientific research to assess the consequences of employing health care interventions. It features a broad approach, including effectiveness research, economic analysis, patient outcome measurement, assessment of organizational consequences, and ethics. As such, it requires interdisciplinary teamwork. The ambition of HTA is to provide decision-makers at a macro-, meso-, and micro-level with information they need to improve health care. It is tightly interwoven with clinical practice and health care policy.

Specialisation Coordinator

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Courses within this specialization (1/2)

W36 = September, W40 = October, W44 = November,
A = Monday/Tuesday contact hours, time for self study or exam (final week) on Wednesdays,
B = Thursday/Friday contact hours, time for self study on Wednesdays.

Period	Code	Course
W36-A	MED-BMS86	**Introduction to Health Technology Assessment**

This course equips students with skills to navigate the dynamic landscape of health technologies, their implications, and resource allocation. Students learn to comprehend the purpose of HTA across the entire health technology lifecycle. It covers various HTA processes and their quantitative and deliberative analysis requirements. It encourages critical thinking about ill-structured and well-structured policy problems in health technology development. Additionally, students gain competence in stakeholder mapping and participation organization. Students will gain a foundational understanding of HTA and practical application to inform decisions in the rapidly evolving healthcare environment.

Period	Code	Course
W36-B	MED-BMS58	**Cost-effectiveness analysis in health care**

This course delves into the realm of health economics, equipping students with knowledge and skills to assess the efficiency of healthcare strategies and inform rational decision-making in resource allocation. Students learn to define efficiency in healthcare, comprehend the design, execution, and analysis of cost-effectiveness analyses (CEAs), and distinguish between decision rules for economic evaluation. The curriculum includes the evaluation of costs and Quality Adjusted Life Years (QALYs) in CEAs and addresses the concept of time value of money in healthcare economics.

Period	Code	Course
W40-A	MED-BMS62	**Advanced modelling in economic evaluation**

This course explores healthcare decision modeling, equipping students with the tools to construct, assess, and validate decision models crucial for healthcare decision makers. Students gain expertise in handling uncertainties, mastering techniques to estimate the value of emerging healthcare technologies, and fostering trust in these models, a critical aspect of their practical application. Furthermore, the curriculum delves into budget impact analysis, providing students with a comprehensive understanding of how changes in healthcare can impact financial budgets.

Courses within this specialization (2/2)

Period	Code	Course
W40-B	MED-BMS48	**Clinical trials**

This course teaches students about (advanced) clinical trials methodology, enabling students to tackle the design, execution, and reporting of clinical trials. Students gain insights into ethical considerations, quality assurance, and regulatory compliance relevant to clinical trials. They learn to critically assess trial aspects, making informed comments on results and conclusions. The course fosters the ability to craft clinical trial protocols tailored to specific research questions. Students explore a range of trial designs, from treatment efficacy to safety, comparative effectiveness, diagnostics, and screening interventions.

Period	Code	Course
W44-A	MED-BMS56	**Health outcome measurement**

This course focuses on patient-reported outcome measures (PROMs), equipping students to select, develop, and evaluate these measures for healthcare assessment. Students learn to choose relevant PROMs for specific patient groups and purposes, develop high-quality measures, and assess their reliability, validity, and responsiveness. The course also covers systematic reviews of PROM measurement properties and explores quality indicators for healthcare performance assessment using PROMs. Through expert-led workshops and hands-on exercises, students acquire the skills needed to select the right outcome measures for clinical practice, research, or quality assessment.

Period	Code	Course
W44-B	MED-BMS08	**Qualitative research**

This course provides students with skills for qualitative research. By the course's end, students can conduct structured, semi-structured, or open interviews, apply thematic analysis to qualitative research, enhance validity through triangulation, incorporate qualitative research in mixed methods designs, and utilize ATLAS.ti software for qualitative data analysis. Qualitative research involves capturing non-numerical information like personal experiences and narratives. This course emphasizes reliable, systematic collection and analysis of such data, making it ideal for students pursuing communication profiles and valuable for those working with qualitative information, such as health technology assessment and consultancy.

Internship testimonial (1)

Economic modelling in ultrasounds strategies

Last year, I did my research internship at the Department of Health Evidence at Radboudumc. In these five months, I developed an economic model designed to compare the costs and outcomes of two healthcare strategies on a societal level. Our project compared 2D ultrasound and 3D volumetric ultrasound for first-trimester anomaly screening in pregnancy. What I liked most about this project, was that it made me feel like we really contributed to Dutch health care, as the project was very close to the clinic. I also liked the interdisciplinary approach of the project, I talked to a lot of different people with various functions (e.g. obstetricians, gynaecologists, modelling experts).

Dept. of Health Evidence
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Internship testimonial (2)

Validating guidelines for breast cancer

For my research internship, I spent 5 months in beautiful Copenhagen. Here I was warmly welcomed by the Danish Breast Cancer Group. For my project, I used their enormous database of breast cancer patients in Denmark to validate the treatment guidelines for post-menopausal patients with ER+ and HER2- disease. Doing my internship abroad allowed me to grow on both a personal and professional level and I am grateful for the opportunity to apply and deepen my knowledge in an international setting. Overall, I really enjoyed my time in Denmark, and I would recommend everyone to seek out possibilities for an internship abroad.

Danish Breast Cancer Group
Copenhagen, Denmark