



Possible internship topics @ Hict

Summer 2024

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1. Market access

1.1. Health-economic analysis in the context of a Belgian submission for reimbursement

Expertise pillar: HEMAR

Hict supervisor: TBD (internal POC: Amber)

To get a new product (e.g., a new drug, a medical device) reimbursed in Belgium, they must go through a reimbursement process in which not only clinical evidence but also health-economic evidence is evaluated. Hict supports healthcare suppliers (e.g., pharmaceutical companies, MedTech companies) with all steps necessary to get a new product successfully reimbursed in Belgium. We are particularly experienced in providing support for the health-economic section of such a reimbursement dossier.

Depending on the timing of the internship and our ongoing projects at that time, you will be involved in one or more of the following tasks:

- | Data collection for the required model inputs:
 - o Literature search, (public) databases
 - o Expert opinion: development of surveys, doing interviews with expert physicians, expert meetings, etc.
- | Adapting and populating a cost-effectiveness model, evaluating the acceptability of the new product (i.e. is the product good value for money?)
- | Development of a budget impact model (BIA), evaluating the affordability of the new product (i.e. what would be the additional cost for the healthcare payer?)
- | Reporting of the model methods and results (a report, a Powerpoint-presentation, etc.)

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | It's not required to have an extensive background in health economics. We can provide the necessary introduction and training to get started.
- | **Required skills:** literature and database research, Microsoft Excel, analytical thinking.
- | **Specific interests:** quantitative analysis, market access

What's in it for you?

- | You will be introduced to the field of health economics, a rapidly growing area that plays a critical role in shaping healthcare policies and healthcare systems.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient in the job market as a young graduate
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment. Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

Please note that this is an on-site internship based in our office in Gent. Applicants should be able to commute to our location for the duration of the internship. Compensations for accommodations cannot be foreseen.

1.2. What is the patient perspective on optimal patient involvement in national market access procedures?



Expertise pillar: HEMAR/Policy

Supervisor: Lies

To get a pharmaceutical product reimbursed in Belgium, they must go through a specific reimbursement process in which not only clinical evidence but also health-economic evidence is evaluated. Several organizations such as RIZIV/INAMI, the cabinet of Social Services and Public health, pharma.be, sickness funds and clinical representatives take part in this process. One important stakeholder, who is currently not involved in this process is the patient itself. A patient representative could join the table, but it is unclear in which steps and how they can and should be involved in this reimbursement process.

In this project you will evaluate which methodologies are used in other countries to capture the patient perspective in an objective way. First you will check which information is publicly available in academic literature and on national websites. Secondly, you will crosscheck your findings based on publicly available information with representatives from patient organisations from the respective countries. Based on patient needs and expert interactions, you will define during which steps of the reimbursement process patient input can bring added value.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** literature search, qualitative analysis, interviews, framework development
- | **Specific interests:** reimbursement, market access, patient involvement

What's in it for you?

- | You will get a better understanding of the Belgian reimbursement process and how patient needs can be captured in an objective way.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment. Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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1.3. How different do the market access procedures look like (for different type of projects, or for one type of product across different countries)?

Expertise pillar: HEMAR/Policy

Supervisor: Lies or Amber (depending on availability, other interns, etc.)

To get a new product (e.g., a new drug, a medical device) reimbursed in Belgium, you must go through a reimbursement process in which all relevant evidence (epidemiological, clinical, health-economic studies) is evaluated. For each type of product, there are different procedures handled by different entities/commissions. For example, in Belgium, new drugs are evaluated by the 'Commissie Tegemoetkoming Geneesmiddelen (CTG), medical consumables such as wound care or blood pumps are evaluated by the 'Commissie Terugbetaling Farmaceutische Producten en Verstrekingen (CTFPV), etc. On top of that, each country has its own procedures, making it challenging to have a good view of the different procedures over different countries.

During this internship, the student will get acquainted with different market access procedures (across different product types and/or across different countries), and develop an in-depth overview, based on existing documentation and further desk research.

It is possible that this intern topic would be combined with another market access topic. This will depend on specific interests of the interns, our ongoing projects, the availability of supervisors during the summer period, etc.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** literature research, analytic thinking, visualizing complex procedures
- | **Specific interests:** market access, pharmaceuticals or medical devices

What's in it for you?

- | You will develop in-depth insights in different market access procedures, a crucial step in getting new technologies to the end-users.
- | This internship will particularly challenge you to summarize complex processes, preferably using clear and schematic visualizations.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment. Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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1.4. Develop/revise the physician surveys in the context of a Belgian submission for reimbursement: how can we optimize the information we collect from physicians (expert opinion)?

Expertise pillar: HEMAR

Supervisor: Britt

For HEMAR (Health Economics, Market Access and Reimbursement) projects, we often need to populate health economic models to support the reimbursement dossier. The data needed for the models is very detailed (including data on epidemiology, clinical practice including distribution of the landscape over the different treatments available in the market/expected in the future (market shares), resource use, etc.), and for a specific group of patients (indication of the new drug), so the data is often not found in existing databases or literature. Therefore, we develop surveys for clinical experts, who treat patients with the relevant indication, so we can gain more insights and collect the relevant data to populate the models as realistically as possible. Hict has extensive expertise in developing such surveys for expert opinion analysis in the context of reimbursement dossiers. However, the current work flow is quite time-consuming: the survey is developed in Word, transformed into a PDF, filled out PDF answers are extracted into CSV file, which is further processed in Excel. For the processing in Excel, we need to replicate the entire Word/PDF survey again in Excel, so the processing of the answers can be done automatically. However, in a lot of cases, the number of experts that fill in the survey is limited (eg 4), so the overhead of creating the survey in the different formats is rather large. Therefore we would like to explore if it is feasible and desirable to put the entire workflow in Excel.

As an intern at Hict, your tasks for this project would be the following:

- | Develop a new and flexible survey template in Excel, based on the existing Word template
- | Populate the template for an ongoing project, and if feasible, test the new version with an expert, to assess most important strengths and weaknesses, and adapt based on feedback
- | Develop the processing template (embedded in the survey template)

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** Microsoft Excel skills (or an interest to develop them)
- | **Specific interests:** Quantitative analysis, health-economics

What's in it for you?

- | Gain insight in the world of Health Economics, Market Access and Reimbursement, including health economic models, the data needed to populate them, and how to collect that data.
- | Work with our in-house Excel-gurus and improve your Excel skills.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment. Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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2. Digital tools

2.1. How to map use/occupancy of rooms in an expanding outpatient clinic? Develop a proof-of-concept based on fictitious data.

Expertise pillar: Process

Supervisor: Nathalie De Waele, with data support from Jana Puelinckx

In outpatient clinics, room usage is often not monitored, leading to suboptimal resource utilization and financial losses.

Additionally, the hospital board lacks insight into the pathways nurses and doctors take as they move between different rooms in the outpatient clinic.

Implementing a **monitoring tool** that tracks room occupancy and objectives serves multiple purposes. Firstly, it can streamline workflow efficiency. Secondly, when renovating an outpatient clinic, data from the tool can inform the optimal utilization of the refurbished rooms.

Implementing such a tool is quite challenging because existing options are either not tailored to the specific needs of a hospital setting or are prohibitively expensive, with additional fees charged for each room added to the program. Therefore, Hict aims to provide a solution for monitoring room usage to our clients.

As an intern, your role will involve researching existing tools and developing one that can be customized to meet the hospital's requirements. Depending on your skills, this tool could range from an interactive Excel spreadsheet to a more sophisticated program created in Python.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** Excel, python (not required but handy), analytic mindset
- | **Specific interests:** hospitals and their challenges, learning new things and expanding your horizon, thinking along towards process improvement in a team setting versus working independently

What's in it for you?

- | Doing this internship will broaden your knowledge about hospitals and their challenges/problems. It will help you further develop your problem-solving mindset in a real-world setting.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment.
- | Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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2.2. Develop a digital tool for communication on presence and absence of physicians (and nurses) in an outpatient clinic.

Expertise pillar: Process

Supervisor: Nathalie De Waele, with data support from Jana Puelinckx

In outpatient clinics, communication among physicians, nurses, and medical secretaries is crucial. Ensuring **alignment of schedules** is of utmost importance.

Medical secretaries must be aware of the presence of each physician to schedule appointments accurately for patients. Additionally, the number of nurses required in the outpatient clinics correlates with the number of physicians present. When physicians update their schedules, it is essential that this information reaches all other stakeholders involved in the outpatient clinic. So the schedule of a physician has a high impact on the waiting times for patients and the deployment of nurses and medical secretaries, which makes it crucial that their schedule is clear & timely to all the stakeholders of the outpatient clinic.

As an intern at Hict, you will play a key role in developing a clear communication protocol that can be tailored to meet the specific needs of different hospitals. Additionally, you will be tasked with researching or/and developing a tool to digitize and streamline all communication flows within the hospital setting. The goal is to come to a proof-of-concept tool which in a later phase could be offered to our clients.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** analytic mindset, programming
- | **Specific interests:** hospitals and their challenges, learning new things and expanding your horizon

What's in it for you?

- | Doing this internship will broaden your knowledge about hospitals and their challenges/problems. It will help you further develop your problem-solving mindset in a real-world setting.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
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- | Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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2.3. Which data can help hospitals in their strategic long-term planning of their care? Discover it by working on various parts of our Capacity and Staffing Prediction tool (CaSPr).

Expertise pillar: Strategy

Supervisors: Elien Martens and Jana Puelinckx

Within Hict, we have our own prediction model for Belgian hospitals called Capacity and Staffing Prediction tool (CaSPr). It is designed to predict the evolution of care demand in the hospital's region, referred to as the care region of a hospital. CaSPr assists hospitals in making strategic decisions regarding the types of care to offer and collaborations with other healthcare actors.

This care region of a hospital is defined by specific socio-demographic indicators and healthcare conditions of its inhabitants such as population size, antibiotic usage, etc. These indicators are integrated into CaSPr within the Population Health Management Dashboard.

As an intern at Hict, you will be involved in various aspects related to CaSPr. Firstly, you will contribute to expanding the Population Health Management Dashboard by incorporating additional population indicators, integrating new datasets and features, and enhancing the layout and user interface.

Secondly, we have the ambition to make CaSPr available to hospitals in the Netherlands. In addition to the development process, you will conduct a market entry study. The objective of this study is to formulate a strategy for introducing CaSPr NL to the market in the Netherlands.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) with a proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** analytic mindset, python
- | **Specific interests:** data, programming, healthcare, strategic thinking

What's in it for you?

- | Doing this internship will broaden your knowledge about hospitals and their challenges/problems. It will help you further develop your problem-solving mindset in a real-world setting.
- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
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3. Hospital strategy and organisation

3.1. Hospital capacity management and interdisciplinary collaboration

Expertise pillar: Strategy/Process

Supervisor: Yasmine

More information about this topic coming soon.

3.2. Benchmark of designed/built surfaces in Belgian hospitals

Expertise pillar: Strategy/Process

Supervisor: Ellen Clarke – Yasmine Syed

Scope

Benchmark of designed / built surfaces in Belgian hospitals as input for an effective programming tool and financial feasibility study in different scenarios of a masterplan.

Goal

Benchmark of designed and build surfaces of the rooms in recent hospitals, categorized in typology of rooms. This benchmark considers different approaches for new constructions and renovations as well as for university hospitals and non-university hospitals.

Description

The programming phase of a hospital determines the static capacity required to realize the intended medical activity (care volume). The static capacity is the number of beds, number of medical equipment, OR's, consultation rooms and supportive functions. The static capacity is used for a spatial translation in square metres of surfaces, as input for the comparison of different infrastructural scenarios in a masterplan to discuss with the hospital.

Each programmed room can be categorized according to typologies of standards. For each typology of standard rooms in hospital planning an average m² surface can be defined. (+/- 130 types of standard rooms in a hospital divided in 10 categories). The form of +/- 130 typology of rooms exist.

To enable the financial feasibility studies of different scenarios in a masterplan we need more recent numbers of average m² surface for each type of room in hospital planning.

What do we expect from you?

- | We welcome Master students (ongoing or just graduated) in the directions of TEW applied economic science / architecture science / health science
- | Proactive attitude, eager to learn, and with a profound interest in the healthcare system.
- | **Specific skills:** logic thinking, excel skills
- | **Specific interests:** architecture, healthcare, effectivity

What's in it for you?

- | Doing an internship will provide you with a first experience on the job market, so it can help you orient yourself in the job market as a young graduate.
- | You will be joining a group of young and highly skilled consultants, in a dynamic project-driven working environment. Next to your specific intern project, you can be involved in other ongoing projects or internal processes, giving you a taste of the various tasks of a consultant.

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