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Medication optimisation in older adults with cancer

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Addendum



Portfolio

Academic development

This PhD-trajectory started with a grant from KWF Dutch Cancer Society to improve the care for older adults with cancer and a poor prognosis. With that grant, pharmacists, clinical oncologists and geriatricians collaborated to develop a care pathway for patients with a newly diagnosed cancer and a prognosis of 12 months. In order to be able to disseminate our project and results, I started to record data from the patients who were included in the form of a study that led to the third chapter in this thesis. In this process, I learnt the importance of drawing up a case report form that fits the analytical purposes of the study. And as the news of our medication-optimization pathway spread, I was invited regularly to give lectures to various groups of caregivers long before the results were published.

As we were a pioneer in the Netherlands with respect to deprescribing in this patient group and no guidance tools were available, I performed a literature study aimed at providing some kind of evidence for our recommendations in discontinuation of medications.

At quite an early stage, I found out that not all research leads to a published paper, or even to presentable results. We started one study using data from the European Registration of Cancer Care (EURECCA). This was my first study that employed a large dataset in which I cooperated with an epidemiologist. The initial crude analyses – for which we used imputation for missing values – led to a very relevant question on potential confounding. Unfortunately, that question was not answered satisfactory and, as a result, the entire analysis was not reliable as correcting for that potential confounder was not possible with the data we had at our disposal. So although the research question was a relevant one and the initial results were interesting, this has not led to a publication or any other type of dissemination and is not included in this thesis.

The 4th study in this thesis – Chapter 5 – was a prospective study in which I interviewed patients. Those interviews made clear how important the phrasing in questionnaires is. Even though the majority of patients will understand the intended meaning of the question, some patients will explain your questions in an unexpected way. I am convinced that those irregularities will always exist in research, even if a questionnaire is validated in a group of patient before using it in the actual study. A short example is the following conversation I (Q) had with a patient (A), when interviewing him on the use of herbal supplements.

Q: “Do you use any medication or products outside of the medication listed in the pharmacy?”

A: “No.”

Q: “Do you use any herbal supplements or products?”

A: “No.”

Q: “Do you use for example Echinacea or Ginseng?”

A: “Yes, Echinacea.”

Across all studies, I learnt and experienced the importance of a sound and systematic approach of a study, in which the applied – statistical – methods should be considered before analysis takes place. Although I did select statistical analyses when drawing up the research protocols, I found out how easily one is tempted to continue with additional analyses when you find interesting, intriguing or unexpected results. Irrespective of how interesting those

additional analyses may be, they will lead the researcher to a side-track searching for answers to questions that were not asked in the initial research protocol. A few time, I had to return to the outcomes that were formulated in the research protocol in order not to end up with a non-coherent concept-manuscript.

I have come to appreciate and value the process and principle of peer-review. Obviously, my manuscripts were accompanied by comments from the reviewers and addressing these comments improved the quality of the manuscripts. What seems clear to me and my co-authors due to our background knowledge of the study may not be as clear to other readers. Yet on the other hand, I have reviewed a number of submitted manuscripts as well and my recommendations for the editors varied from accepting to rejecting the manuscript. I understand that editors rely on the feedback of external reviewers to make a decision on a submission. Also, I started reviewing research protocols submitted to the Scientific Department of the Haga Hospital for acquiring local approval and in so, hope to have contributed to improving those research protocols and, therefore, the reliability of the results of those studies.

During my PhD-trajectory, I guided five students in their research project from the master phase of their studies, which were Pharmaceutical Sciences and Biomedical Sciences. The aspect I learnt most from, is the assessment and grading of their results.

At the conclusion of my PhD-trajectory, I have developed the skills that are required to formulate a research hypothesis and to initiate and lead a research project with the proper methods to test that hypothesis. I can interpret the results of a research project and discuss those in a critical way.

Courses

2018	Scientific Writing in English for Publication in Biomedical Journals
2018	Cursus Klinische Epidemiologie
2018	Basic Methods and Reasoning in Biostatistics
2021	Basic Introduction course on SPSS
2025	GCP-WMO
2025	ICH GCP R3 transition course
2026	Scientific Conduct

CRedit table for the thesis of Edwin Brokaar														
Ch.	Type*	Short Title	Conceptualization	Data Curation	Formal Analysis	Funding Acquisition	Investigation	Methodology	Project Administration	Resources	Software	Supervision	Validation	Visualization
1	Introduction	Introduction												
2	PhD project chapter	Deprescribing - literature review												
3	PhD project chapter	Medication optimization												
4	PhD project chapter	Fluoropyrimidine toxicity												
5	PhD project chapter	Herb-drug interactions												
6	PhD project chapter	Anticholinergic burden												
7	Collaboration chapter	PIM in palliative lung cancer												
8	Collaboration chapter	Polyfarmacie en optimalisatie												
9	Discussion	Discussion												
			Pre-registered	Preprinted	Published with Peer Review									

*PhD project chapters are the direct result of the PhD project of the PhD candidate.
Some theses also include Collaboration Chapters, to which the PhD candidate has contributed but fall outside the PhD project.