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Precision medicine using pharmacogenomic panel testing

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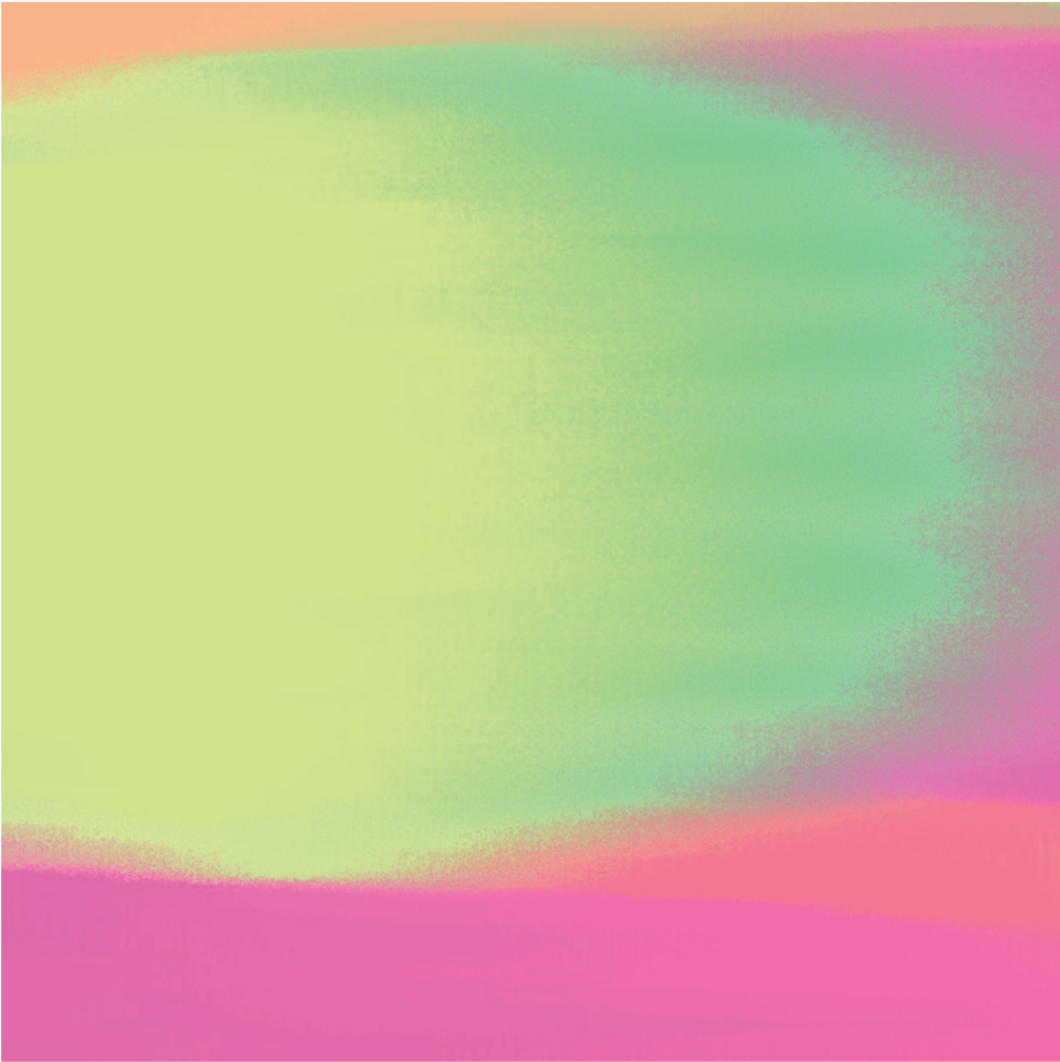


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APPENDIX

List of Publications

In this thesis

van der Wouden CH*, Carere DA*, Maitland-van der Zee AH, Ruffin MTt, Roberts JS, Green RC. Consumer Perceptions of Interactions With Primary Care Providers After Direct-to-Consumer Personal Genomic Testing. *Annals of Internal Medicine*. 2016;164(8):513-22

van der Wouden CH, Cambon-Thomsen A, Cecchin E, Cheung KC, Davila-Fajardo CL, Deneer VH, et al. Implementing Pharmacogenomics in Europe: Design and Implementation Strategy of the Ubiquitous Pharmacogenomics Consortium. *Clinical Pharmacology and Therapeutics*. 2017;101(3):341-58

van der Wouden CH, van Rhenen MH, Jama WOM, Ingelman-Sundberg M, Lauschke VM, Konta L, et al. Development of the PGx-Passport: A Panel of Actionable Germline Genetic Variants for Pre-Emptive Pharmacogenetic Testing. *Clinical Pharmacology and Therapeutics*. 2019;106(4):866-73

van der Wouden CH, Bank PCD, Özokcu K, Swen JJ, Guchelaar HJ. Pharmacist-Initiated Pre-Emptive Pharmacogenetic Panel Testing with Clinical Decision Support in Primary Care: Record of PGx Results and Real-World Impact. *Genes*. 2019;10(6)

Lunenburg CATC*, **van der Wouden CH***, Nijenhuis M, Crommentuijn-van Rhenen MH, de Boer-Veger NJ, Buunk AM, et al. Dutch Pharmacogenetics Working Group (DPWG) guideline for the gene-drug interaction of DPYD and fluoropyrimidines. *European Journal of Human Genetics* : EJHG. 2019;10.1038/s41431-019-0540-0

van der Wouden CH, Paasman E, Teichert M, Crone MR, Guchelaar HJ, Swen JJ. Assessing the Implementation of Pharmacogenomic Panel-Testing in Primary Care in the Netherlands Utilizing a Theoretical Framework. *Journal of Clinical Medicine*. 2020;9(3)

van der Wouden CH, van Zwet E, Cecchin E, Cheung KC, Davila-Fajardo CL, Deneer VH, et al. Generating Evidence for Precision Medicine: Considerations made by the Ubiquitous Pharmacogenomics Consortium (U-PGx) when Designing and Operationalizing the PREPARE study. *Pharmacogenetics and Genomics*. 2020; *in press*

van der Wouden CH, Guchelaar HJ, Swen JJ. Precision Medicine using Pharmacogenomic Panel-Testing: Current Status and Future Perspectives. *Advances in Molecular Pathology*. 2020; *accepted for publication*

van der Wouden CH, Marck H, Guchelaar HJ, Swen JJ, van den Hout WB. Cost-Effectiveness of Pharmacogenomics-Guided Prescribing to Prevent Gene-Drug-Related Deaths: A Decision-Analytic Model. 2020; *submitted*

Not in this thesis

van der Wouden CH, Swen JJ, Schwab M, Mitropoulou C, Schwab M, Guchelaar H-J. A brighter future for the implementation of pharmacogenomic testing. *Eur J Hum Genet.* 2016;24(12):1658-60

Carere DA, VanderWeele TJ, Vassy JL, **van der Wouden CH**, Roberts JS, Kraft P, et al. Prescription medication changes following direct-to-consumer personal genomic testing: findings from the Impact of Personal Genomics (PGen) Study. *Genetics in Medicine : Official Journal of the American College of Medical Genetics.* 2017;19(5):537-45

Manson LE, **van der Wouden CH**, Swen JJ, Guchelaar H-JJ. The Ubiquitous Pharmacogenomics consortium: making effective treatment optimization accessible to every European citizen. *Pharmacogenomics.* 2017;18(11):1041-5

Blagec K, Koopmann R, Crommentuijn-van Rhenen M, Holsappel I, **van der Wouden CH**, Konta L, et al. Implementing pharmacogenomics decision support across seven European countries: The Ubiquitous Pharmacogenomics (U-PGx) project. *Journal of the American Medical Informatics Association : JAMIA.* 2018;25(7):893-8

van der Wouden CH, van Rhenen MH, Jama WOM, Ingelman-Sundberg M, Lauschke VM, Konta L, et al. One non-believer: Response to "Obviously Nine Believers: Actionable Germline Genetic Variants for Pre-emptive Pharmacogenetic Testing". *Basic & Clinical Pharmacology & Toxicology.* 2019;10.1111/bcpt.13336

Curriculum Vitae

Cathelijne Hendrikje van der Wouden was born on February 10th 1991 in Chester, United Kingdom. Cathelijne currently lives in The Hague with her partner, Gijs Joost. She was raised cross-culturally and attended international schools in Santo Domingo (Dominican Republic), Croissy-sur-Seine (France), and Wassenaar (The Netherlands). Cathelijne completed her International Baccalaureate Diploma at the American School of The Hague in 2008.



PGx Passport
CH van der Wouden

In 2009, she pursued a bachelor's degree in Pharmaceutical Sciences at Utrecht University. Next to her studies she organized the yearly UIT-dagen in 2011 and rowed the 100km Ringvaart Regatta in 2012. She performed her bachelor's thesis research internship in Drug Safety at Amgen in Breda after which she received her bachelor's degree in 2013.

In February 2013, she started her master's degree in Pharmacy at Utrecht University. As part of the program, she performed clinical internships at Hoogravense Pharmacy, Mouw en Kruyssen Pharmacy and at the Hospital Pharmacy of Onze Lieve Vrouwe Gasthuis. To explore the intersection of genomics and medicine she performed a research traineeship at the Genomes2People Research Group at Brigham and Women's Hospital and Harvard Medical School in Boston, USA under supervision of Prof. Robert C. Green in 2014. The master's thesis she wrote here was nominated for the Utrecht University Thesis of the Year Award in 2015. In parallel to her studies, she expanded her horizons in both business and public health. To discover the realm of business, she was selected for a multi-disciplinary entrepreneurial honors program, Utrecht University Business Course, and performed an internship in Medical Affairs at Merck Sharp and Dohme (MSD) in Haarlem. To improve her understanding of public health, she joined Universities Allied for Essential Medicines (UAEM) and enrolled in the Pharmaceutical Policy Analysis Summer School. Cathelijne also joined the Run for Human Rights Watch (HRW) team to raise funds for HRW Syria by running the NYC Marathon. She graduated *cum laude* and received her PharmD degree in February 2016.

In April 2016, Cathelijne started her PhD under supervision of Prof. dr. Henk-Jan Guchelaar and Dr. Jesse Swen at Leiden University Medical Center (LUMC). Her PhD project was an integral part of the, Horizon 2020, EU-funded, Ubiquitous Pharmacogenomics (U-PGx) Consortium, which is coordinated by the LUMC. In collaboration with the U-PGx consortium, she contributed to the design, launch, management and analysis of an international clinical trial (the PREPARE Study, n=8,100) across seven European countries aiming to implement and assess the (cost-)effectiveness of pharmacogenomic panel testing to optimize drug therapy.

After finalizing her PhD, Cathelijne is joining McKinsey and Company as an Associate Consultant for Life Sciences in Zürich, Switzerland.

Portfolio

Presentations

2016	PREPARE Study Site Initiation Visit	Liverpool, United Kingdom
2016	PREPARE Study Site Initiation Visit	Granada, Spain
2016	PREPARE Study Site Initiation Visit	Vienna, Austria
2016	PREPARE Study Site Initiation Visit	Patras, Greece
2016	PREPARE Study Site Initiation Visit	Aviano, Italy
2016	PREPARE Study Site Initiation Visit	Ljubljana, Slovenia
2017	Oral Presentation at Leiden Network for Personalized Therapeutics	Leiden, The Netherlands
2017	Oral Presentation at Nederlandse Vereniging voor Ziekenhuis Apothekers Dagen	Bunnik, The Netherlands
2017	Oral Presentation at Netherlands Network for Precision Medicine	Leiden, The Netherlands
2018	Poster Presentation at American Society for Clinical Pharmacology and Therapeutics (did not attend personally)	Orlando, United States
2018	Oral Presentation at Nederlandse Vereniging voor Ziekenhuis Apothekers Dagen	Arnhem, The Netherlands
2019	Invited Speaker at European Society for Organ Transplantation	Copenhagen, Denmark
2019	Lab Meeting Presentation at Genomes2People at Brigham and Women's Hospital	Boston, United States
2019	Poster Presentation at American Society for Clinical Pharmacology and Therapeutics	Washington D.C., United States
2019	Invited Speaker at Seminar on Drug Sciences at Basel University	Basel, Switzerland

Courses

2016	PhD Introductory Meeting	Leiden University Medical Center
2016	Basic Methods and Reasoning in Biostatistics	Leiden University Medical Center
2016	Basiscursus Regelgeving en Organisatie Klinisch Onderzoekers (BROK)	Leiden University Medical Center
2017	MGC Genomics and Transcriptomics	Leiden University Medical Center
2017	MGC Proteomics	Leiden University Medical Center
2018	Meta-Analysis	Leiden University Medical Center
2018	Statistical Aspects of Clinical Trials	Leiden University Medical Center
2018	Data Analysis with R	Leiden University Medical Center
2018	Regression Analysis	Leiden University Medical Center
2018	Time and Self-Management	Leiden University
2018	BioBusiness Summer School	Hyphen Projects
2019	Qualitative Interviewing and Data Analysis	Leiden University

2019	Scientific Conduct for PhDs	Leiden University
2019	Mind-Mapping	Leiden University
2019	Competences and Motives	Leiden University
2019	Data and Project Management	Leiden University

Teaching Activities

Supervision of Research Projects

2017	BSc Thesis	Marleen Hoefnagel
2018	MSc Thesis	Kübra Özokcu
2018	BSc Thesis	Koen van Amerongen
2018	BSc Thesis	Eleonoor Stijntjes
2019	MSc Thesis	Ellen Paasman
2019	BSc Thesis	Laurens Oomen
2019	MSc Project	Chloe Spires
2019	MSc Thesis	Heiralde Marck
2020	BSc Project	Foteini Tzioufa

Teaching Courses and Workshops

2016	Working group Tutor, Pharmacology	BSc Medicine
2016	Practical Tutor, Pharmaceutical Compounding	BSc Bio-Pharmaceutical Sciences
2016	Practical Tutor, Pharmaceutical Compounding	MSc Pharmacy
2017	Working group Tutor, Pharmacology	BSc Medicine
2017	Practical Tutor, Pharmaceutical Compounding	MSc Pharmacy
2018	Working group Tutor, Pharmacology	BSc Medicine
2019	Practical Tutor, Pharmaceutical Compounding	MSc Pharmacy
2019	2-day Pharmacogenomics Workshop	Pharmaceutical Care Network Europe Conference
2019	Pharmacogenomics Workshop	Commissie Onderwijs Interne Geneeskunde
2020	Project Supervisor, Drug Development	BSc Bio-Pharmaceutical Sciences

Awards and grants

2017	Netherlands Network for Precision Medicine (NNPM) – Best Presentation Award
2018	American Society Clinical Pharmacology and Therapeutics (ASCPT) Travel Grant
2018	Pharmacogenetics Research Network (PGRN) - Trainee Abstract Award

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Het is een absoluut voorrecht te mogen bijdragen aan de wetenschap. Tijdens mijn promotie heb ik veel ontdekt over zowel de wereld als mijzelf. Hiervoor wil ik velen bedanken.

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Dear U-PGx colleagues in Aviano, Frankfurt, Granada, Leiden, Liverpool, Ljubljana, Patras, Stockholm, Stuttgart, The Hague, Toulouse, Uppsala, Utrecht and Vienna, it was an absolute pleasure to work with such a brilliant, multi-disciplinary and multi-cultural team. I am very proud of what we have achieved together and strongly believe we have improved medicine through pharmacogenomics. I am grateful for our collaboration and your hospitality when visiting. Although our annual consortium meetings have come to an end, I look forward to keeping in touch.

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Dear fellow PhDs, Meta, Sofieke, Paul, Xiaoyan, Frank, Carin, Anabel, Maaïke, Michel, Anyue, Tom, Stephan, both Sylvias, Lianne, Emma and Sultan. Thank you for always voicing your helpful opinions and your moral support. Dear previous interns, particularly Kübra, Ellen and Heiralde, thank you for your hard work and fruitful brainstorm sessions. Beste collega's van KFT, veel dank voor jullie interesse en gezellige gesprekken in de koffiekamer.

Dear Prof. Green and Dr. Carere, dear Robert and Alexis, thank you for introducing me to the world of genomic medicine and providing me with the opportunity to join Genomes2People in Boston. It inspired me to contribute to improving medicine through genomics.

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Lieve papa en mama, waar moet ik beginnen. Mijn dankbaarheid is niet in een paar woorden uit te drukken. Jullie grenzeloze support en oneindige liefde is de basis van alles waar ik mij toe zet. Jullie zijn mijn grote voorbeelden. Lieve Jetske en Willem, Hugo en Katy, ik had mij geen fijnere zus en broer kunnen wensen. Dankjulliewel voor het zijn van een warm bad in mindere tijden en het samen vieren van bereikte doelen. Zonder jullie allen had ik deze mijlpaal niet gehaald. Lieve Jetske, wat heb je er een fantasievol en elegant boek van gemaakt, ik ben je enorm dankbaar dat jij je creativiteit voor mij wilde inzetten.

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