



Universiteit  
Leiden  
The Netherlands

## Epidemiology of Clostridium difficile infections in the Netherlands and Europe: implications for surveillance and control

Dorp, S.M. van

### Citation

Dorp, S. M. van. (2018, October 10). *Epidemiology of Clostridium difficile infections in the Netherlands and Europe: implications for surveillance and control*. Retrieved from <https://hdl.handle.net/1887/68027>

Version: Not Applicable (or Unknown)

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/68027>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/68027> holds various files of this Leiden University dissertation.

**Author:** Dorp, S.M. van

**Title:** Epidemiology of Clostridium difficile infections in the Netherlands and Europe:  
implications for surveillance and control

**Issue Date:** 2018-10-10

# List of publications

**van Dorp SM**, Hensgens MPM, Dekkers OM, Demeulemeester A, Buiting A, Bloembergen P et al. Spatial clustering and livestock exposure as risk factor for community-acquired *Clostridium difficile* infection. *Clin Microbiol Infect.* 2018; Epub Aug 1.

**van Dorp SM**, de Greeff SC, Harmanus C, Sanders IMJG, Dekkers OM, Knetsch CW, Kampina GA, Notermans DW, Kuijper EJ. Ribotype 078 *Clostridium difficile* infection incidence in Dutch hospitals is not associated with provincial pig farming: Results from a national sentinel surveillance, 2009-2015. *PLoS One.* 2017 Dec 29;12(12):e0189183.

Crobach MJT, Voor In 't Holt AF, Knetsch CW, **van Dorp SM**, Bras W, Harmanus C, Kuijper EJ, Vos MC. An outbreak of *Clostridium difficile* infections due to new PCR ribotype 826: epidemiologic and microbiologic analyses. *Clin Microbiol Infect.* 2017 Aug 19. pii: S1198-743X(17)30460-3.

**van Dorp SM**, Smajlović E, Knetsch CW, Notermans DW, de Greeff SC, Kuijper EJ. Clinical and microbiological characteristics of *Clostridium difficile* infection among hospitalized children in the Netherlands; a six-year surveillance. *Clin Infect Dis.* 2017 Jan 15;64(2):192-198.

**van Dorp SM**, Kinross P, Gastmeier P, Behnke M, Kola A, Delmeé M, et al. Standardised surveillance of *Clostridium difficile* infection in European acute care hospitals: a pilot study, 2013. *Euro Surveill.* 2016;21(29).

Terveer EM, van Beurden YH, **van Dorp SM**, Keller JJ, Kuijper EJ. Is the Lower Gastrointestinal Route Really Preferred Over the Upper Gastrointestinal Route for Fecal Microbiota Transfer? *J Clin Gastroenterol.* 2016.

Bouwknegt M, **van Dorp SM**, Kuijper E. Comment on: Burden of *Clostridium difficile* infection in the United States. *N Engl J Med.* 2015 Jun 11;372(24):2368.

Pituch H, Obuch-Woszczyński P, Lachowicz D, Wultańska D, Karpiński P, Mlynarczyk G, **van Dorp SM**, Kuijper EJ; Polish *Clostridium difficile* Study Group. Hospital-based *Clostridium difficile* infection surveillance reveals high proportions of PCR ribotypes 027 and 176 in different areas of Poland, 2011 to 2013. *Euro Surveill.* 2015;20(38).

Knetsch CW, Connor TR, Mutreja A, **van Dorp SM**, Sanders IM, Browne HP et al. Whole genome sequencing reveals potential spread of *Clostridium difficile* between humans and farm animals in the Netherlands, 2002 to 2011. *Euro Surveill.* 2014 Nov 13;19(45):20954.

# About the author

Sofie van Dorp was born in Overveen, the Netherlands on August 9, 1985. She completed her secondary school (gymnasium) education at the Kennemer Lyceum in Overveen in 2003. She studied Medicine at the Free University of Amsterdam from 2003-2010. In 2008, she did a 3-month research internship at the Anahuac University in Mexico City analysing data from a Social and Health Assessment survey among adolescents in Mexico City. She completed her training as a medical doctor with internships at the department of internal medicine and neurology in Paramaribo, and a public health clinic located in the Sipaliwini district of Surinam. Afterwards, she started working at the Rijnland Hospital in Leiderdorp at the department of internal medicine and followed a 4-month training at the IC unit. In 2012, she started her first research project on CDI as part of ECDIS-Net under the supervision of prof. E.J. Kuijper, medical microbiologist. During her PhD-research period, she expanded her work in ECDIS-Net and coordinated activities of the national reference laboratory for *C. difficile* in the Netherlands in cooperation with the National Institute for Public Health and the Environment (RIVM). To improve her research competencies, she followed several trainings at the department of Clinical Epidemiology at the LUMC. She enjoyed international collaboration with *C. difficile* researchers from all over Europe and other parts of the world, and presented her work at national and international conferences. Furthermore, she supported research projects on *C. difficile* and highly resistant microorganisms in nursing homes. In 2017, she worked at the department of clinical geriatrics at the Slotervaart Hospital in Amsterdam and started her training as a clinical geriatrician. She is married to Sebastiaan van Denderen and mother of two sons.

# Acknowledgments

This thesis is the product of extensive collaboration with colleagues of many healthcare facilities in the Netherlands, and a large network of *C. difficile* experts across Europe. I would like to express my warmest gratitude to everyone that contributed to the studies that are part of this thesis.

I would like to thank my promotor Prof. Ed Kuijper for his supervision during my PhD. His endless (day and night) enthusiasm for *C. difficile* and for microbiology in general is contagious. Thank you so much for your trust and helping me not to get discouraged by challenges that arose whilst working on this thesis.

I am very grateful for the kind and inspiring support of my co-promotor Dr. Sabine de Greeff. You helped me to place the work on CDI surveillance in a broader public health perspective, and identified relevant issues to address. I also want to thank all other colleagues from the National Institute of Public Health and the Environment that contributed to this thesis in different areas.

It has been a great opportunity and honour to be part of the ECDIS-Net and meet *C. difficile* experts from all over the world. I would like to genuinely thank all national and local coordinators for their contribution and the pleasant collaboration. I would like to sincerely thank the European Centre of Disease Prevention and Control for their funding and contribution to both ECDIS-Net studies. And special thanks to Carl Suetens and Pete Kinross, thank you for your excellent help and skills, and your attention to detail.

I would like to thank all Dutch infection prevention personnel, laboratory technicians and microbiologists that participated in one of the studies for their dedication and effort. Your experience and knowledge were indispensable for the achievement of this thesis. I would like to thank the Ministry of Health, Welfare and Sport and the Netherlands Organisation for Health Research and Development for their financial support.

As well, I would like to thank the department of Clinical Epidemiology at the LUMC for providing me a theoretical background for the completion of this thesis.

Many thanks to Tessa van der Eem for designing the cover and lay-out of this thesis.

Many thanks to all my (former) colleagues of the group of Experimental Medical Microbiology at the LUMC. Marjolein, you wondered how I would manage to keep

all the balls in the air at the National Reference Laboratory. If I may have dropped one, it was definitely not because of your help to settle in and the great amount of data you collected. Even though I was working in a different area of expertise, the PIs Hans, Jeroen and Wiep-Klaas provided me with very helpful lessons in scientific reasoning and were always willing to explain further. Wilco, thank you for your guidance just when I needed it and our fruitful discussions. Ingrid and Céline, I admire your persistence while receiving great amounts of samples every day. I hope you recognise your contribution to this thesis. Many thanks to the administrative personnel and technicians of Clinical Microbiology for their contribution. Annemiek, Ana and Sjaak, thank you for making this PhD process more enjoyable. Monique, it was a pleasure to work with you and thank you for always sharing epidemiological issues. Thanks to Marjolein Korndewal for exchanging epidemiological and non-epidemiological ideas during the writing of our PhDs.

Many good friends, my Capoeira family and several family members supported my while writing this thesis. I could not have asked for more. Eva, thank you for your encouragement prior to the defence.

I would like to thank my dear ‘extended family’ Margot, Christiaan and Marije for their loving care of my children while I was working on this thesis and their support of my career.

I am blessed with the most understanding and loving sister and parents in the world. Roos, thank you for looking after me since the day I was born and your 100% support of everything I aim for. You are simply the best. Papa and mama, thank you for your faith in me, your patience and your unconditional love. I really admire your way to enjoy life, with great empathy.

Sebastiaan, thank you for your full support, your spirit and love. Together we can! Aron and Ruben, thank you for being so full of joy and love. You surprise me every day, and there is so much more to come.

## **COLOFON**

*Design:*

Tessa van der Eem – [www.tessavandereem.nl](http://www.tessavandereem.nl)

*Printed by:*

Gildeprint – [www.gildeprint.nl](http://www.gildeprint.nl)

The research described in this thesis was financially supported by the European Centre of Disease Prevention and Control, the Ministry of Health, Welfare and Sport and the Netherlands Organisation for Health Research and Development.