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Universiteit Gent



PhD in Medical Sciences  
2016-2017

INVITATION to the Public defence of

**Stefanie DEVOS**

To obtain the academic degree of '**DOCTOR IN SOCIAL HEALTH SCIENCES**'

**Direct medical costs of transport: the case of air pollution and traffic injuries.**

**Tuesday 04 April 2017**

Auditorium **R. Vanden Driessche**, 16:00  
Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

<http://www.vub.ac.be/english/infoabout/campuses>

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## Summary of the dissertation

Transport planners and policy makers are faced with an increasing pressure to meet the mobility needs of the population in a socially, environmentally, and economically sustainable way including specific attention for the costs associated with the adverse health effects of transport. Due to different health care systems, financing systems, etc., cost calculations should ideally be calculated at a local level. In this doctoral dissertation, attention is paid to the direct medical costs incurred to the health insurance associated with traffic injuries and air pollution exposure. Cost of illness estimates were calculated, linking secondary databases containing administrative, clinical and claims data at patient level. First, the likelihood for a hospital admission after traffic injury was determined and hospitalisation costs were calculated as well as the variations in the latter costs. Furthermore, the attributable medical care costs were calculated until one year after the accident. Concerning air pollution, the number of avoidable hospital admissions and amount of averted costs were estimated that are associated with a decrease in the level of air pollution exposure related to pneumonia, COPD, ischemic heart disease and heart rhythm disturbances. In a last study, two shapes of exposure-response functions are juxtaposed in terms of differences in adverse health effect estimates and consequences for evidence-based policy making in public health.

## Curriculum Vitae

Stefanie Devos was born on July 30th 1987 in Vilvoorde. She graduated from the Katholieke Universiteit Leuven in 2010 with a Master in Psychology and from the Friedrich-Alexander Universität in Erlangen (Germany) in 2012 with a Master in Physical Activity & Health. Both Master degrees were obtained with great distinction. In September 2012 she started her PhD within I-CHER at the Public Health Sciences Department at the Vrije Universiteit Brussel under the guidance of Prof. Koen Putman, Prof. Lieven Annemans, and Prof. Tom van Lier. She was involved in the Interdisciplinary Research Project 'Towards sustainable transport: The development of an External Cost Calculator for sustainable transport scenarios' which is funded by the Vrije Universiteit Brussel. She co-authored seven international peer-reviewed publications, of which four as first author. Furthermore, she presented the results of her studies at several national and international conferences. In August 2016 she started working as health analytics advisor in the strategic information department at Universitair Ziekenhuis Brussel.