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End-of-Life Care Research Group, VUB

INVITATION to the Public defence of

Degefaye Zelalem ANLAY

To obtain the academic degree of

'DOCTOR OF MEDICAL SCIENCES- VUB/UANTWERP'

Deprescribing medications in nursing homes: Using big data to study real-world implementation and effects on end-of-life-relevant outcomes

The public defence will take place on

Wednesday, 2 September 2026 at 5 p.m.

In Auditorium D.Q.002 Building Q

Campus Drie Eiken [campus Drie Eiken](#)
Universiteitsplein 1, 2610 Wilrijk

and can be followed online, accessible through the following link:

<https://eu.bbcollab.com/guest/ee952bc473824c0491f82957d6154d36>

Summary of the dissertation

Nursing home residents often take many medicines, some of which may no longer be helpful at the end of life and can even cause harm. Although deprescribing, the stopping or reducing of unnecessary medicines, is increasingly recommended in guidelines, it remains unclear how well this is reflected in practice and evidence on the effects of stopping these medicines remains limited, especially on outcomes that matter most, such as quality-of-life-related outcomes.

To strengthen the evidence base, I first reviewed existing deprescribing tools and guidelines, finding that the overall level of evidence is low and recommendations are often inconsistent.

Then, using linked healthcare reimbursement data, I analysed deprescribing trends over time, the impact of guidelines on actual practice, and rate of reinitiation of discontinued medicines, and conducted interviews with healthcare professionals to explore barriers and enablers. The results show that deprescribing occurs in only about 1 in 3 residents, has small declined over time, and that 1 in 5 discontinued medicines are restarted, while international guidelines did not change practice, indicating that deprescribing is not yet well embedded in routine care. Additionally, I investigated the effects of deprescribing proton pump inhibitors and found that it did not worsen quality-of-life outcomes while reducing hospital admissions, highlighting its potential to reduce low-value care, although it did not improve patient experience.

Finally, I conducted a case study on challenges in accessing and using data, finding that access is often slow and complex, which limits timely evidence generation. Future efforts should focus on stronger implementation strategies, broader evidence across medications, and more efficient access to healthcare data.

Curriculum Vitae

Degefaye Zelalem Anlay is a nurse and holds a Master of Clinical Tropical Infectious Diseases and HIV Medicine from the University of Gondar, Ethiopia (2015), and a Master of Epidemiology from the University of Antwerp, Belgium (2021). He worked in clinical care as a nurse and in infectious disease research, focusing on HIV and tuberculosis, particularly drug-related problems and treatment failure in these conditions in resource-limited settings. Since July 2022, he has been working as a doctoral researcher at the End-of-Life Care Research Group at Vrije Universiteit Brussel and the Centre for Research and Innovation in Care at the University of Antwerp. His research focuses on strengthening the evidence on the effects of deprescribing medications and studying the real-world implementation of deprescribing in nursing home residents with limited life expectancy, using linked healthcare administrative and clinical data and applying advanced epidemiological and statistical methods.