

Three Scalable and Innovative Suicide Prevention Measures for Rail Networks

10. Public Health and community interventions

Johan Fredin-Knutzén¹, *Gergö Hadlaczky*¹, *Anna-Lena Andersson*², *Anders Wigren*³, *Marcus Sokolowski*¹

¹ National Centre for Suicide Research and Prevention (NASP), Karolinska Institute & Region Stockholm

² National Centre for Suicide Research and Prevention (NASP), Karolinska Institute

³ Trafikverket

Abstract text

Introduction

In Sweden, approximately 85 suicides occur annually in Swedish rail-bound traffic.¹ Various measures can be used to prevent these events. The Swedish Transport Administration and the public transporter in Stockholm have implemented several scalable measures in platform areas as part of pilot studies. Three of these will be presented more thoroughly. "Mid-track fences" that separate easy access to fast trains passing through stations,² "Platform-end lengthwise fences" that reduce trespassing onto the tracks from platform ends,³ and "Automated Video Analysis for Real-Time Detection of Human Risk Behavior on Metro Platforms" that is used to detect and intervene on suicidal risk behavior will be described and presented.

Method

Three natural experiments evaluate the effect of each measure. Each measure is measured before and after intervention and compared to matched controls. The outcome for "Mid-track fences" is the number of suicides; the outcome for "Platform-end lengthwise fences" is the number of trespassers, the number of persons struck by train accidents, and train traffic delays; and the outcome for "Automated Video Analysis for Real-Time Detection of Human Risk Behavior on Metro Platforms" is the number of persons struck by train accidents due to suicidality.

Results, discussion, conclusion

Updated results and studies will be presented and discussed during the conference.

References

1. Fredin-Knutzén J, Andersson AL, Hadlaczky G, Sokolowski M. *Förstudie Suicid i Transportsystemet*. Region Stockholm och Karolinska institutet; 2020.
2. Fredin-Knutzén J, Hadlaczky G, Andersson AL, Sokolowski M. A pilot study evaluating the effectiveness of preventing railway suicides by mid-track fencing, which restrict easy access to high-speed train tracks. *Journal of Safety Research*. 2022;83:232-237. doi:10.1016/j.jsr.2022.08.019
3. Fredin-Knutzén J, Hadlaczky G, Wigren A, Sokolowski M. A pilot study evaluating the preventive effects of platform-end lengthwise fencing on trespassing, person struck by train and traffic delays. *Journal of Safety Research*. Published online November 2023:S0022437523001639. doi:10.1016/j.jsr.2023.10.010