

24. Suicides in traffic

Introduction

Suicides in general are a significant public health problem, being the second leading cause of death for young people. Some suicides are traffic-related, such as intentional head-on collisions or jumping from road bridges. With a special investigation of an accident, it is usually possible to conclude whether the death was intentional or not. To be able to estimate the true size of the problem, such investigations need to be done systematically. While many of Safe System measures (middle barriers, speed limiters, etc.) are effective in prevention of fatalities as such, intentional or not, the problem cannot be solved by the traditional traffic safety tools only. Closer cooperation with medical and psychiatric care professionals is necessary.

Learning outcomes

After completing this module, the students should be able to:

- know the scale of the suicide problem, including suicides in the road transport system
- know typical scenarios of traffic-related suicides
- explain how suicide prevention measures can be integrated in each of traffic safety pillars.

Key messages to learners

To be integrated into topic 1 ‘Traffic safety—problem scope’:

- Suicides (all types) is a significant public health problem globally. It is estimated that 800 000 people commit suicides every year (compare to 1.2 million traffic fatalities). It is the second leading cause of death (after traffic injuries) for the age group 15–29 years.
- It is known that road traffic and traffic infrastructure are used as means for taking a person's own life. Typical scenarios are driving at high speed onto the opposite side of the road to provoke a frontal collision or hitting a firm object on the roadside. The exact numbers are generally unknown, but some estimates (in Sweden) show that up to 10% of traffic fatalities could be due to intentional collisions. Additionally, jumping from road bridges results in a similar number of deaths.
- Besides the loss of the person's life, such events leave deep psychological trauma for other people involved (other road users, medical personal, relatives and friends, etc.). Particularly, the drivers of heavy vehicles are exposed, since an intentional frontal collision with a truck is a common scenario. Unfortunately, the person committing the suicide is in so much distress that he/she does not consider consequences of own actions on other people.

To be integrated into topic 5 ‘Traffic safety data’:

- To be able to determine whether a traffic accident was a suicide, in-depth investigation, usually involving trained psychologists, is necessary. Whether a death was a suicide is usually concluded based on at least one of so called Ovenstone's criteria: (i) clear communication of intentions, e.g. a farewell message; (ii) indication of a suicide in combination with other known factors, such as recent suicide attempts, communication of having no reason to live, prolong depression or mental illness, recent severe stressful event, etc.; (iii) strong indication of the event to be a suicide (any other reasonable explanations appear unlikely).

To be integrated into topic 11 ‘Traffic safety pillars: Management’:

- It is reasonable to have a traffic safety target related to reduction of the suicides in traffic.
- Prevention of suicides in traffic cannot be done by the road authorities only. The best results are obtained in cooperation with other authorities, such as medical and psychiatric care.

To be integrated into topic 13 ‘Traffic safety pillars: Safe road users’:

- A common pattern is that suicide attempts are impulsive rather than rational. For example, if a person comes to a bridge and discovers that it is not possible to climb over the railings, it is highly unlikely that the person will immediately go to another bridge, and then another. Curbing the first suicidal impulse by removing most obvious and easy ways for taking one's life may provide valuable time for the psychiatrists to help the person to change her/his mind.

To be integrated into topic 14 ‘Traffic safety pillars: Safe vehicles:

- Safe System-thinking in vehicle design is beneficial for suicide prevention, too. For example, alcolocks would prevent an intoxicated person from driving, regardless of whether the person was drinking to celebrate or because of a depression. Similarly, speed limiters and automated braking systems would mitigate the consequences of a collision, whether it was intentional or not.

To be integrated into topic 15 ‘Traffic safety pillars: Safe infrastructure’:

- Safe System-thinking in road infrastructure design is beneficial for suicide prevention, too. For example, using guardrails and middle barriers prevents frontal/roadside collisions regardless of whether it is due to a mistake or done intentionally.
- A typical pattern in bridge jumping is that there are few bridges that are particularly exposed to the problem (50% of suicides occur on 10% bridges, based on Swedish estimates). By mapping the history of suicides attempts, such ‘black spots’ could be identified and addressed. A simple yet effective solution is to expand upwards the side railings to such a height that climbing over becomes difficult.
- A recommended practice is to include suicide prevention measures in the design of the road infrastructure from the very beginning.

Learning activities

Exercise 1

Discuss a fatal accident report:

‘Late in the evening, a car driven by a 48-year-old woman collided with a pillar of an overpass. The driver had alcohol in her bloodstream, along with residual traces of antidepressant medication—both just below the legal limit. The road was straight, and visibility conditions were good that night. Strangely, none of her family members came forward to claim her body or attend the funeral.’

Do you see any indications to suspect a possible suicide? What investigation steps would you recommend to clarify the situation? What could have road authorities done to prevent this death, regardless of whether it was a suicide, or a ‘normal’ accident?

Assessment quiz

The assessment quiz can be used as a part of the examination, or as another form of learning activities (e.g. students take the quiz in class individually and then discuss the results with the teacher).

Question 1

What is true about suicides in road traffic:

- The precise numbers of suicides in traffic are largely unknown, but some estimates indicate that it could be up to 10% of the total traffic fatalities. (correct)

- b. The only way to prove a suicide is if the person has left a farewell letter expressing the intention to take own life. (**incorrect**)

Comment (shown after the answer has been given): The farewell letter is only one of the Ovenstone's suicide criteria. Other factors like earlier suicide attempts, recent stressful events, prolong depression, etc. may also support suicide as the accident cause. The chain of events itself may be interpreted as a suicide if no other explanation appears likely.

- c. Intentional head-on collisions and jumping from bridges/overpasses are the most common types of suicides in road traffic. (**correct**)
- d. Many of traffic safety measures recommended by the Safe System are effective to prevent fatalities, including suicides. (**correct**)
- e. Joint efforts of different stakeholders (medical/psychiatric professionals, social care services, police, etc.) are necessary to address the suicide problem; road authorities have a small but important role to play, too. (**correct**)

Recommended reading and resources for students

- Andersson, A.-L., & Svensson, K. (2023). Suicide in the Transport System. In K. Edvardsson Björnberg, S. O. Hansson, M.-Å. Belin, & C. Tingvall (Eds.), *The Vision Zero Handbook: Theory, Technology and Management for a Zero Casualty Policy* (pp. 1103–1115). Springer. https://doi.org/10.1007/978-3-030-76505-7_42

Recommended (additional) reading for teacher

- Andersson, A.-L., & Sokolowski, M. (2022). Accident or suicide? Improvement in the classification of suicides among road traffic fatalities in Sweden by extended psychosocial investigations, during the years 2010–2019. *Journal of safety research*, 80, 39–45. <https://doi.org/10.1016/j.jsr.2021.11.004>
- Ovenstone, I. M. K. (1973). A Psychiatric Approach to the Diagnosis of Suicide and its Effect upon the Edinburgh Statistics. *The British Journal of Psychiatry*, 123(572), 15–21. <https://doi.org/10.1192/bjp.123.1.15>
- WHO. (2019). *Suicide in the world: global health estimates (WHO/MSD/MER/19.3)*. <https://iris.who.int/bitstream/handle/10665/326948/WHO-MSD-MER-19.3-eng.pdf>

Prepared by expert

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