

# Initial Medically Serious Suicide Attempts: Risk Factors, Impact, and Healthcare Use—A Comprehensive Analysis of the Swedish Population

10. Public Health and community interventions

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## Abstract text

**Background:** Suicide is a major public health challenge, and a suicide attempt is an indicator of future mortality. This study provides a comprehensive analysis of initial medically serious suicide attempt (MSSA), covering incidence, risk factors, outcomes, and healthcare use before and after attempts.

**Methods:** A whole population, register-based study including 3 designs: (1) a *retrospective cohort study* to investigate incidence, and healthcare use; (2) a *nested case-control study* to investigate risk factors, and (3) a *matched cohort study* to study subsequent attempts and mortality. Data from Swedish national registers included diagnoses from hospitals, specialist outpatient care, and cause-of-death records. The study included 3.7 million individuals born in Sweden (1963–1998). MSSA cases were identified using ICD codes for intentional self-harm, any self-harm with lethal methods or requiring hospitalisation, and any self-harm resulting in death.

**Results:** The lifetime risk of initial MSSA in the study population was 4.6%, with greater risk in females and highest risk between ages 18–24. One in ten families in Sweden had at least one individual who attempted suicide. Overdose and poisoning were the most common methods. Prior history of psychiatric disorders, general medical diseases, and adverse life events were associated with increased risk of initial medically serious suicide attempt, while higher socioeconomic status was associated with decreased risk. Individuals with an initial MSSA were at substantially elevated risks of subsequent attempts (hazard ratio [HR] 23.4), suicide mortality (HR 16.4), and all-cause mortality (HR 7.3). At least 60% of those who made an initial MSSA had a healthcare contact in the month preceding the attempt.

**Conclusions:** The study provides comprehensive data on the incidence, risk factors, outcomes, and healthcare use of initial MSSA in the Swedish population, underscoring the importance for systematic preventions for individuals who first attempted suicide.