Supplementary Online Content


**eAppendix 1:** Definitions of Drug Abuse

**eAppendix 2:** Definitions of Violent Criminal Behavior (VCB) and Alcohol Use Disorder (AUD)

This supplementary material has been provided by the authors to give readers additional information about their work.
eAppendix 1

Definitions of Drug Abuse

DA was identified in the Swedish medical registries by ICD codes (ICD8: Drug dependence (304); ICD9: Drug psychoses (292) and Drug dependence (304); ICD10: Mental and behavioral disorders due to psychoactive substance use (F10-F19), except those due to alcohol (F10) or tobacco (F17)); in the Suspicion register by codes 3070, 5010, 5011, and 5012, which reflect crimes related to DA; and in the Crime register by references to laws covering narcotics (law 1968:64, paragraph 1, point 6) and driving offences (law 1951:649, paragraph 4, subsection 2 and paragraph 4A, subsection 2). DA was identified in individuals (excluding those suffering from cancer) in the Prescribed Drug Register who had retrieved (in average) more than four defined daily doses a day for 12 months from either of Hypnotics and Sedatives (Anatomical Therapeutic Chemical (ATC) Classification System N05C and N05BA) or Opioids (ATC: N02A). We restricted the diagnosis of DA to individuals above the age of 10 except from the prescribed drug register where the age limit was set at 18 years.
Definitions of Violent Criminal Behavior (VCB) and Alcohol Use Disorder (AUD)

VCBs were identified in the Crime register and was based on the following criminal convictions (numbers within parentheses are law chapter and paragraph): (aggravated) assault (3:5, 3:6); illegal threat (4:5); threats and violence against an officer (17:1, 17:2); intimidation (4:7); (aggravated) robbery (8:5, 8:6); illegal coercion (4:4); (aggravated) arson (13:1, 13:2); murder, manslaughter or filicide (3:1, 3:2, 3:3); and sexual crimes (excluding prostitution and the buying of sexual services but including child pornography: 6:1-6:10, 6:12, 16:10A). Alcohol use disorder was defined by ICD codes for main and secondary diagnoses from Swedish medical registries for the following diagnoses: ICD9: alcohol-related psychiatric disorders (291), alcohol dependence (303), alcohol abuse (305A), alcohol-related polyneuropathy (357F), alcohol-related cardiomyopathy (425F), alcohol-related gastritis (535D), alcoholic fatty liver, alcohol hepatitis, alcoholic cirrhosis, unspecified liver damage caused by alcohol (571A-D), toxic effects of alcohol (980), alcoholism (V79B); ICD10: alcohol-related psychiatric and behavioral disorders (F10, excluding acute alcohol intoxication: F10.0), rehabilitation of a person with alcohol abuse (Z50.2), guidance and medical advice to a person with alcohol abuse (Z71.4), alcohol-related pseudo-Cushing syndrome (E24.4), alcohol-related degeneration of the nervous system and brain (G31.2), alcohol-related polyneuropathy (G62.1), alcohol-related myopathy (G72.1), alcohol-related cardiomyopathy (I42.6), alcohol-related gastritis (K29.2), liver diseases caused by alcohol (K70.0-K70.9), acute pancreatitis caused by alcohol (K85.2), chronic pancreatitis caused by alcohol (K86.0), treatment of pregnant alcoholic woman (O35.4), toxic effects of alcohol (T51.0-T51.9), and based on Anatomical Therapeutic Chemical (ATC) codes in the Prescribed Drug Register: disulfiram (N07BB01), acamprosate (N07BB03), or naltrexone (N07BB04). Additionally, we identified individuals with at least two convictions of drunk driving (law 1951:649) or drunk in charge of maritime vessel (law 1994:1009) in the Crime register. We used the Cause of Death Register to obtain data on alcohol-associated death and used the same codes as above.