

## Suicide Rates by Industry and Occupation — National Vital Statistics System, United States, 2021

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### Abstract

The suicide rate among the U.S. working-age population has increased approximately 33% during the last 2 decades. To guide suicide prevention strategies, CDC analyzed suicide deaths by industry and occupation in 49 states, using data from the 2021 National Vital Statistics System. Industry (the business activity of a person's employer or, if self-employed, their own business) and occupation (a person's job or the type of work they do) are distinct ways to categorize employment. The overall suicide rates by sex in the civilian noninstitutionalized working population were 32.0 per 100,000 among males and 8.0 per 100,000 among females. Major industry groups with the highest suicide rates included Mining (males = 72.0); Construction (males = 56.0; females = 10.4); Other Services (e.g., automotive repair; males = 50.6; females = 10.4); Arts, Entertainment, and Recreation (males = 47.9; females = 15.0); and Agriculture, Forestry, Fishing, and Hunting (males = 47.9). Major occupation groups with the highest suicide rates included Construction and Extraction (males = 65.6; females = 25.3); Farming, Fishing, and Forestry (e.g., agricultural workers; males = 49.9); Personal Care and Service (males = 47.1; females = 15.9); Installation, Maintenance, and Repair (males = 46.0; females = 26.6); and Arts, Design, Entertainment, Sports, and Media (males = 44.5; females = 14.1). By integrating recommended programs, practices, and training into existing policies, workplaces can be important settings for suicide prevention. CDC provides evidence-based suicide prevention strategies in its Suicide Prevention Resource for Action and Critical Steps Your Workplace Can Take Today to Prevent Suicide, NIOSH Science Blog.

### Introduction

In 2021, a total of 37,602 persons (17.8 per 100,000 population) of working age (16–64 years, employed or unemployed) in the United States died by suicide, a rate increase of approximately 33% since 2001 (13.4).<sup>\*</sup> To guide suicide prevention strategies among the working-age population, CDC analyzed 2021 suicide deaths by industry and occupation.

<sup>\*</sup><https://bit.ly/46GuCMA>

### Methods

#### Data Source

The 2021 National Vital Statistics System (NVSS) restricted-use mortality file includes 37,435 suicide decedents aged 16–64 years who resided and died in one of 49 states (death certificate reporting from Rhode Island and the District of Columbia did not include usual industry and occupation) (1). This report includes 30,015 decedents (80.2% of total) whose usual industry or occupation reported on the death certificate was not military, nonpaid (i.e., homemaker, volunteer, student, retired, did not work, child, disabled, patient, or inmate), or unclassifiable (7,420). Industry (the business activity of a person's employer or, if self-employed, their own business) and occupation (a person's job or the type of work they do) are distinct ways to categorize employment (2). Major industry and occupation classifications encompass all jobs in the U.S. economy; detailed industry and occupation groups are subcategories of major groups that define job types with more specificity.

#### Data Analyses

Population estimates for rate denominators were states' civilian, noninstitutionalized, currently employed, working population counts for persons aged 16–64 years from the 2021 American Community Survey Public Use Microdata Sample. Replicate weight standard errors for those counts were used to calculate 95% CIs. Rates were calculated by sex for major and detailed industry and occupational groups with  $\geq 20$  decedents and compared with the total sex-specific civilian noninstitutionalized working population. Industry and occupational groups with suicide rates significantly ( $\alpha = 0.05$ ) higher by sex than the respective total civilian noninstitutionalized working population (all industries or all occupations combined) were identified as having elevated rates when the lower end of the group's 95% CI exceeded the study population rate point estimate. This analysis used the population rate point estimates for males and females as constant comparative values, in keeping with a previously published report, so that all comparisons used common points of reference (3). Rates were not calculated for "not specified" and "other general" industry groups because of inadequate alignment with available data on



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Weekly / December 15, 2023 / 72(50);1346–1350

