

Supplementary Online Content

Davis MA, Cher BAY, Friese CR, Bynum JPW. Association of US nurse and physician occupation with risk of suicide. *JAMA Psychiatry*. Published online April 14, 2021. doi:10.1001/jamapsychiatry.2021.0154

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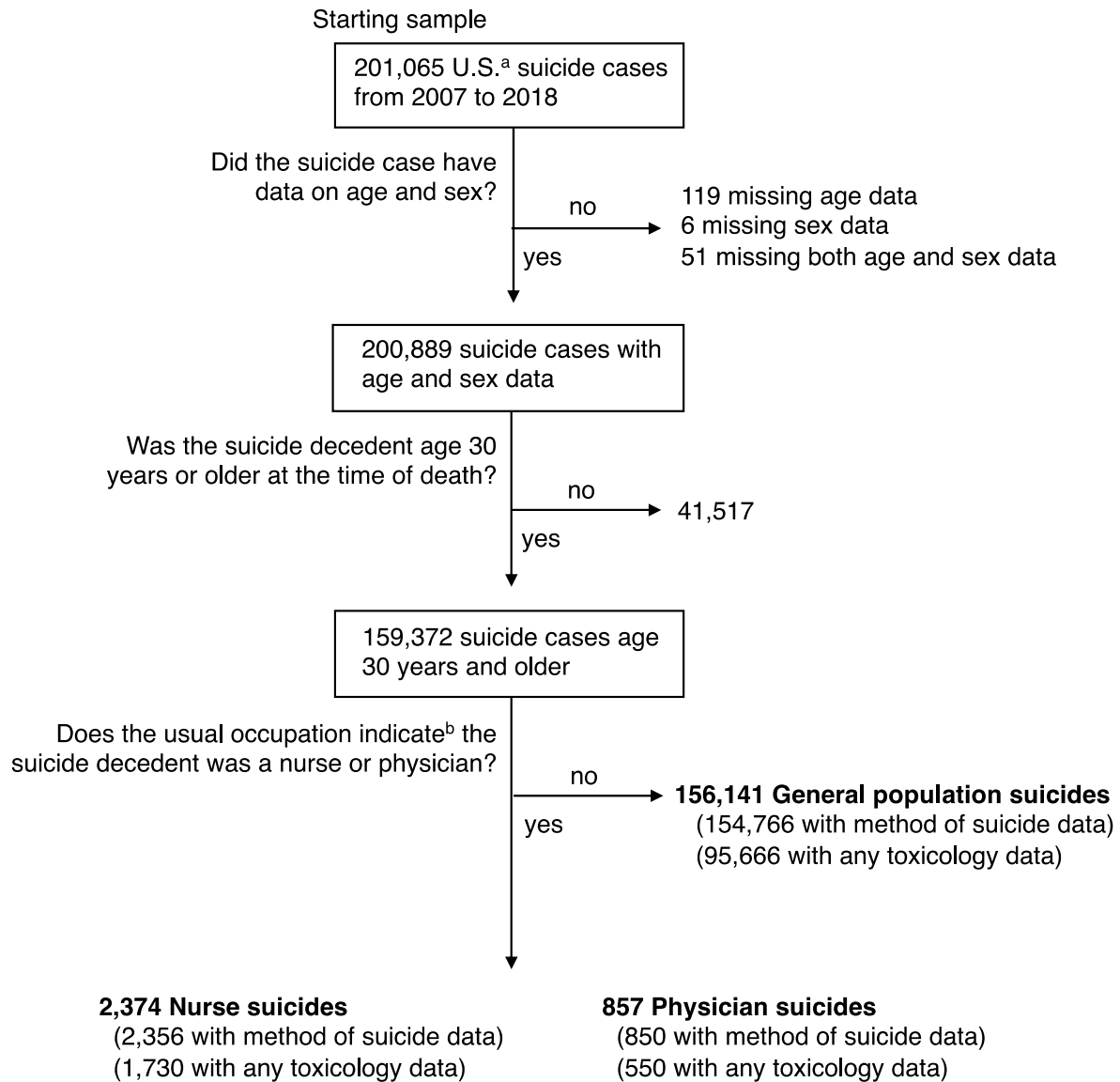
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This supplementary material has been provided by the authors to give readers additional information about their work.

eFigure 1. Flow Diagram for the Identification of Nurse and Physician Suicides in the National Violent Death Reporting System Database



a: Excludes U.S. territories

b: Based on manual review of free text descriptions (Cohen's Kappa statistic for inter-rater reliability 0.97 and 0.91 for nurse and physician suicides respectively) and occupational codes reported in National Violent Death Reporting System Database

eTable 1. De-identified Terms From Free Text Used to Identify Nurse Suicides in the National Violent Death Reporting System Database

Administration / Nurse	Nursing Medical
Anesthetist	Nursing Professor
Certified Hospice Nurse	Nursing Supervisor
Certified Nurse Midwife	OCN Nurse
Certified Registered Nurse	Operating Room Nurse
Certified Registered Nurse Anesthetist	Orthopedic Nurse
Certified Registered Nurse Anesthetists	PCT Nurse
Certified Registered Nurse Practitioner	Pediatric Nurse
Charge Nurse	Pediatric Nurse / Registered Nurse
Chief Nursing Officer	Pediatric Nurse Practitioner
Clinical Nurse	Pediatric Triage Nurse
Clinical Nurse Specialist	Professional Nurse
Critical Care Nurse	Professor of Nursing
CRNA	Psychiatric Nurse
Dialysis Nurse	RN
Director of Nursing	Registered Critical Care Nurse
Disabled Nurse	Registered Nurse
Emergency Room Nurse	Registered Nurse, Oncology
ER Nurse	Registered Nurse, NICU
ER Trauma Nurse	Registered Nurse/Educator
Family Nurse Practitioner	Registered Nurse/Retail
Flight Crew Nurse	Registered Nurse
FNP	Retired Nurse
Health Nurse	Retired Registered Nurse
Heath Care Nurse	RN Case Manager
Home Healthcare Nurse	RN, BSN
Home Health Nurse	RN, Director of Nursing
Home Health RR	RN, Disabled
Homemaker, Registered Nurse	RN, Registered Nurse
Hospice Nurse	School Nurse
In Home Nurse	Senior Investigator or Nurse, Unclear
Intensive Care Nurse	Surgical Nurse
Licensed Nurse Practitioner	Surgical Tech Nurse
Maternity Nurse	Teacher/Psych Nurse
Mental Health Nurse	Teaching Nurse
Neonatal Nurse	Unemployed Nurse
Neonatal Nurse Practitioner	Unemployed Rn
Nurse	Visiting Nurse
Nurse / Fraud Investigator	
Nurse Administrator	
Nurse Anesthetist	
Nurse Practitioner	
Nurse RN	
Nurse Supervisor	
Nurse, Navy	
Nursing	
Nursing Caregiver	
Nursing Consultant	
Nursing Coordinator	
Nursing Director	
Nursing Home Care	
Nursing Instructor	
Nursing Manager	

eTable 2. De-identified Terms From Free Text Used to Identify Physician Suicides in the National Violent Death Reporting System Database

Anesthesiologist	Otolaryngologist
Assistant Medical Director	Pain Management Physician
Cardiologist	Pathologist
Cardiovascular Surgeon	Pediatric Resident Doctor
Chief Medical Examiner	Pediatric Surgeon
Dermatologist	Pediatrician
Diagnostic Radiologist	Physician
Director of Oncology Program	Physician, Nephrologist
Director of Radiology	Physician, Pathologist
Division Chief	Physicians and Surgeon
Doctor	Plastic Surgeon
Doctor Dental Surgery	Private Practice Pathologist
Doctor of Anesthesiology	Psychiatric Medical Doctor
Doctor of Medicine	Psychiatrist
Doctor of Osteopathic Medicine	Radiologist
Doctor, Surgical Resident	Research Physician
Doctor/Psychiatrist	Resident Physician
Emergency Department Physician	Retired Anesthesiologist
Emergency Medicine Physician	Retired Medical Doctor
Emergency Physician	Retired Surgeon
Emergency Room Physician	Retired Neurosurgeon
Endocrinologist	Retired Pediatrician
ER Physician	Retired Physician
Family Medicine Specialist	Surgeon
Family Physician	Unemployed Doctor
Family Practice Physician	Urologist
General Physician	US Army Doctor
General Surgeon	
Gerontologist	
GYN Oncologist	
Hospitalist	
Internal Medicine Physician	
Internist	
Internist, Nuclear Cardiologist	
Interventional Cardiologist	
MD	
MD Pathologist	
Medical Director, Self Employed	
Medical Doctor	
Medical Doctor, Radiologist	
Medical Doctor/Surgeon	
Medical Examiner	
Medical Physician	
Medical Resident	
Medical Specialist	
Neurologist	
Neurosurgeon	
OB-GYN, Doctor	
Oncologist	
Ophthalmologist	
Oral and Maxillofacial Surgery	
Orthopedic Doctor	
Orthopedic Spine Surgeon	
Orthopedic Surgeon	

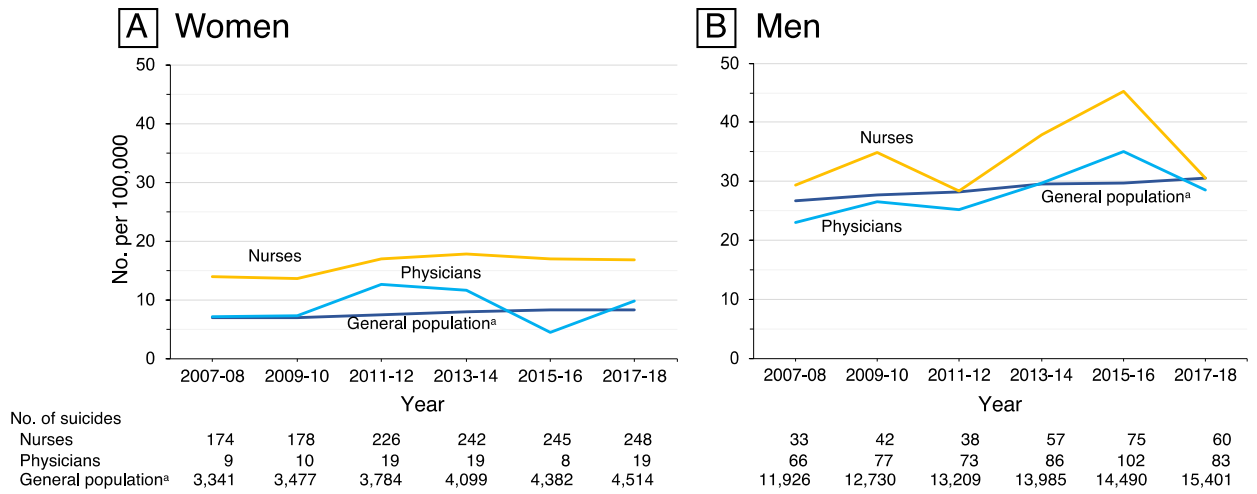
eTable 3. States With Complete Data on Suicides Included in the National Violent Death Reporting System Database From 2007 to 2018

State	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Alabama												X
Alaska	X	X	X	X	X	X	X	X	X	X	X	X
Arizona									X	X	X	X
Colorado	X	X	X	X	X	X	X	X	X	X	X	X
Connecticut									X	X	X	X
Delaware											X	X
District of Columbia											X	X
Georgia	X	X	X	X	X	X	X	X	X	X	X	X
Hawaii									X	X		
Indiana										X	X	X
Iowa										X	X	X
Kansas									X	X	X	X
Kentucky	X	X	X	X	X	X	X	X	X	X	X	X
Louisiana												X
Maine									X	X	X	X
Maryland	X	X	X	X	X	X	X	X	X	X	X	X
Massachusetts	X	X	X	X	X	X	X	X	X	X	X	X
Michigan								X	X	X	X	X
Minnesota									X	X	X	X
Missouri												X
Nebraska												X
Nevada											X	X
New Hampshire									X	X	X	X
New Jersey	X	X	X	X	X	X	X	X	X	X	X	X
New Mexico	X	X	X	X	X	X	X	X	X	X	X	X
New York									X	X	X	X
North Carolina	X	X	X	X	X	X	X	X	X	X	X	X
Ohio					X	X	X	X	X	X	X	X
Oklahoma	X	X	X	X	X	X	X	X	X	X	X	X
Oregon	X	X	X	X	X	X	X	X	X	X	X	X
Puerto Rico											X	X
Rhode Island	X	X	X	X	X	X	X	X	X	X	X	X
South Carolina	X	X	X	X	X	X	X	X	X	X	X	X
Utah	X	X	X	X	X	X	X	X	X	X	X	X
Vermont									X	X	X	X
Virginia	X	X	X	X	X	X	X	X	X	X	X	X
Washington												X
West Virginia											X	X
Wisconsin	X	X	X	X	X	X	X	X	X	X	X	X

eTable 4. Unadjusted Trends in Suicide Incidence, Attributable Risk, and Relative Risk Among Nurses, Physicians, and the General Adult Population^a From 2007-08 to 2017-18

	Suicide incidence, No. per 100,000 (95% CI) or Relative Risk (95% CI)					
	2007-08	2009-10	2011-12	2013-14	2015-16	2017-18
Women						
Nurses [Incidence _{nurse}]	14.0 (11.9, 16.1)	13.7 (11.6, 15.7)	16.5 (14.5, 18.5)	18.1 (16.0, 20.2)	15.2 (13.7, 16.7)	17.1 (15.6, 18.5)
Physicians [Incidence _{physician}]	7.2 (2.5, 11.9)	7.3 (2.8, 11.7)	11.7 (6.6, 16.8)	11.2 (6.4, 16.0)	6.7 (3.9, 9.5)	10.1 (6.9, 13.2)
General Population ^a [Incidence _{gen pop}]	6.9 (6.7, 7.2)	7.1 (6.8, 7.3)	7.5 (7.2, 7.7)	8.3 (8.1, 8.6)	8.1 (7.9, 8.3)	8.6 (8.4, 8.7)
Comparative Measures						
Attributable Risk, Nurse occupation [Incidence _{nurse} - Incidence _{gen pop}]	7.1 (5.0, 9.2)	6.6 (4.6, 8.6)	9.0 (7.0, 11.0)	9.8 (7.7, 11.9)	7.1 (5.6, 8.6)	8.5 (7.0, 10.0)
Relative Risk, Nurse occupation [Incidence _{nurse} / Incidence _{gen pop}]	2.02 (1.74, 2.36)	1.93 (1.66, 2.25)	2.21 (1.94, 2.51)	2.17 (1.93, 2.45)	1.87 (1.69, 2.07)	1.99 (1.82, 2.18)
Attributable Risk, Physician occupation [Incidence _{physician} - Incidence _{gen pop}]	0.3 (-4.4, 5.0)	0.2 (-4.3, 4.7)	4.2 (-0.9, 9.4)	2.9 (-1.9, 7.7)	-1.4 (-4.2, 1.4)	1.5 (-1.7, 4.7)
Relative Risk, Physician occupation [Incidence _{physician} / Incidence _{gen pop}]	1.04 (0.54, 2.00)	1.03 (0.55, 1.91)	1.57 (1.01, 2.43)	1.34 (0.88, 2.07)	0.82 (0.54, 1.25)	1.18 (0.86, 1.61)
Men						
Nurses [Incidence _{nurse}]	29.4 (19.4, 39.4)	34.9 (24.3, 45.4)	29.3 (20.8, 37.7)	38.5 (29.3, 47.6)	39.9 (32.8, 47.0)	31.1 (25.6, 36.6)
Physicians [Incidence _{physician}]	22.9 (17.4, 28.5)	26.6 (20.6, 32.5)	25.7 (20.2, 31.1)	28.7 (22.9, 34.5)	30.5 (25.8, 35.1)	31.5 (26.9, 36.1)
General Population ^a [Incidence _{gen pop}]	26.6 (26.0, 27.1)	27.8 (27.3, 28.2)	28.3 (27.8, 28.7)	30.8 (30.4, 31.3)	29.3 (28.9, 29.7)	32.6 (32.2, 32.9)
Comparative Measures						
Attributable Risk, Nurse occupation [Incidence _{nurse} - Incidence _{gen pop}]	2.7 (-7.3, 12.8)	7.1 (-3.5, 17.7)	1.0 (-7.5, 9.4)	7.6 (-1.5, 16.8)	10.6 (3.5, 17.8)	-1.5 (-7.0, 4.0)
Relative Risk, Nurse occupation [Incidence _{nurse} / Incidence _{gen pop}]	1.10 (0.78, 1.55)	1.26 (0.93, 1.70)	1.03 (0.77, 1.38)	1.25 (0.98, 1.58)	1.36 (1.14, 1.63)	0.95 (0.80, 1.14)
Attributable Risk, Physician occupation [Incidence _{physician} - Incidence _{gen pop}]	-3.7 (-9.2, 1.9)	-1.2 (-7.2, 4.8)	-2.7 (-8.1, 2.8)	-2.1 (-7.9, 3.7)	1.2 (-3.5, 5.9)	-1.1 (-5.7, 3.5)
Relative Risk, Physician occupation [Incidence _{physician} / Incidence _{gen pop}]	0.86 (0.68, 1.10)	0.96 (0.76, 1.20)	0.91 (0.73, 1.12)	0.93 (0.76, 1.14)	1.04 (0.89, 1.21)	0.97 (0.84, 1.12)
Abbreviations: CI, confidence interval						
a: General population refers to adults (age ≥ 30 years) who are not nurses nor physicians						

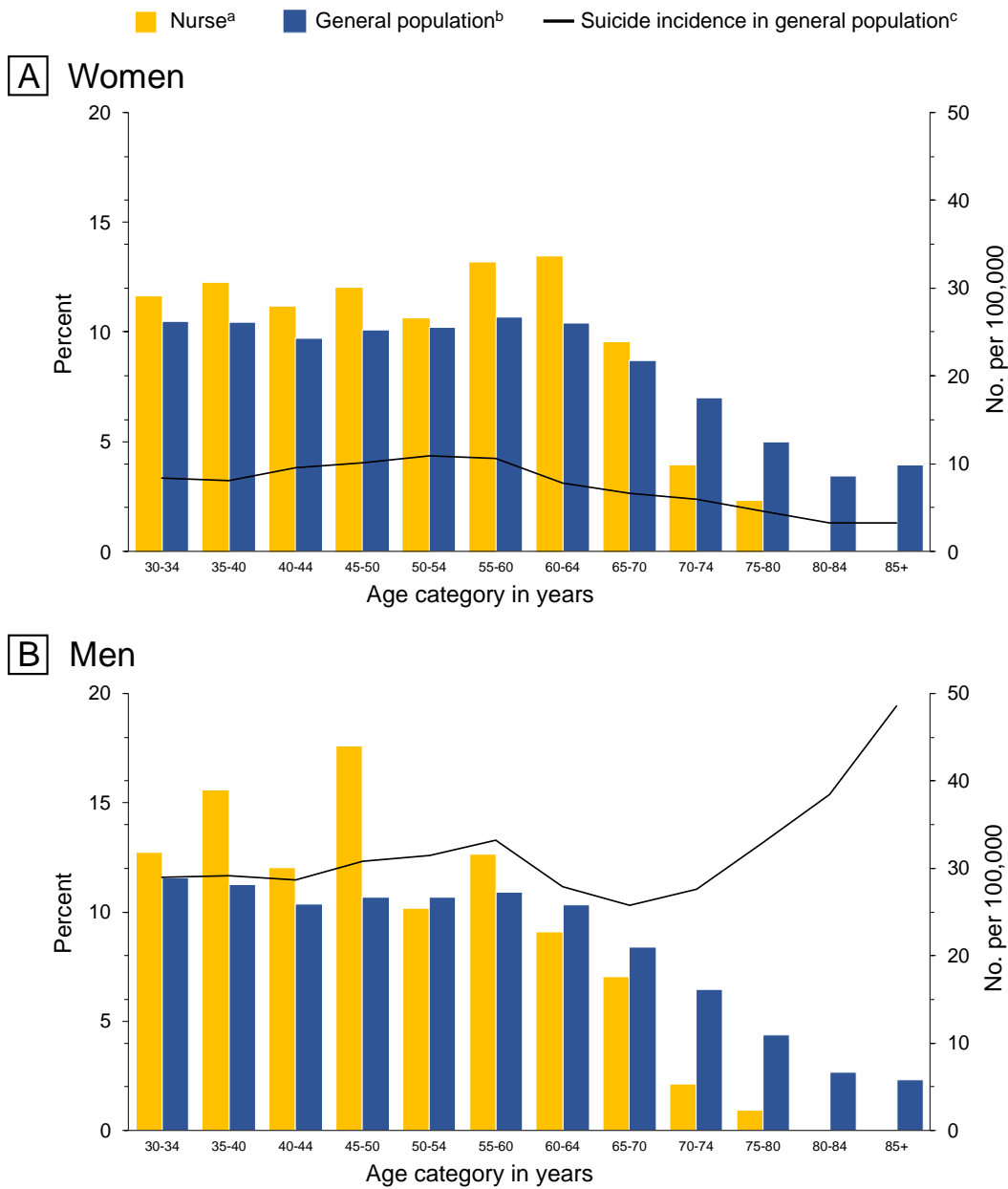
eFigure 2. Unadjusted Trends in Suicide Incidence Among Nurses, Physicians, and the General Adult Population^a for Women (A) and Men (B) Restricted to States That Participated in the National Violent Death Reporting System Database Throughout 2007 to 2018



Analyses restricted to the 16 states that participated in the National Violent Death Reporting System from 2007 to 2018 (eTable 3)

a: general population refers to adults (≥ 30 years) who are not nurses or physicians

eFigure 3. Age Distribution of US Nurses, Age Distribution of General Population, and Suicide Incidence in the General Population^b



a: Age distribution of U.S. nurses estimated from the Health Resources and Services Administration’s 2018 National Sample of Registered Nurses (n = 50,273 weighted to represent U.S. registered nurse population in 2018)

b: Age distribution of U.S. adults (≥ 30 years) in 2018 obtained from U.S. Census Bureau

c: 2017-18 suicide incidence based on authors’ analyses