



JOHNS HOPKINS

BLOOMBERG SCHOOL *of* PUBLIC HEALTH

MAJOR DEPRESSION IN THE POPULATION: A PUBLIC HEALTH APPROACH

William W. Eaton, PhD, Johns Hopkins University, 2013



Protecting Health, Saving Lives—*Millions at a Time*



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Section E: The Web of Causation



Protecting Health, Saving Lives—*Millions at a Time*

The Web of Causation

- “Has anybody seen the spider?”(Krieger, Social Science and Medicine, 1994)
- Can we really know what causes what?
 - Association, Risk, and Cause
- Why is causality important?
- How do we evaluate evidence on cause?
 - Strength
 - Dose-response
 - Consistency
 - Temporality
 - Specificity
 - Plausibility



Confounding: Deaths in Florida and Alaska

	Florida	Alaska
Number of deaths	131,044	2,064
Total Population	12,335,000	524,000
Crude mortality rate Per 100,000	1,062.4	393.9

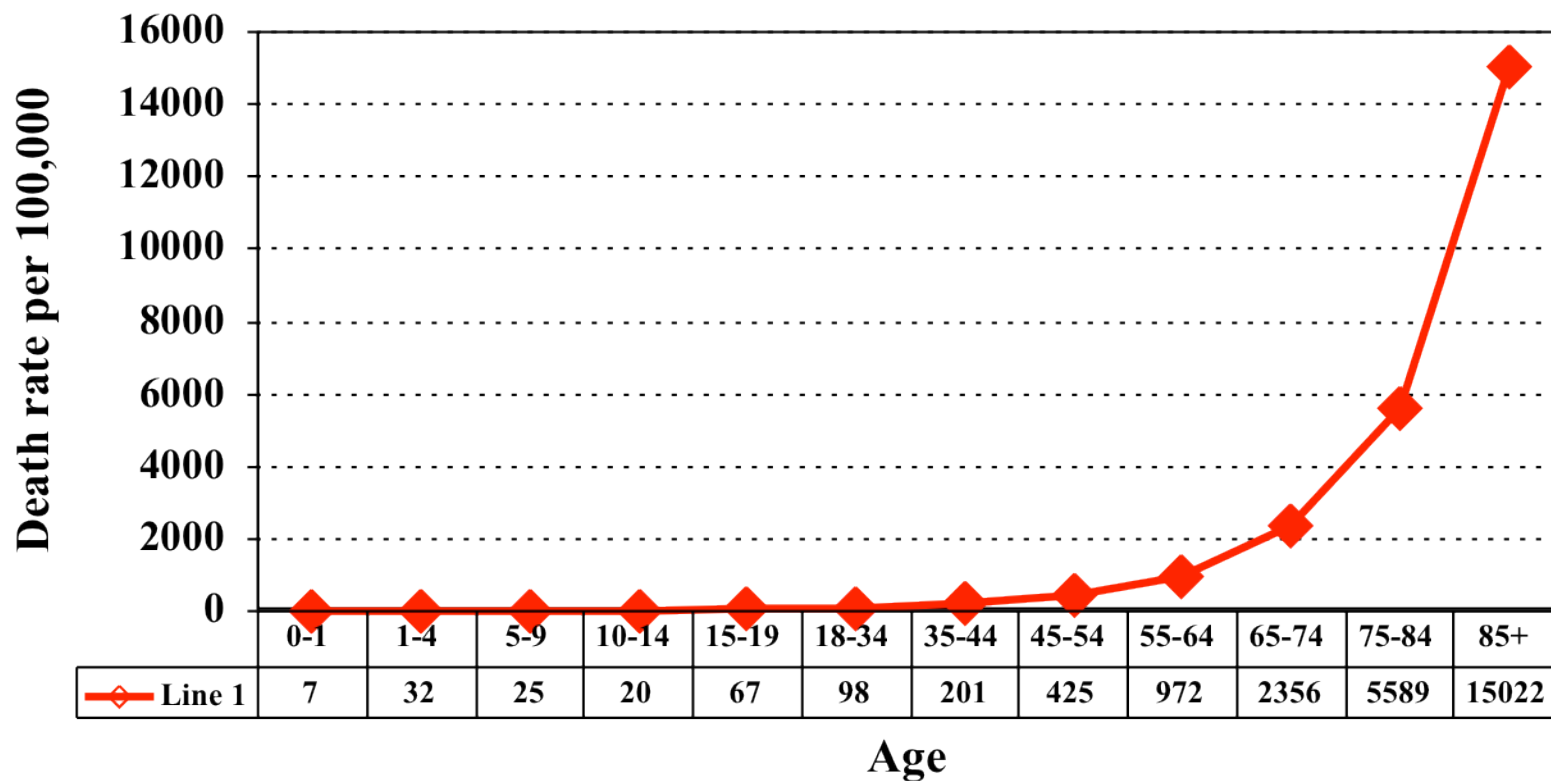


Age Adjustment

- Is Florida dangerous to health?
- Age and death in the United States
- Age in Florida and Alaska
- Age Adjustment
- Which part of causality does this help with?



Age and death rate United States, 2003

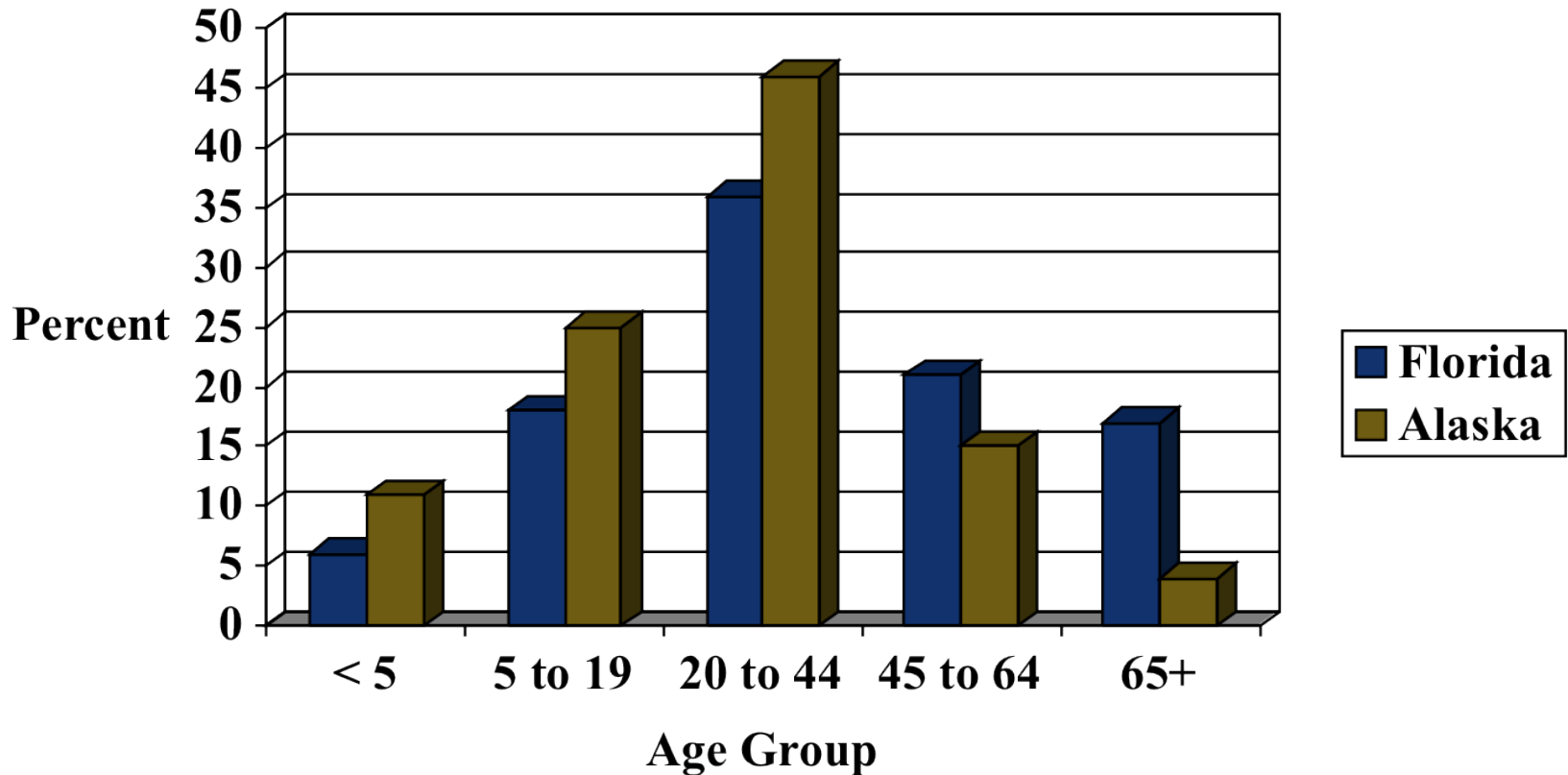


Vital Statistics of the United States, NCHS, 2006

<http://209.217.72.34/HDAATableViewer/tableView.aspx?ReportId=222>



Age Distribution in Florida and Alaska



Vital Statistics of the United States, 1991, redrawn from Lilienfeld and Stolley, 1994



Age-adjusted mortality rates for Florida and Alaska in 1988

	Age specific death rates/100,000		U.S. Population (millions)	Expected Number of Deaths	
	<u>Florida</u>	<u>Alaska</u>		<u>Florida</u>	<u>Alaska</u>
<5	284	274	18.3	52,000	50,000
5-19	57	65	52.9	30,000	34,000
20-44	198	188	98.1	194,000	184,000
45-64	815	629	46.0	375,000	289,000
65+	4425	4350	30.4	1,345,000	1,322,000
Total			245.7	1,996,000	1,879,000
Expected death rate in Florida = $1,996,000 / 245,700,000 * 100,000 = 812.4$					
Expected death rate in Alaska = $1,879,000 / 245,700,000 * 100,000 = 764.8$					



The causes of suicide of a truck driver

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Competition for declining resources leads to declining standard of living	World System

