

# Elevated Fall-Related Mortality Rates — New Mexico, 1999–2004

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# Background

- Falls are second-most common cause of unintentional injury
- Fall injuries affect 30% of U.S. residents aged  $\geq 65$  years
  - Cost \$19 billion in 2000
- New Mexico led nation in fall-related mortality rates from 2002–2004

# Objective

- **Conduct a descriptive analysis to better understand epidemiology of fatal falls in NM**

# Study Design

- **Secondary data analysis of vital statistics data from 1999–2004**
  - NM Department of Health death certificate data
  - Web-based Injury Statistics Query and Reporting System (WISQARS) data
- **Cases defined by using ICD-10 codes as underlying cause of death**
  - Codes W1–W19
  - Unintentional deaths only

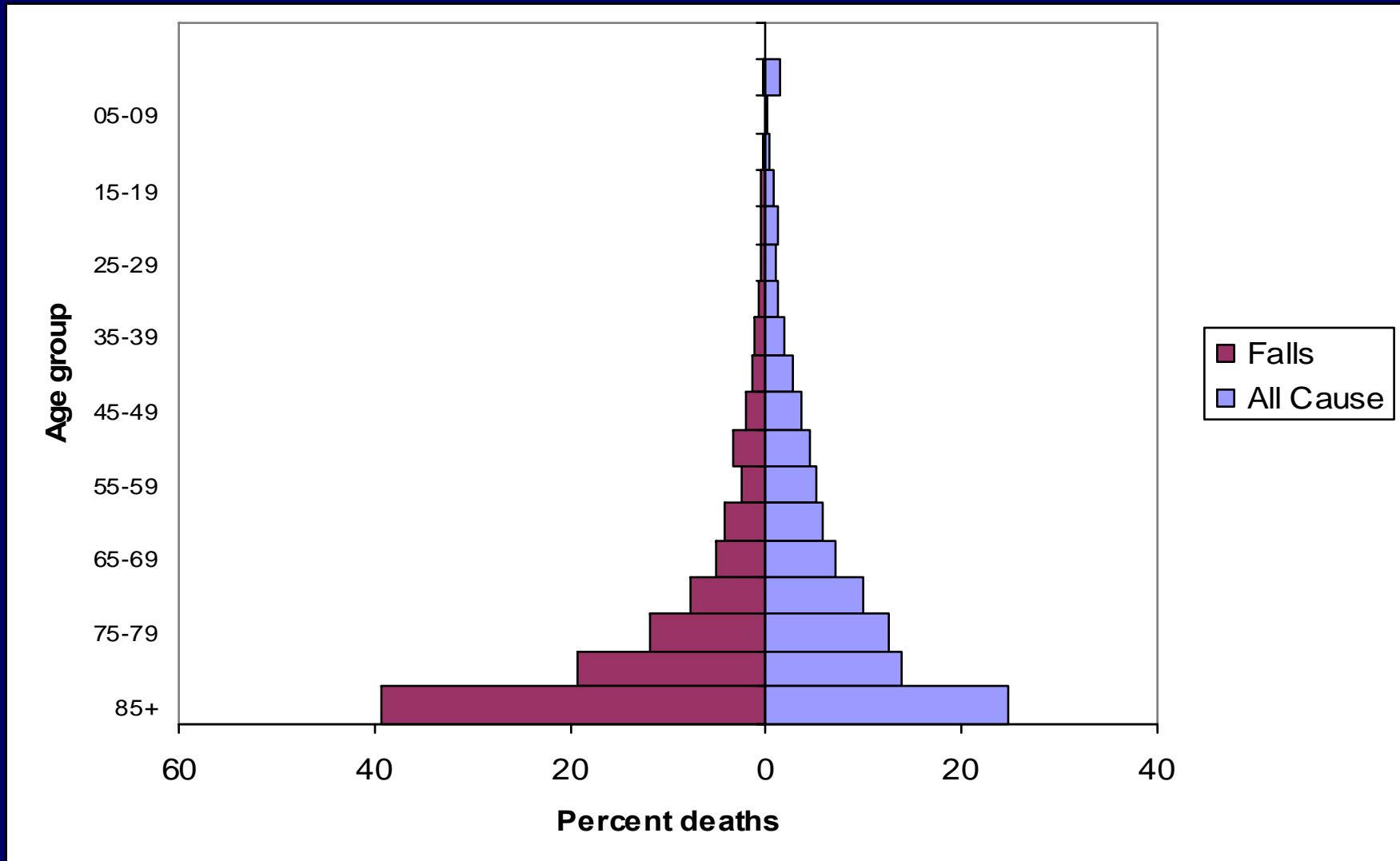
# Data Analysis

- **Age-adjusted**
  - Mortality rates
  - Mortality rate ratios (RR)
- **For NM and United States, analyzed by**
  - Sex, ethnicity, race, and year
- **Percentage increase in age-adjusted rates 1999–2004**

# Demographic Characteristics of Deaths from Falls and All Causes from NM Vital Records

Characteristic	Falls (n=1,093)		All cause (n=87,362)	
	N	%	N	%
Male	580	53	46,381	53
Non-Hispanic	785	72	60,903	70
White	999	91	78,690	90
Black	10	0.9	1,535	2
American Indian	76	7	6,679	8
Asian/Pacific Islander	6	0.5	381	0.4
Other	1	0.1	22	0.03
Age ≥50 years	1,010	92	73,569	84

# Distribution of Fall-Related and All Cause Mortality in New Mexico by Age Group

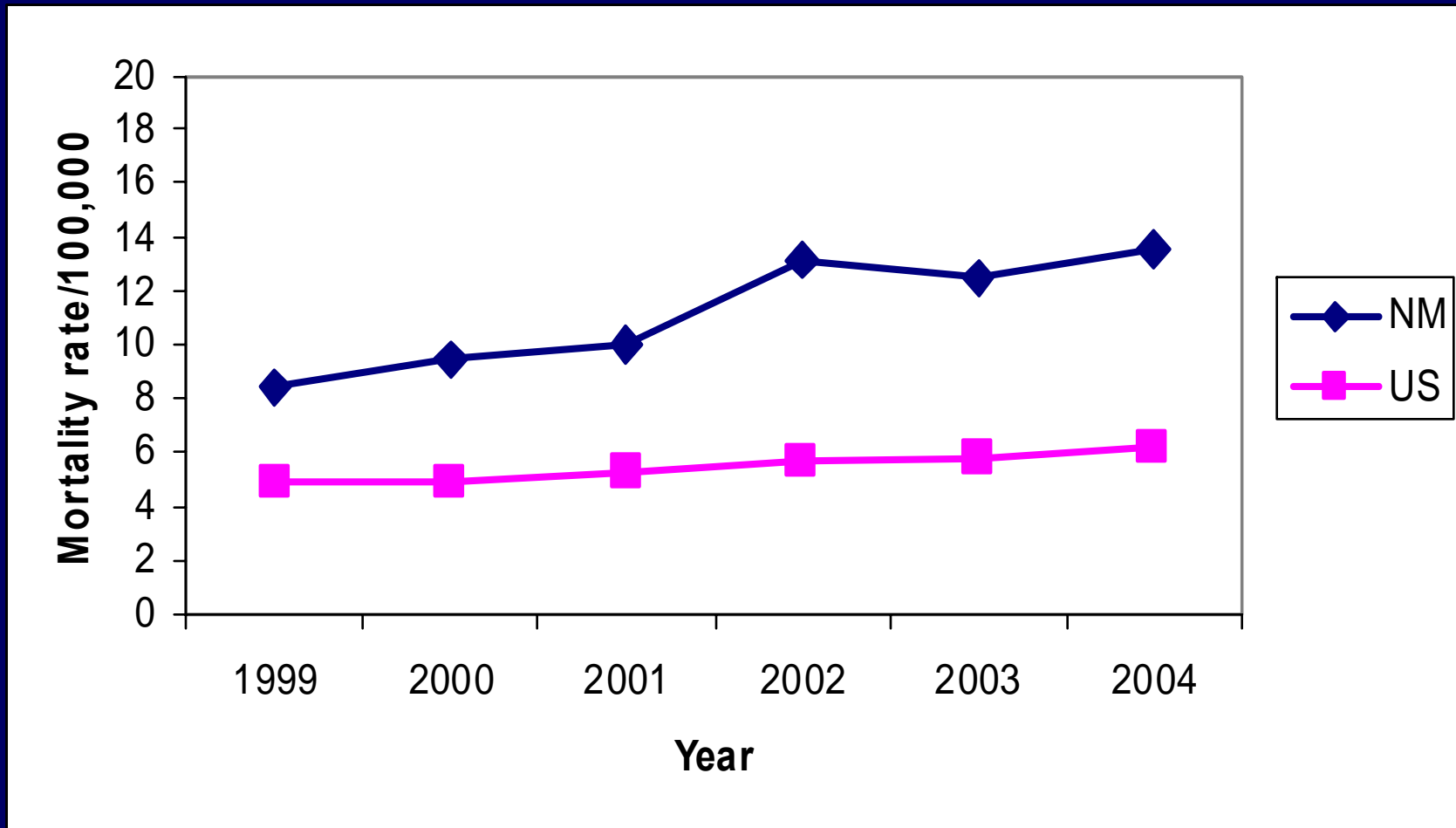


# Distribution of ICD-10 Cause of Death Codes in NM Vital Records (n=1,093)

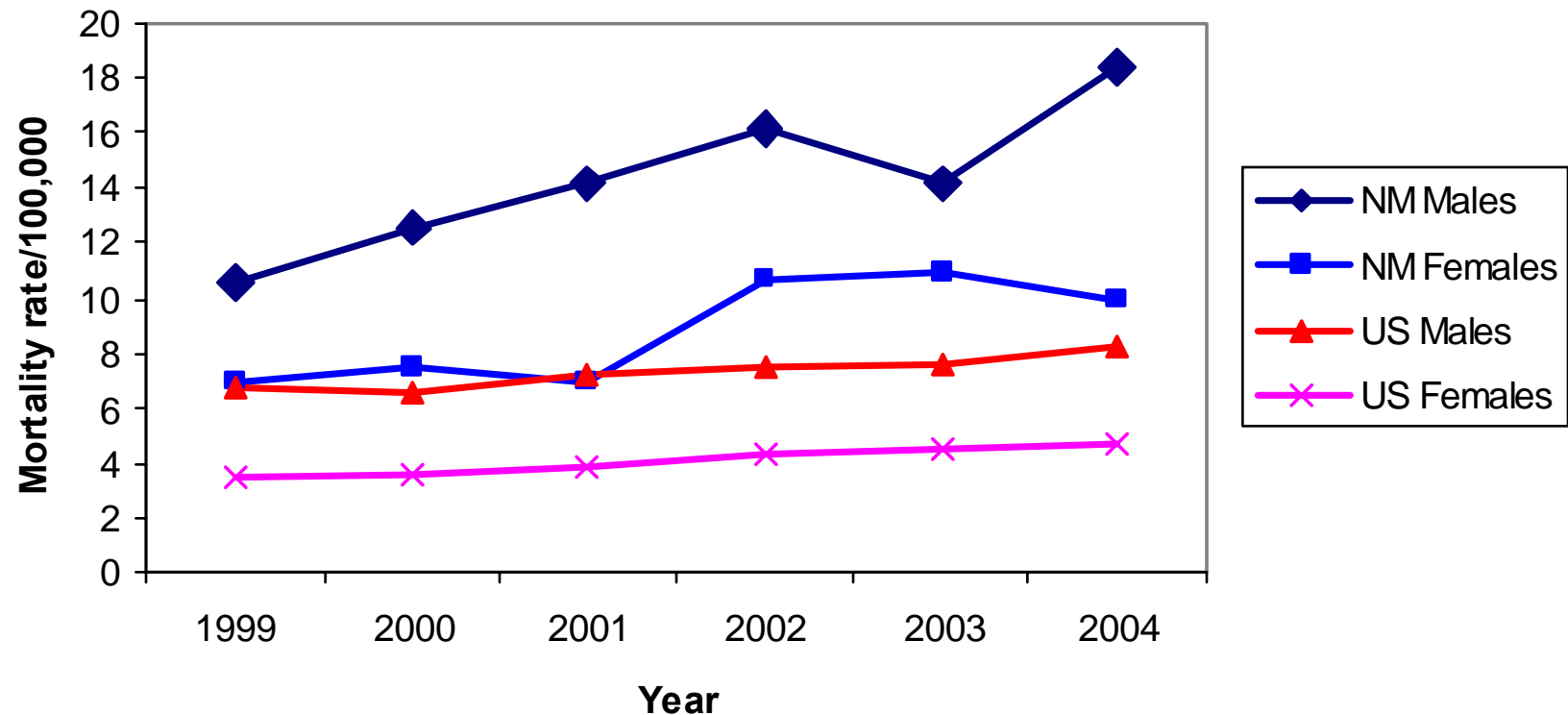
Cause of death	Code	n	%
Fall on and from stairs and steps, ladder, or scaffolding	W10-12	55	5.0
Fall from, out of, or through building or structure	W13	46	4.2
Fall from tree, cliff, or into water	W14-16	17	1.6
Other fall from one level to another	W17	23	2.1
<b>Other fall on same level</b>	<b>W18</b>	<b>901</b>	<b>82.4</b>
Unspecified fall	W19	51	4.7



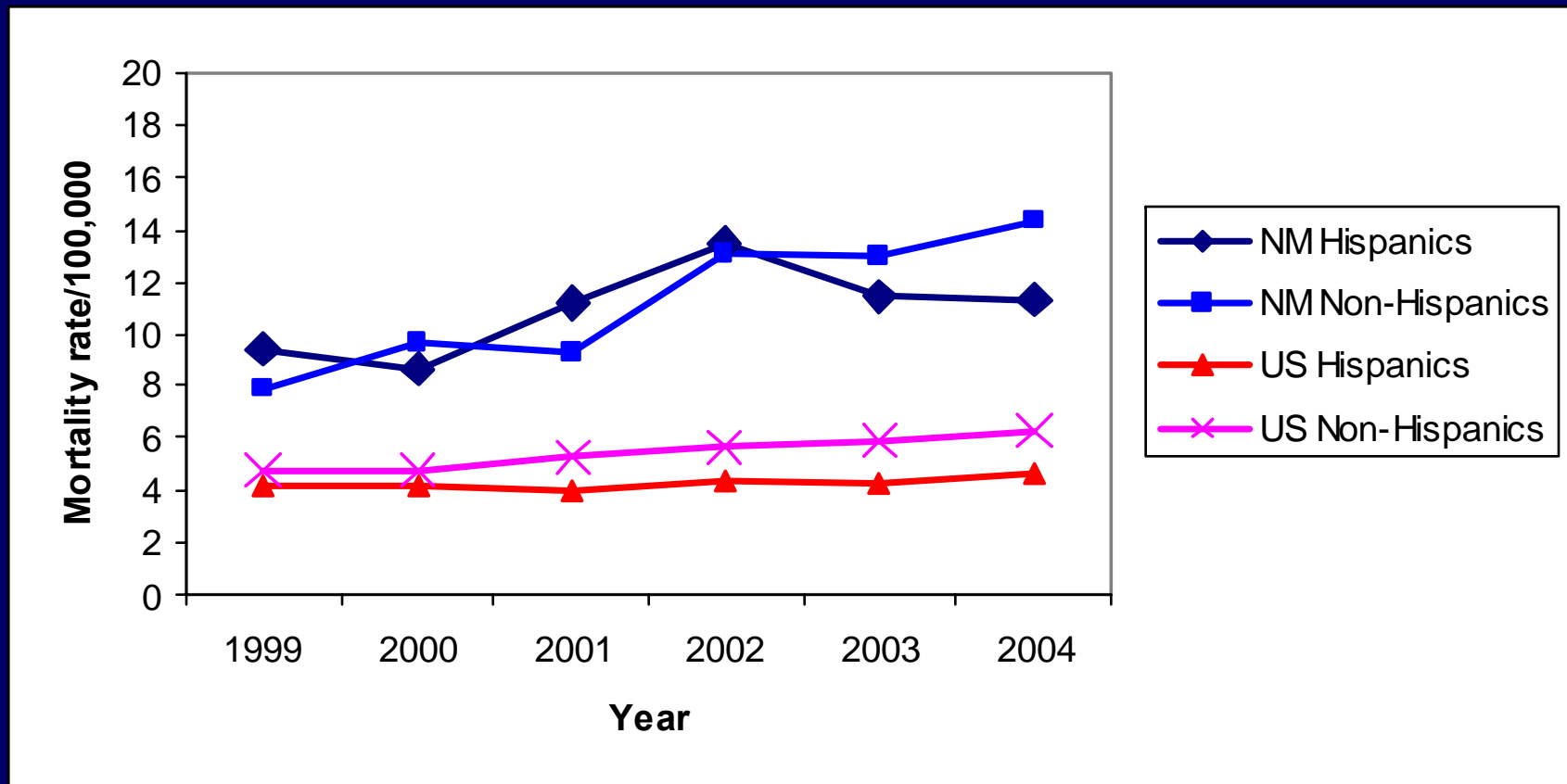
# Age-Adjusted Fall-Related Mortality Rates for NM and United States



# Age-Adjusted Fall-Related Mortality Rates by Sex for NM and United States



# Age-Adjusted Fall-Related Mortality Rates by Ethnicity for NM and United States



# Percent Increase in Fall-related Mortality Rate, 1999 vs. 2004

	New Mexico		U.S.	
	% Increase	Ratio of % Increase	% Increase	Ratio of % Increase
Males	74	1.7	23	0.7
Females	44	1.7	35	0.7
Non-Hispanics	82	4.1	30	2.1
Hispanics	20	4.1	14	2.1

# Mortality Rates\* and Rate Ratios Stratified by Sex, Ethnicity, Race, and Age

Characteristic	NM Rate	U.S. Rate	Rate Ratio
Overall age-adjusted	11.3	5.5	2.1
Male	14.4	7.3	2.0
Female	8.9	4.1	2.2
Hispanic	11.0	4.3	2.6
Non-Hispanic	11.3	5.5	2.1
White	11.2	5.7	2.0
Black	6.4	3.3	1.9
American Indian	12.5	5.5	2.3
Asian/Pacific Islander	12.6	3.8	3.3
Other	12.3	4.1	3.0
Age ≥50 years	34.0	17.3	2.0
Age <50 years	1.1	0.9	1.3

\*Age-adjusted rates per 100,000 population, except age stratified

# Limitations

- **ICD-10 coding not sufficiently specific**
  - **W18 – “Other fall on same level” account for majority of codes (>80%)**
- **Coding of cause of death might vary across states**
- **No risk factor data in electronic vital records**

# Strengths

- **Population-level data used**
  - No sampling
  - No need for estimating confidence intervals or significance testing
- **Contribute to filling gap in literature**

# Conclusions

- **New Mexico's fall-related mortality rate**
  - Twice the U.S. rate
  - Greater percentage increase across time
  - Persisted across sex, ethnicity, race, and age
- **Non-Hispanics and males account for both highest rates and percentage increases**



# Recommendations

- **Characterize fall etiology to develop effective interventions**
- **Collect cause-specific information from death certificate**
- **Inquire with Office of Medical Investigator for data on**
  - **Occupation**
  - **Body Mass Index**
  - **Co-morbid conditions**
  - **Alcohol and drug use**

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Disclaimer - The findings and conclusions in this presentation are the author(s) and do not necessarily represent the views of the Centers for Disease Control and Prevention

