The Vital Role Played by Funeral Directors in Vital Statistics

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American Board of Funeral Service Education - Town Hall Meeting
Wednesday, November 15, 2023
Goals

• A Listening Session – toward building partnerships.

• The overall goal is improving national mortality statistics.

• N.C.H.S. seeks information from Mortuary Science Educators and Funeral Directors about their experiences recording decedents’ race category and, on behalf of CDC’s N.I.O.S.H., also occupation.

• Embark on strategies to raise and maintain awareness about the connection between the Death Certificate and Vital Statistics.
Learning Objectives

By the end of today’s Town Hall, Learners will be able to:

• State the contribution made by Funeral Directors to the National Vital Statistics System (N.V.S.S.).

• Interpret the contribution made by Funeral Directors to the National Occupational Mortality Surveillance (N.O.M.S.) Program.

• Describe race misclassification as a source of bias that contributes to systematic underestimation, thereby limiting our understanding about mortality trends and life expectancy.
Why Is This Important?

- State and national Vital Statistics have multiple uses:
  - Civil Registration
  - Public Health Programs and Surveillance
  - Administrative Uses

- Vital Statistics are not derived from a sample or survey.

- Data are reliably collected and formatted with consistency.

- Mandatory reporting increases the completeness of reporting.
Both Quality Assurance and Quality Improvement

**Quality Assurance:**

- National mortality data are already very accurate.
- Funeral Directors and businesses are already doing an outstanding job and contribute substantially to data quality.
- NCHS research shows the overall degree of accuracy of decedents’ race categorization has improved since 1979.
Both Quality Assurance and Quality Improvement

**Quality Improvement:**

- Inaccurate race categorization still exists, among Asian Americans (~3%), Hispanic Americans (~3%), and Native Americans (~40%).

- N.I.O.S.H. Guidelines and Training Videos are available to assist Funeral Directors with entering more accurate descriptions of a decedent’s Occupation and Industry.
What are “Vital Records” and “Vital Statistics”?

• “Vital Records” are certificates or reports of birth, death, fetal death, marriage, or divorce.

• “Vital Statistics” are data derived from those certificates and reports of birth, death, fetal death, marriage, or divorce.

• The National Vital Statistics System (N.V.S.S.) is a partnership between the 57 state-and-local vital records jurisdictions and the CDC National Center for Health Statistics (N.C.H.S.).
National Vital Statistics System (N.V.S.S.)

- Recording of vital events is the responsibility of the jurisdiction in which the event occurs.

- Jurisdictions include the 50 States, District of Columbia, New York City, and 5 U.S. Territories.

- Each jurisdiction:
  - Collects a core set of data including demographic and health-related information;
  - Sends a standardized set of data to N.C.H.S. for review, editing, compilation, and creating national data sets for release.
Electronic Death Registration Systems (E.D.R.S.)

- E.D.R.S. projects provide seamless web-based electronic registration and efficient processing of death records.

- Checks and balances in an E.D.R.S. save time and provide more accurate data to state and national vital statistics offices.

- Funeral Directors are integral to the success of E.D.R.S.s.

- E.D.R.S.s facilitate quick hand-offs between reporters (e.g., “split reporting” by Medical Examiners and Funeral Directors).
Collaborating Office for Medical Examiners and Coroners (COMEC)

Medico-legal death investigations conducted by medical examiners and coroners are crucial to understanding causes of death, monitoring evolving health challenges, and ultimately saving lives. The Collaborating Office for Medical Examiners and Coroners (COMEC) works to bring together resources from across the Centers for Disease Control and Prevention (CDC) to support the work in the medical examiner and coroner community. Content is continuously updated as new materials are developed or identified.
Questions or Comments?
Mortality Profile of the U.S., 2021

- Life expectancy for the U.S. population in 2021 was 76.4 years, a decrease of 0.6 year from 2020.

- The age-adjusted death rate increased by 5.3% from 835.4 deaths per 100,000 standard population in 2020 to 879.7 in 2021.

- Age-specific death rates increased from 2020 to 2021 for each age group 1 year and over.

- Heart disease, cancer, and COVID-19 remained the top 3 leading causes.

- Infant mortality rate: 543.6 infant deaths per 100,000 live births in 2021.

- **At birth**
  - Both sexes: 77.0 (2020) vs. 76.4 (2021)
  - Male: 74.2 (2020) vs. 73.5 (2021)
  - Female: 79.9 (2020) vs. 79.3 (2021)

- **At age 65**
  - Both sexes: 18.5 (2020) vs. 18.4 (2021)
  - Male: 17.0 (2020) vs. 17.0 (2021)
  - Female: 19.8 (2020) vs. 19.7 (2021)
Death Rate for Ages 1 Year and Over: U.S., 2020 and 2021

- Heart disease: 2020 = 168.2, 2021 = 173.8
- Cancer: 2020 = 144.1, 2021 = 146.6
- COVID-19: 2020 = 85.0, 2021 = 104.1
- Unintentional injuries: 2020 = 57.6, 2021 = 64.7
- Stroke: 2020 = 38.8, 2021 = 41.1
- Chronic lower respiratory diseases: 2020 = 36.4, 2021 = 34.7
- Alzheimer disease: 2020 = 32.4, 2021 = 31.0
- Diabetes: 2020 = 24.8, 2021 = 25.4
- Kidney disease: 2020 = 12.7, 2021 = 13.6
Funeral Director’s Handbook:
Death Registration and Fetal Death Reporting
2019 Revision
Excerpts from the 2003 U.S Standard Death Certificate: “Items to be Completed by the Funeral Director”

<table>
<thead>
<tr>
<th>51. DECEDENT’S EDUCATION</th>
<th>52. DECEDENT OF HISPANIC ORIGIN?</th>
<th>53. DECEDENT’S RACE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Check the box that best describes the highest degree or level of school completed at the time of death.</td>
<td>Check the box that best describes whether the decedent is Spanish/Hispanic/Latino. Check the &quot;No&quot; box if decedent is not Spanish/Hispanic/Latino.</td>
<td>Check one or more races to indicate what the decedent considered himself or herself to be.</td>
</tr>
<tr>
<td>□ 8th grade or less</td>
<td>□ No, not Hispanic/Latino</td>
<td>□ White</td>
</tr>
<tr>
<td>□ 9th - 12th grade; no diploma</td>
<td>□ Yes, Mexican, Mexican American, Chicano</td>
<td>□ Black or African American</td>
</tr>
</tbody>
</table>
| □ High school graduate or GED completed | □ Yes, Puerto Rican | □ American Indian or Alaska Native (Name of the enrolled or principal tribe) 
| □ Some college credit, no degree | □ Yes, Cuban | □ Asian Indian |
| □ Associate degree (e.g., AA, AS) | □ Yes, other Spanish/Hispanic/Latino (Specify) | □ Chinese |
| □ Bachelor’s degree (e.g., BA, AB, BS) | | □ Filipino |
| □ Master’s degree (e.g., MA, MS, MEng, MED, MSW, MBA) | | □ Japanese |
| □ Doctorate (e.g., PhD, EdD) or Professional degree (e.g., MD, DDS, DVM, LLB, JD) | | □ Korean |

54. DECEDENT’S USUAL OCCUPATION (Indicate type of work done during most of working life. DO NOT USE RETIRED).

55. KIND OF BUSINESS/INDUSTRY
52. DECEDEENT OF HISPANIC ORIGIN? Check the box that best describes whether the decedent is Spanish/Hispanic/Latino. Check the “No” box if decedent is not Spanish/Hispanic/Latino.

☐ No, not Spanish/Hispanic/Latino

☐ Yes, Mexican, Mexican American, Chicano

☐ Yes, Puerto Rican

☐ Yes, Cuban

☐ Yes, other Spanish/Hispanic/Latino
   (Specify) ____________________________
53. DECEDEDNT'S RACE (Check one or more races to indicate what the decedent considered himself or herself to be)

- White
- Black or African American
- American Indian or Alaska Native
  (Name of the enrolled or principal tribe) ________________
- Asian Indian
- Chinese
- Filipino
- Japanese
- Korean
- Vietnamese
- Other Asian (Specify) ________________________________
- Native Hawaiian
- Guamanian or Chamorro
- Samoan
- Other Pacific Islander (Specify) ______________________
- Other (Specify) ____________________________________
Questions or Comments?
Hot Off The (Digital) Presses

Fetal Mortality in the United States: Final and . . . Provisional (Released Nov. 8, 2023)

United States Life Tables, 2021 (Released Nov. 7, 2023)

Infant Mortality in the United States: Provisional Data . . . (2022) (Released Nov. 1, 2023)
Total Deaths – Suicides – Homicides - Autopsies

Deaths: Final Data for 2020
(Released Sept. 23, 2023)

Suicide and Homicide Death Rates Among Youth and Young Adults: United States, 2001–2021
(Released June 15, 2023)

Autopsies in the United States in 2020
(Released May 24, 2023)
Drug Overdose Deaths

- Fentanyl, Methamphetamine, Cocaine, Heroin, Oxycodone (Released May 3, 2023)
- Drug Overdose Deaths in the U.S., 2001 - 2021 (Released Dec. 22, 2022)
- Drug Overdose Deaths in Adults Aged 65 and Over: United States, 2000 - 2020 (Released Nov. 30, 2022)
Occupational Mortality Studies

Drug Overdose Mortality by Usual Occupation and Industry: 46 U.S. States and New York City, 2020
(Released August 22, 2023)

COVID-19 Mortality by Usual Occupation and Industry: 46 States and New York City, United States, 2020
(Released Oct. 28, 2022)
Guidance for Certifiers

17

Physician’s Handbook on Medical Certification of Death - Revised
(Released Sept. 11, 2023)

18

Guidance for Certifying Deaths Due to COVID-19 – Revised
(Released Feb. 27, 2023)

19

Reference Guide for Certification of Deaths Assoc With Pregnancy
(Released March 21, 2022)
Race Misclassification Is a Source of Bias
1999-2011 Misclassification Percentage

- White (Reference Group)
- Black
- Asian / Pacific Islander
- Hispanic
- American Indian / Alaska Native

Source: Arias, Heron & Hakes, 2016
# Table 1. Summary of Previous Research Reporting Estimated Misclassification Rates for Race Categories, Various Methods and Authors Between 1969 – 2021.

Note: N.L.M.S. = National Longitudinal Mortality Study; References # 20 through # 25

<table>
<thead>
<tr>
<th>Study Year or Period (Reference)</th>
<th>Race Categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>White</td>
<td>Black</td>
</tr>
<tr>
<td>1960 Census (Hambright, 1969)</td>
<td>0.02 %</td>
<td>1.8 %</td>
</tr>
<tr>
<td>1979 – 1985 (Sorlie, et al., 1992)</td>
<td>0.08 %</td>
<td>1.8 %</td>
</tr>
<tr>
<td>1979 – 1989 N.L.M.S. (Rosenberg, et al., 1999)</td>
<td>0 %</td>
<td>0 %</td>
</tr>
<tr>
<td>1990 – 1998 N.L.M.S. (Arias, et al., 2008)</td>
<td>0 %</td>
<td>1 %</td>
</tr>
<tr>
<td>1999 – 2011 N.L.M.S. (Arias, et al., 2016)</td>
<td>0 %</td>
<td>1 %</td>
</tr>
<tr>
<td>2019 Al-AN Mortality Profile (Arias, et al., 2021)</td>
<td>Not Reported</td>
<td></td>
</tr>
</tbody>
</table>
Questions or Comments?
Funeral Directors and the National Occupational Mortality Surveillance (N.O.M.S.) Program
N.O.M.S.

Uses Occupation and Industry text supplied by Funeral Directors as part of death certificate reporting.

54. DECEDENT’S USUAL OCCUPATION (Indicate type of work done during most of working life.)

55. KIND OF BUSINESS/INDUSTRY
Monitor changes in cause of death by usual occupation or industry in the United States.

Having industry and occupation enables researchers to:

- examine changes in cause of death by usual occupation and industry;
- identify new work-related health hazards; and
- guide research and prevention activities.
The N.O.M.S. program has been designed to provide more resources for Funeral Directors, including:

- Updated manual: Guidelines for Reporting Occupation and Industry on Death Certificates
- Updated Website: Information for Funeral Directors

https://www.cdc.gov/niosh/topics/noms/funeral.html
N.O.M.S. Resources

- New Training Video Series for Funeral Directors
  1) Introduction
  2) Defining usual occupation and industry
  3) Common Occupation Responses and How to Improve Them
  4) Common Industry Responses and How to Improve Them
  5) Special Issues
  6) Looking at Occupation and Industry Over a Lifetime
  7) Review

https://www.cdc.gov/niosh/topics/noms/funeral.html
N.O.M.S. Resources

Recording Industry and Occupation on Death Certificates Video Series Part 1

https://www.cdc.gov/niosh/topics/noms/funeral.html
Conclusions and Next Steps
Conclusions

- Funeral Directors play an essential, integral, and therefore vital role in our N.V.S.S. and the N.O.M.S. Thank You!

- National mortality data are already very accurate, but there is room for improvement among all data reporters.

- Nearly real-time data in the N.V.S.S. enable researchers to understand important mortality trends, such as COVID-19 and drug overdoses.

- Race misclassification is an ongoing problem, for which solutions will require partnerships among all data reporters.
Next Steps and Our Thanks

• Developing Curricular Modules or recorded lectures, for “off-the-shelf” use in Mortuary Science educational settings.

• A Task Force or Working Group, to outline an educational initiative.

• Partnering with N.F.D.A. on website resources designed to accentuate the role of Funeral Directors in vital statistics generally.

• Working with state licensure boards to develop meaningful Continuing Education resources.
Questions or Comments?
References; Quiz Questions; Review of Learning Objectives; Contact Information
References (1)


References (3)


References (4)


References (5)


References (6)


References (7)


References (8)


References (9)


True-False Quiz Questions (1)

1) Funeral Directors are important contributors to both the National Vital Statistics System and the National Occupational Mortality Surveillance program.

2) In its statistical sense, “Bias” refers to any systematic error that results in an incorrect frequency count or estimate of the association between exposure and the health outcome. Bias leads to systematic underestimation, thereby limiting our understanding about mortality trends and life expectancy.
3) State and national Vital Statistics have multiple uses, including Civil Registration, Public Health Programs and Surveillance, and Administrative Uses.

4) The Death Certificate is the legal proof of the date and place of a death, the causes and circumstances surrounding that death, and the date and place of interment.
True-False Quiz Questions (3)

5) Vital Statistics are derived from a sample or a survey, therefore Vital Statistics are always incomplete.

6) National mortality data are already very accurate, but there is room for improvement.
True-False Quiz Questions (4)

7) The number of reporting jurisdictions in the N.V.S.S. is currently 57, representing all 50 states, the District of Columbia, New York City, and 5 U.S. Territories.

8) Electronic Death Registration Systems provide seamless web-based electronic registration and efficient processing of death records.
True-False Quiz Questions (5)

9) Life expectancy in the U.S. decreased among both sexes in 2021, compared to 2020.

10) When recording Usual Occupation and Kind of Industry, one problem is using the word “Retired.” The N.C.H.S. Funeral Director’s Handbook even says it twice for line 54: “Do Not Enter Retired,” and “Never enter ‘Retired’.”
True-False Quiz Questions with Answers (1)

1) Funeral Directors are important contributors to both the National Vital Statistics System and the National Occupational Mortality Surveillance program.
   TRUE
   Refer to Slides 9 and 33.

2) In its statistical sense, “Bias” refers to any systematic error that results in an incorrect frequency count or estimate of the association between exposure and the health outcome. Bias leads to systematic underestimation, thereby limiting our understanding about mortality trends and life expectancy.
   TRUE
   Refer to Slide 3.
True-False Quiz Questions with Answers (2)

3) State and national Vital Statistics have multiple uses, including Civil Registration, Public Health Programs and Surveillance, and Administrative Uses.
   TRUE
   Refer to Slide 4.

4) The Death Certificate is the legal proof of the date and place of a death, the causes and circumstances surrounding that death, and the date and place of interment.
   TRUE
   Refer to Slide 4.
True-False Quiz Questions with Answers (3)

5) Vital Statistics are derived from a sample or a survey, therefore Vital Statistics are always incomplete.
   FALSE
   Refer to Slide 4.

6) National mortality data are already very accurate, but there is room for improvement.
   TRUE
   Refer to Slides 5 and 6.
True-False Quiz Questions with Answers (4)

7) The number of reporting jurisdictions in the N.V.S.S. is currently 57, representing all 50 states, the District of Columbia, New York City, and 5 U.S. Territories.  
   TRUE  
   Refer to Slides 7 and 8.

8) Electronic Death Registration Systems provide seamless web-based electronic registration and efficient processing of death records.  
   TRUE  
   Refer to Slide 10.
9) Life expectancy in the U.S. decreased among both sexes in 2021, compared to 2020.
   TRUE
   Refer to Slide 13.

10) When recording Usual Occupation and Kind of Industry, one problem is using the word “Retired.” The N.C.H.S. Funeral Director’s Handbook even says it twice for line 54: “Do Not Enter Retired,” and “Never enter ‘Retired’.”
    TRUE
    Refer to Slide 33.
Learning Objectives

By the end of today’s Town Hall, Learners will be able to:

• State the contribution made by Funeral Directors to the National Vital Statistics System (N.V.S.S.).
  Refer to Slide 9.

• Interpret the contribution made by Funeral Directors to the National Occupational Mortality Surveillance (N.O.M.S.) Program.
  Refer to Slides 33 to 37.

• Describe race misclassification as a source of bias that contributes to systematic underestimation, thereby limiting our understanding about mortality trends and life expectancy.
  Refer to Slides 29 and 30.
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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.