Industry and Occupation Data from Registry and Death Certificates

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ABSTRACT

BACKGROUND: Capturing data on industry and occupation (I&O) for cancer registration depends on the proper completion of several steps. First, the patient who is registered at the hospital or other facility must be asked about their usual I&O. Medical providers or clerical staff may then note what current occupation, or use another method that does not provide ideal information. Next, the registry must find I&O data in the medical record, resolve any discrepancies between I&O entries, and interpret as needed. Completing death certificates involves a different process through questioning relatives or for deaths in hospital, through medical records. Because of the different sources, there are likely to be discrepancies between occupation and industry data in the cancer registry and in death certificates.

PURPOSE: To investigate whether this death certificate data can be compared and categorized into “same”, “different” (but known in both sources), and “unknown”.

METHODS: In this exercise, we will compare the data obtained from those two sources in subsets of New Hampshire residents with cancer. The subsets will include (i) common medical record, resolve any discrepancies between multiple entries, and interpret as needed.

RESULTS: We will evaluate concordance and discrepancies, and examine the utility of death certificates for completing data on patients whose I&O data are missing in the registry.

CONCLUSION: We will discuss potential biases that may arise due to death certificate (I&O data can only be used for patients who have died, whereas missing I&O for those who are alive cannot be resolved).

BACKGROUND

• We have conducted studies to analyze the accuracy of I&O and other data from death certificates.

• The New Hampshire State Cancer Registry (NHSCR) is participating in a project with the National Cancer Institute (NCI) to improve the accuracy of I&O and other data reported on cancer death certificates.

• The project is aimed at improving the quality of the data reported on death certificates and in NHSCR.

• Industry and Occupation (I&O) data are required in both cancer death certificates and the NHSCR.

• We converted the 2010 Census codes to the 2000 Census codes so that both data sets would be comparable.

• NIOSH experts also assigned I&O codes using the Census 2010 Industrial and Occupational Classification (ISCO-88).

• We will also compare I&O from both sources and determine if there was a difference in I&O availability between the NHSCR and death certificates.

• Descriptive analyses and tabulations for all variables were performed using the Statistical Package for the Social Sciences (SPSS) version 22 for Windows (SPSS Inc., Chicago, IL, USA; www.spss.com).

METHODS

RESULTS

Table 1. Occupation data from NHSCR and National Death Index

<table>
<thead>
<tr>
<th>Occupation</th>
<th>NHSCR</th>
<th>National Death Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Same</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Different</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 presents information describing whether or not I&O was in NHSCR cases and in death certificates from NH Vital Records.

- NH Vital Records data were more complete than NHSCR data for I&O, overall, 2% of death certificates while 31% of NHSCR had Unknown Occupation, and 1%, 30% for each the proportion of NHSCR I&O that agreed with a given category in Vital Records was only 40%.

- Further study of the data is needed to assess the impact of supplementing I&O data from death certificates for patients whose I&O is not known in NHSCR.

- When data are added to a database for a year then another year the risk of introducing bias if those differences are not considered in future analyses.

- It is possible that these patients are accurately identified from cancer cases who were diagnosed and reported.

- The accuracy of death certificate and NHSCR I&O data is not known.

RESULTS, CONT.

- The most common occupation found in death certificates was Production. The majority of unknown occupation in NHSCR records were found to be production in the corresponding death certificate.

- The differences give us idea of differences in classification, e.g. where NHSCR has Production, 123 (13%) cases have something different in the death certificate.

- To investigate whether the I&O data on death certificates and in the cancer registry is accurate, we will evaluate concordance and discrepancies, and examine the utility of death certificates for completing data on patients whose I&O data are missing in the registry.

- We will discuss potential biases that may arise due to death certificate (I&O data can only be used for patients who have died, whereas missing I&O for those who are alive cannot be resolved).

CONCLUSIONS

- It may be feasible to improve I&O data in the NHSCR for cases for which data is missing. Data may not be comparable to those still alive. Therefore, it may be useful to introduce separate fields for I&O from Vital Records and NHSCR, as that distinction is retained.

ACKNOWLEDGMENTS

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