Missing Stage Information for Prostate Cancer Cases – Too Much Reliance on Collaborative Stage?

Maria J. Schymura, Baconzhe Qiao, Amy R. Kahn, New York State Cancer Registry, Albany, NY

Introduction

Background: The NAACCR Data Assessment Work Group is evaluating the quality of various data items submitted in response to NAACCR’s Call for Data, including derived summary stage (dSS). Although we see the New York State Cancer Registry (NYSCR) has long been aware of the high proportion of our cases missing stage information, it is through our involvement in this NAACCR work group that we realized that ours ranks highest for deriving summary stage. Finally, we examined NYSCR and SEER data for 2006 to 2008 by type of reporting source to ascertain whether they included sufficient data to apply the new codes to data for the entire registry. We examined the “type of reporting source” (NAACCR item 500) and, for the purposes of this analysis, separated cases into four categories: hospital, radiation treatment center, physician, and laboratory.

Methods

Prostate cancer cases diagnosed from 2004 to 2008 among NY State (NYS) residents, excluding DCO and autopsy cases, were selected for analysis. We examined the “type of reporting source” (NAACCR item 500) distribution and calculated the percent missing dSS for each type of reporting source. Although the coding for this NAACCR item changed after 2006, we were able to apply the new codes to data for the entire period because of the granularity with which we collected the data. For prostate cancer cases with unknown dSS, we examined initial clinical data entered at the time cases were selected for analysis. We calculated the percent unknown dSS attributable to a specific CS data item. For these cases, we also evaluated whether any other stage information was present in the records, i.e., directly coded summary stage (SS) or TNM stage (Note: the NYSCR requires the reporting of SS from hospital sources). Experienced coders reviewed the pathology reports for all 2006 laboratory-only prostate cancer cases with unknown dSS to ascertain whether they included sufficient data for deriving summary stage. Finally, we examined NYSCR and SEER data for 2006 to 2008 by type of reporting source to evaluate source-type differences in prostate cancer reporting to the NYSCR and to SEER registries.

Results

- Of the 76,443 NYS prostate cancer cases diagnosed from 2004 to 2008 (excluding DCO and autopsy cases), 17.6% had unknown dSS.
- Of type of reporting source, which is assigned using a hierarchy based on likelihood of complete data, 40.7% for laboratories, 35.5% for physicians, and 69.6% for laboratories.

- Of the hospital inpatient cases reported with unknown dSS, 69.2% were reported solely as non-analytic cases.
- Of the hospital inpatient cases reported with unknown dSS, 69.2% were reported solely as non-analytic cases.
- Laboratory-only cases with known dSS tended to be submitted by hospitals. A review of all pathology reports for 2008 diagnosed prostate cancer cases missing dSS and reported as laboratory-only cases (n=333) found that only 14% (26/193) contained enough information to compute dSS.
- Unknown dSS was not attributable to any one CS data item required to compute dSS. When dSS was unknown, all component CS data items tended to be unknown as well.
- For the prostate cancer cases missing all coded summary stage (SS) information was available for 21.6% of cases and TNM stage for 23.6%. In total, 31.0% of prostate cancer cases missing SS had some useful stage information. Thus, reducing the percent of cases missing any stage information to 12.1%, which is still fairly high but better than 17.6%.

Discussion

Although stage information for prostate cases in the NYSCR can be improved by not relying solely on SS, the percent unknown is likely to remain high. We have already taken steps to address the high proportion of cases with unknown dSS. A survey of all 2006 laboratory-only prostate cancer cases with unknown dSS revealed that staging information is frequently not available in their records and reporting is not likely to be improved by a CTI (Hospital) risk adjustment. We have also identified other sources of data, particularly from radiation treatment centers, as cases reported by radiation treatment centers or by laboratories. The percent unknown dSS for cases reported by physicians or by laboratory sources in NY falls within the range observed for SEER registries.

Conclusions

In order to obtain more complete stage information for prostate cancer, all stage information, not only SS, should be considered and consolidated into a composite stage variable. To further improve the completeness of stage data for prostate cancer would require more active work on the part of the NYSCR and consequently more resources.

Acknowledgement

This work was funded in part by CDC Cooperative Agreement U58DP001073 awarded to the New York State Department of Health.
The NAACCR Data Assessment Work Group is evaluating the quality of various data items submitted in response to NAACCR's Call for Data, including derived summary stage (dSS). Although we in the New York State Cancer Registry (NYSCR) have long been aware of the high proportion of our cases missing stage information, it is through our involvement in this NAACCR work group that we realized that ours ranks highest among U.S. registries in the percent of prostate cases with unknown dSS. We hypothesized that the high percentage of unknown dSS was primarily due to the high proportion of prostate cases reported to the NYSCR by non-hospital sources, sources which we do not require to use collaborative stage (CS) for reporting.

Objectives: Our objectives were to assess the reasons for this unfortunate distinction and to determine what, if anything, we could do to lower the percent of unknown stage for prostate cancer cases in the NYSCR.

Methods

Prostate cancer cases diagnosed from 2004 to 2008 among NY State (NYS) residents, excluding DCO and autopsy cases, were selected for analysis. We examined the “type of reporting source” (NAACCR item 500) distribution and calculated the percent missing dSS for each type of reporting source. Although the coding for this NAACCR item changed effective with 2006 diagnoses, we were able to apply the new codes to data for the entire period because of the granularity with which we collected the data. For prostate cancer cases with unknown dSS, we examined individual CS data elements required for deriving dSS to determine whether the percent unknown was attributable to a specific CS data item. For these cases, we also evaluated whether any other stage information was present in the records, i.e. directly coded summary stage (SS) or TNM stage [Note: the NYSCR requires the reporting of SS from hospital sources]. Experienced coders reviewed the pathology reports for all 2008 laboratory-only prostate cancer cases with unknown dSS to ascertain whether they included sufficient data for deriving summary stage. Finally, we examined NYSCR and SEER data for 2006 to 2008 by type of reporting source to evaluate source-type differences in prostate cancer reporting to the NYSCR and to SEER registries.