Baseline Evaluation of Pathology Report Completeness and Format on Breast, Lung, Colorectal and Prostate Cancer Specimens in New Brunswick, 2007-2008

Suzanne Leonfellner, BN, CTR; Aihua Wang, MSc; Bin Zhang, PhD; Anne O'Brien, MD, FRCP, FASCP; Travis Foster, P.Eng; S. Eshwar Kumar, MBBS, FRCR; and Réjean Savoie, MD, FRCS.

Background

In November 2009, a pre-project baseline study was conducted in New Brunswick to evaluate the completeness and format in a sample of pathology reports using the required data elements in the College of American Pathology, Cancer Checklist Protocols (CAP – CCPs) as the content standard.

Study design

A cross-sectional survey was conducted using eligible pathology reports from all eight laboratories (seven health zones) in New Brunswick to assess report format and completeness based on CAP required data elements in 2007-08.

Methods

A simple random sample of eligible pathology reports was taken from each of the four cancer sites and by eight laboratories. To keep statistical power and precision across all laboratories, all of the pathology reports in the smaller zones were included for each cancer site. A random selection of eligible pathology reports was taken for larger health zones so that the overall sample size per cancer site was 30 or 31. The New Brunswick Discharge Abstract Database was used to obtain a list of eligible invasive cancer surgery procedures done in 2007-08 for breast, lung and colorectal resections and radical prostatectomy. A registered and certified medical laboratory technologist reviewed each pathology report for; 1.) CAP completeness (all required data elements had to be in each report); 2.) pathology report format (narrative versus synoptic) and 3.) two site specific factors in Collaborative Stage (CS) capture for breast, prostate and colorectal cancer.

Statistical analysis

Odds ratio and associated 95 per cent confidence interval were used to measure the difference between pathology report format and completeness. Sampling selection weights were considered in the logistic regression model to obtain more accurate parameter estimates. All analyses were performed using SAS version 9.1.

Figure 1: Comparison between Report Format and Completeness Rates of Individual CAP Data Elements -Breast Provincial Results

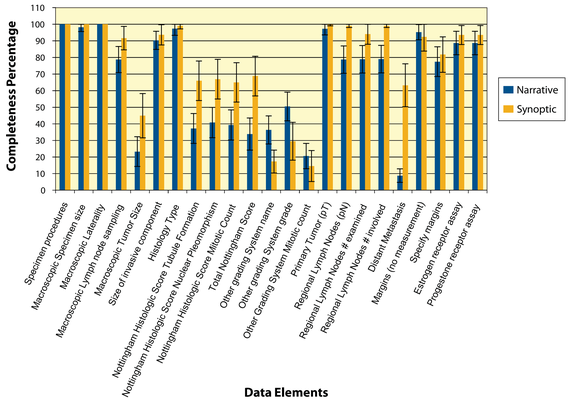


Figure 2: Comparison between Report Format and Completeness Rates of Individual CAP Data Elements - Colorectal Provincial Results

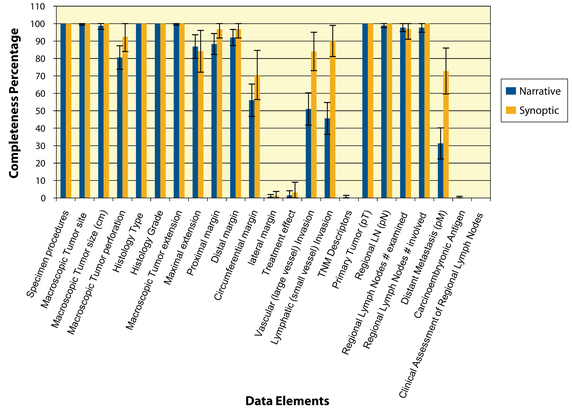


Figure 3: Comparison between Report Format and Completeness Rates of Individual CAP Data Elements - Lung Provincial Results

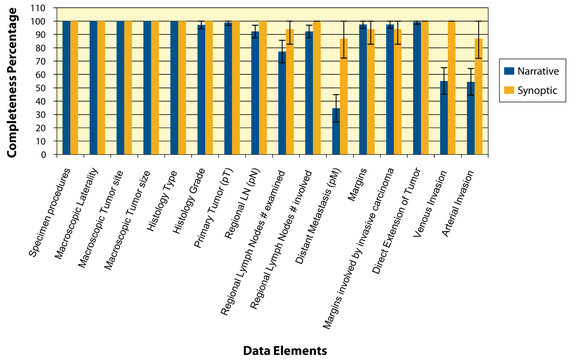
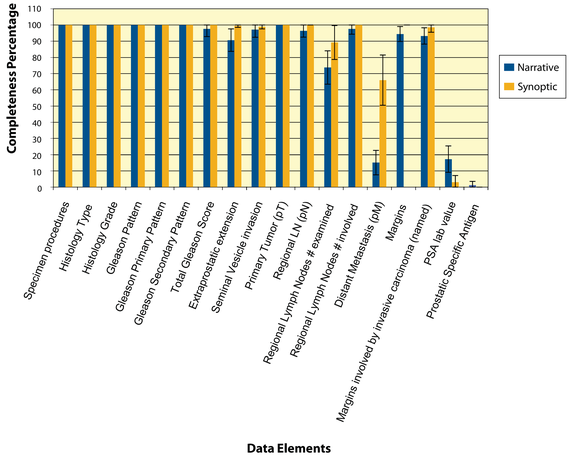


Figure 4: Comparison between Report Format and Completeness Rates of Individual CAP Data Elements - Prostate Provincial Results



Results

The New Brunswick pilot study showed that of the approximately 685 pathology reports reviewed from all eight laboratories in New Brunswick for the four leading cancer surgeries, 71 per cent were in narrative format and 29 per cent were in synoptic format. The completeness of pathology reports was higher for lung and prostate cancer when the report format was synoptic. Figures 1-4 show percentage completeness for the individual data elements evaluated at the provincial level for the four cancer sites.

Limitations

Colorectal pathology completeness is likely underestimated because, for certain required data items such as "circumferential (radial) or mesenteric margin" and "lateral margin," the information may have been considered missing instead of "Not Applicable" as certain surgical specimens would not contain these items.

Breast completeness is also likely underestimated because the data item "histologic grade" required that all three components of the Nottingham combined histologic grade (tubule formation, extent of nuclear pleomorphism and mitotic count) be reported as well the combined total score for histologic grade.

References

1. Srigley, J. Standardized Synoptic Cancer Reporting. A Population Based Approach. Journal of Surgical Oncology 2009. 99:517-524.
2. Cancer Care Ontario. Pathology Checklist Project Overview. March 2007. Website posting.

New Nouveau Brunswick CANADA