Comparing Electronic, Synoptic Pathology Reports to Traditional Narrative Pathology Reports

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Background

The California Cancer Registry (CCR) evaluated synoptic pathology reports in CAP eCC format and compared them to narrative pathology reports checking for consistency, completeness, and data capture of relevant components of particular interest to cancer surveillance. The College of American Pathologists (CAP) has developed electronic checklists in synoptic format, providing an opportunity for pathology laboratory systems to incorporate these checklists directly into their computer systems. These checklists standardize collection and reporting of cancer patient data. Traditional narrative reports are intended to also capture the same cancer data outlined in the CAP protocols. The purpose of this evaluation was to analyze and determine the completeness of both types of pathology reports.

Methodology

A convenience sample of pathology reports was obtained from the database programmer which included pathology reports in synoptic CAP eCC format as well as narrative pathology reports. The analysis was performed on separate pathology reports for each report type. Therefore, synoptic and narrative reports reflect different samples of individuals. Each pathology report was manually reviewed to characterize selected data fields as available/not available in each format, with comments included for analysis. Synoptic pathology reports were evaluated for missing information in any of the data fields reviewed. The same approach was applied to narrative pathology reports. Information was documented in spreadsheets. Once spreadsheets were completed, a comparison and analysis between the two types of pathology reports was performed.

The sites reviewed are demonstrated in the table below.

Table 1

Sites	# Reviewed Electronic Pathology	# Reviewed Narrative Pathology
Breast	10	10
Colon	10	9
Thyroid	10	9
Lung	7	9
Kidney	2	9
Prostate	2	9

The specific data fields reviewed and compared are illustrated in Table 2 below:

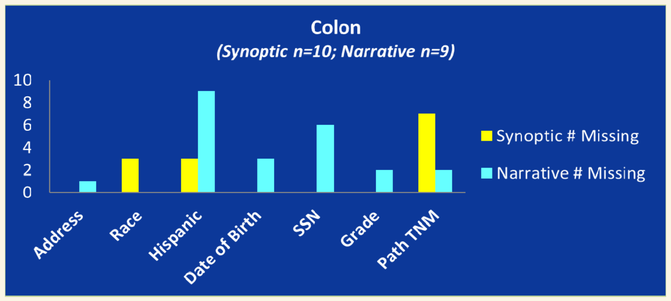
Table 2

Pt Address	Sex	Race	Hispanic	Date of Birth	SSN
Site	Subsite	Histology	Behavior	Grade	Laterality
Tumor Size	Final Diagnosis	Lymph Nodes Exam	Lymph Nodes Pos	Physician	Specimen Date
Path Report Number	Sending Facility	Specimen Type	Path TNM	Path Stage Group	

Results

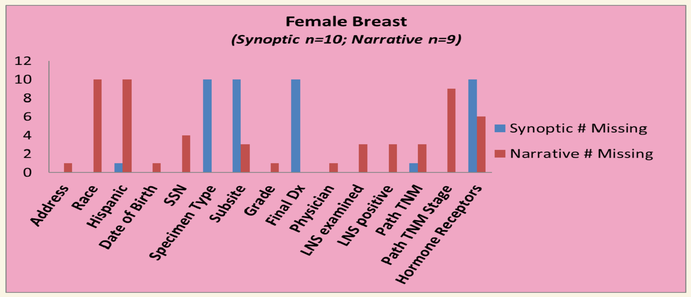
Colon

For Colon the narrative pathology reports had the highest number of cases with missing information. Conversely, synoptic pathology reports due to the very nature of their structured format were limited to only the following missing information: Path TNM, Race and Hispanic ethnicity. The chart below further illustrates this finding.



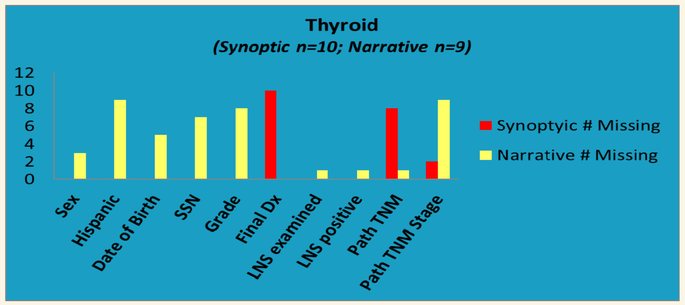
Breast

Female Breast synoptic report review revealed that all synoptic cases were missing Specimen Type, Subsite, and Final Diagnosis. Reviewers also noted that due to CAP checklist limitations for female breast, Hormone Receptor information was not included. Therefore, none of the synoptic reports for female breast contained Hormone Receptor information. The narrative pathology reports reviewed had Race, Hispanic ethnicity and Pathology TNM Stage missing for all cases reviewed. Reviewers did identify that Hormone Receptor information could be located in the Comments section of reports for 4 narrative pathology reports reviewed. The table below illustrates all data fields with missing information.



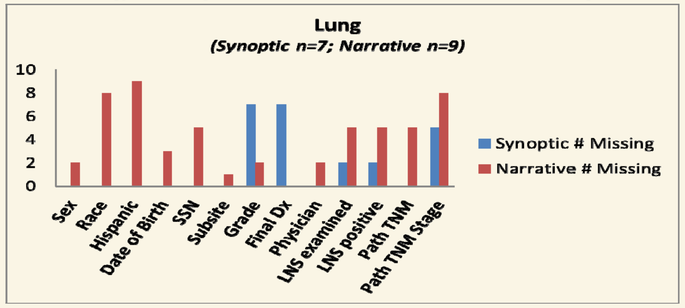
Thyroid

Thyroid narrative pathology reports had a higher number of data fields with missing information as compared to synoptic reports. Synoptic reports were only missing information from 3 of the data fields under review. The table below illustrates this finding.



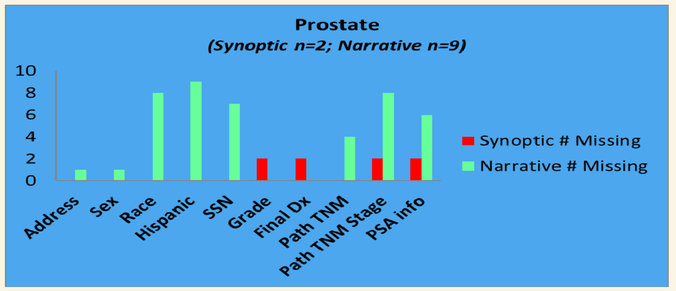
Lung

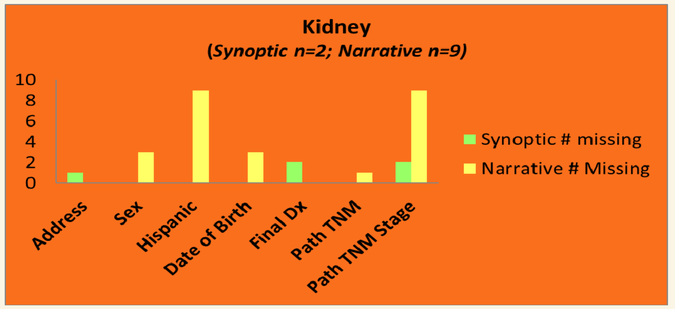
A significant number of data items consistently lacked information for the Lung narrative pathology reports as compared to the synoptic pathology reports for Lung. All seven synoptic pathology reports reviewed were missing information on Grade and Final Diagnosis and five were missing information on Pathology TNM Stage. The table below further illustrates this finding:



Prostate & Kidney

Only two synoptic pathology reports were available for review for Prostate and Kidney as compared to nine narrative pathology reports for both. Prostate had a significant number of narrative data field information missing whereas the synoptic reports for both sites were missing Grade, Final Diagnosis, and Path TNM Stage. Reviewers did note that PSA information was not mentioned in the Comments Section for 6 of the 9 narrative pathology reports. There was no specific location in the synoptic checklist to capture this information. Below are tables corresponding to Prostate and Kidney which illustrate these findings.





Conclusion

Analysis of results revealed that in general synoptic pathology reports were comprehensive and due to their standardized format tended to include the majority of the information of interest to researchers. Narrative pathology reports are not standardized which this analysis demonstrated results in numerous data fields with pertinent information being consistently missed.

However, it should be noted that the synoptic checklists for the sites reviewed do not currently include a section for tumor marker information. ER/PR, HER2Neu, and PSA values are of interest to researchers and data collectors. It was noted that synoptic pathology reports lacked a section for capturing this information. Several of the narrative pathology reports, on the other hand, did contain tumor marker information in the Comments sections for Prostate (n=2) and Breast (n=-4).

It was a positive finding to note that Race information was provided for the majority of the synoptic reports with the exception of 3 colon cases. However, narrative pathology reports had no race information provided across all sites other than “unknown”.

The evaluation performed was a completeness comparison and not an evaluation of the validity of the data. Based on this analysis, it is clear that synoptic pathology reports provide consistent information in a standardized format. Standardized data versus narrative text data provides opportunities for increased data system automation solutions. In addition, reviewing pathology reports at the point of data collection is simplified when information is standardized and conforms to a consistent format. It is the hope of the CCR that synoptic pathology reports become more widely adopted throughout not only the state of California, but hopefully across the nation which may open the door to innovative future automation or data sharing possibilities.

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*The CalCARES program partners with the California Department of Public Health (CDPH) to manage the operations of the state mandated California Cancer Registry program