

# Requirements Analysis and Recommendations for CAP eCC Reporting to Cancer Registries

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# Types of Pathology Reports

- Traditional Text-based
  - Final Diagnosis
  - Microscopic Description
  - Macroscopic Description, etc.
- Synoptic Cancer Pathology Reporting
  - College of American Pathologists (CAP)  
Cancer Protocols and Checklists
  - Others



# College of American Pathologists (CAP)

- In 1999, the CAP Cancer Committee published
  - Reporting on Cancer Specimens Protocols and Case Summaries
- Purpose
  - To aid pathologists with completeness, accuracy, and uniformity in reporting of malignant tumors
- The cancer protocols - site-specific (procedure-specific)
- The associated checklist format

# CAP Cancer Checklists

- Consist of data elements structured as a set of questions and prospective answers
- Include reference information for intended use by pathologists
- Iterative Development Process
- Content from CAP Cancer Committee
  
- Analogy: Pilot's checklist

# Logo: CAP Cancer Committee CAP Cancer Protocols



# Snippet: Breast Invasive Cancer Checklists

CAP Approved

Breast • Invasive Carcinoma of the Breast

## Specimen Laterality

- Right
- Left
- Not specified

## \*Tumor Site: Invasive Carcinoma (select all that apply) (Note D)

- \*  Upper outer quadrant
- \*  Lower outer quadrant
- \*  Upper inner quadrant
- \*  Lower inner quadrant
- \*  Central
- \*  Nipple
- \* Position:  o'clock
- \*  Other (specify): \_\_\_\_\_
- \*  Not specified

## Tumor Size: Size of Largest Invasive Carcinoma (Note E)

- Microinvasion only ( $\leq 0.1$  cm)
- Greatest dimension of largest focus of invasion over 0.1 cm:  cm
- \*Additional dimensions:  x  cm
- No residual invasive carcinoma after presurgical (neoadjuvant) therapy
- Cannot be determined (see Comment)

*Note: The size of the invasive carcinoma should take into consideration the gross findings correlated with the microscopic examination. In some cases, it may be helpful to use information about tumor size from imaging studies. If multiple foci of invasion are present, the size listed is the size of the largest contiguous area of invasion. The size of multiple invasive carcinomas should not be added together. The size does not include adjacent DCIS.*

*If there has been a prior core needle biopsy or incisional biopsy showing a larger area of invasion than in the excisional specimen, the largest dimension of the invasive carcinoma in the prior specimen should be used for T classification, if known.*

*If there has been prior treatment and no invasive carcinoma is present, the cancer is classified as Tis if there is residual DCIS and T0 if there is no remaining carcinoma.*

# Challenges: Paper to Electronic

- Today – Emphasis electronic health systems
- What's clear on a paper form may not translate to computer systems
- Different interpretations of the meaning
- Different discrete data item codes (not interoperable)
- Solution –
  - An electronic checklist tool for developers & implementers
  - CAP Pathology Electronic Reporting Task Force (PERT)
    - Mission: “To advance the implementation of the CAP Cancer Checklists using health information technology”

# CAP electronic Cancer Checklists (eCC)



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## About CAP electronic Cancer Checklists (CAP eCC)

Updated February 16, 2011

The CAP eCC is a tool used to enhance and advance cancer reporting. [Learn more](#) about the CAP eCC or [read the press release](#). The latest CAP eCC release (January 2010) contains all of the new and updated content in the CAP Cancer protocols posted October 2009 on the [CAP Website](#). The CAP eCC facilitate uniform cancer description and reporting, including elements from the AJCC Cancer Staging Manual 7th Edition. Content is also partially encoded with SNOMED Clinical Terms<sup>®</sup> (SNOMED CT<sup>®</sup>)—a globally recognized controlled medical vocabulary.

The amount of information pathologists provide in their reports on cancer specimens has increased in recent years, due to the expansion of scientific knowledge about cancer and continued advances in healthcare, such as molecular diagnostics and personalized medicine.

The CAP Cancer Protocols and Checklists, developed by the CAP Cancer Committee, aid pathologists in cancer reporting and are recognized as a “gold standard” in cancer case summary reporting worldwide. The synoptic, or standardized, checklist format provides consistent and meaningful information that enable healthcare professionals to manage and study clinical data necessary to help improve patient care.

The CAP eCC advance the management and interoperability of health information through its XML format that can be integrated easily into existing pathology and cancer registry systems. Health data coded with SNOMED CT allows multiple interdisciplinary providers to accurately communicate and share patient information within an electronic health record system (EHR). Data can also be transmitted in real time, improving timeliness and accuracy of cancer reporting. In addition, the CAP eCC, focusing directly on real-world medical content standards from physician-experts on the CAP’s Cancer Committee, can illustrate how technology directly supports meaningful use of patient data in the cancer-care setting.

### CAP eCC Features

- Content includes elements from *AJCC Cancer Staging Manual 7th Edition*

### Related Links

- [Learn more about CAP eCC \(PDF, 2.3 MB\)](#)
- [Pathology Electronic Task Force \(PERT\)](#)
- [CAP Cancer Protocols](#)

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# Snippet: Invasive Breast Checklist

INVASIVE CARCINOMA OF THE BREAST - Breast

CAP Approved

## Surgical Pathology Cancer Case Summary (Checklist)

Protocol web posting date: 2009-10-09

Protocol revision date:

Protocol applies to all invasive carcinomas of the breast, including ductal carcinoma in situ (DCIS) with microinvasion.

Based on AJCC/UICC TNM, 7th Edition

### INVASIVE CARCINOMA OF THE BREAST: Complete Excision (Less Than Total Mastectomy, Including Specimens Designated Biopsy, Lumpectomy, Quadrantectomy, and Partial Mastectomy With or Without Axillary Contents) and Mastectomy (Total, Modified Radical, Radical With or Without Axillary Contents)Radical, Radical With or Without Axillary Contents)

Patient Name:

Surgical pathology number:

Note: If there are multiple invasive carcinomas, size, grade, histologic type, and the results of studies for estrogen receptor (ER), progesterone receptor (PR), and HER2 / neu should pertain to the largest invasive carcinoma. If smaller invasive carcinomas differ in any of these features, this information may be included in the "Comments" section.

\*Comment(s)

## \*CLINICAL

### \*Clinical History (Note Q)

The current clinical / radiologic breast findings for which this surgery is performed include:

- \*Palpable mass
- \*Nipple discharge
- \*Other (specify)

### Prior history

- \*Prior history of breast cancer

### \*Specify Site, Diagnosis, and Prior Treatment

- \*Prior presurgical (neoadjuvant) therapy for this diagnosis of invasive carcinoma

### \*Specify Type

### \*Radiologic Finding

- \*Mass or architectural distortion
- \*Calcifications
- \*Other (specify)

# Potential and Challenge

- ❑ **Electronic checklists will enable automated processing of encoded (discrete) data items**
- ❑ **More accurately capture the intent of the pathologist**
- ❑ **The creation, implementation, and maintenance of electronic synoptic checklists for recording pathology data on cancer patients is complex and challenging**
- ❑ **Cancer Registries have the challenge of receiving and processing the checklist information**

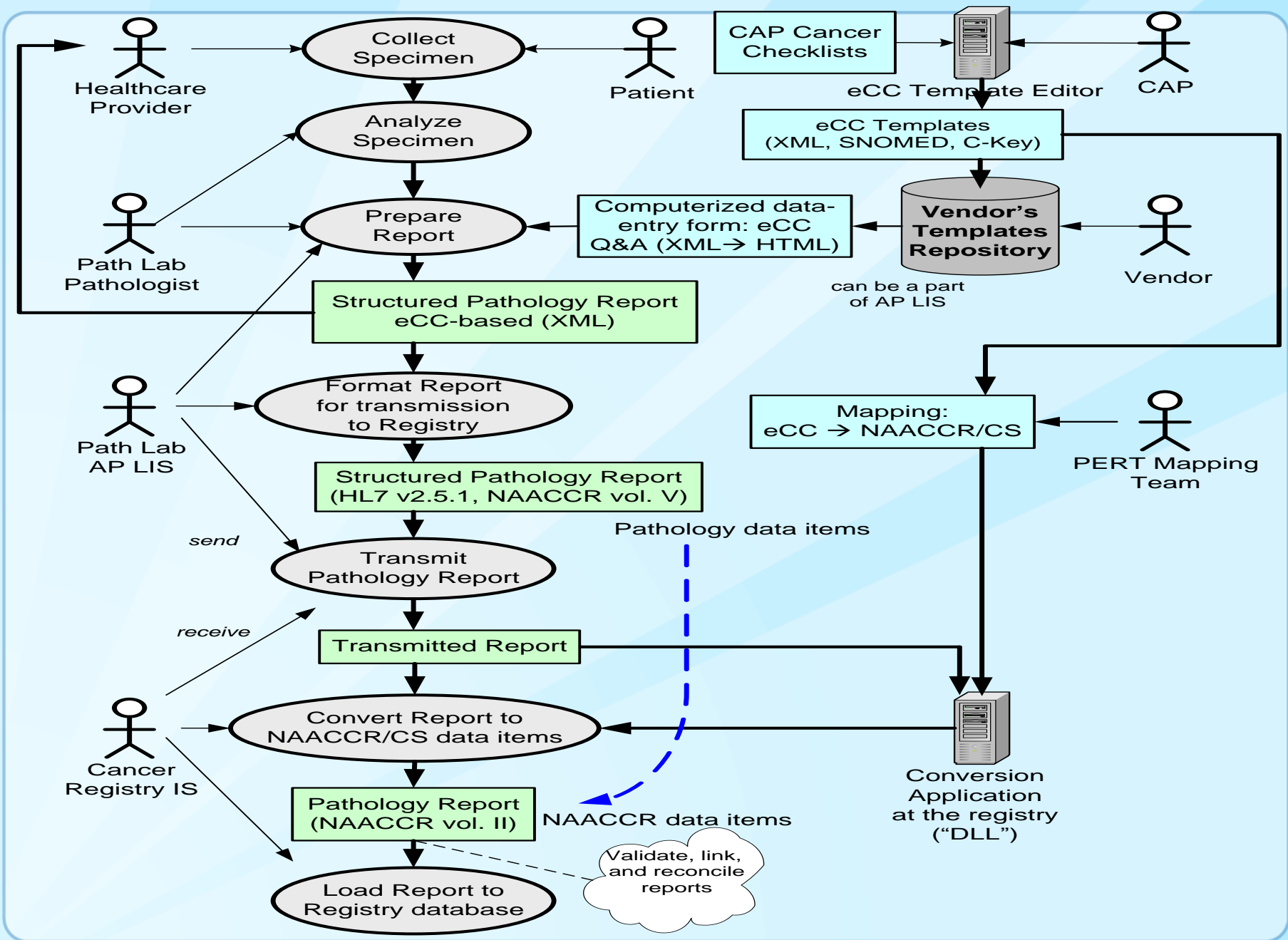
# Response

- ❑ **The multidisciplinary workgroup of experts and stakeholders was assembled in March of 2010 to discuss and document issues, requirements, and recommendations for CAP eCC pathology reporting to Cancer Registries**



# Approach

- ❑ **The group created a model (the workflow map) that describes the end-to-end process flow of a CAP electronic cancer checklist (eCC) from pathology laboratory to a Cancer registry**
- ❑ **The workflow map was utilized as an instrument to focus and facilitate discussions and capture issues and requirements/recommendations for the eCC pathology reporting**
- ❑ **Developed requirements and recommendations address identified barriers, obstacles, and problems of the eCC pathology reporting to cancer registries**



# Business analysis document (Workgroup's report)

CAP eCC Reporting to Cancer Registries

## CAP eCC Reporting to Cancer Registries

Functional and Operational Requirements and  
Recommendations  
of the  
Business Analysis Workgroup  
(updated version)

March 23, 2011

# Disclaimer and clarification

- Developed requirements are not intended to be mandatory, rather they represent recommendations and suggestions of the Business Analysis Workgroup
- Developed requirements do not encompass a comprehensive specification for the process of eCC pathology reporting to a cancer registry, but rather reflect most problematic issues identified by the workgroup
- The released document contains a concise summary of the group's work products. Extensive notes from the analysis sessions and other workgroup materials are not included in this document

# Results Overview

- ❑ **16 functional and operational requirements and 51 recommendations to stakeholders have been formulated**
- ❑ **Requirements are classified in five categories:**
  - eCC advancement
  - Data collection and validation
  - Report transmitting/messaging
  - Reporting process
  - Implementation
- ❑ **Typical structure of materials for each requirement includes:**
  - Requirement's description, Recommendations to process stakeholders, Issues addressed, Notes



# Requirements

- **Requirement 1.** Use standardized eCC data definitions
- **Requirement 2.** Establish CAP and NAACCR eCC user communities of practice
- **Requirement 3.** Sustain and promote CAP eCC use
- **Requirement 4.** Include patient demographics and specimen information
- **Requirement 5.** Develop data validation procedures and rules
- **Requirement 6.** Add additional data elements to meet cancer registry needs

# Requirements (cont.)

- **Requirement 7.** Pathology report and associated message follow NAACCR Volume V standard
- **Requirement 8.** Conformance testing tools for HL7 message (Volume V)
- **Requirement 9.** Publish reporting guidelines (E-Path) for transmitting eCC data
- **Requirement 10.** Educate and assist vendors to facilitate implementation
- **Requirement 11.** Use consistence guidance for reporting and reconciling updates, amendments, and addenda on the same specimen

# Requirements (cont.)

- Requirement 12. Assess preparedness for CAP eCC reporting in pathology laboratories and cancer registries
- **Requirement 13.** Maintain semantic interoperability, data standards and checklist encodes for customization
- Requirement 14. Synchronize and maintain versioning of eCC with mapping tools
- **Requirement 15.** Develop mapping tool for eCC data items to NAACCR Volume II data items
- **Requirement 16.** Licensing of the CAP eCC product

# Next steps

- Plan to post the requirements analysis and recommendations document onto the CDC-NPCR Web-site
- Using the analysis document as a guide, continue to collaborate with partners to facilitate the use and capture of cancer eCC pathology reports
- Continue to develop tools to translate eCC discrete data items into NAACCR data items

# Thank you

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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.

National Center for Chronic Disease Prevention and Health Promotion

National Program of Cancer Registries (NPCR)



# Full Requirements Statements

- Requirement 1. Standardized terms, definitions (eCC data dictionary), and codes should be utilized in the reporting process
- Requirement 2. CAP and NAACCR eCC user communities of practice should be established (with overlapping membership) to provide a forum for communication and collaboration with and among the vendors
- Requirement 3. Sustained efforts to promote deployment of CAP eCC for the pathology reporting should be organized and maintained
- Requirement 4. Complete data for patient demographics and specimen should be captured
- Requirement 5. Data validation procedures and rules for the CAP eCC report should be developed (existing rules should be extended), implemented, and routinely updated
- Requirement 6. Additional data elements should be added to the eCC to fully meet the requirements of cancer registry

# Full Requirements Statements

- Requirement 7. The structure of a pathology report and its associated message(s) should follow guideline established by NAACCR Vol.V standard
- Requirement 8. Consistent implementation of HL7 messages should be developed, sustained, and supported by proper tools by all parties involved in the reporting process
- Requirement 9. An E-Path reporting guideline/standard for transmitting eCC data should be in place.
- Requirement 10. NAACCR and NPCR should actively educate and assist vendors in implementing transmission of the eCC pathology report to cancer registries using NAACCR Volume V HL7 standards and format
- Requirement 11. A consistent guidance for reporting and reconciling updates, amendments, and addenda on the same specimen should be utilized in the reporting process

# Full Requirements Statements

- Requirement 12. An assessment of the pathology laboratories and cancer registries preparedness for the CAP eCC reporting to the cancer registry should be conducted before transmission of the actual data starts
- Requirement 13. Semantic interoperability, as well as integrity of the data standards and the checklists' encoding, should be preserved when customized CAP eCC forms are utilized.
- Requirement 14. Synchronization of various versions of products and tools utilized in the CAP eCC pathology reporting process should be continuously maintained
- Requirement 15. A tool for the mapping of the pathology data items in the CAP eCC report to the NAACCR Vol. II standard data items should be developed implemented, and maintained.
- Requirement 16. Licensing of the CAP eCC product: a process for using the eCC product should be developed within the constraints of CAP licensing structure and the needs of registries to perform business