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CoC Operative Standards Overview

Speaker Name

Event

Date

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Overview

- What are operative standards and why are they important?
- What are the CoC Operative Standards?
- What is synoptic reporting?
- When/how should we implement the CoC Operative Standards?
- What resources can help my program implement the CoC Operative Standards?

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What are Operative Standards?

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What are Standards?

- **Standard = Repeatable, harmonized, agreed-upon, and documented way of doing something**

- Standards contain precise criteria designed to be used consistently as a rule, guideline, or definition.
  - Why? Simplify and increase reliability & effectiveness

- Result from collective work by experts in a field and provide consensus

Impact of Standards on Oncologic Outcomes

- Improvements in compliance with evidence-based guidelines may result in:

  ✓Reduced health care costs
  ✓Reduced hospital length of stay and complications
  ✓Improved long-term outcomes
  ✓Increased patient satisfaction

Smith TJ, Hillner BE. Ensuring quality cancer care by the use of clinical practice guidelines and critical pathways. *J Clin Oncol* 2001 Jun 1;19(11):2886-97

Why are Surgery Standards different?

- First time the **conduct of the surgery** is being scrutinized by CoC standards

- Many surgeons have **limited/no experience** with CoC standards and, therefore, **little knowledge** of the standards

- Imperative that we get buy in from surgeons for these standards

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What are the CoC Operative Standards?

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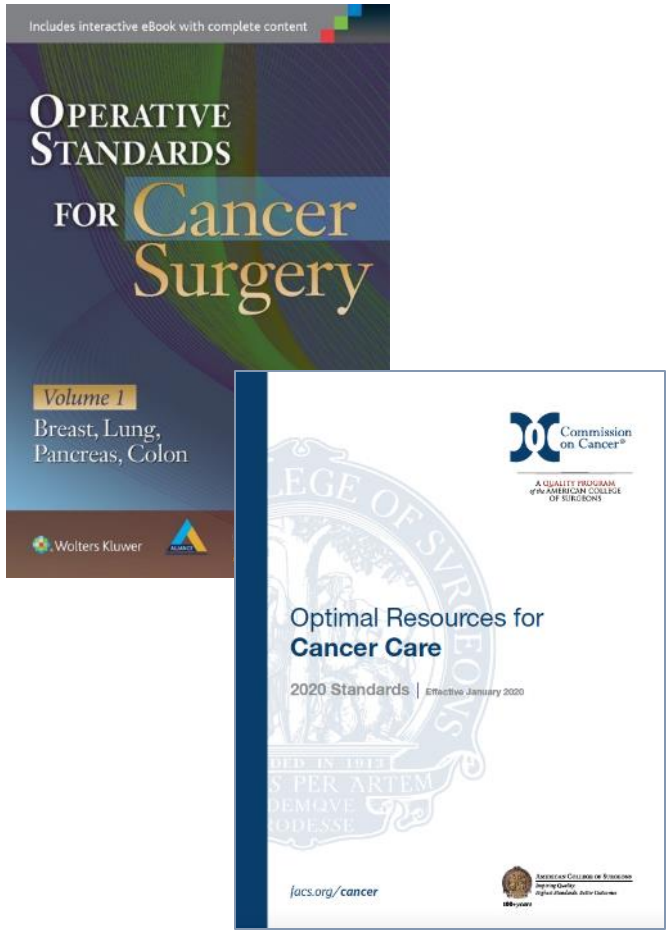
The CoC Operative Standards



Standard	Disease Site	Procedure	Documentation
5.3	Breast	Sentinel node biopsy	Operative report
5.4	Breast	Axillary dissection	Operative report
5.5	Melanoma	Wide local excision	Operative report
5.6	Colon	Colectomy (any)	Operative report
5.7	Rectum	Mid/low resection (TME)	Pathology report (CAP)
5.8	Lung	Lung resection (any)	Pathology report (CAP)

Requirements for Compliance

Programs must **(1) fulfill specific technical requirements** AND **(2) report relevant data items in synoptic format**.

Standards 5.3–5.6 include requirements for **operative reports**.

- The required elements and responses (as shown in the 2020 Standards) must be in the operative note in a distinct section.

Standards 5.7 & 5.8 include requirements for **pathology reports**.

- Pathologists must use cancer protocol templates developed by the College of American Pathologists (CAP) for rectal and lung resection (already required by Standard 5.1)

Standard 5.3: Sentinel Lymph Node Biopsy for Breast Cancer

Measures of Compliance

1. All **sentinel nodes for breast cancer are identified** using tracers or palpation, removed, and subjected to pathologic analysis.
2. Operative reports for sentinel node biopsies for breast cancer **document the required elements in synoptic format**.

If both requirements are met, the case is compliant.

Element	Response Options
Operation performed with curative intent.	Yes; No.
Tracer(s) used to identify sentinel nodes in the upfront surgery (non-neoadjuvant) setting *(select all that apply)*.	Dye; Radioactive tracer; Superparamagnetic iron oxide; Other *(with explanation)*; N/A.
Tracer(s) used to identify sentinel nodes in the neoadjuvant setting *(select all that apply)*.	Dye; Radioactive tracer; Superparamagnetic iron oxide; Other *(with explanation)*; N/A.
All nodes (colored or non-colored) present at the end of a dye-filled lymphatic channel were removed.	Yes; No *(with explanation)*; N/A.
All significantly radioactive nodes were removed.	Yes; No *(with explanation)*; N/A.
All palpably suspicious nodes were removed.	Yes; No *(with explanation)*; N/A.
Biopsy-proven positive nodes marked with clips prior to chemotherapy were identified and removed.	Yes; No *(with explanation)*; N/A.

Standard 5.4: Axillary Lymph Node Dissection for Breast Cancer

Measures of Compliance

1. Axillary lymph node dissections for breast cancer include **removal of level I and II lymph nodes within an anatomic triangle** comprised of the axillary vein, chest wall (serratus anterior), and latissimus dorsi, with **preservation of the main nerves** in the axilla.
2. Operative reports for axillary lymph node dissections for breast cancer **document the required elements in synoptic format**.

Element	Response Options
Operation performed with curative intent.	Yes; No.
Resection was performed within the boundaries of the axillary vein, chest wall (serratus anterior), and latissimus dorsi.	Yes; No *(with explanation)*.
Nerves identified and preserved during dissection *(select all that apply)*.	Long thoracic nerve; Thoracodorsal nerve; Branches of the intercostobrachial nerves; Other *(with explanation)*.
Level III nodes were removed.	Yes *(with explanation)*; No.

Standard 5.5: Wide Local Excision for Primary Cutaneous Melanoma

Measures of Compliance

1. Wide local excisions for melanoma **include the skin and all underlying subcutaneous tissue down to the fascia** (for invasive melanoma) or **the skin and the superficial subcutaneous fat** (for in situ disease). **Clinical margin width** is selected based on original Breslow thickness:
    - 1 cm for invasive melanomas less than 1 mm thick.
    - 1 to 2 cm for invasive melanomas 1 to 2 mm thick.
    - 2 cm for invasive melanomas greater than 2 mm thick.
    - At least 5 mm for melanoma in situ.
2. Operative reports for wide local excisions of primary cutaneous melanomas **document the required elements in synoptic format**.

Element	Response Options
Operation performed with curative intent	Yes; No.
Original Breslow thickness of the lesion	Melanoma in situ (MIS); _._ mm *(to the tenth of a millimeter)*.
Clinical margin width *(measured from the edge of the lesion or the prior excision scar)*	0.5 cm; 1 cm; 2 cm; Other: __ cm due to cosmetic/anatomic concerns; Other *(with explanation)*.
Depth of excision	Full-thickness skin/ subcutaneous tissue down to fascia (melanoma); Only skin and superficial subcutaneous fat (melanoma in situ); Other *(with explanation)*.

Standard 5.6: Colon Resection

Measures of Compliance

1. Resection of the tumor-bearing bowel segment and **complete lymphadenectomy is performed en bloc with proximal vascular ligation** at the origin of the primary feeding vessel(s).
2. Operative reports for resections for colon cancer **document the required elements in synoptic format**.

Element	Response Options
Operation performed with curative intent	Yes; No.
Tumor location	Cecum; Ascending colon; Hepatic flexure; Transverse colon; Splenic flexure; Descending colon; Sigmoid colon; Rectosigmoid junction; Rectum, NOS; Colon, NOS.
Extent of colon and vascular resection	Right hemicolectomy – ileocolic, right colic (if present); Extended right hemicolectomy – ileocolic, right colic (if present), middle colic; Transverse colectomy – middle colic; Splenic flexure resection – middle and ascending left colic; Left hemicolectomy – inferior mesenteric; Sigmoid resection – inferior mesenteric; Total abdominal colectomy – ileocolic, right colic (if present), middle colic, inferior mesenteric; Total abdominal colectomy, with proctectomy – ileocolic, right colic (if present), middle colic, inferior mesenteric, superior and middle rectal; Other *(with explanation)*.

Standards 5.7 & 5.8

Standard 5.7: Total Mesorectal Excision

Measures of Compliance

1. Total mesorectal excision is performed for patients undergoing radical surgical resections of mid & low rectal cancers, **resulting in complete or near-complete total mesorectal excision**
2. Pathology reports for resections of rectal adenocarcinoma document the **quality of TME resection** in synoptic format

Standard 5.8: Pulmonary Resection

Measures of Compliance

1. Pulmonary resections for primary lung malignancy include lymph nodes from **at least one (named and/or numbered) hilar station and at least three distinct (named and/or numbered) mediastinal stations**
2. Pathology reports for curative pulmonary resection document the **nodal stations examined by the pathologist** in synoptic format

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What is Synoptic Reporting?

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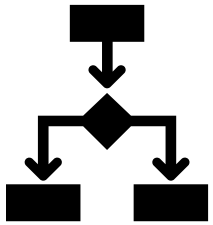
Definition of Synoptic Reporting

Standardized data elements organized as a **structured checklist or template**



Each data element's value is "filled in" using a **pre-specified format** to ensure interoperability of information

- The information being sought is standardized
- The options for each variable are constrained to a pre-defined set of responses

Synoptic reports allow information to be easily **collected, stored, and retrieved**

Narrative Reporting vs. Synoptic Reporting

Narrative reporting…

- May be constructed using pre-determined data fields and pre-determined responses
- Constructed by dictation, free text, smarttext, etc.
- May use standardized terminology
- Presented in a **prose** format
- Prone to **omission** of necessary data and **inconsistencies** in language and formatting
- May allow for discrete data capture

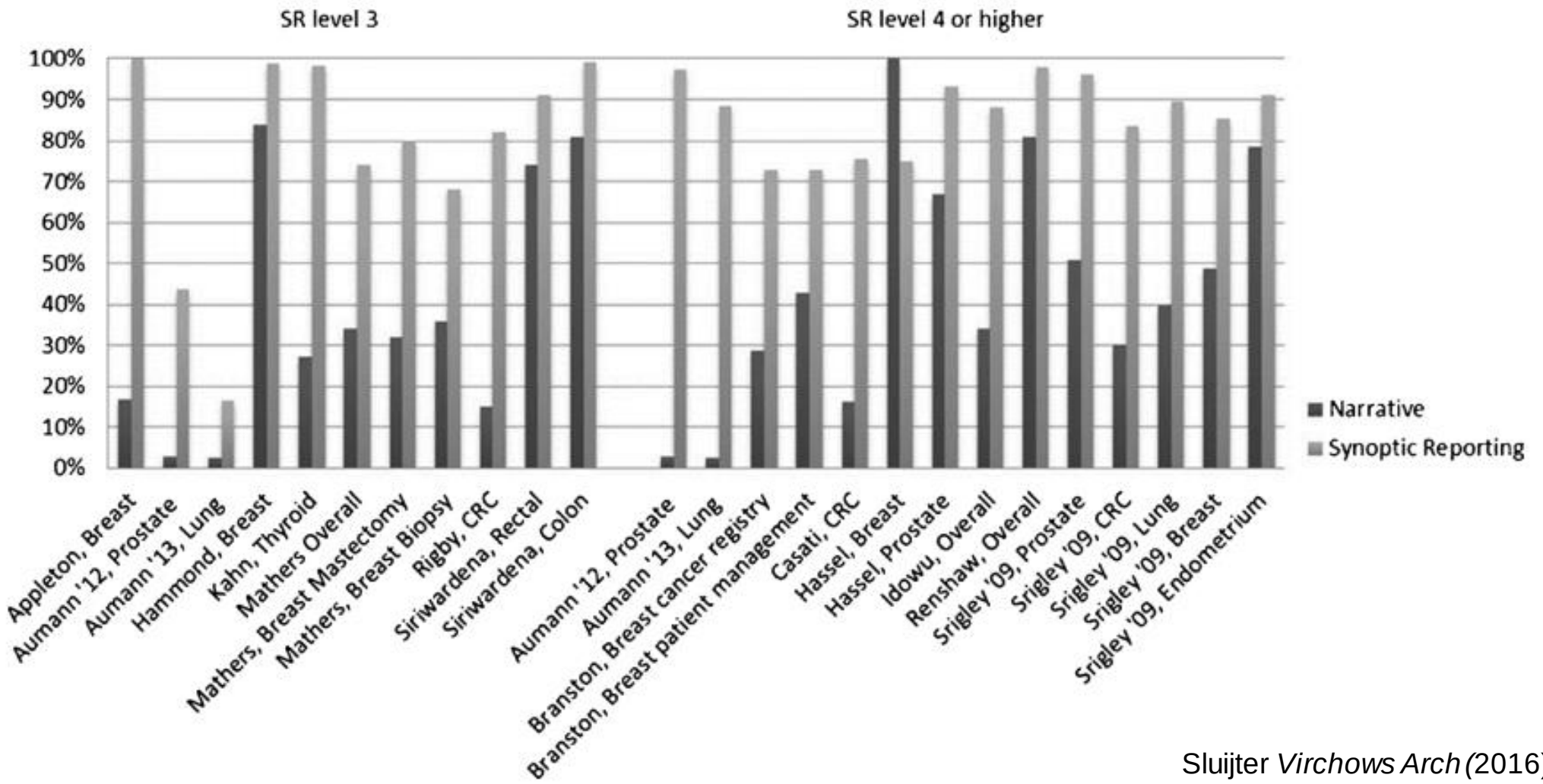
Synoptic reporting…

- **Always** constructed using pre-determined data fields and pre-determined responses
- Typically created using a **tool**
- **Always** uses standardized terminology
- Presented in **checklist** format
- **Always** allows for discrete data capture
  - Information is formatted so it can be collected, stored, and is easily retrievable for data repositories
  - Can automatically populate data from the EHR

A note may (ideally?) be a combination of the two!

Hieken et al., Technical Standards for Cancer Surgery: Improving Patient Care through Synoptic Operative Reporting. *Ann Surg Oncol* 2022.
Hieken et al., ASO Author Reflections: Surgeons Adding Value – Are Synoptic Operative Reports a Step Forward in Cancer Care? *Ann Surg Oncol 2022.*

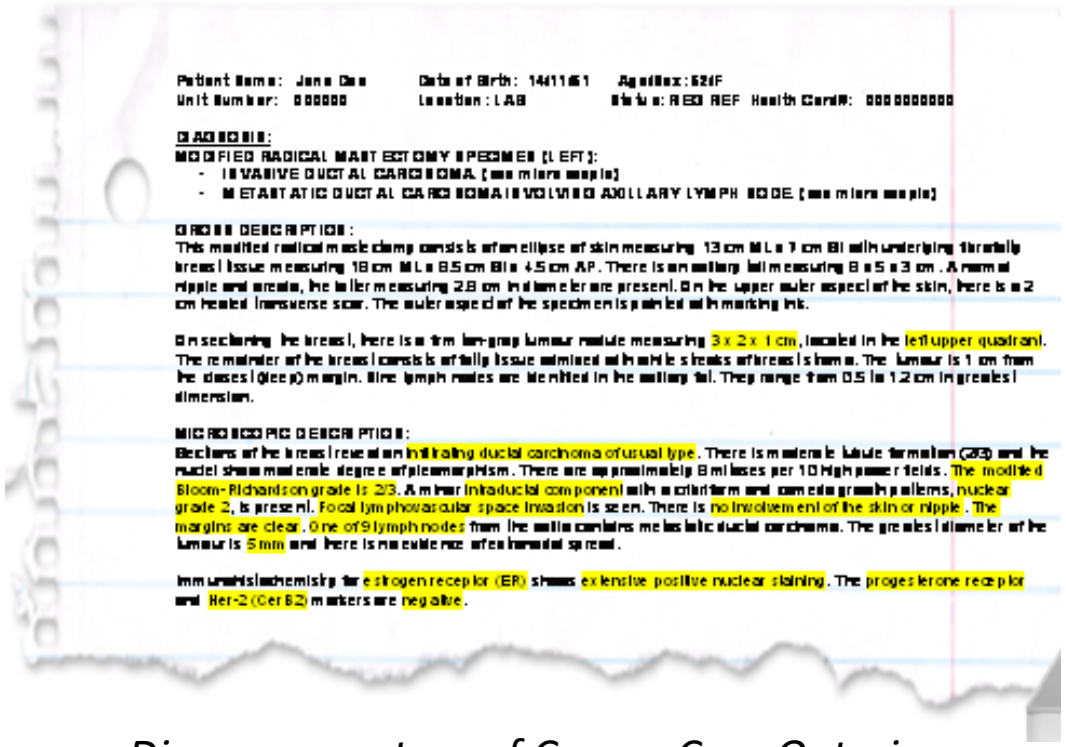
Accuracy of Pathology Reports – Systematic Review



Sluijter *Virchows Arch* (2016) 268:639-649

Shoe on the other foot…

Narrative Path Report



Patient Name: Jane Doe Date of Birth: 1441161 Age/Sex: 62F
Unit Number: 000000 Location: LAB Status: REG REF Health Card#: 0000000000

DIAGNOSIS:
MODIFIED RADICAL MASTECTOMY SPECIMEN (LEFT):
- INVASIVE DUCTAL CARCINOMA (see micro comp(s))
- METASTATIC DUCTAL CARCINOMA INVOLVING AXILLARY LYMPH NODE (see micro comp(s))

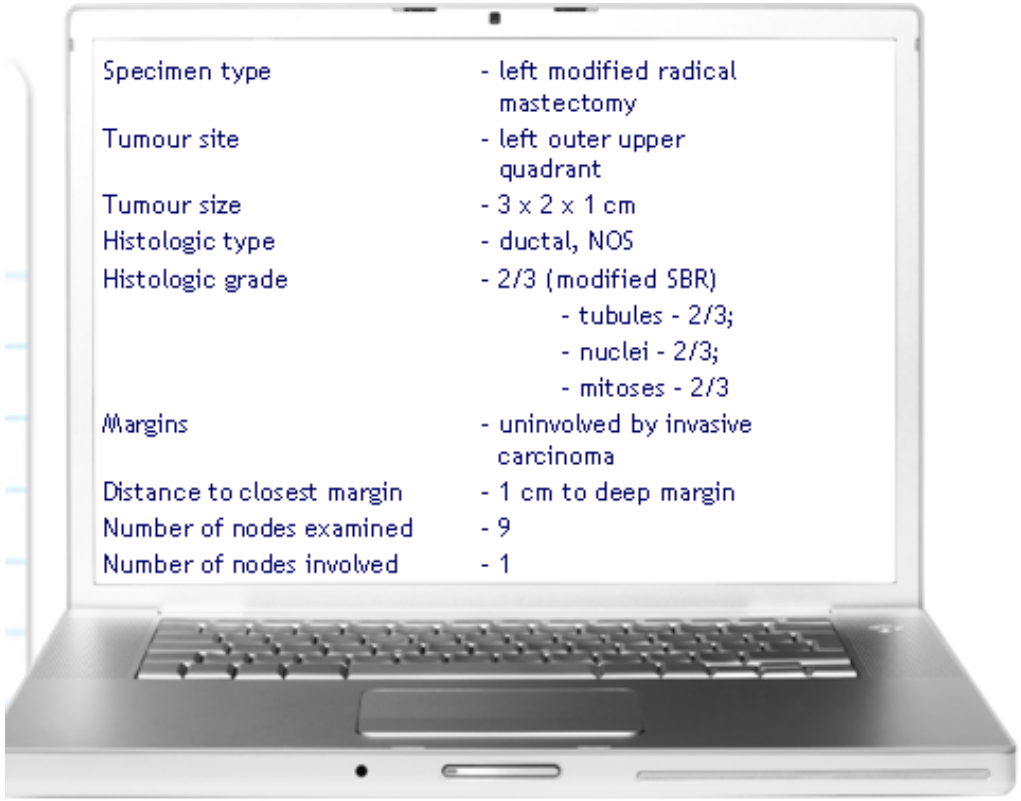
GROSS DESCRIPTION:
This modified radical mastectomy consists of an ellipse of skin measuring 13 cm ML x 7 cm SI with underlying fibrofatty breast tissue measuring 18 cm ML x 8.5 cm SI x 4.5 cm AP. There is an axillary tail measuring 8 x 5 x 3 cm. A normal nipple and areola, the latter measuring 2.8 cm in diameter are present. On the upper outer aspect of the skin, there is a 2 cm healed transverse scar. The outer aspect of the specimen is painted with marking ink.

On sectioning the breast, there is a firm tan-grey tumour residue measuring 3 x 2 x 1 cm, located in the left upper quadrant. The remainder of the breast consists of fatty tissue admixed with white streaks of breast stroma. The tumour is 1 cm from the closest (deep) margin. Nine lymph nodes are identified in the axillary tail. They range from 0.5 to 1.2 cm in greatest dimension.

MICROSCOPIC DESCRIPTION:
Sections of the breast resection reveal infiltrating ductal carcinoma of usual type. There is moderate tubule formation (2/3) and the nuclei show moderate degree of pleomorphism. There are approximately 8 mitoses per 10 high power fields. The modified Bloom-Richardson grade is 2/3. A minor intraductal component with a cribriform and comedo growth patterns, nuclear grade 2, is present. Focal lymphovascular space invasion is seen. There is no involvement of the skin or nipple. The margins are clear. One of 9 lymph nodes from the axilla contains metastatic ductal carcinoma. The greatest diameter of the tumour is 5 mm and there is no evidence of extranodal spread.

Immunohistochemistry for estrogen receptor (ER) shows extensive positive nuclear staining. The progesterone receptor and Her-2 (CerB2) markers are negative.

CAP Synoptic Report



Specimen type	- left modified radical mastectomy
Tumour site	- left outer upper quadrant
Tumour size	- 3 x 2 x 1 cm
Histologic type	- ductal, NOS
Histologic grade	- 2/3 (modified SBR) - tubules - 2/3; - nuclei - 2/3; - mitoses - 2/3
Margins	- uninvolved by invasive carcinoma
Distance to closest margin	- 1 cm to deep margin
Number of nodes examined	- 9
Number of nodes involved	- 1

- *Diagram courtesy of Cancer Care Ontario*
- *Slide courtesy of Samantha Spencer, MD*

Synoptic vs. Narrative Reports

Outcome or Subgroup	# Studies	N	Statistical Method	Effect Estimate – Synoptic v. Narrative
Efficiency				
Time to complete (min)	6	891	Mean Difference (95% CI)	−0.86 m [-1.17, −0.55]
Time to verified report in EMR (hours)	1	336	Mean Difference	−373.53 h
Quality				
Accuracy	1	208	Mean Difference (95% CI)	40.60% [38.54, 42.66]
Reduction Critical Error (% of op notes)	1	110	Mean Difference	32.13%
Reduction Error Rate (% of op notes)	1	110	Mean Difference	75.26%
Validity	1	208	Mean Difference (95% CI)	3.40% [2.02, 4.78]
Cost ($/note)	2	72	Mean Difference	-$8.27

Stogryn et al., Am J Surg 2019. 218(3): 624-30.

What is the value of Synoptic Operative Reporting?

- Improve accuracy of documentation
- Improve efficiency of data entry and data abstraction
- Reinforce education (can emphasize the critical elements of oncologic operations)
- Reduce variability in care
- Improve quality of cancer care

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When/How Should We Implement the CoC Operative Standards?

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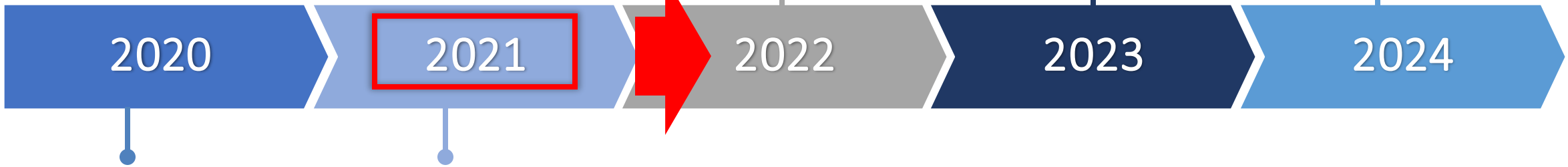
Timeline for Standards 5.7-5.8

Compliance and Site Reviews →



Communicate requirements & engage clinicians in implementation plans

Measure compliance with synoptic pathology reports and assure high reliability for future site visits

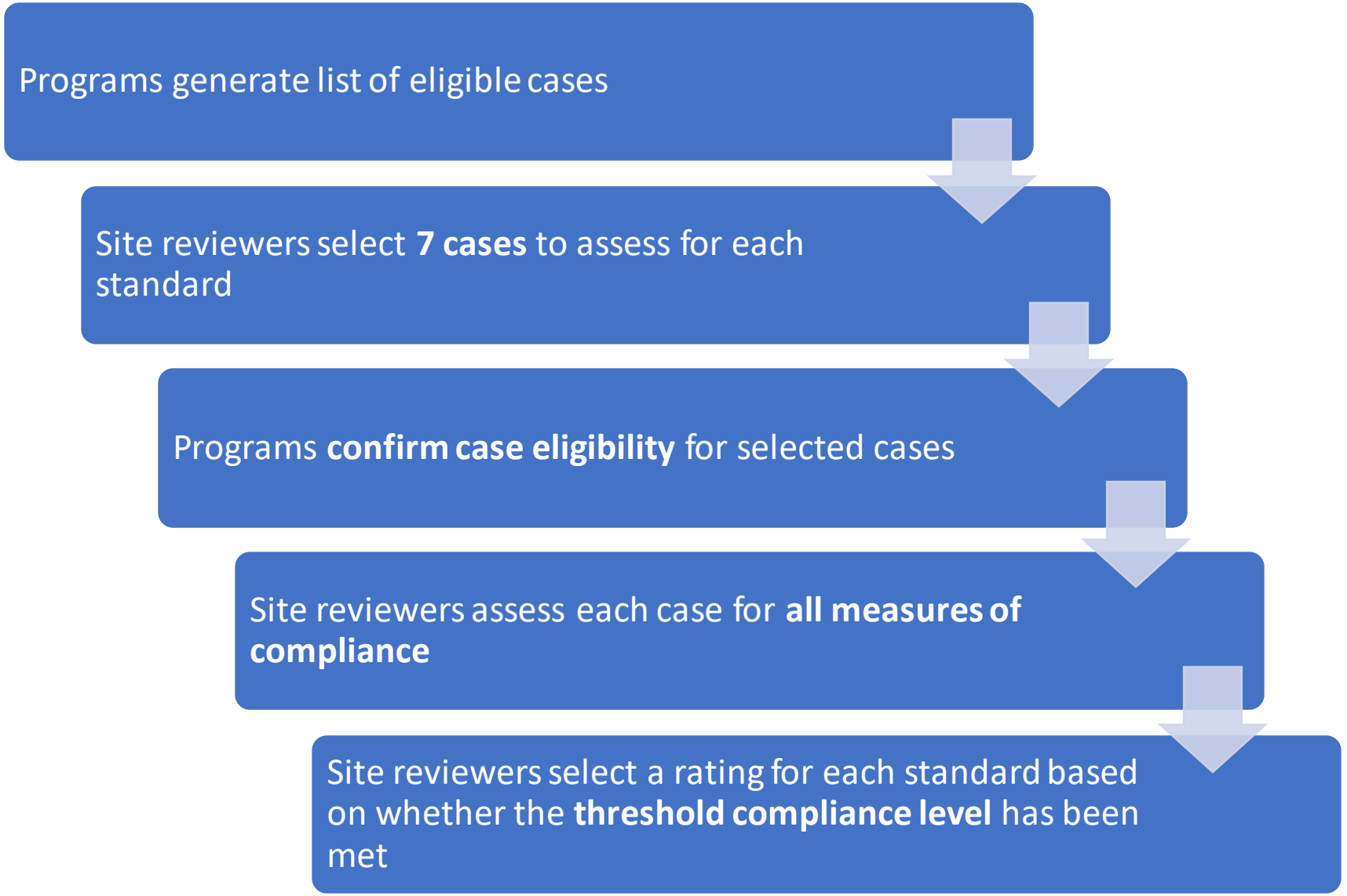
Site Visits review 2021 pathology reports for **70% compliance**

Site Visits review 2021 & 2022 pathology reports for **80% compliance**

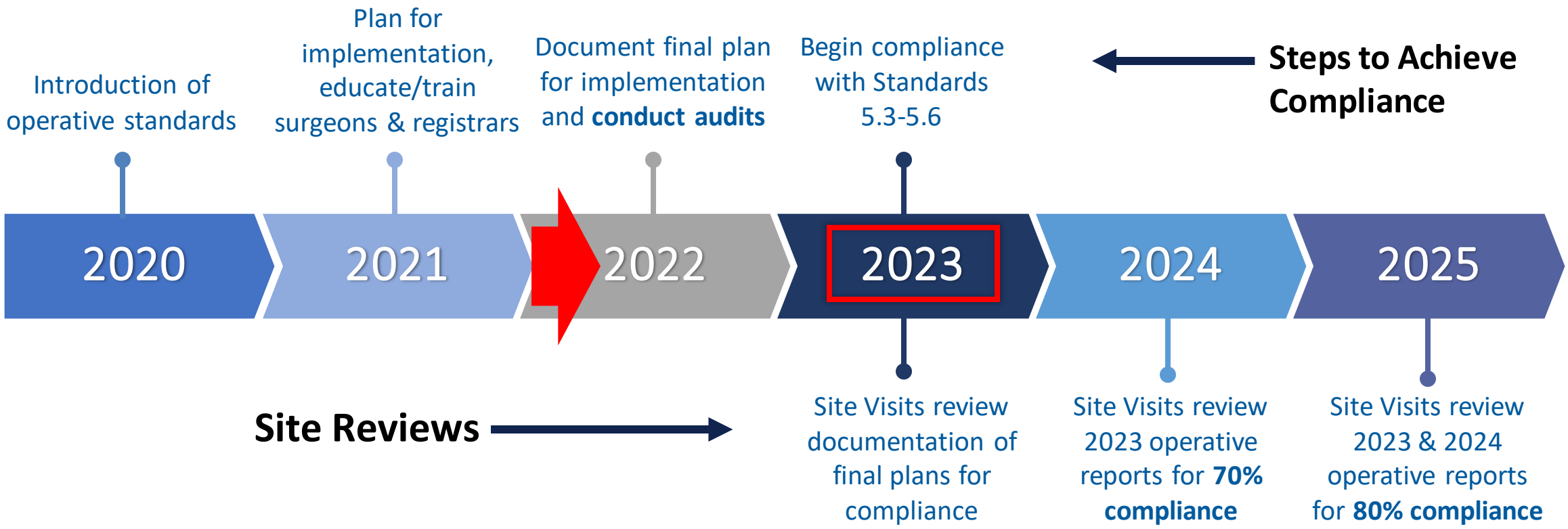
Site Visits review 2021, 2022, and 2023 pathology reports for **80% compliance**

← **Steps to Achieve Compliance**

Site Visit Process



Timeline for Standards 5.3-5.6



Current Options for Synoptic Operative Reporting

01

Create Institutional Synoptic Templates

- Use required elements and responses from the CoC 2020 Standards manual
- Can be done using smart phrases/smart tools to supplement a traditional narrative operative report

02

Use Commercial Options

- Tools developed by vendors that include CoC required elements and responses
- Current vendor list available on ACS website: Commercial Options

03

Download Fillable PDF Forms

- Available for download from Standards Resource Library in QPort
- Stop-gap measure to allow programs to ensure compliance with synoptic formatting requirements

Checklist for CoC Programs in 2022

- ❑ Conduct self-audits to assess compliance levels *(recommended)*
- ❑ Document formal plans for how your program will implement synoptic operative reporting starting Jan 1, 2023
- ❑ Implement synoptic operative reporting in preparation for Standards 5.3–5.6
- ❑ Ensure CAP synoptic pathology reports are in use for rectal cancer and lung cancer cases (Standards 5.7 & 5.8)
- ❑ Prepare for site visits *(if your program is being reviewed in 2022)*

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What Resources are Available to Help My Program?

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Educating Programs About the CoC Operative Standards & Requirements

Brief videos

- Introduction to the Operative Standards
- CoC Standards 5.7 and 5.8
- Synoptic vs. Narrative Reporting
- Synoptic Operative Reporting Roadmap

Webinars

- Requirements for CoC Standards 5.7, 5.8, 5.3, 5.4, and 5.5
- Implementation Strategies for Synoptic Operative Reporting
- Best Practices for Compliance with CoC Standards 5.7 & 5.8
- 2022 Site Visit Preparation for 5.7 & 5.8
- Implementation of the CoC Operative Standards

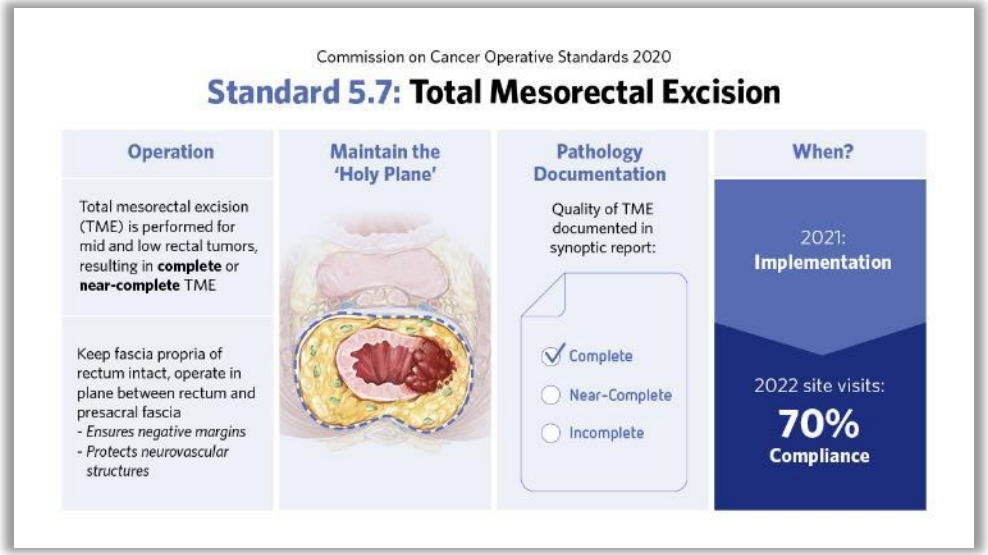
Visual abstracts

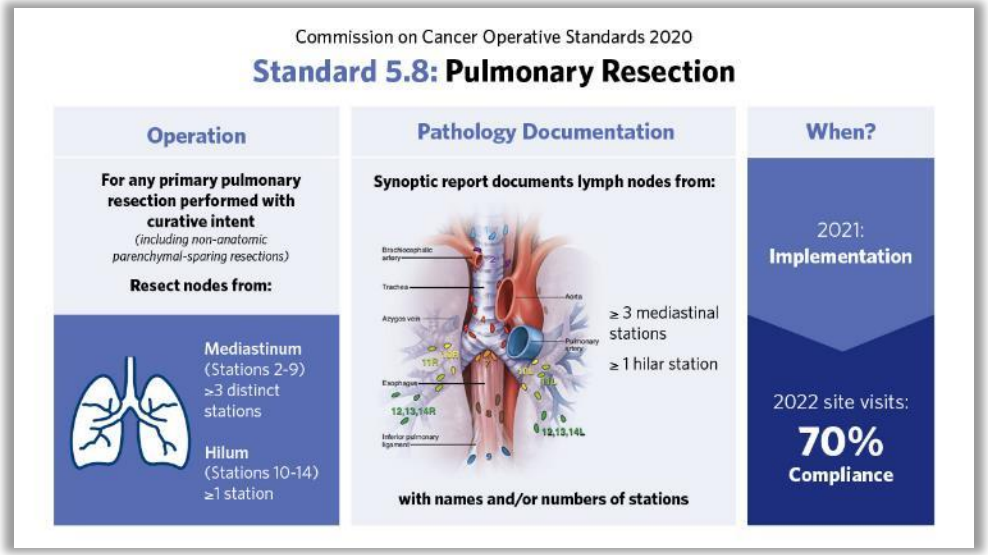
- Standard 5.7
- Standard 5.8
- Standard 5.3
- Standard 5.4
- Synoptic reporting for Standards 5.3-5.6
- Site visit process

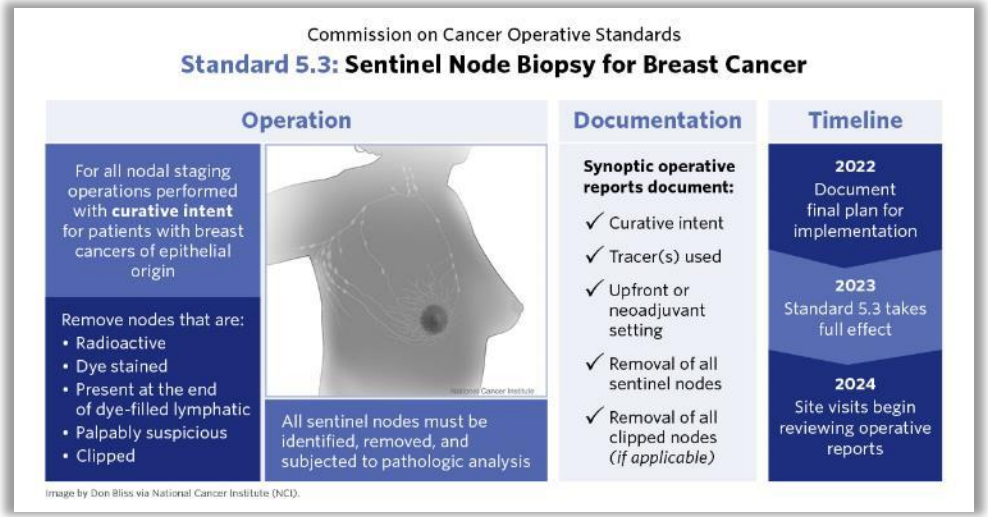
Additional resources

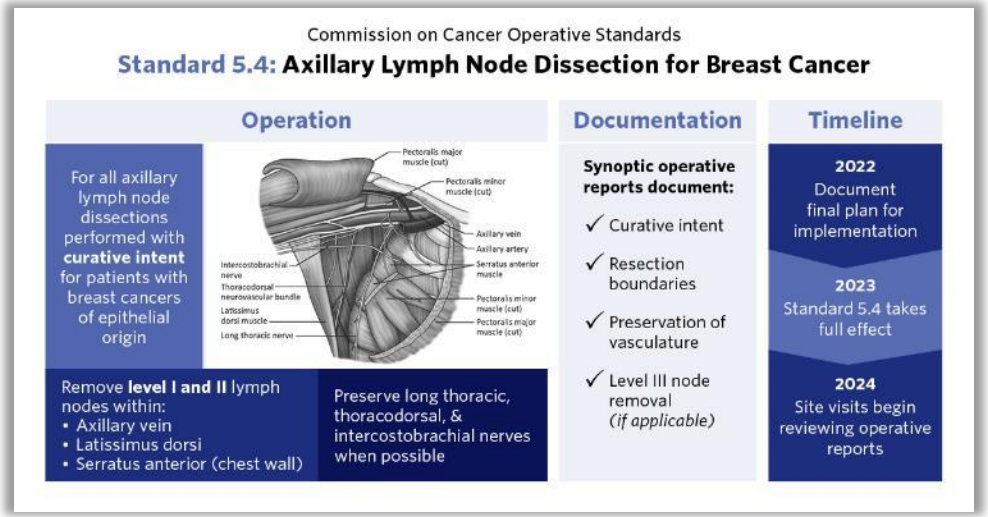
- Comprehensive FAQ document with questions from webinars, CAnswer Forum, etc.
- Operative Standards Toolkit

Visual abstracts









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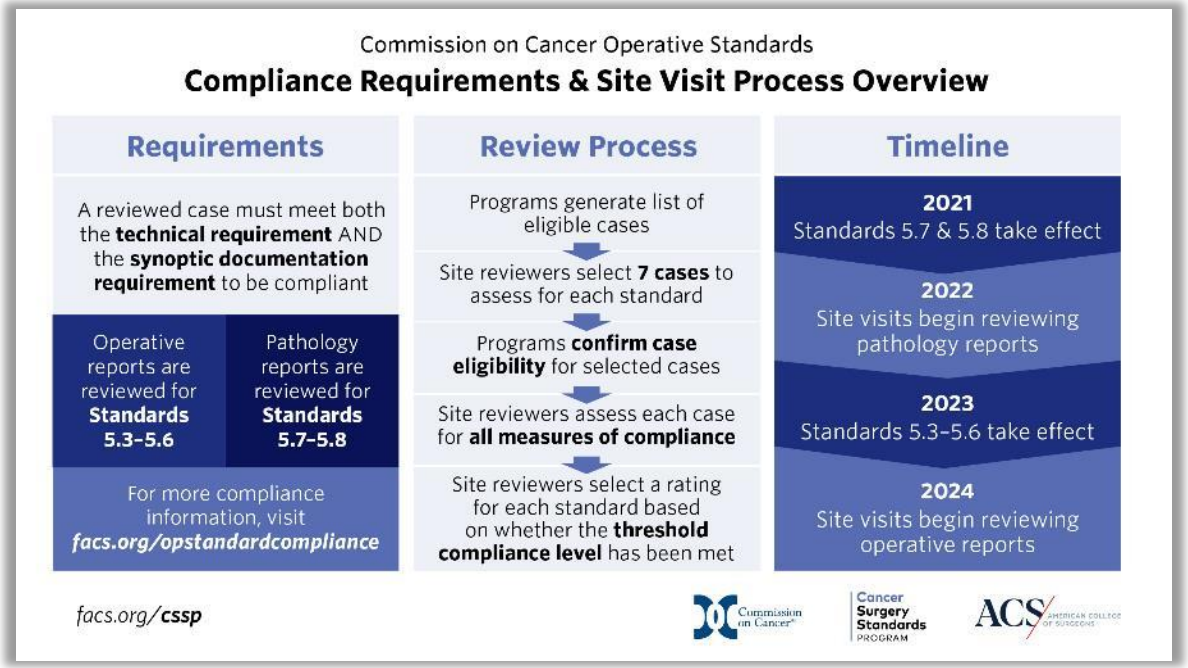
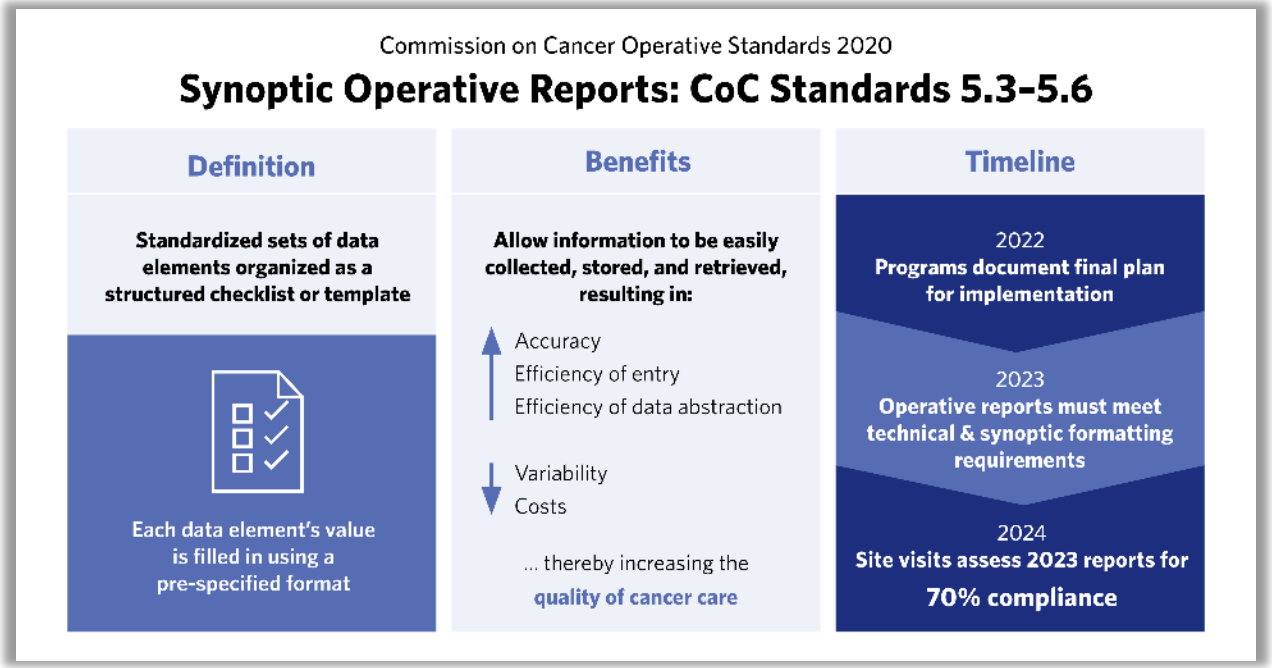
Visual abstracts





Operative Standards Toolkit

All resources can be found on the Operative Standards Toolkit, organized by topic.

facs.org/opstandardtoolkit

Questions? *cssp@facs.org*

General Resources

Optimal Resources for Cancer Care (2020 Standards)
facs.org/quality-programs/cancer/coc/standards/2020

CoC Operative Standards
facs.org/quality-programs/cancer/coc/standards/2020/operative-standards

Operative Standards Toolkit
facs.org/opstandardtoolkit

Operative Standards for Cancer Surgery (OSCS) **Manuals**
facs.org/oscs

ACS Cancer Surgery Standards Program (CSSP)
facs.org/cssp