

# Assessing the Effectiveness and Significance of the Operative Standards Program (AESOP)

**Lesly A. Dossett, MD, MPH**

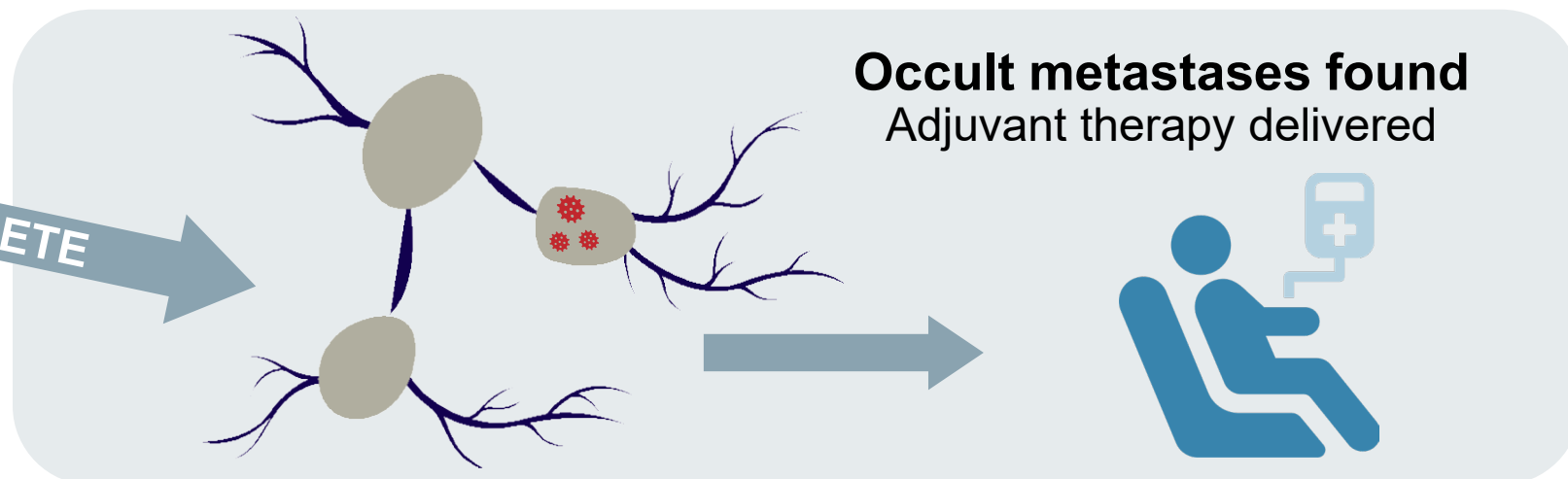
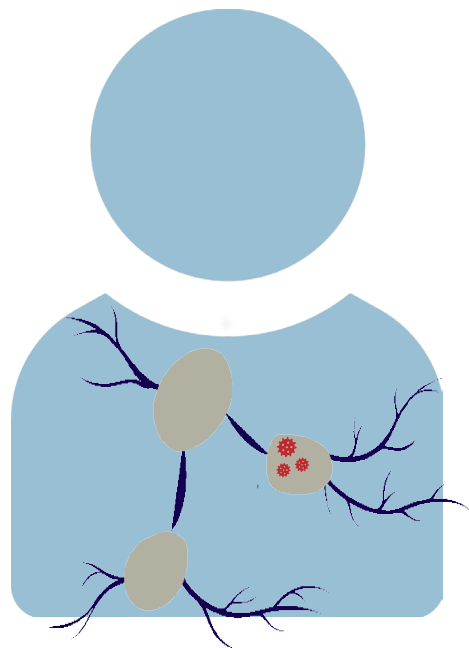
Maud T. Lane Research Professor for Cancer Quality Improvement  
Chief, Division of Surgical Oncology; University of Michigan  
Chair Implementation Committee, ACS Cancer Research Program

# High-quality surgery is the best chance for cure for many cancer patients

Two million patients were diagnosed with cancer in 2024.  
Sixty percent of them had surgery.

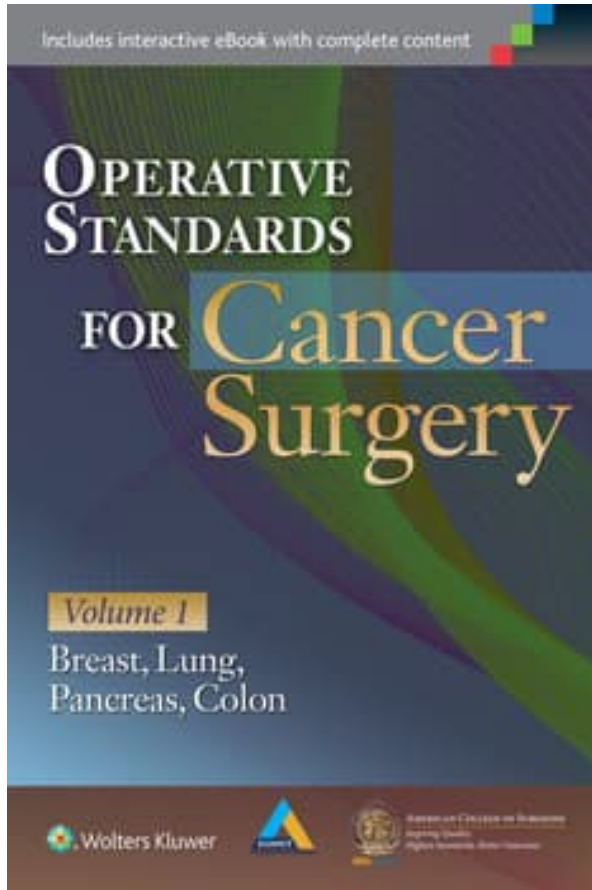
High-Quality Surgery

# Completeness of lymph node evaluation directly impacts staging accuracy



**Relatively little attention** has been paid to the potential differences in **surgical technical quality** and their impact on oncologic outcomes

# Operative Standards for Cancer Surgery



Commission on Cancer Operative Standards 2020

## Standard 5.7: Total Mesorectal Excision

| Operation                                                                                                                                                                                                                                                                                                                                                               | Maintain the 'Holy Plane' | Pathology Documentation                                                                                                                                                                                                                          | When?                                                                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <p>Total mesorectal excision (TME) is performed for mid and low rectal tumors, resulting in <b>complete</b> or <b>near-complete</b> TME</p> <p>Keep fascia propria of rectum intact, operate in plane between rectum and presacral fascia</p> <ul style="list-style-type: none"> <li>- Ensures negative margins</li> <li>- Protects neurovascular structures</li> </ul> |                           | <p>Quality of TME documented in synoptic report:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Complete</li> <li><input type="checkbox"/> Near-Complete</li> <li><input type="checkbox"/> Incomplete</li> </ul> | <p>2021: Implementation</p> <p>2022 site visits: <b>70% Compliance</b></p> |

American College of Surgeons Clinical Research Program, Katz ABHQ, Operative Standards for Cancer Surgery, Volume 2, Copyright (2018) American College of Surgeons, with permission from Wolters Kluwer.

[facs.org/cssp](https://facs.org/cssp)

Commission on Cancer<sup>®</sup>

Commission on Cancer<sup>®</sup> National Accreditation Program for Rectal Cancer

Cancer Surgery Standards PROGRAM

AMERICAN COLLEGE OF SURGEONS  
100 years  
Setting Quality. Highest Standards. Better Outcomes.

With **1400 CoC-accredited hospitals** nationwide, treating more than **70% of cancer patients**, the standards have the potential for broad impact.

# The link between true and apparent effect

## Effective Standards (True Positive)

Clinician Education  
Hawthorne Effect  
Audit & Feedback  
Accreditation Incentive

## Measurement Errors (False Positive)

Stage Migration  
Not accounting for  
temporal trends

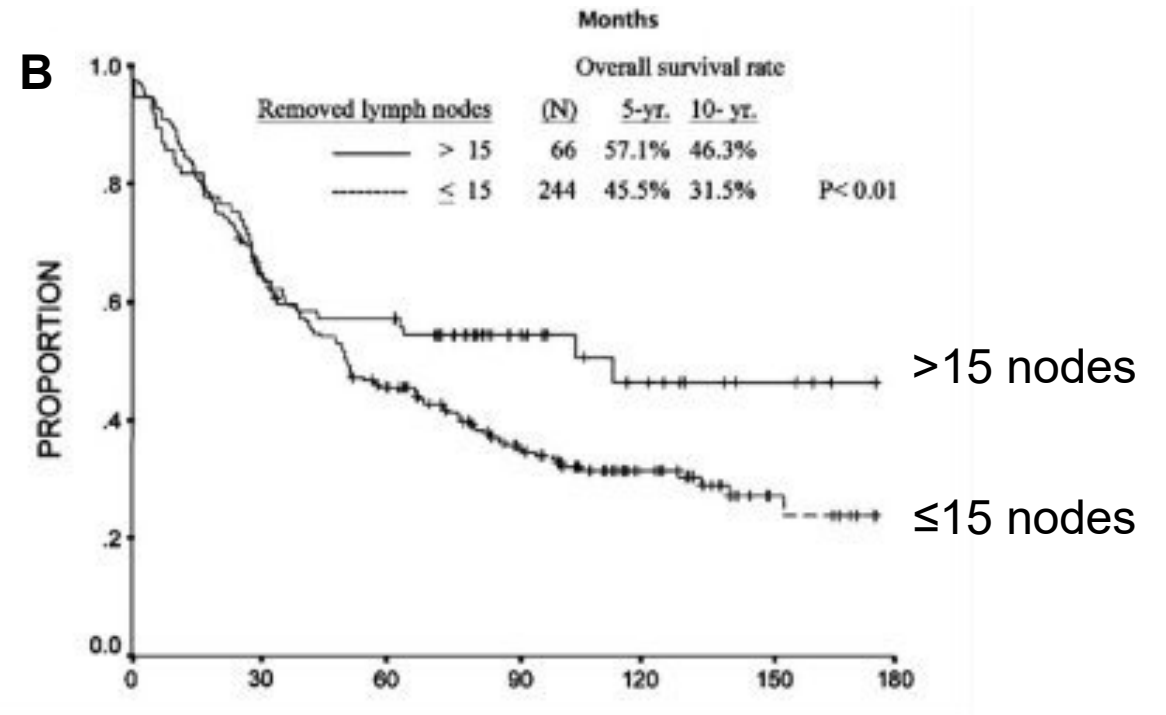
## Poor Implementation (False Negative)

Poor Reach of Standards  
Poor Fidelity to Standard

## Ineffective Standards (True Negative)

Targeting elements  
performed at high rates  
Target elements not  
impacting outcomes

# A possible improvement in outcomes?



# For some standards, there appears to be an opportunity for improvement.

Original Investigation | Oncology

## American College of Surgeons Operative Standards and Breast Cancer Outcomes

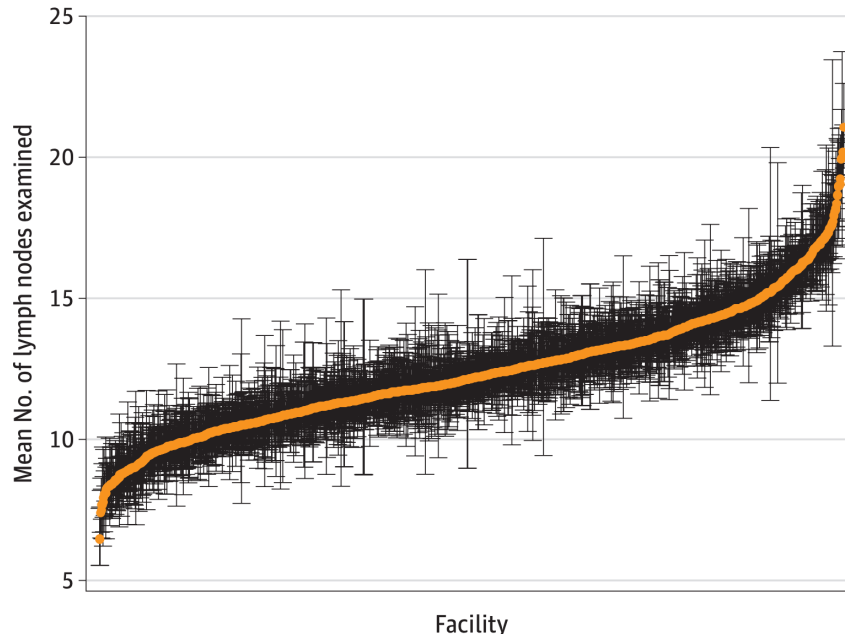
Crystal D. Taylor, MD, MPH, MS; Ton Wang, MD, MS; Alison S. Baskin, MD; Brandy Sinco, MA, MS; Tasha M. Hughes, MD, MPH; Daniel J. Boffa, MD; Judy C. Boughey, MD; Lesly A. Dossett, MD, MPH

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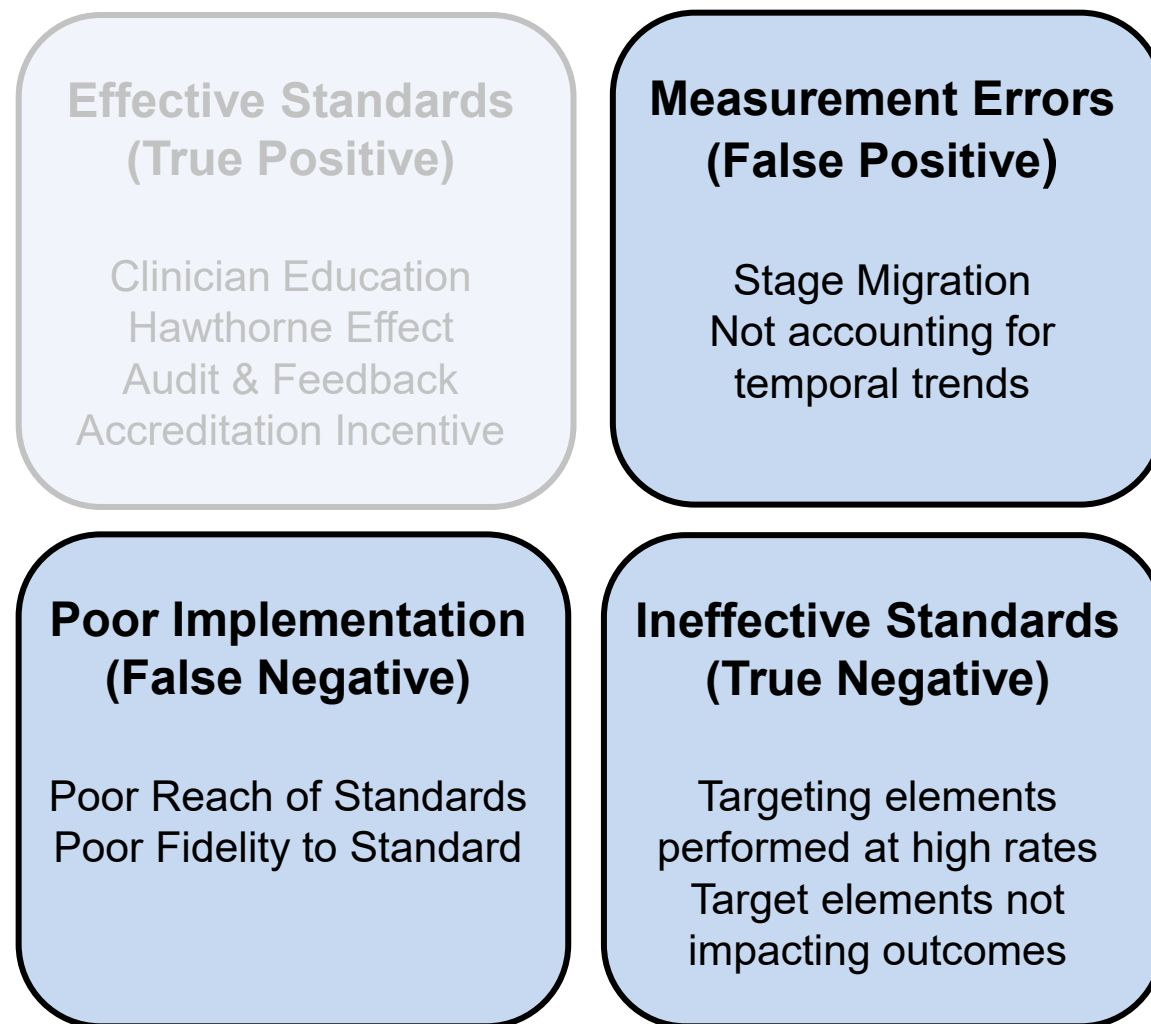
**Crystal Taylor, MD**  
Gen Surg Resident  
NCSP Fellow  
U Michigan

**B** Axillary lymph node dissection

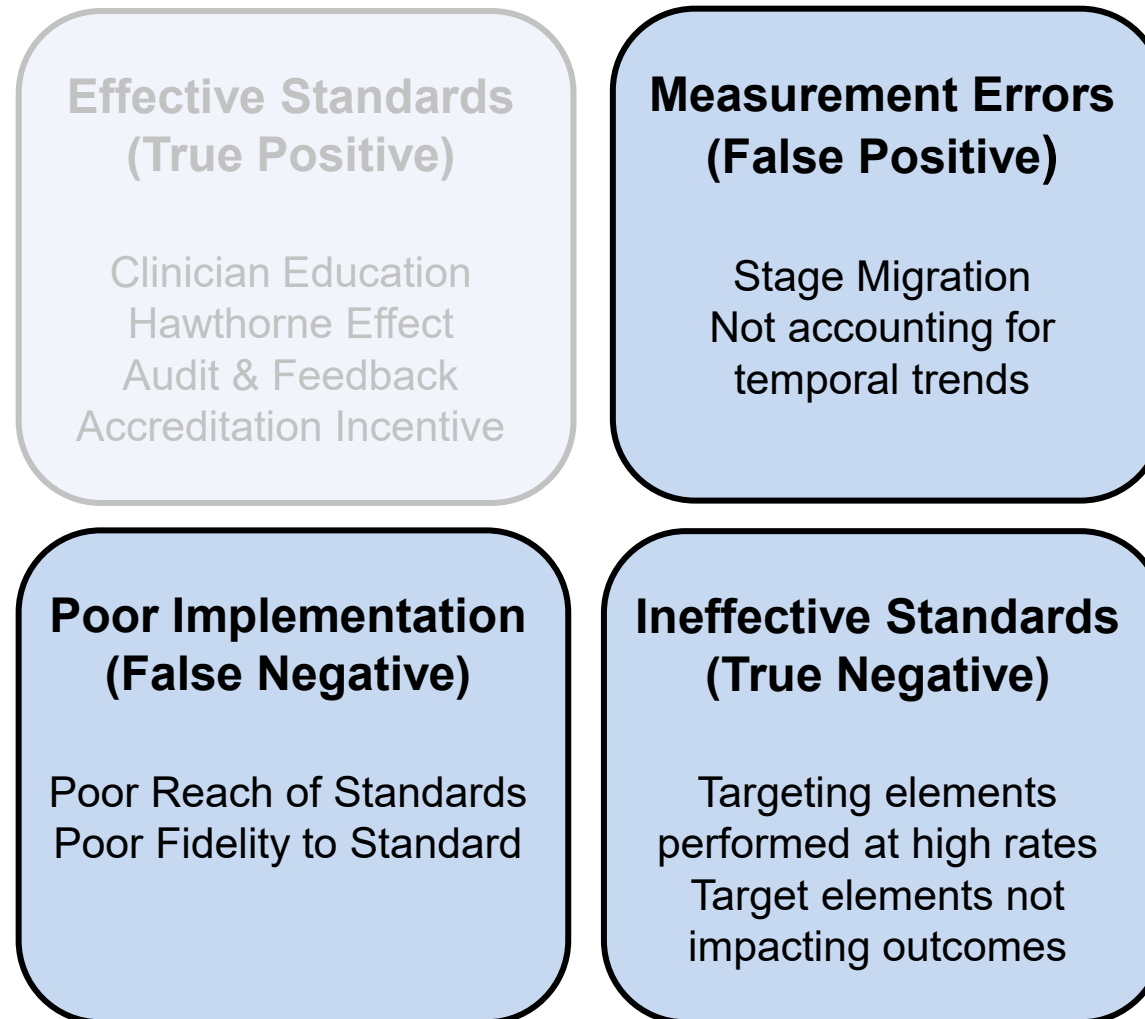


There is significant variation in lymph node yield for ALND by facility, suggesting differences in surgical technical or pathologic evaluation.

# The link between true and apparent effect

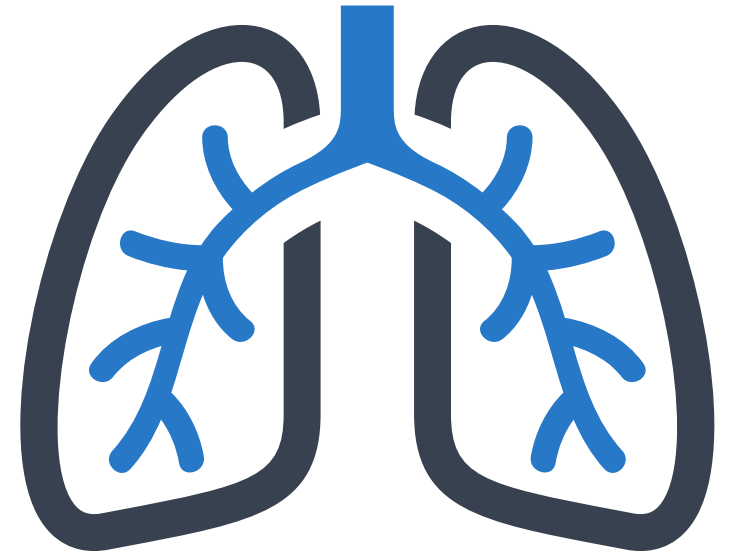


# The link between true and apparent effect

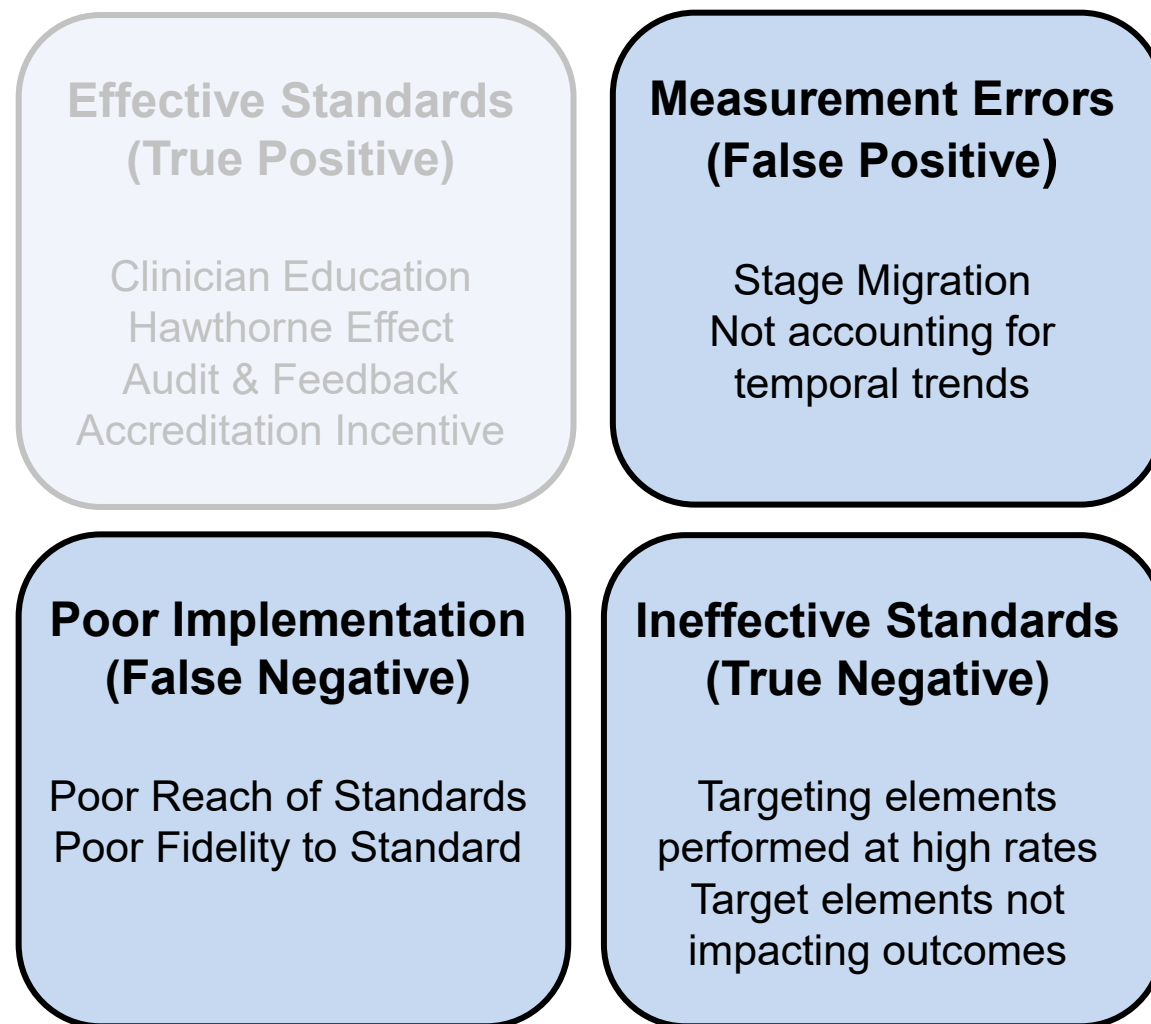


# Early Trends in Compliance with Standard 5.8 on Lymph Node Sampling in Lung Cancer

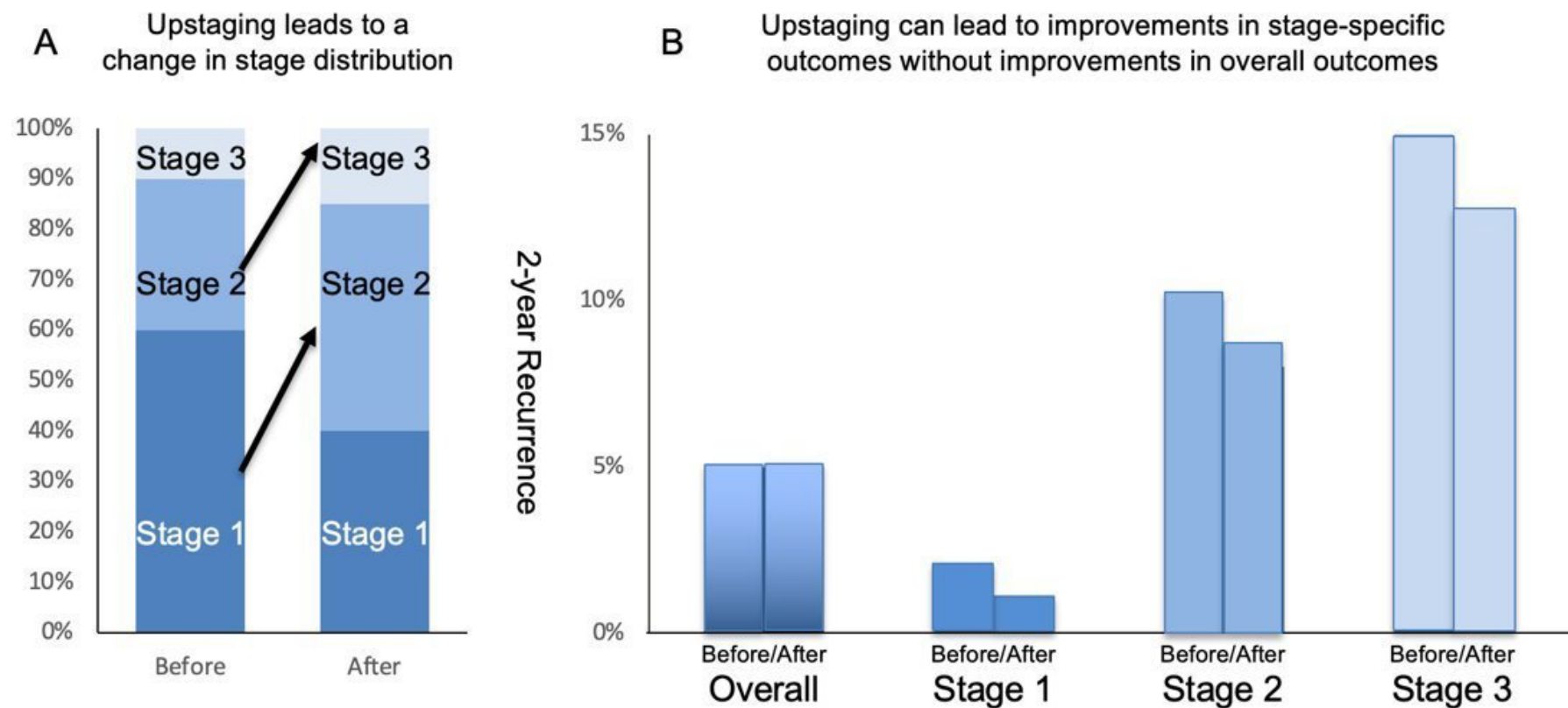
- Most (77%) CoC hospitals are performing curative-intent lung cancer surgery
- Only **about half** of sites were compliant
- No differences by site visit year (2002 vs 2023)
- NCI-designated centers and Academic programs had higher compliance rates



# The link between true and apparent effect



# The link between operative standards, stage migration, and cancer outcomes



Wang et al. Operative standards for cancer surgery. *Annals of Surgery Open*. 2024

# The link between true and apparent effect

## Effective Standards (True Positive)

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## Measurement Errors (False Positive)

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## Poor Implementation (False Negative)

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## Ineffective Standards (True Negative)

Targeting elements  
performed at high rates  
Target elements not  
impacting outcomes

# However, a ceiling effect may limit the impact of other standards.

Original Investigation | Oncology

## American College of Surgeons Operative Standards and Breast Cancer Outcomes

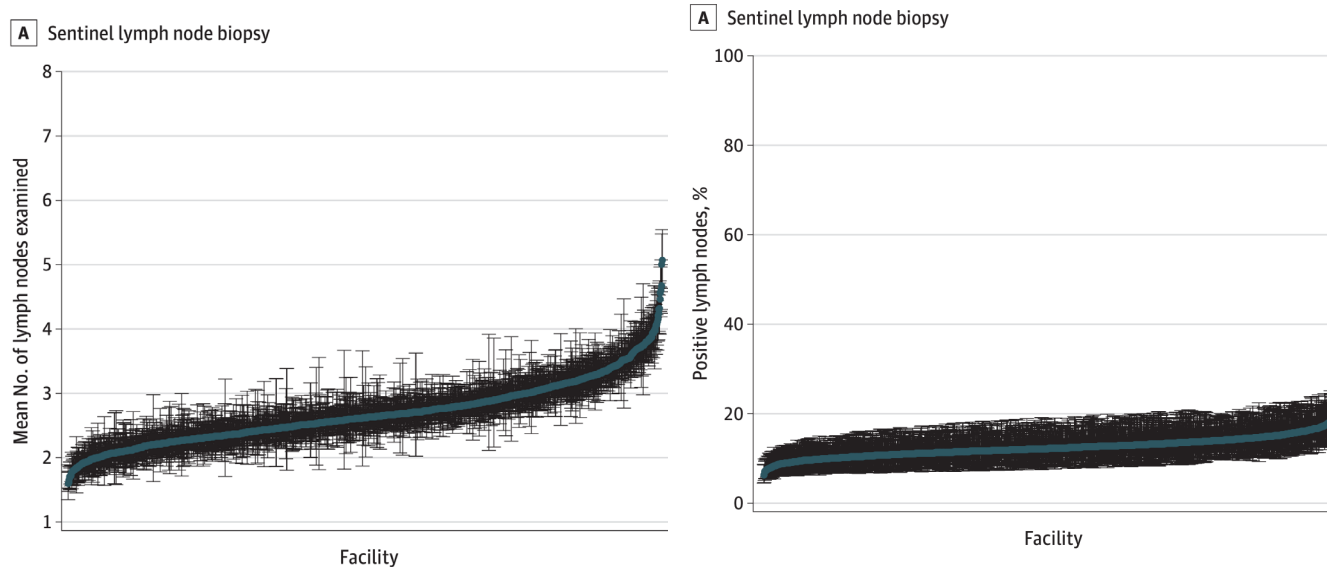
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**Crystal Taylor, MD**  
Gen Surg Resident  
NCSP Fellow  
U Michigan

Little variation in SLNB yield and nodal positivity rate.





# AESOP Study Team



**MPI Boffa**  
**Outcomes Evaluation Lead**

**MPI Dossett**  
**Implementation Evaluation Lead**

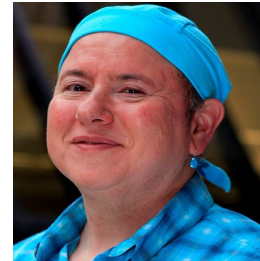
## Other Key Members



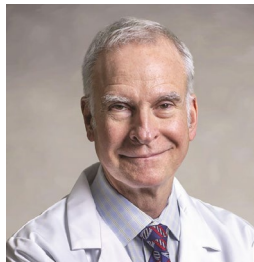
Other Key Members: Co-I Shawna Smith, Ph.D. (Implementation Scientist); Alison Baskin, MD (Postdoc Fellow); Project Manager Elizabeth Funk, MSW

Other Key Members: Co-I Norton, Ph.D. (Health Economist); Brandy Sinco, MS (UM Statistician); Brian Palis (NCDB Senior Statistician)

## Statistical Expertise



## Cancer Programs Leadership



Co-Investigators: Dr. Judy Boughey (Chair of ACS CRP) and Dr. Ronald Weigel (Medical Director of ACS Cancer Programs)

Other Key Members: Amanda Francescatti (ACS Senior Program Manager of CSSP and CRP); Dr. Tina Hieken (Chair of CSSP); Dr. Samantha Hendren (Colorectal expert); Gunita Kashyap (Registrar expert)



NATIONAL  
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INSTITUTE

## Other Key Members

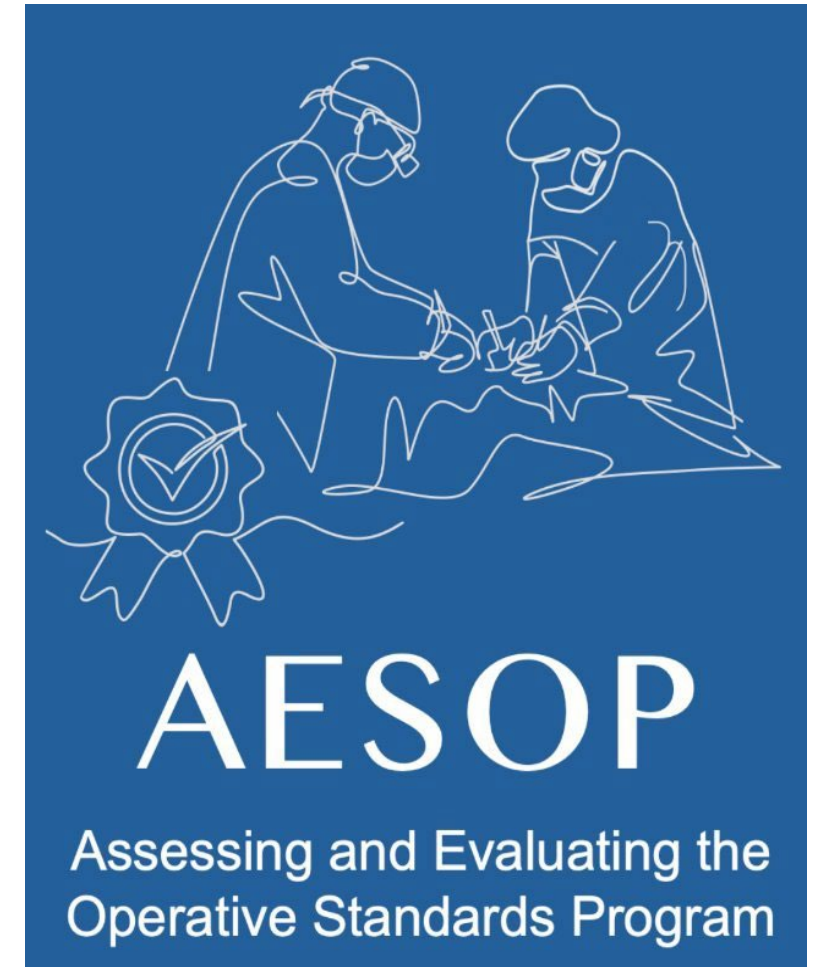


# AESOP Grant Aims

**Aim 1:** Evaluate the **implementation** of the operative standards across cancer and hospital types

**Aim 2:** Assess guideline and facility-level **barriers and facilitators of implementation**

**Aim 3:** Evaluate the **impact** of the operative standards on short-term cancer outcomes through an NCDB Special Study



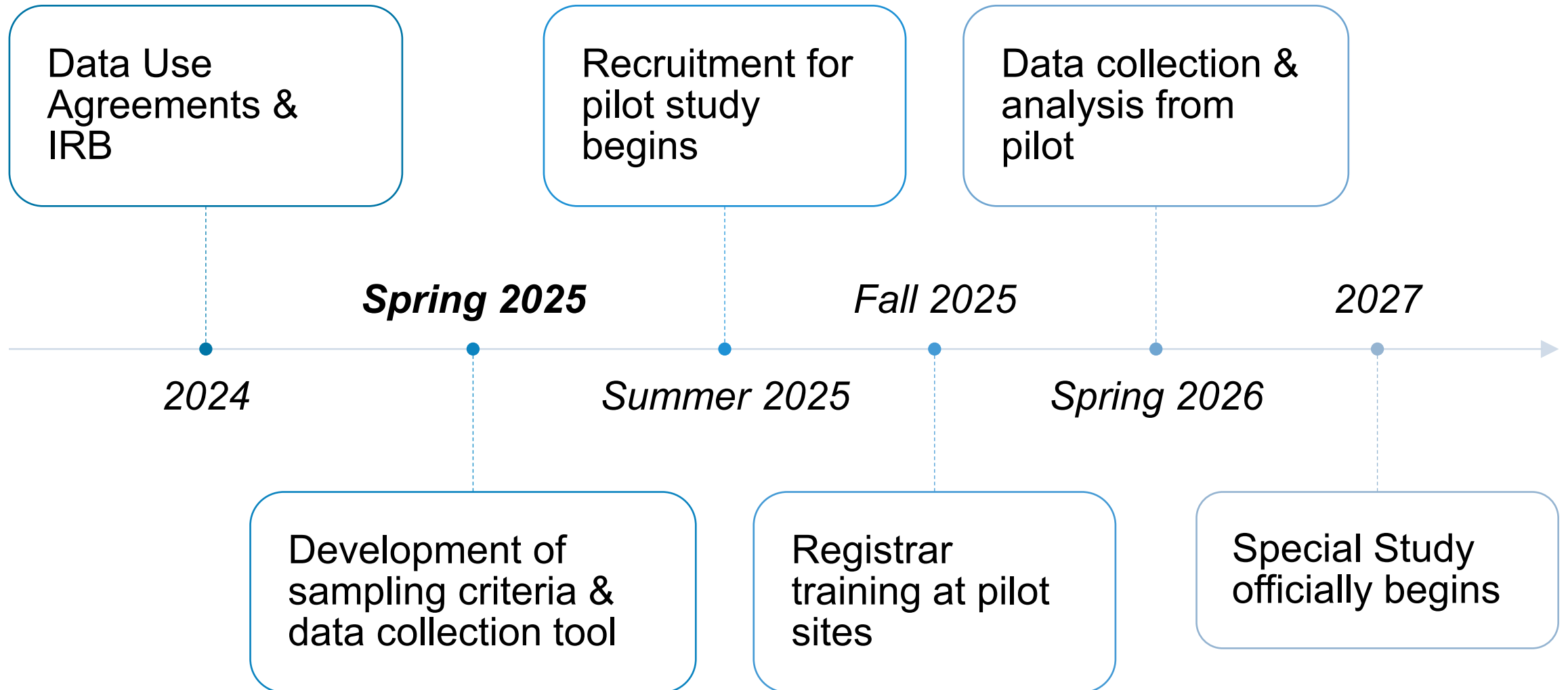
# AESOP Timeline

| Task                                                                   | Year 1 |   |   |   |  | Year 2 |   |   |   | Year 3 |   |   |   | Year 4 |   |   |   | Year 5 |   |   |   |
|------------------------------------------------------------------------|--------|---|---|---|--|--------|---|---|---|--------|---|---|---|--------|---|---|---|--------|---|---|---|
|                                                                        | 1      | 2 | 3 | 4 |  | 1      | 2 | 3 | 4 | 1      | 2 | 3 | 4 | 1      | 2 | 3 | 4 | 1      | 2 | 3 | 4 |
| Review and update regulatory approvals                                 |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Disseminate progress report & results to ACS                           |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Aim 1 – Assessment of adherence to operative standards                 |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Startup period                                                         |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Data collection during planned CoC site visits                         |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Interim data analysis (to inform sampling for Aim 2)                   |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Final data analysis                                                    |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Manuscript submission & publication                                    |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Aim 2 – To assess organizational mediators and moderators to adherence |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Select and recruit sites for study                                     |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Perform mixed methods data collection                                  |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Perform data analysis                                                  |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Manuscript Submission & Publication                                    |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Aim 3 –Interrupted Time Series Analysis (NCDB Special Study)           |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| NCDB DUA/IRB approval                                                  |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Modify online data collection instrument                               |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Recruit facilities for pilot data collection                           |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Train registrars for data collection at pilot sites                    |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Conduct pilot data collection & analysis                               |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Resolution of issues from pilot                                        |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Train remaining registrars                                             |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Special study data collection                                          |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Interrupted Time Series Analysis                                       |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |
| Manuscript Submission & Publication                                    |        |   |   |   |  |        |   |   |   |        |   |   |   |        |   |   |   |        |   |   |   |

## NCDB Special Study (Aim 3)

- Use an interrupted time-series analysis (ITSA) to evaluate the impact of the CoC Operative Standards on short-term oncologic outcomes (e.g., 2-year cancer recurrence)
- Data from all 1400 CoC sites (6 patients per standard)
- New opportunities to explore the collection of cancer recurrence data through the NCDB

# Special Study Planning



# Pilot Special Study... Coming Soon!



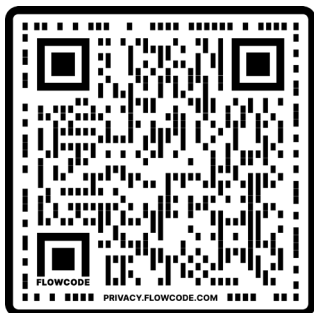
- Beginning in **April 2026** with registrars from 25 CoC sites
- Registrar training on data collection via webinars and instructions document

*Scan this QR code and complete the form if interested in participating in the Pilot Study*

# Questions?

*Further questions can be directed to [AESOP@facs.org](mailto:AESOP@facs.org)*

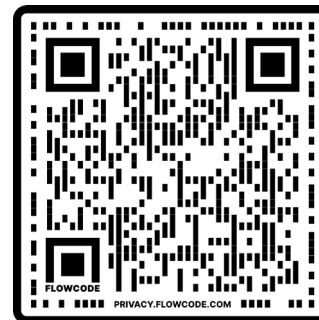
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