ASCO’s Quality Training Program

Project Title: Epic Staging Improvement Project

Presenter’s Name: Dr. Linda Bosserman

Institution: City of Hope

Date: June 28th, 2019
Institutional Overview

Duarte, CA
Academic Oncology and Hematology Practice
And 31 sites and growing in Network Practice as well as a Research Institute
217 Bed Hospital
Over 55% of patients with breast and prostate cancer have no staging data on the staging forms in Epic and only 3% of breast and prostate cancer patients have complete staging in Epic at City of Hope clinics within one month of diagnosis. This has negative impacts on continuity of care, research/clinical outcomes and analysis, authorizations and patient outcomes.
Team Members

Team Leader:
Dr. Linda Bosserman

Team Members:
Breast MO: Dr. Niki Patel, Dr. Sayeh Lavasani, Dr. Mina Sedrak
   APPs: Karen Francis
Breast Surgery: Dr. Laura Kruper, Dr. Leslie Taylor, Dr. Veronica Jones, Dr. Lisa Yee, Dr. Jonathan Yim
   APPs: Rowena Meyer, Carmen Sedgeman, Louise Cheung-Wong, Lori Rezabek-Kells, Karyn Francis
   Fellow: Dr. Elizabeth Blakely
Prostate MO: Dr. Tanya Dorff, Dr. Cy Stein
   APPs: Ben Gerendash
Urology: Dr. Jonathan Yamzon, Dr. Bertram Yuh, Dr. Clayton Lau
   APPs: Felicia Kennard, Rita Poquette, Erwin Villavert, Cecilio Cay
QTP Team: Denise Morse, Kathy McNeese, Ridaa Atcha, Lois Williams, Claire Hy-Hincy

Project Sponsors:
Dr. Ravi Salgia, Dr. Vijay Trisal, Vince Jensen, Priscilla Ohanesian
Current State Process Flow: Staging (Medical Oncology and Breast Surgery)

- If aware and familiar with staging workflow:
  - If there is agreement on team workflow,
  - No prompt to complete this. Dependent on if the physician remembers to enter this data.
- Not necessarily complete staging (any input counts)

**Physician**

1. MD sees patient
2. New diagnosis or progression?
   - Yes: Use the patient clinical staging information in Epic
   - No: Is pathology staging available?
     - Yes: Work up and pathologic staging
     - No: Enter and complete pathologic staging into Epic
3. Is pathological staging COH?
   - Yes: Confirm pathologic stage.
   - No: Update after CDI review if any changes.
4. End

Create treatment plan.

Enter and complete clinical staging information in Epic

Work up and pathologic staging

Enter and complete pathologic staging into Epic
Process Map

Current State Process Flow: Staging (Urology only)

- If aware and familiar with staging workflow.
- If there is agreement on team workflow.
- No prompt to complete this. Dependent on if the physician remembers to enter this data.
- Not necessarily complete staging (any input counts)

MD sees patient → Does the patient have a new diagnosis or progression?

Create treatment plan → Enter and complete clinical staging information in Epic

Work up and pathologic staging → Enter and complete pathologic staging into Epic.

Is pathologic staging COH? Yes → Confirm pathologic stage → End

No → Update after COH review, if any changes.

ends in Epic and/or on Urology Smartblock (based on physician preference)

ASCO Quality Training Program
Cause & Effect Diagram

Lack of Education
- Providers and Clinic Staff are not aware that staging in Epic is currently live.
- Providers and Clinic Staff are not aware of the workflow/requirements of initial or sequential staging (no training provided)

Manpower
- High volumes limit MD time/capacity to input/complete staging
- Current regulations do not allow all Care team members to enter staging information.

Machine/System Limitations
- No prompts in Epic to complete staging
- If filled out by ACA/RN, does not automatically fall into provider WQ to sign off
- Does not prompt user to have “complete” staging

Operational/Method
- No defined workflow established
- No defined owners/roles
- No defined staging standards outlined at COH

Only 3% of Breast & Prostate patients have complete staging in Epic.
Breast and Prostate cancer are the two highest volume diagnoses per year with mid to low performance rate on using the Epic staging module.

Summary stage in the module can mean data is entered into only one field or several and closed. This is not complete staging which is needed for care and quality reporting. Further analysis was needed.
Baseline Data

When looking into the completed data fields only, performance showed opportunity for improvement.
75% of City of Hope Clinic’s breast and prostate cancer patients with a new diagnosis or a new progression will have all required elements of staging completed in the Epic staging form within one month of new diagnosis visit at center by July 2019 and by the time a therapy plan is ordered.
• Measure: Complete Staging Documentation using the EPIC Staging Module

• Patient population: New Patients and Patients progressing who are seen in the Urology clinic, Medical Oncology Prostate Clinic and Medical Oncology Breast Clinic and Breast Surgery clinic.

• Calculation methodology:
  • Numerator – Number of patients with staging completed and signed in the EPIC staging module
  • Denominator- Number of new patients or patients progressing and going on a new therapy seen in each clinic

• Data source: Enterprise Data Warehouse

• Data collection frequency: Weekly

• Data quality(any limitations): Staging will be pulled using completed and signed forms. Non signed forms will also be pulled but not counted towards the numerator. Data will be assessed for element completion within the form as well.
Complete Staging Elements

**Breast Cancer**
- Clinical or Pathologic
- Neoadjuvant or Recurrent
- $T$
- $N$
- $M$
- ER
- PR
- Her2/neu
- Oncotype Dx (ER/PR+/Her-)
- Creates Stage
- Histology
- Grade
- Stage Date
- Save and Accept (signs it)

**Prostate Cancer**
- Clinical or Pathologic
- Neoadjuvant or Recurrent
- $T$
- $N$
- $M$
- Pretreatment PSA
- Histology Grade Group
  - Gleason
  - # cores +
- Creates Stage
- Histology
- Staging Date
- Save and Accept (signs it)

**Key:**
- **Black:** Required elements
- **Orange:** enter if appropriate
- **Blue:** Automatically calculated
Prioritized List of Changes (Priority/Pay –Off Matrix)

- **High Impact**
  - BPA Reminders
  - Welcome Screen
  - Standardization (Staff Education, Workflows, Consults)
  - Hire Scribes
  - Tumor Registrar
  - Optimize Staging Form w/ Dropdowns
  - RN Stages

- **Low Impact**

- **Ease of Implementation**
  - Easy
  - Difficult
## PDSA Plan (Test of Change)

<table>
<thead>
<tr>
<th>Date of PDSA Cycle</th>
<th>Description of Intervention</th>
<th>Results</th>
<th>Action Steps</th>
</tr>
</thead>
</table>
| 4/30/2019         | • Identified key elements needed for complete staging.  
                    • Provided training to Providers and Clinical support staff on complete staging. | Increase in Complete Staging compliance rate for trained providers/areas. |  |
| 4/30/2019         | • Established quarterly feedback/compliance rate reports. | TBD |  |
| 5/27/2019         | • Implemented feedback surveys. | Obtained feedback on process, roles, barriers, etc. | Will leverage feedback to inform future roll out of Staging to other tumor types. |
|                   | • Implemented weekly staging compliance report. | TBD |  |
| 5/30/2019         | • Include staging in EPIC training of COH Fellows, and short term residents.  
                    • Follow up visits to providers to answer questions and reinforce teaching methodologies | TBD | Inclusion of Staging in training requested. (IP) |
| 6/5/2019          | • Analytic reports sent to participants with list of patients and staging elements missing  
                    • Breast APP allocated to spend 1 hour each week to enter missing staging data | Increase in Breast Staging compliance rate. |  |
Developed 5 specific scenarios for training
- New diagnosis, clinical stage
- New diagnosis, pathologic stage
- Neoadjuvant stage
- Recurrence 1
- Recurrence subsequent

Staging Tip sheet
Developed Staging Training Deck (ppt and Wellspring)

Coordinated with CoH Staging Incentive Plan
- Communications to providers for feedback loop (weekly, cumulative data)

Provided at the elbow support, initial and reinforcement

Tableau Dashboard
- New patient and new consults currently (March 25\textsuperscript{th} through June 14\textsuperscript{th})
- Will be expanded to include new Beacon start and next new surgeries (pulled by initial post-op notes) (June 17\textsuperscript{th} through July 26\textsuperscript{th})
Process Data

**Surveyed:** 9  
**Responses received:** 9  
**Services:** GU (Medical Oncology), Breast (Medical Oncology), and Urology.

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**Do you consider any of the following barriers to completing staging?**

<table>
<thead>
<tr>
<th></th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training / Education</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Lack of time</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Lack of resources to enter data</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Cumbersome to complete staging forms</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

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**How would you prefer the staging information to be entered for your patients?**

1. entered and finalized by me
2. entered then queued to me by my APP for me to finalize
3. entered by my APP and finalized by my APP once I am comfortable with their work
4. entered by a trained team member I designate, then queued to me OR my APP to finalize
5. entered by a trained team member I designate then queued to me to finalize

**Surveyed:** 9  
**Responses received:** 8  
**Services:** GU (Medical Oncology), Breast (Medical Oncology), and Urology.

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**How long does it take to complete staging elements?**

<table>
<thead>
<tr>
<th>Before Pilot</th>
<th>&lt; 1 minute</th>
<th>1-5 minutes</th>
<th>6-10 minutes</th>
<th>&gt; 10 minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

**Surveyed:** 9  
**Responses received:** 6  
**Services:** GU (Medical Oncology), Breast (Medical Oncology), and Urology.
Process Data

On a scale of 1 to 5, with 1 being the lowest and 5 being the highest, how would you rate the current staging process on the following elements:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Data Capture</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Time to capture complete staging</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Success of capturing staging elements</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

Who do you think should enter the staging information?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>RN</td>
</tr>
<tr>
<td>7</td>
<td>APP</td>
</tr>
<tr>
<td>8</td>
<td>MD</td>
</tr>
<tr>
<td>3</td>
<td>Delegated Staff (qualified and trained)</td>
</tr>
</tbody>
</table>

Are you aware of Onc Staging in Epic?

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Yes</td>
</tr>
<tr>
<td>3</td>
<td>No</td>
</tr>
</tbody>
</table>

Surveyed: 9
Responses received: 9
Services: GU (Medical Oncology), Breast (Medical Oncology), and Urology.
Change Data - Breast Cancer

PDSA Cycle Compared to Baseline

<table>
<thead>
<tr>
<th>Statistically Improved</th>
<th>Baseline Phase</th>
<th>PDSA Cycle Phase</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>19.64%</td>
<td>54.19%</td>
<td>34.55%</td>
</tr>
<tr>
<td>Numerator Total</td>
<td>269</td>
<td>123</td>
<td>146</td>
</tr>
<tr>
<td>Denominator Total</td>
<td>1370</td>
<td>227</td>
<td>1143</td>
</tr>
<tr>
<td># of Valid Periods</td>
<td>14</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

One-sided P-value 0.000
Two-sided P-value 0.000
P-bar Bar 24.55%

*Include arrows where change was implemented
Change Data - Prostate Cancer

PDSA Cycle Compared to Baseline

<table>
<thead>
<tr>
<th>Statistically Improved</th>
<th>Baseline Phase</th>
<th>PDSA Cycle Phase</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>8.22%</td>
<td>20.53%</td>
<td>12.31%</td>
</tr>
<tr>
<td>Numerator Total</td>
<td>54</td>
<td>31</td>
<td>23</td>
</tr>
<tr>
<td>Denominator Total</td>
<td>657</td>
<td>151</td>
<td>506</td>
</tr>
<tr>
<td># of Valid Periods</td>
<td>14</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

One-sided P-value 0.000
Two-sided P-value 0.000
P-bar Bar 10.52%

*Include arrows where change was implemented
Data Discussion

The capture of complete, discrete staging elements from the data warehouse was more complex than originally anticipated.

Several iterations of the data had to be reviewed and refined to account for:

- Specific cancer types and removal of history of cancer and benign codes
- Completed staging elements needed work to develop reports for
- Special consideration for different disease scenarios was needed
- Timeliness of surgical staging – pre or post op was challenging
- Capture of progressing patients, going on new Beacon protocols was a challenge vs just those scheduled for a new or consult visit at a clinic
Conclusions

Complete Staging in Epic at COH was improved through the following key elements:

- Establishing and communicating the elements needed for complete staging is a key first step.
- Establishing and communicating a clear policy/process from senior leadership to capture complete staging is necessary.
- Methodology to capture reporting by doctor and their patients with missing elements for new and progressing patients is key to feedback.
- Weekly feedback loops aid in reinforcing implemented procedures.
- Adequate personnel is needed to support required processes.
  - Additional trained personnel need blocked time to complete missing data on a weekly data to improve complete data capture to desired levels and above (breast team had an experienced trained APP who spent 1 hour/week extra entering data for the last 3 weeks which led to their higher completion rates).
Next Steps/Plan for Sustainability

• Continue weekly feedback (reports)
• Finalize complete staging elements for other tumor types
• Work with BI and Quality departments to build analytics for all tumor types
• Socialize need for complete staging with each department/ chair, including the community practices
• Strategize personnel need to support complete data capture
• Provide results and feedback to Pilot Providers and obtain their feedback to make further changes
• Have established goal to have complete staging by August