Project Title: Reducing the percent of ICU deaths of patients with advanced cancer at Stanford Health Care

Presenters’ Names: Pelin Cinar, MD, MS & Zarrina Bobokalonova, RN, MSN, BEc

Institution: Stanford Cancer Center

Date: 10/08/2015
Institutional Overview

- Stanford Cancer Center is an NCI-designated Cancer Center located in Palo Alto, California.

- There are a total of 51 faculty members in the Division of Oncology.

- There are 66 adult ICU beds at the Stanford Health Care.

- In all of the Stanford Cancer Center clinics there were ~95,000 visits in the FY14 of which ~5,500 were new patients.

- Additional satellite Cancer Center opened in the South Bay in July 2015.
Problem Statement

- In 2014, 40.4% of patients with solid tumors admitted to the Stanford Healthcare ICU died with advanced stage disease.

- This compromised the patients’ quality of life and resulted in excessive costs for patients and their families.
Percent of Palliative Care Consultation

n=66

<table>
<thead>
<tr>
<th></th>
<th>No</th>
<th>Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>80</td>
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</tbody>
</table>

Number of days prior to death when Palliative Care Consulted

n=20

- 65% of cases had palliative care consultation 0-3 days before dying
- 20% within 7-14 days
- 15% >14 days
Team Members

Team Leader:
- Pelin Cinar

Team Members:
- Core team members:
  - Zarrina Bobokalonova, Clinical Quality Specialist
  - Sandy Chan, Manager of Palliative Medicine
  - Eric Hadhazy, Senior Quality Consultant
- Extended team members:
  - Palliative Care- Judy Passaglia, Michael Westley
  - ED- Sam Shen, David Wang, Feliciano Javier, Cheryl Bucsit
  - ICU- Ann Weinacker, Norman Rizk, Javier Lorenzo, Preethi Balakrishnan
  - GI Oncology Social Worker- Ruth Kenenmuth
  - Thoracic Oncology- Millie Das
  - Internal Medicine (resident)- Thomas Keller

Project Sponsor:
- Douglas Blayney

Improvement Coach:
- Holley Stallings
Process Map

Advanced Stage Cancer Admittance Patient Process Map

- Patient screened by MD and RN
- Severity scoring: 1-2: mild needs 2-3: moderate needs 4-5: severe needs
- Medical screening: MD, labs, scans
- Should the patient be admitted?
- N/A
- POLST/DNI/DNR status assessed
- Hypertensive crisis, code pending, stroke, severe pain, instability
- ICU follow contacted to assess appropriateness for ICU
- Goals of Care/POLST/DNI/DNR status addressed, but sent for palliative care consult
- Order for palliative care consult?
- N/A
- Order often cancelled on the unit

During screening if patient is identified as a frequent visitor to ED (ED visits > 5), SW is automatically paged

Transfer from OSH
- Admitted to ICU
- Diagnostics, treatment plan
- Palliative Care Consult with Goals of Care
  - Yes
  - Comfort care
  - Remain on unit
  - Patient expires in ICU
- Treatment continues
- Patient improving with meaningful recovery?
  - Yes
  - Discharged
  - Palliative follow-up and Palliative Care and GOC discussions
  - No
  - May take 1-3 days
  - No
  - Transfer to lower level of care for passing
  - Floor
  - Discharged

Legend

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td></td>
<td>Process</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Decision</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Start/End</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Yellow note</td>
</tr>
</tbody>
</table>
Patients with advanced stage solid cancers dying in the ICU

Goals of Care
- Template vs Progress Note
- Discussion often only in last few days
- No trigger for GOC
- Unavailable in outpatient Epic

Goals of Care Note
- Not standardized for all services
- Mostly used in ICU at end of life
- Intensivist often leads

Epic
- Goals of Care template not known well outside ICU
- Oncology chart GOC often in Progress Notes
- Outpatient Epic different from inpatient
- Oncology h/o current staging not easy to find

Polit and Advance Directive
- Not on file
- Not updated
- Not completed
- Leads to full code status

Materials

Goals of Care
- No trigger for GOC
- Conflicting feelings from care team/family
- If placed in ED often cancelled
- Can take 1-3 days

Nursing
- Unable to place palliative consult
- Barriers with MD communication
- Hierarchy and decision conflict

Notification of Primary Oncologist
- Email sometimes after pt discharged/deceased
- Variable by provider
- No standard for contacting in ED or ICU
- Process ... patients/families about care
- Family thinks ICU will be curative
- Better communication to family/patients/care team

Other units
- No beds to care for acutely ill rapidly
- Pressors require ICU care
- Hospice beds not yet available

Intensive Care Unit
- Primary oncologist not usually contacted
- Goals of care often addressed here first
- Intensivist forced to direct care
- Not a pleasant patient or family area for dying

Intensive Care Unit
- Primary oncologist rarely contacted
- Stabilize and admit

Emergency Department
- Hard to know/contact primary oncologist

People
- Teaching and Training
  - Failure to adequately educate patients/families about care
  - Family thinks ICU will be curative
  - Better communication to family/patients/care team
- Culture
  - Hierarchy in medical teams
  - Attending variability
  - Questioning care plan ramifications

Physicians and Care Team
- Age of patient can affect decision making
- Personal feelings and subjectivity
- Disagreement among providers on care plan
- Primary on team resistant to palliative care discussions

People
- Patient and Family Factors
  - Knowledge/acceptance of disease state
  - Religious preferences
  - Patient kept alive/pressor support for family to arrive
  - New diagnosis and aggressive mgmt

Emergency Department
- Primary oncologist rarely contacted
- Stabilize and admit

Hard to know/contact primary oncologist

Environment
Diagnostic Data

Causes of patients with advanced stage cancer dying in ICU

- GOC note mostly used in ICU at EOL
- Pt & family knowledge/acceptance of disease state
- GOC discussed only in last few days
- POLST and AD not on file/uploaded/full code instead
- MD & team disagreement about CP, subjectivity
- Pt & family new dx and aggressive management
- Pressors require ICU care
- PC consult can take 1-3 days
- No PC consult ordered
- GOC often addressed in ICU first
- Failure to better communicate and adequately educate pt/family
- Hospice/stepdown beds not available
- Patient kept alive/pressor support for family to arrive
- Conflicting feelings from care team and family about pc
- Intensivist forced to direct care
- Primary oncologist not contacted
- Not a pleasant patient or family area for dying
Aim Statement

By **October 2015**, we will decrease the percentage of advanced solid tumor ICU deaths at Stanford Health Care by **25%**.
Measures

• **Measure:** Death of patients in the ICU

• **Patient population:** Patients with advanced solid tumors

• **Calculation methodology:**
  – Numerator
    • Patients with advanced solid tumors dying in ICU
  – Denominator
    • Patients with solid tumors admitted to ICU

• **Data source:** Midas report

• **Data collection frequency:** Monthly

• **Data quality (any limitations):** ICD-9 codes for solid tumors were used to identify cases
Baseline Data (Jan – Dec 2014)

Rate of advanced stage cancer patients dying in ICU

Rate

Mean

Target

CL

UCL

Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec

2014
## Prioritized List of Changes (Priority/Pay-Off Matrix)

<table>
<thead>
<tr>
<th>High Impact</th>
<th>Easy</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Palliative care consultation for all patients with advanced solid cancers admitted to the ICU after approval by the primary oncologist</td>
<td>• Goals of Care of Note of all advanced stage solid tumors by primary oncologist</td>
</tr>
<tr>
<td>• POLST and Advance Directives to be found easily on EPIC</td>
<td>• POLST completed for all advanced stage solid tumors by primary oncology</td>
</tr>
<tr>
<td>• Adding designated hospice beds</td>
<td>• Intensivist calls primary oncologist within 3 days of ICU admission to join in family meeting</td>
</tr>
<tr>
<td>• Automated EPIC notification to the primary oncologist at the time that the patient is being admitted to the hospital/ICU</td>
<td>• Oncology team to hold daily rounds with the ICU team with family meetings every 3 days</td>
</tr>
<tr>
<td>• Early referral to outpatient palliative medicine in outpatient clinic</td>
<td>• Advanced stage cancer patients easily identified in EPIC</td>
</tr>
<tr>
<td>• Automated EPIC notification to primary oncologist for all oncology patients who present to ED</td>
<td>• Engage patient and family in early discussions about disease progression and goals of care by primary oncologist</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Low Impact</th>
<th>Difficult</th>
</tr>
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<tbody>
<tr>
<td>• ICU requests palliative care consultation within 3 days</td>
<td></td>
</tr>
</tbody>
</table>
## PDSA Plan (Tests 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>
| 9/1/2015 – 9/21/2015 | Criteria developed to **communicate** with the primary oncologists and trigger **early referral to palliative care** | - No change between pre-PDSA and post-PDSA death rates.  
- Palliative care consults were requested within one day of admission and were completed the following day. | - Share results with ICU/Oncology  
- Educate other critical care units. |
Materials Developed

Criteria for Obtaining Palliative Care Consultation for Oncology Patients admitted to the ICU

Any Stage IV disease or Stage III lung or pancreatic cancer
AND one or more of the following:

• 2+ lines of prior therapy with life expectancy <6 months or refractory disease (need to confirm with primary oncologist)

• Hospitalization within prior 30 days

• >7 day hospitalization

• Uncontrolled symptoms (pain, nausea, dyspnea, delirium, distress)

Resident/fellow calls the primary oncologist* for all oncology patients

If the criteria are met:

• Contact and discuss with the primary oncologist and place Palliative Care consult.

• Document** that you have spoken to the primary oncologist.

• If the patient does not have a primary oncologist, inpatient oncology service is consulted for their input.

*If the patient is admitted overnight, may call primary oncologist at 8 am the following morning.

**Add to your progress note approximate time and date of contact with primary oncologist
Change Data

Pre-PDSA (n= 13): 8/3/15 - 8/17/15

Post-PDSA (n= 10): 9/7/15 - 9/21/15

- Implementation of Criteria on 9/1/15

- Of the patients with advanced cancer who met our criteria,
  - Primary Oncologist contacted:
    - Pre-PDSA: 38.5%
    - Post-PDSA: 40%

  - Palliative Care Consultation obtained:
    - Pre-PDSA: 30.8%
    - Post-PDSA: 30%
## Frequency of Each Criterion

<table>
<thead>
<tr>
<th>CRITERIA</th>
<th>Pre-PDSA n=13</th>
<th>Post-PDSA n=10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2+ lines of prior therapy with life expectancy &lt;6 months or refractory disease</td>
<td>3 (23.1%)</td>
<td>4 (40%)</td>
</tr>
<tr>
<td>Hospitalization within prior 30 days</td>
<td>7 (53.8%)</td>
<td>3 (30%)</td>
</tr>
<tr>
<td>&gt;7 day hospitalization</td>
<td>1 (7.7%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Uncontrolled symptoms</td>
<td>1 (7.7%)</td>
<td>0</td>
</tr>
<tr>
<td>2+ lines of therapy + Hospitalization in 30 days</td>
<td>1 (7.7%)</td>
<td>1 (10%)</td>
</tr>
<tr>
<td>Hospitalization in 30 days + &gt;7 day hospitalization</td>
<td>0</td>
<td>1 (10%)</td>
</tr>
</tbody>
</table>
Change Data
Rate of ICU deaths of patients with solid tumors did not change after the intervention.
Conclusions

- The rate of palliative care consults for patients meeting the criteria for pre- and post-intervention did not change.

- More data may be needed to observe a change in the frequency of contacting the primary oncologists and palliative care consultations.
Next Steps/Plan for Sustainability

• Share the results with the ICU and Oncology Divisions.
• Update the criteria to include patients who presented to the ED within the last 30 days.
• Educate the providers who are in other critical care units (i.e. Neuro-critical Care).
Reducing the percent of ICU deaths of patients with advanced cancer at Stanford Health Care

**AIM:** By October 2015, we will decrease the percentage of advanced solid tumor ICU deaths at Stanford Health Care by 25%.

**INTERVENTION:** Criteria were developed to assist with triggering consultation with early palliative care consultation. The criteria included: stage IV disease or stage III lung or pancreatic cancers and one or more of the following: 2+ lines of prior therapy with **life expectancy <6 months** or **refractory** disease; hospitalization within prior 30 days; >7 day hospitalization; **uncontrolled** symptoms (pain, nausea, dyspnea, delirium, distress). The primary oncologist was contacted by the ICU team if the patient admitted to the ICU met these criteria. If the primary oncologist agreed, Palliative Care service was consulted. ICU team was asked to document that primary oncologist was contacted and whether Palliative Care service was consulted.

**RESULTS:**

<table>
<thead>
<tr>
<th>Rate</th>
<th>Expired in ICU</th>
<th>Admitted to ICU</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-PDSA</td>
<td>32</td>
<td>18</td>
</tr>
<tr>
<td>post-PDSA</td>
<td>7</td>
<td>4</td>
</tr>
</tbody>
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**CONCLUSIONS:**
- The rate of palliative care consults for patients meeting the criteria for pre and post intervention did not change
- More data may be needed to observe a change in the frequency of contacting the primary oncologists and palliative care consultations

**NEXT STEPS:**
- Share the results with the ICU and Oncology Divisions.
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