Disclosures

• The following speaker(s) of this accredited CE activity have no relevant financial relationships to disclose:

  • Audrey Tan, DO
  • Mark Durbin, RN
HONORS

#3 Best Medical Schools for Research

#9 Best Hospitals in the US

5 Investigators
Howard Hughes Medical Institute (HHMI)

10 Members
Health and Medicine Division of the National Academies of Sciences, Engineering, and Medicine

12 Members
National Academy of Sciences
OUR EXPANDING FOOTPRINT

NYU Langone locations

Inpatient Locations

Tisch Hospital
Rusk Rehabilitation
Kimmel Pavilion
Hassenfeld Children’s Hospital
NYU Langone Orthopedic Hospital
NYU Langone Hospital—Brooklyn
NYU Winthrop (affiliate)

230+ Locations
in the New York Area

3,633+ Physicians
with Privileges

as of March 2018
Why do we need palliative care in the ED?
**Background**

- Increasing number of ED visits by older adults with serious illness
- Most prefer to receive care at home and to minimize life-sustaining procedures
- Palliative care improves quality of life and decreases health care use
Default Approach
Benefits of palliative care in the ED

- Improve quality of life
- Decrease in ICU admissions
- Decrease in hospital LOS
- Decrease cost
Primary Palliative Care for Emergency Medicine (PRIM-ER)

- Pragmatic, cluster-randomized stepped wedge design to test the effectiveness of primary palliative care education, training, and technical support in 35 EDs
- Measure the effect using Medicare claims data on:
  - ED disposition to an acute care setting
  - Healthcare utilization 6 months following the index ED visit
  - Survival following the index ED visit
PRIM-ER Intervention Components

1. Evidence-based, multidisciplinary primary palliative care education (EPEC-EM, ELNEC);
2. Simulation-based workshops on communication in serious illness (EM Talk);
3. Clinical decision support; and
4. Provider audit and feedback.
18 Health Systems

Clinical Sites
- Allegheny Singer Research Institute
- Baystate Medical Center
- William Beaumont Hospital
- Brigham and Women's Hospital
- Christiana Care Health Service, Inc.
- Henry Ford Health System
- Icahn School of Medicine at Mount Sinai
- Mayo Clinic
- NYU School of Medicine
- Icahn Clinic Foundation
- Rutgers University
- Ohio State University
- University of California, San Francisco
- University of Florida College of Medicine
- Trustees of the University of Pennsylvania
- University of Texas MD Anderson Cancer Center
- University of Utah
- Yale University
Project Team & Design
Correlation with current NYU initiatives

• Value-Based Management Supportive Care Initiative
  – Mission: improve quality of life for end-of-life patients and achieve better alignment of clinical practice with these patients and families’ goals of care

• Advance Care Planning Initiative
  – Mission: improve infrastructure and resources dedicated to advance care planning
  – Utilization of MOLSTs (Medical Orders for Life-Sustaining Treatments)
Workgroup members

- Emergency and palliative care physicians
- Clinical operations
- Informatics
- Nursing
- Care management
- Social work
Creation of Algorithm
How do we identify these patients in the ED?
How did we previously identify these patients?

Palliative care clinical decision support tool

Leverage clinical decision support alerts to:
- Identify patients most likely to benefit from primary palliative care
- Provide point-of-care clinical recommendations

Benefits:
- Rapid
- Sensitive
- Improves adherence to guidelines
## A. Screening criteria

<table>
<thead>
<tr>
<th>Historical data elements</th>
<th>Current encounter data elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory surprise question: “Would you be surprised if this patient died within the previous 6 months?” (No)</td>
<td>Code narrator start</td>
</tr>
<tr>
<td>Previous palliative care consult</td>
<td>Active order for mechanical ventilation</td>
</tr>
<tr>
<td>Previous order for “Do Not Resuscitate”</td>
<td>Active order for non-invasive ventilation</td>
</tr>
<tr>
<td>Last hospital disposition to a long-term acute care facility or nursing facility</td>
<td>GFR &lt; 15 ml/min/m²</td>
</tr>
<tr>
<td>Previous scanned document of Consent to Withhold or Withdraw Life Sustaining Treatments</td>
<td>Albumin &lt; 2 g/dL</td>
</tr>
<tr>
<td>Eastern Cooperative Oncology Group (ECOG) Score 3 or 4</td>
<td>Bicarbonate &lt; 10 mEq/L</td>
</tr>
<tr>
<td>Previous discharge to hospice</td>
<td>pCO₂ &lt; 70 mmHg</td>
</tr>
<tr>
<td>Previous MOLST documentation</td>
<td></td>
</tr>
</tbody>
</table>
B. Referral

PALLIATIVE CARE INPATIENT CONSULT SERVICE

SOCIAL WORK
C. Design specifications

Interruptive vs non-interruptive alerts

• ED providers
• Social work and case management

Alert timing

• One hour after provider assignment

Alert audience

• ED providers, nurses, social workers, care managers
The Algorithm: Hospice

Patient previously enrolled with home or inpatient hospice

Provider: Pall care consult? SW consult?

SW/CM: Alert and flag
The Algorithm: (+) MOLST

Patient with MOLST

Nurse: This patient has a MOLST!

Clerk: Flag to print the MOLST

Provider: This patient has a MOLST. Discuss GOC.
The Algorithm: No MOLST

Patient with serious life-limiting illness

Provider:
Discuss GOC. Consider Pall care and SW.
The Solution / The Build
Translating the Algorithm into Electronic CDS

- Decision for Active Interruptive BPA’s
- Positive eMOLST
  - BPA for RN
  - Column for Unit Clerks
  - BPA for Providers
- Positive Hospice (Enrolled or Referred)
  - BPA for Social Workers and Care Managers
  - Column for Social Workers and Care Managers
  - BPA for Providers
- Identified patients as possibly having life limiting illness based on numerous criteria
  - BPA for Providers
Clinical Decision Support @ NYU Langone Health

Identify seriously ill patients with advance care planning documents: BPA for RN’s
Clinical Decision Support @ NYU Langone Health

Identify seriously ill patients with advance care planning documents: BPA for Providers
Clinical Decision Support @ NYU Langone Health:
BPA for Social Workers and Care Managers to identify hospice patients
Clinical Decision Support @ NYU Langone Health:
BPA for Providers to identify hospice patients
Goals of Care Discussion Trigger (No eMOLST on file)

This patient does not have an eMOLST on file but does possibly have a serious life-limiting illness based on criteria met (see criteria in blue below).

Start a goals of care conversation.
Do you think this patient may die during this hospitalization?

Or
Do they have any one of the following?
• Worsening in functional status?
• Uncontrolled symptoms due to a life-limiting illness?
• Unclear goals of care?

If yes, then order a Social Work and Palliative Care Consult.
If no, then dismiss BPA.

Criteria met:

ECDG=4, Poor functional status

Order | Do Not Order
Order | IP CONSULT TO SOCIAL WORK
Order | IP CONSULT TO PALLIATIVE CARE

Acknowledgement Reason:
DIY and/or Palliative Care Consults O - No Order at this time
Education and Roll-out
Usability Testing

• Test group of 10 ED staff including nurses, physicians, physician assistance and clinical operations leadership
• Tested multiple clinical scenarios
• Open forum for discussion/questions
• System Usability Scale (SUS) questionnaire
• Score of 92.5 (minimum threshold of 85 was considered “excellent”)

NYU Langone Health
**System Usability Scale**

**Clinical Decision Support (CDS) System**
Primary Palliative Care for Emergency Medicine (PRIM-ER)

Please check the box that reflects your immediate response to each statement. Don’t think too long about each statement. Make sure you respond to every statement. If you don’t know how to respond, simply check box “3.”

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I think that I would like to use this product frequently.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2. I found the product unnecessarily complex.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>3. I thought the product was easy to use.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>4. I think that I would need the support of a technical person to be able to use this product.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>5. I found the various functions in the product were well integrated.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6. I thought there was too much inconsistency in this product.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>7. I imagine that most people would learn to use this product very quickly.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>8. I found the product very awkward to use.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>9. I felt very confident using the product.</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>10. I needed to learn a lot of things before I could get going with this product.</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Education

- Clinical rounds
- Email notifications
- Tip sheets
- Education at faculty meetings
- Champions from various disciplines including physicians, nursing, social work, care managers and unit clerks
Dissemination of CDS
# Tailoring Clinical Decision Support to Each Site

**CRITERIA 1: Patient with Advanced Illness Presents to ED (no advance care planning documentation)**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>MSQ=no during any previous hospitalization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous palliative care consult order in ____ months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous order for DNR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outpatient Palliative Care visit in past ____ months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last hospitalization disposition location of nursing facility in ____ months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ECOG 3 or 4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Last hospitalization disposition location of LTAC in ____ months</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous scanned document of consent to withhold/withdraw life sustaining treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Previous dispo to outpatient or inpatient hospice in ____ months</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CRITERIA 2: Patient with Advanced Illness Presents to ED (no advance care planning documentation)**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Code narrator start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GFR&lt;15</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Albumin &lt;2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bicarb&lt;10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PCQ&gt;70</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active order for mechanical ventilation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Active order for non-invasive ventilation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CRITERIA 3: Patient with advanced illness presents to the ED with advance care planning documentation**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>eMOLST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MOLST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>POLST</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DNR/DNI</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Five Wishes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACP note under &quot;CODE&quot; tab in EPIC</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**CRITERIA 4: Enrolled or referred to hospice work-flow or previous disposition of Home/Hospice or Inpatient Hospice**

<table>
<thead>
<tr>
<th>Yes / No</th>
</tr>
</thead>
</table>

**REFERRAL TO SERVICES**

<table>
<thead>
<tr>
<th>Service</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Work Consult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Palliative Care Consult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Care Management</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chaplaincy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clerks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Dissemination

- Sharing the build – swim lanes
- Sharing of EPIC build
- Tech support
Measuring Success
CDS Dashboard

ED Supportive Care BPA Dashboard

BPA display count by week

Actions

- NO ACTIVE MOLST BASE SUPPORTIVE CARE MD: Consult ordered
- ACTIVE MOLST PLUS BPA INFO MD: Consult ordered
- POSITIVE HOSPICE BASE MD: Consult ordered
- ACTIVE MOLST RN: Acknowledged
- POSITIVE HOSPICE BASE RN/SW/CM: Accept BPA (No Action Taken)

# of times the action was taken

Trigger Criteria

- Previous disposition to a Skilled Nursing Facility
- End-stage renal failure (GFR < 15)
- Previous Palliative Care Consult
- Patient has a scanned consent document to withhold/withdraw life-sustaining treatment
- Order for Non-Invasive Ventilation
- A recent decision to not have been re-evaluated if this patient died within 6 months

# of alerts

NYU Langone Health
Modifications

• 11/7/2018
  – Alerts fire for all providers (attending, resident, PA) not just to the initial provider

• 12/9/2018
  – Discontinued alert firing for non-ED providers
  – Amended alert to fire only once for each ED provider

• 1/30/2019
  – Firing of No MOLST alert changed to T+60 min changed to T+90 min
  – Modification of criteria – removed nursing home disposition and GFR<15 ml/min/m²

• 4/10/2019
  – No MOLST BPA held
CDS Dashboard

BPA display count by week

Actions

<table>
<thead>
<tr>
<th>Action</th>
<th>Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO ACTIVE MOLST BASE SUPPORTIVE CARE MD</td>
<td>Consult ordered</td>
<td>120</td>
</tr>
<tr>
<td>ACTIVE MOLST PLUS BPA INFO MD</td>
<td>Consult ordered</td>
<td>150</td>
</tr>
<tr>
<td>POSITIVE HOSPICE BASE MD</td>
<td>Consult ordered</td>
<td>100</td>
</tr>
<tr>
<td>ACTIVE MOLST RN</td>
<td>Consult ordered</td>
<td>50</td>
</tr>
<tr>
<td>POSITIVE HOSPICE BASE RN/SW/CM</td>
<td>Accept BPA (No Action Taken)</td>
<td>10</td>
</tr>
</tbody>
</table>

# of times the action was taken
Next steps
Lessons Learned

• Be weary of alert fatigue

• Buy in is key

• Changing the culture of care in the ED
Questions

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