MICU AND PALLIATIVE CARE SCREENING PROJECT
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OBJECTIVES

• Discuss the history and need of involvement of palliative care in the ICU
• Review a specific U of U Case prior to the U of U Palliative care project
• Review of the need for palliative care in the MICU at the University of Utah
• Discuss design and implementation of MICU palliative care project
• Review a specific case after the U of U Palliative care project
• Discuss other MICU care improvement projects
HISTORY OF PALLIATIVE CARE IN THE ICU

• Perceived Conflict of interest in the ICU
• Old school mind set of a “hierarchical medicine”
  – Boss vs Team
• Misunderstanding of Palliative vs Hospice
• Cultural barriers to palliative
  – Perception this is a pathway to death
  – In the ICU, maximize therapies at all cost
  – Total focus on quantity vs quality
  – Quality of life may interfere with therapies
### EDUCATION ABOUT THE DIFFERENCE

**Table 1. Palliative Care as Compared with Hospice.**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Palliative Care</th>
<th>Hospice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model of care</td>
<td>Interdisciplinary team, including physicians, nurses, social workers, chaplains, and staff from other disciplines as needed; primary goal is improved quality of life</td>
<td>Interdisciplinary team, including physicians, nurses, social workers, chaplains, and volunteers, as dictated by statute; primary goals are improved quality of life and relief of suffering (physical, emotional, and spiritual)</td>
</tr>
<tr>
<td>Eligibility</td>
<td>Patients of all ages and with any diagnosis or stage of illness; patients may continue all life-prolonging and disease-directed treatments</td>
<td>Patients of all ages who have a prognosis of survival of ≤6 mo, if the disease follows its usual course; patients must forgo Medicare coverage for curative and other treatments related to terminal illness</td>
</tr>
<tr>
<td>Place</td>
<td>Hospitals (most common), hospital clinics, group practices, cancer centers, home care programs, or nursing homes</td>
<td>Home (most common), assisted-living facilities, nursing homes, residential hospice facilities, inpatient hospice units, or hospice-contracted inpatient beds</td>
</tr>
<tr>
<td>Payment</td>
<td>Physician and nurse practitioner fees covered by Medicare Part B for inpatient or outpatient care; hospital teams are included within Medicare Part A or commercial insurance payments to hospitals for care episodes; flexible bundled payments under Medicare Advantage, Managed Medicaid, ACOs, and other commercial payers</td>
<td>Medicare hospice benefit; standard hospice benefit from commercial payers is usually modeled after Medicare; Medicaid, although coverage varies by state; medication costs are included for illnesses related to the terminal illness</td>
</tr>
</tbody>
</table>

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BARRIERS

Barriers to Better Integration of Palliative Care and Critical Care

- Unrealistic expectations for intensive care therapies on the part of patients, families, and clinicians
- Misperception of palliative care and critical care as mutually exclusive or sequential rather than complementary and concurrent approaches
- Conflation of palliative care with end-of-life or hospice care
- Concern that incorporation of palliative care will hasten death
- Insufficient training of clinicians in communication and other necessary skills to provide high-quality palliative care
- Competing demands on ICU clinician effort, without adequate reward for palliative care excellence
- Failure to apply effective approaches for system or culture change to improve palliative care
PUBLISHED TRIGGERS

ICU admission after ≥ 10 d in hospital
Age > 80 yr with ≥ 2 life-threatening comorbidities
Active stage IV malignancy
Status–post cardiac arrest (usually with other serious comorbid conditions)
Intracerebral hemorrhage with mechanical ventilation
Global cerebral ischemia after cardiopulmonary resuscitation
MOSF

Patient has preterminal or terminal condition and intensivist determines that:
Continuing/escalating treatment is unlikely to improve patient's condition
Do-not-resuscitate order should be written
Patient unlikely to survive > 1 wk if treatment withdrawn/not escalated
Family request
Concern regarding futility of current treatment
Prolonged disagreement within family or between family and patient or team
Death expected in hospital
Diagnosis with median survival < 6 mo
SICU stay > 1 mo
More than three SICU admissions during same hospitalization
GCS ≥ 8 for > 1 wk in patient > 75 yr
GCS < 3
Failure of > 3 organs

Mechanical ventilation ≥ 7 d
ICU LOS ≥ 50% above average
For primary palliative care assessment: ICU LOS ≥ 7 d
For specialty-level palliative care:
Patient/family needs unmet despite best efforts by primary team
Refractory physical or psychological symptoms
Need for clarification/documentation of goals of care
Disagreements among patient, staff, and/or family resuscitation preferences, use of nonoral feeding or hydration, or other major treatment decisions

Need for assistance with symptom management or goals of care planning
Disparate advance directive goals
Full code with overall poor prognosis
Unrealistic goals of care or expectations for recovery
Family disagreement with patient advance directive
Care managers, nurses, or other non–physician staff believe patient or family could benefit
TRIGGERS

• Clinical baseline clinic characteristics
• Acute diagnoses
• Healthcare utilization criteria
• Care team judgement

• Generally signify poor prognosis

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MODELS

Models for Structuring An ICU-Palliative Care Initiative

- **Consultative Model**
  - Palliative Care Team
  - Palliative Care Consultation
  - Usual ICU Care By Critical Care Team

- **Integrative Model**
  - Palliative Care Principles/Interventions Embedded in Usual ICU Care
# PROS AND CONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Consultation by Palliative Care Service</th>
<th>Integration by Critical Care Team in Daily ICU Practice</th>
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<tbody>
<tr>
<td><strong>Advantages</strong></td>
<td>• Expert input from interdisciplinary team of specialists</td>
<td>• Availability of palliative care for all ICU patients and families</td>
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<td></td>
<td>• Expertise already exists, additional training unnecessary</td>
<td>• Palliative care service not required</td>
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<td></td>
<td>• Empirical evidence of benefit</td>
<td>• Clearly acknowledges importance of palliative care as core element of intensive care</td>
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<td></td>
<td>• Continuity of care before, during and after ICU</td>
<td>• Systematization of ICU work processes promotes reliable performance of palliative care</td>
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<td></td>
<td>• Facilitation of transfer out of ICU for end-of-life care, if appropriate</td>
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<tr>
<td><strong>Disadvantages</strong></td>
<td>• Requires palliative care service with adequate staffing and other resources</td>
<td>• Requires education of ICU clinicians in palliative care knowledge and skills</td>
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<tr>
<td></td>
<td>• Palliative care clinicians may be seen as “outsiders” in ICU</td>
<td>• Depends on commitment of critical care clinicians and supportive ICU culture</td>
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<td></td>
<td>• Consultants may lack familiarity with biomedical and nursing aspects of critical care</td>
<td>• Requires dedication of staff and other resources that may be lacking in ICU</td>
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<td></td>
<td>• Activities of palliative care and ICU teams may overlap and/or conflict</td>
<td>• Requires handoff to new team for post-ICU palliative care for patients who cannot benefit from or no longer need the ICU</td>
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<td>• Consultants must rapidly establish effective relationship with patients/families</td>
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<td></td>
<td>• Fragmentation of care may be compounded</td>
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<td></td>
<td>• ICU team may have less incentive to improve palliative care knowledge and skills</td>
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# INITIATIVES

## ICU integration of palliative care in daily practice: Examples of initiatives

<table>
<thead>
<tr>
<th>Initiative/Reference</th>
<th>Main Components</th>
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<tbody>
<tr>
<td>“Intensive Communication Intervention”/Lilly et al (27)</td>
<td>• Proactive family meetings within 72 hrs of ICU admission for high-risk patients</td>
</tr>
<tr>
<td>“Transformation of the ICU” (“TICU”) Multi-ICU Performance Improvement Initiative Using “Care &amp; Communication Bundle”/Nelson et al (28)</td>
<td>• Development and implementation of a set of nine ICU palliative care process measures focusing on patients with ICU length of stay $\geq$ 5 days</td>
</tr>
<tr>
<td>Veterans’ Integrated Service Network 3 Multi-ICU Palliative Care Initiative/Nelson et al (25)</td>
<td>• Redesign of work systems and staff education to support implementation</td>
</tr>
<tr>
<td>Robert Wood Johnson Foundation/Promoting Excellence in End-of-Life Care Demonstration Project—Integrating Palliative Medicine and Critical Care in a Community Hospital/Ray et al (47)</td>
<td>• Implementation of TICU “Care &amp; Communication Bundle” of palliative care process measures in collaboration of medical ICUs in five Department of Veterans Affairs acute care hospitals</td>
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<tr>
<td></td>
<td>• Redesign of work systems and staff education including training of ICU nurses in communication skills for participation in interdisciplinary family meetings</td>
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<td></td>
<td>• Multicomponent intervention in medical, surgical, and trauma ICUs, including interventions for family comfort (waiting room improvements, ICU “ambassador” for families, liberalization of visiting, family support group, bereavement program); education for staff, trainees, families, and patients; palliative care order sets; communication tools; dedicated ICU chaplain</td>
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INITIATIVES

Robert Wood Johnson Foundation/Promoting Excellence in End-of-Life Care Demonstration Project—Integrating Palliative Care into the Surgical and Trauma Intensive Care Unit/Mosenthal et al; Mosenthal and Murphy (23, 30)

- Interdisciplinary palliative care assessment
- Psychosocial/bereavement support
- Interdisciplinary family meeting
- Palliative order set
- Guidelines for ventilator withdrawal
- Palliative care addressed in Surgical Morbidity and Mortality Conferences

Quality Improvement Intervention in ICUs at a University-Based, Urban Hospital/Curtis et al (48)

- ICU clinician education in palliative care
- Training of ICU local champions
- Academic detailing of nurse and physician ICU directors
- Feedback on quality-improvement data
- System supports
OUTCOMES

• Reduction in non-beneficial ICU therapies
• Reduction in ICU LOS
• Reduction in perceived conflicts of care goals
• Earlier clarification of patient preferences
• Improved rating of pain
• Decreased duration of mechanical ventilation
MEET JOE

• 72 year old male admitted with respiratory failure and shock to the MICU
  – Intubated with pneumonia
  – Septic shock on vasopressor agents
  – Numerous lines and tubes were placed
PMH

- PMH is notable severe chronic illness including
  - Paraplegia 2/2 MVA
  - Recurrent sacral ulcers with chronic osteomyelitis
  - Chronic respiratory failure with OSA/OHV
  - DM II on insulin
  - Neurogenic bladder with a suprapubic catheter
HOSPITAL COURSE

• HD 1-4
  – Improved hemodynamics
  – Extubated from mechanical ventilation
    • ETT removed
  – Invasive catheter removed
    • CVC and art line
    • FMS
    • Feeding Tube
HOSPITAL COURSE

• HD 5: Transfer to internal medicine
• HD 6: Transfer back to MICU
  Secretion management/Hypoxia
• HD 8: Transfer to internal medicine
• HD 9: Transfer back to MICU
  Secretion management/Hypoxia
  Again
• HD 17: Discharged to LTAC
JOE PART 2

• Welcome back Joe
• “Concern for sepsis of unknown source”
  – Fevers
  – Tachypnea
  – Tachycardia
  – Encephalopathy
• Admitted from ED to internal medicine
JOE PART 2

- HD1-3: Treated for sepsis and pneumonia
- HD 5: Thoracentesis
  “May need ICU for respiratory failure”
- HD 7: Transfer to MICU
- HD 10: Transfer to internal medicine
- HD 19: Transfer to MICU
- HD 23: Discharge to LTAC
"If I'm living on machines, that's not living, don't prolong my life like that."
DEVELOPMENT U OF U PALLIATIVE CARE MICU PROJECT

• Need
  – Increase in ICU size (12→14→15→17→20→24)
  – Fragmented care with numerous providers
    • Attendings, Fellows, Residents, Interns, Med Students
  – Increased severity of illness of MICU patients
  – Teaching of “parts” and not the “whole”
BREAKDOWN OF PROBLEMS

- His current diagnoses and plans include
- Hemorrhagic shock due to GI bleeding from probable varices
  - IR for evaluation
  - hgb > 7
  - pltS > 100
  - INR < 2
  - epinephrine infusion
  - vasopression infusion
  - MAP > 65
  - PPI BID

- Cardiac Arrest due to hypovolemia, no further CPR since MICU admission but shock continues, very concerned about anoxic brain injury with prolonged CPR
  - monitor with tele
  - Epinephrine
  - MAP > 65
  - neuro exams

- AKI with no UOP due to shock and arrest
  - monitor electrolytes and UOP

- ALI with hx of alcohol abuse
  - monitor LFTs
BREAKDOWN OF PROBLEMS

• Respiratory Failure on MV
  – continue MV
  – not an extubation candidate due to encephalopathy
  – frequent ABGs

• Encephalopathy with high likely anoxic brain injury
  – no sedatives
  – Monitor neurologic function

• Severe metabolic acidosis due to lactate of 20s since admission
  – monitor lactate
  – attempt to improve perfusion with blood and pressors

• Severe coagulopathy due to blood loss and liver disease
  • vit K
  • FFP
  • Kcentra given
  • f/u with goal INR < 2

• ICU
  • R fem cvc
  • R radial art
  • urinary catheter
  • ETT
  • OG
  • PPI
  • He remains very unstable and his prognosis is very poor. We have had numerous discussions with his family about his poor prognosis today.
### TABLE 2. Stakeholders for Inclusion in Selection of Screening Criteria for ICU Palliative Care Consultation

<table>
<thead>
<tr>
<th>Stakeholder</th>
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</thead>
<tbody>
<tr>
<td>Physician and nurse ICU leaders</td>
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<tr>
<td>Palliative care clinical team</td>
</tr>
<tr>
<td>Hospital administration</td>
</tr>
<tr>
<td>Primary attending physician staff</td>
</tr>
<tr>
<td>Nursing staff</td>
</tr>
<tr>
<td>Patients</td>
</tr>
<tr>
<td>Families</td>
</tr>
<tr>
<td>Social work</td>
</tr>
<tr>
<td>Case management</td>
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<tr>
<td>Ethics consultation service</td>
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<tr>
<td>Risk management</td>
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<tr>
<td>Patient relations</td>
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</tbody>
</table>
OUR PROJECT

• Review ICU/palliative care literature
  – Survey Staff
  – Define Palliative Care Role
  – Benefit
• Define triggers
  – Previously used
  – U of U triggers
• Develop Process/Work Flow
• Education/Buy-In
• Implementation
• Data Collection
• Results
OUR PROJECT

• Survey: What is palliative care?
• “It’s like comfort care or hospice.”
• “When there is nothing else to try.”
• “If you are done fighting…”
• “When you are ready to die.”
• “Time to give up.”
OUR PROJECT

- What do palliative care teams do?
- Advance care planning – planning ahead so treatments fit patient’s wishes (rather than being made in a crisis)
- Chronic and terminal symptom management
- Goals of care clarification
  - Sharing bad news, prognosis, expected benefit and burden of treatment options
  - Eliciting patient/family values, goals
- Withdrawal of life prolonging treatment ➔ transitioning from ICU
- End of life care
- Ethical dilemmas
- Family support
- Coordinate care with other team members
- Staff support
OUR PROJECT

- Possible benefits from an initiative to improve ICU palliative care
- Family satisfaction/comprehension
- Lower levels of family anxiety, depression, and PTSD
- Less conflict in the ICU
- Timely implementation of care plans that are realistic, appropriate, and consistent with patient’s preferences
- Reductions in use of nonbeneficial treatments and LOS in the ICU/hospital – with stable ICU mortality
- Improved satisfaction among clinicians and staff
OUR PROJECT

• **MICU + Palliative Care Triggers:**
  • Objective triggers
    – Hospitalized > 7 days
    – +80 years of age with ICU LOS > 4 days
    – Decubitus ulcers
    – Metastatic cancer
    – Dementia
  • Subjective triggers
    – Medical and nursing team observations that goals of care are unclear, symptoms
OUR PROJECT

• **Workflow:**

  • PC team check trigger tool every AM
    → contacts team of trigger / possible PC consult (paged attending)
    → if agreeable, PC consult initiated; if not agreeable
    → reason for no consult documented
OUR PROJECT

• Education
  – Attendings
  – Fellows
  – Nursing Staff
• Implementation
• Monitored Flow/Difficulties
  – Frequent meetings
  – Review with staff
PROJECT DATA

- Pre-project (7/2013-10/2014)
  - 359 patients
- Post-project (11/2014-8/2015)
  - 215 patients
- Outcomes
  - LOS: 16.4 vs 14.9 days
  - Improved family survey scores
  - Unchanged MICU mortality
  - Improved understanding of palliative care
  - Cultural barrier reduction
MEET CARL

• 88 year old male
  – GERD
  – Hypertension
  – Chronic hyponatremia
  – Reactive airway disease

• Admitted to MICU from ED with hematemesis
HOSPITAL COURSE

• HD 1: GI consult
  EGD
• HD 2: Brain Attack
  Neurology consult
  Vascular surgery consult
• HD 6: To OR
  Hypercapnic respiratory failure
  Aspiration during reintubation
HOSPITAL COURSE

• HD 9: “Not tolerating vent wean”
  Formal palliative care consult
  Treating for pseudomonas/
  staph/klebsiella pneumonia

• HD 9 evening: “routine abdominal CT
  scan”

• HD 10: General surgery consult
  Extubation
  Code status DNR/DNI
HOSPITAL COURSE/CONCLUSION

• HD 11: Transfer to internal medicine
  Urology consult
• HD 15: Comfort measures
• HD 17: Home with hospice
• Died at home 2 days later
OTHER PALLIATIVE CARE INITIATIVES

• Continued Palliative Care Trigger Project
• Assign Care team member family update responsibilities
• Review need for invasive devises
• Discuss comfort/pain/sedation/agitation
• Seek out advance directives
MICU PROJECT TEAM

**Palliative Care**
- Nathan Wanner MD
- Holli Martinez APRN
- Kristin Knopf APRN
- Jen-Yu Wei MD

**MICU**
- Estelle Harris MD
- Nathan Hatton MD

**Statistical Analysis**
- Ken Kawamoto MHS, MD, PhD
- Polina Kukhareva MPH
QUESTIONS
REFERENCES


