Is your ICU elder or frail friendly?

Geeta Mehta
Mount Sinai Hospital
Critical Care Canada Forum
November 1, 2016
Disclosures
Impetus for Change

- High number of elderly admitted to ICU
- $1 billion Cdn annually for ICU care of pts>80
- Elderly have worse short and long-term outcomes
- Can we identify those with worse outcomes?
- Can we improve our care? Lessons from ACE
- Can we improve their outcomes?
KM, a 79 year old patient..

- Hypertension, DLP, NSTEMI 2000, mild dementia, independent, active, lives at home with his wife
- Acute RUQ pain and septic shock
- Confused, hypotensive, lactate 2.8, Creatinine 200, AST/ALT > 1000, platelets <100, INR ↑
- Diagnosis: E coli bacteremia, presumed cholangitis
- ICU LOS – 7 days (no MV, VP, renal replacement)
- Hospital LOS – 14 days
- Rehab hospital >10 days
- Discharge home – not the person he was physically, emotionally, or cognitively
risks

• Ageism; Making assumptions
• Not knowing about baseline function and PMH
• Communication
  – How is “he”? (while in the room with pt)
  – Not listening to family
• NPO for 2 days
• Too much bedrest
• Not enough mobilization and engagement
• Family accommodation and visitation
• No discussion about ACP
‘Geriatric events’

- Delirium
- Dehydration
- Falls and fractures
- Failure to thrive
- Pressure ulcers
Older-person centered and integrated care plans must consider...

- Frailty
- Sensory – hearing aids, glasses, dentures
- Language
- Impaired mobility
- Skin fragility
- Sleep
- Constipation
- Medications - Dosing, Polypharmacy, Interactions
- Loneliness and social isolation
- End of life care
- Support of the caregiver
2015 Mortality – MSH/UHN

<table>
<thead>
<tr>
<th>Age Group</th>
<th>MSH</th>
<th>TGH</th>
<th>TWH</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;45</td>
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<tr>
<td>45-66</td>
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<td>67-80</td>
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<tr>
<td>&gt;80</td>
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The RECOVER Program: Disability Risk Groups and 1-Year Outcome after 7 or More Days of Mechanical Ventilation


Age > 66 yr
ICU LOS > 2 wk
Asked elderly patients (mean 80 years) who were at high risk of dying in the next 6 months and their family members about ACP
• 1671 patients, average age 85 years (range 80–100 yr)
• ICU and hospital mortality were 22% and 35%, respectively
• For 585 nonsurvivors:
  – median time from ICU admission to death 10 days (IQR 3–20)
  – 289 (49%) died while receiving MV, vasopressors, or dialysis

• N. Chin-Yee, D. Heyland – R80 cost data
  – $31,000 per ICU admission
  – $38K for nonsurvivors, and $25K for survivors
Does My Mother Really Need That Central Line?

Her name was Claire. She resided in a local nursing home and had advanced dementia, coronary artery disease, diabetes mellitus, and hypertension. She was nonverbal from multiple prior cerebrovascular accidents and her worsening dementia. When I opened her medical record, an orange Do Not Resuscitate/Intubate sheet shined through her thick stack of medical records. She had come to the emergency department because her nurse noted hypoxia and tachypnea earlier that day. While in the emergency department, Claire’s blood pressure dropped, despite adequate volume resuscitation. Suddenly, her family opened up. Claire was a vibrant person. Before her illness had advanced, she walked every day and knew everyone at her church. She was outgoing, and her distinctive laugh could be heard from across the room. Claire would not want to be on a ventilator or kept alive in this condition. We discussed palliative care, but the family was not ready to make a decision. They needed time. Together, we decided to defer the central line placement and vasopressor therapy. Claire was admitted to the intensive care unit while the family discussed their options. The next day, she was...
The Mount Sinai Geriatrics Continuum

Outpatient Geriatric Medicine, Geriatric Psychiatry and Palliative Medicine Clinics
Telemedicine Clinics
CCAC – Clinic Coordinator

Geriatric Medicine, Geriatric Psychiatry and Palliative Medicine Consultation Services
Orthogeriatrics Program
ICU Geriatrics Program
MAUVE Volunteer Program
ACE Unit
CCAC – ACE Coordinator
ACE Tracker
Safe Patients/Safe Staff

Home-Based Geriatric Primary/Specialty Care Program: House Calls
Temmy Latner Home-Based Palliative Care Program
CCAC – Integrated Client Care Project (ICCP) Site
Reitman Centre for Alzheimer’s Support and Caregiver Training
Community and Staff Education Programs
Community Paramedicine

High Risk Patient Email Notification System
ISAR Screening
Geriatric Emergency Management (GEM) Nurses
ED Geriatric Mental Health Program
GERI-EM.com

YELLOW = New Programs Launched Since FY 10/11

The Older Patient and Caregiver Experience at Mount Sinai Hospital
Acute Care for Elders (ACE) Strategy

- ACE Strategy is operationalized through the implementation of a comprehensive and integrated strategic delivery model that utilizes an interprofessional team-based approach to patient care.

- Strength relies on the partnership of our Geriatric Medicine, Geriatric Psychiatry, Primary Care, Emergency and Palliative Medicine programs.
The argument for team-based care: old people are too complex for one brain.
@CFHI_FCASS @DrSamirSinha @HowardOvens
Admission Criteria for the ACE Unit

Adults 65 and older with an acute medical illnesses and any **THREE** or more of the following:

- A recent decline in functional abilities
- A recent change in cognition or behaviour
- Problems common to older adults (e.g., falls, incontinence, acute and/or chronic pain, adverse drug reactions, delirium, etc)
- Complex social issues
- Identification of Seniors At Risk (ISAR) Score ≥ 2 on ED assessment
Identification of Seniors at Risk (ISAR) Screening Tool for those 65+

1. Before the illness that brought you to ED, did you need someone to help you on a regular basis? *(Detects baseline functional impairments)*
2. In the last 24 hours, have you needed more help than usual? *(Detects recent functional decline)*
3. Have you been hospitalized for one or more nights during the past 6 months? *(Indicates a higher likelihood of bouncing back)*
4. Do you have serious problems with your vision, that cannot be corrected by glasses? *(Detects a high risk for developing Delirium)*
5. Do you have serious problems with your memory? *(underlying cognitive impairment- greatest risk factor for Delirium)*
6. Do you take six or more different medications every day? *(Detects polypharmacy and serves as a proxy for polymorbidity)*

≥ 2 Positive Responses - Predicts Functional Decline, Recidivism, and Institutionalization
Geriatric Medicine Inter-professional Consultation Service

- OT, SW, Pharmacist, Advance Practice Nurse, Geriatrician, 3-4 Geriatric Residents
- Provide comprehensive geriatric assessment: comorbidity, polypharmacy, cognitive, functional, nutritional, and socioeconomic areas to develop treatment planning and follow-up
- Work collaboratively to assist HCP, patients and families to understand age-related changes in the context of illness, prevent iatrogenic complications, promote social and functional well-being
- Provide linkages for durable discharges

Geriatric Psychiatry Consultation Service

Palliative Care Consultation Service

Maximizing Ageing Using Volunteer Engagement (MAUVE)
Together
Everyone
Achieves
More
## Inpatient Care Plans

### PREVENT FUNCTIONAL DECLINE & IMMObILITY
- ☑ ALL that apply; UPDATE as needed
- Last revised

### STRATEGIES
- ☑ Establish objectives/goals with patient or/and family to promote mobility (eg: exercise, ROM, ambulation)
- ☑ Minimize bed rest
- ☑ Ensure safe environment (uncluttered, lighting, etc)
- ☑ Least restraint approach
- ☑ Promote self care based on abilities
- ☑ Promote adequate PO intake
- □ Up for ALL meals if able to walk/transfer
- □ For patients who are unable to walk/transfer/weight bear ensure out of bed DAILY with lift. Chair type
- □ Ensure appropriate pain medication prior to mobilization
- □ Mobility aids (i.e. cane, walker, trapeze bar) within reach
- □ Consult a dietician, if necessary
- □ Other:
<table>
<thead>
<tr>
<th>STRATEGIES</th>
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<tbody>
<tr>
<td>☑ Promote activity (minimize bed rest)</td>
</tr>
<tr>
<td>☑ Avoid restraint use</td>
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<tr>
<td>☑ Promote adequate calories and fluids</td>
</tr>
<tr>
<td>☑ Promote continence</td>
</tr>
<tr>
<td>☑ Promote self care to patient’s abilities</td>
</tr>
<tr>
<td>☑ Inspect skin integrity each shift and PRN</td>
</tr>
<tr>
<td>☑ Use PAPER tape on fragile skin</td>
</tr>
<tr>
<td>□ Ensure patient is up for meals</td>
</tr>
<tr>
<td>□ Turn patient q2h and PRN if required</td>
</tr>
<tr>
<td>□ Apply barrier cream with each incontinence episode</td>
</tr>
<tr>
<td>□ Minimize skin tear/friction/shearing by use of appropriate mobility devices</td>
</tr>
<tr>
<td>□ Ensure appropriate pain medication</td>
</tr>
<tr>
<td>□ Use of special cushions as appropriate - liaise with OT</td>
</tr>
<tr>
<td>□ Consult dietician</td>
</tr>
<tr>
<td>□ Consult Wound Care RN</td>
</tr>
<tr>
<td>□ Other:</td>
</tr>
</tbody>
</table>
Is patient able to void?
4-6 hours post Foley removal

Yes

Does the patient have symptomatic retention (discomfort, urgency, incontinence, no void in 6 hrs)?

Yes

Bladder scan

If PVR 100-400cc

Next void

If PVR <100cc

Discontinue monitoring

NO

Bladder Scan

If > 400cc

Intermittent catheterization post void trial
Repeat q 4-6 hours as required to keep PVR < 400mL

Assess underlying causes of low urine output (low PO intake, fluid status, kidney function, hemodynamic status, low BP, HR, bleeding, vomiting, diarrhea, fever)

Encourage oral hydration if not contraindicated to promote urine production

Notify physician

If < 400cc

Rescan patient within 2 hours
**IMPROVED SLEEP HYGIENE – Care Plan**

☐ ALL that apply; UPDATE as needed

Last revised ________________

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<th>STRATEGIES</th>
</tr>
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<tbody>
<tr>
<td>☑ Identify &amp; try to mimic at home sleep routine:</td>
</tr>
<tr>
<td>☑ Promote daytime activity/mobilization/ambulation</td>
</tr>
<tr>
<td>☑ Limit interruptions during sleep at night</td>
</tr>
<tr>
<td>☑ Promote safe &amp; quiet environment</td>
</tr>
<tr>
<td>☑ Limit duration of naps during the day</td>
</tr>
<tr>
<td>☑ Prompt/encourage toileting prior to bedtime</td>
</tr>
<tr>
<td>☑ Limit caffeine intake after 1pm</td>
</tr>
<tr>
<td>☑ Limit medications/treatments that interfere with sleep (i.e. diuretics, inserting central lines overnight)</td>
</tr>
<tr>
<td>☑ Limit use of sedatives (rebound effect) unless necessary to manage specific symptoms (e.g. behaviours; insomnia)</td>
</tr>
</tbody>
</table>

- Reschedule hs meds to 20:00/21:00
- Ensure pain is adequately managed
- Other
DEPRESSION PREVENTION & MANAGEMENT
☑ ALL that apply; UPDATE as needed
Last revised ____________________

STRATEGIES
☑ Use empathetic and active listening
☑ Maximize autonomy, personal control & decision making
☑ Promote nutrition, elimination, sleep/rest patterns, physical comfort and pain control
☑ Enhance functional status with structured, regular activity ☑ Identify & engage social support networks
☑ Sign patient up for MAUVE; offer pet therapy
☐ Consider Geriatric Psychiatry for concerns re: acute symptoms, suicidality, depression interfering with QOL/care
☐ Institute safety precautions especially with patients expressing SI (eg: remove all sharps from room). See Psych orders for any specifics:

☐ Identify and reinforce strengths and capabilities
☐ Educate patient, caregiver(s) to incorporate strategies that help to depressive symptoms
☐ Monitor and document response to antidepressant medications
☐ Other:
## Evaluating Mount Sinai’s ACE Strategy

<table>
<thead>
<tr>
<th></th>
<th>Fiscal Year: 2009-10</th>
<th>2013-14</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency Department Visits (65+)</td>
<td>9,406</td>
<td>11,857</td>
<td>+26%</td>
</tr>
<tr>
<td>Medicine Admissions (65+)</td>
<td>1,573</td>
<td>2,155</td>
<td>+37%</td>
</tr>
<tr>
<td>Total Inpatient Bed Days (65+)</td>
<td>18,086</td>
<td>17,941</td>
<td>-0.8%</td>
</tr>
<tr>
<td>Total Length of Stay (65+)</td>
<td>11.5</td>
<td>8.25</td>
<td>-28%</td>
</tr>
<tr>
<td>Average Length of Stay / Estimated Length of Stay Ratio (65+)</td>
<td>95.6%</td>
<td>72.8%</td>
<td>-24%</td>
</tr>
<tr>
<td>% Return Home at Discharge (65+)</td>
<td>71.1%</td>
<td>79.1%</td>
<td>+11%</td>
</tr>
<tr>
<td>Average Alternate Level of Care Days per Patient (65+)</td>
<td>2.0</td>
<td>1.6</td>
<td>-20%</td>
</tr>
<tr>
<td>Medicine Bed Counts</td>
<td>88</td>
<td>76</td>
<td>-14%</td>
</tr>
</tbody>
</table>
# Evaluating Mount Sinai’s ACE Strategy

<table>
<thead>
<tr>
<th>Metric</th>
<th>Fiscal Year: 2009-10</th>
<th>Fiscal Year: 2013-14</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Readmission Within 30 Days (65+)</td>
<td>14.8%</td>
<td>12.8%</td>
<td>-14%</td>
</tr>
<tr>
<td>Catheter Utilization Ratio (65+)</td>
<td>56%</td>
<td>14.7%</td>
<td>-74%</td>
</tr>
<tr>
<td>Pressure Ulcer Incidence (65+)</td>
<td></td>
<td></td>
<td>-93%</td>
</tr>
<tr>
<td>Patient Satisfaction (65+)</td>
<td>95.4%</td>
<td>96.9%</td>
<td>+2%</td>
</tr>
</tbody>
</table>

Cost Savings Through More Efficient and Quality Care for Medicine Patients 65+ $6.7M* (Net Savings) in FY 2013-14 Alone

* Canadian Dollars
Practical approach on frail older patients attended for acute heart failure


Patients with Acute Heart Failure

Screening of frailty
- Age 65 years and older.
- Clinical presentation (i.e. delirium, falls or acute functional decline).
- Some level of baseline functional dependence in the basic ADL.

Emergency Department Identification of Seniors at Risk (ISAR)

\( \geq 2 = \text{possible and } \geq 3 = \text{probable frailty} \)
\( 6 = \text{the highest risk of frailty} \)

Diagnosis of frailty

Fried Scale (FS) or Short Performance Physical Battery (SBPP)

Fried Scale \( \geq 3 = \text{frailty} \)
Performance test (SPPB): \(< 5 = \text{frailty} \)

Comprehensive Geriatric Assessment (CGA)*

*Instruments derived from CGA: Multidimensional Prognostic Index, CGA score, Edmonton Frail Scale and Brief Geriatric Assessment.
Intensive Care for Elders (ICE) Strategy

- Establishes new sustainable approaches that seek to enhance and improve upon current service models
- Requires a shift in traditional thinking that currently underpins the administration and culture of most traditional care organizations
- Identifies risk factors and needs and intervenes early to maintain independence
- Requires a relentless focus on evaluating its outcomes to support continuous quality improvement
Intensive Care for Elders (ICE) Strategy

Intensivists
Geriatrics
Psychiatry
Nursing
Physiotherapy
Pharmacy
Dietician
Social work
Spiritual Care
Intensive Care for Elders (ICE) Strategy
Component 1

• Standardized ICE Admission Order Set for All ICU patients $\geq 70$ years of age
  – Constipation protocol
  – Appropriate medications for pain, anxiety, nausea and sleep promotion
  – Basic orders for nutritional support
  – Automatic consultation requests to geriatric medicine, dietitian, and rehabilitation specialists for early mobilization
  – Goals of care discussion within 24 hours
Clinical Frailty Scale*

1. Very Fit – People who are robust, active, energetic and motivated. These people commonly exercise regularly. They are among the fittest for their age.

2. Well – People who have no active disease symptoms but are less fit than category 1. Often, they exercise or are very active occasionally, e.g. seasonally.

3. Managing Well – People whose medical problems are well controlled, but are not regularly active beyond routine walking.

4. Vulnerable – While not dependent on others for daily help, often symptoms limit activities. A common complaint is being “slowed up”, and/or being tired during the day.

5. Mildly Frail – These people often have more evident slowing, and need help in high order IADLs (finances, transportation, heavy housework, medications). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation and housework.

6. Moderately Frail – People need help with all outside activities and with keeping house. Inside, they often have problems with stairs and need help with bathing and might need minimal assistance (cuing, standby) with dressing.

7. Severely Frail – Completely dependent for personal care, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~ 6 months).

8. Very Severely Frail – Completely dependent, approaching the end of life. Typically, they could not recover even from a minor illness.

9. Terminally Ill – Approaching the end of life. This category applies to people with a life expectancy <6 months, who are not otherwise evidently frail.

Scoring frailty in people with dementia

The degree of frailty corresponds to the degree of dementia. Common symptoms in mild dementia include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In moderate dementia, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In severe dementia, they cannot do personal care without help.


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### Intensive Care for Elders (ICE) Strategy - Component 2

**Six item checklist - ELDERSS**

<table>
<thead>
<tr>
<th>Excess pain and medications</th>
<th>Optimizing pain management and addressing polypharmacy, drug interactions, and potentially inappropriate medications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lines</td>
<td>Reassessing need for venous catheters, arterial lines and urinary catheters</td>
</tr>
<tr>
<td>Delirium</td>
<td>Screening using ICDSC and managing accordingly, prioritizing non-pharmacological interventions</td>
</tr>
<tr>
<td>Elimination</td>
<td>Screening for constipation, urinary retention, and applying the appropriate treatment protocol</td>
</tr>
<tr>
<td>Restraints</td>
<td>Avoiding physical restraints</td>
</tr>
<tr>
<td>Sedation</td>
<td>Assessment using the <em>Sedation-Assessment Scale</em> (SAS), minimizing benzodiazepines and other sedatives</td>
</tr>
<tr>
<td>Sleep</td>
<td>Promoting sleep, emphasizing non-pharmacologic approaches, and avoiding inappropriate hypnotics</td>
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</table>
Standardized ICE Nursing Care Plan

– Enhanced written nursing care plan that will include daily screening and documentation of: cognition, pain, delirium, mood, bladder/bowel function, sensory impairment (including home use of visual and hearing aids, and dentures), baseline and current mobility and ongoing need for physical restraints and/or catheters.

– ICE Geriatric Clinical Nurse Specialist to provide education, continuous coaching, and as-needed support to front-line ICU care-providers (including > 80 nurses and the frequently changing house staff). This will ensure understanding and uptake of the ICE Strategy.
Focused and multidimensional CGA particularly focusing on:

– medication reconciliation, polypharmacy, potentially inappropriate medications,
– sensory impairment, sleep, pain, delirium, mood,
– nutrition, bowel/bladder function,
– early mobilization, decubitus ulcers, restraint use,
– goals of care and discharge planning.
ICE: Intensive Care for Elders
Team Approach

- Comprehensive Geriatric Assessment
- Understand baseline function & ACP
- Measure frailty and risk
- Demedicalize: remove restraints & catheters
- Mobilization
- Avoid sedatives, opioids, antipsychotics
- Engage the patient and family
Thanks!
Geeta.mehta@utoronto.ca