Applying Geriatrics Principles to Improve Care Transitions for Older (and younger) Adults

Kellie L. Flood, MD
Associate Chief Medical and Quality Officer for Geriatrics and Care Transitions
UAB Hospital

kflood@uabmc.edu
Disclosures

I do not have any relevant financial relationships with any commercial interest that pertains to the content of my presentation.

Work supported from:

- John A. Hartford Foundation Change Agents grant to study UAB Virtual ACE interprofessional team intervention (PI; 2015-2016)
- R21 grant to study delirium intervention post-hospitalization (Co-Investigator; 2017-2019)
- R03 grant to study impact of Virtual ACE on outcomes and care transitions in GI surgical patients (Co-Investigator; 2017-2019)
- UAB Innovations Grant to Pilot Test Mobility Program Techs (PI-2017)

Teaching Honorarium from: Aurora Health System, University of Nebraska, University of California, San Francisco, Presbyterian Church in America Committee on Discipleship Ministries (equipping faith communities to care for vulnerable elders)
Thank you for the invitation and congrats to my Brewers friends!
Objectives

• Describe the unique vulnerabilities of older patients as they transition from hospital to home
• Describe “best practice” strategies to improve care transitions
• Describe how we can apply geriatric principles for older (and younger) adults with vulnerabilities to improve care transitions
Definition – Transitional Care

“\nA set of actions designed to ensure the coordination and continuity of health care as patients transfer between different locations or different levels of care within the same location.

Transitional care encompasses both the sending and the receiving aspects of the transfer.”

Where do older adults receive health care?

Home/Apartment | Assisted Living Facility | Rehab (acute/subacute) | Long Term Care | Clinic | Emergency Department | Hospital or LTACH | Inpatient Hospice

Each of these may be the sending or receiving location in a patient’s care transition journey.
What do some care transition journeys look like?

For these Medicare patients, the journey can be more of an odyssey fraught with....

Coleman et al, Health Serv Res, 2004;39(5):1449-65
When are older adults experiencing a hospital readmission?

- Medicare claims data from 2007-2009 to determine patterns
- Mean age of readmitted patients = 80 yrs for all DRGs studied (AMI, CHF, Pneumonia)
- Most readmits within first 15 days for all studied DRGs

Why are older adults experiencing readmissions?

The broad range of acute conditions responsible for readmission may reflect post-hospitalization syndrome – a generalized vulnerability to illness among recently discharged patients, many of whom have developed new impairments both during and after hospitalization.

What are some of these new impairments? A Real Life Example of a Care Transition Journey

Her care transitions journey included:

- Decline in function/mobility, resulting in falls and a PTE
- New confusion/wandering at night
- New medication (oxycodone)
- No longer able to live alone

And...

- A readmission within 3 weeks

Bernadine Lewandowski was living independently in an apartment until a hospitalization for a vertebral compression fracture.....
# Mobility/Function: Decline in Function Predicts 30-Day Readmissions

**Table 2. Association of Functional Impairments With Hospital Readmission**

<table>
<thead>
<tr>
<th>Functional Impairment</th>
<th>Readmission</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Odds Ratio (95% CI)</td>
<td>Unadjusted</td>
<td>Adjusted&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>1 [Reference]</td>
<td>1 [Reference]</td>
<td></td>
</tr>
<tr>
<td>No impairments</td>
<td>1.19 (1.06-1.34)</td>
<td>1.06 (0.94-1.20)</td>
<td>13.3 (12.6-14.0)</td>
<td>13.5 (12.8-14.2)</td>
</tr>
<tr>
<td>Difficulty with ≥1 IADL</td>
<td>1.23 (1.10-1.37)</td>
<td>1.08 (0.96-1.21)</td>
<td>15.5 (14.1-16.9)</td>
<td>14.3 (12.9-15.6)</td>
</tr>
<tr>
<td>Difficulty with ≥1 ADL</td>
<td>1.58 (1.40-1.79)</td>
<td>1.26 (1.11-1.44)</td>
<td>19.6 (17.8-21.3)</td>
<td>16.5 (14.9-18.1)</td>
</tr>
<tr>
<td>Dependency in 1-2 ADLs</td>
<td>1.96 (1.66-2.31)</td>
<td>1.42 (1.20-1.69)</td>
<td>23.1 (20.3-25.9)</td>
<td>18.2 (15.9-20.5)</td>
</tr>
</tbody>
</table>

42% more likely to be readmitted if dependent in ≥3 ADLs

Community dwelling elders; Mean age 78.5 years; 15% 30-day readmission rate

<sup>a</sup>Adjusted for age, gender, race, marital status, annual income, wealth, educational level, comorbidity score, and hospitalizations in the prior year
Mentation: Cognitive Impairment Associated with Readmissions

Medical patients age ≥ 65 years transitioned home from hospital

<table>
<thead>
<tr>
<th>Items</th>
<th>Maximum Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) What year is it now?</td>
<td>1</td>
</tr>
<tr>
<td>2) What month is it now? Memory phrase:</td>
<td>1</td>
</tr>
<tr>
<td>Repeat phrase after me: &quot;John Brown, 42 Market Street, Chicago,&quot;</td>
<td></td>
</tr>
<tr>
<td>3) About what time is it (within 1 hour)</td>
<td>1</td>
</tr>
<tr>
<td>4) Count backwards 20 to 1.</td>
<td>2</td>
</tr>
<tr>
<td>5) Say the months in reverse order (start with December)</td>
<td>2</td>
</tr>
<tr>
<td>6) Repeat the memory phrase.</td>
<td>5</td>
</tr>
<tr>
<td>(1) John</td>
<td></td>
</tr>
<tr>
<td>(1) Brown</td>
<td></td>
</tr>
<tr>
<td>(1) 42</td>
<td></td>
</tr>
<tr>
<td>(1) Market</td>
<td></td>
</tr>
<tr>
<td>(1) Chicago</td>
<td></td>
</tr>
</tbody>
</table>

Short Blessed Test
✓ Memory
✓ Orientation
✓ Concentration

Patients reporting independence with medication management
% Readmitted

<table>
<thead>
<tr>
<th>% Patients with 30-day readmit</th>
<th>&lt;5</th>
<th>5-12</th>
<th>&gt;12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Worsening Impairment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<0.123 lines/sec
<0.123 lines/sec
Unable to complete

Anderson, Birge, JAGS 2016; 64:1464-1468
Mentation: Delirium is Independent Risk Factor for 30-Day Readmissions

• 453 patients age ≥ 65 undergoing spine surgery
• 3.8% of patients had post-op delirium
• % patients with 30-day readmission
  • Overall 12.1%
  • Delirium: 41.2%
  • No Delirium: 11.1%

Table 3
Multivariate analysis and Odds Ratio (OR) of Independent predictors of 30-Day readmission after spine surgery in the elderly.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>OR</th>
<th>p-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>0.1298</td>
<td>0.77</td>
<td>0.42</td>
</tr>
<tr>
<td>Age at Surgery</td>
<td>-0.0099</td>
<td>0.99</td>
<td>0.75</td>
</tr>
<tr>
<td>BMI</td>
<td>0.0025</td>
<td>1.00</td>
<td>0.93</td>
</tr>
<tr>
<td>Smoker</td>
<td>0.2042</td>
<td>1.50</td>
<td>0.41</td>
</tr>
<tr>
<td>COPD</td>
<td>0.7813</td>
<td>4.77</td>
<td>0.05</td>
</tr>
<tr>
<td>CHF</td>
<td>-0.04279</td>
<td>0.42</td>
<td>0.24</td>
</tr>
<tr>
<td>CAD</td>
<td>-0.1367</td>
<td>0.76</td>
<td>0.52</td>
</tr>
<tr>
<td>HTN</td>
<td>0.5898</td>
<td>3.25</td>
<td>0.001*</td>
</tr>
<tr>
<td>Fusion Levels</td>
<td>0.0770</td>
<td>1.08</td>
<td>0.20</td>
</tr>
<tr>
<td>Operative Time</td>
<td>0.0045</td>
<td>1.00</td>
<td>0.006*</td>
</tr>
<tr>
<td>Length of Stay</td>
<td>-0.0878</td>
<td>0.92</td>
<td>0.02*</td>
</tr>
<tr>
<td>Post-Op Delirium</td>
<td>1.1273</td>
<td>9.53</td>
<td>0.0009*</td>
</tr>
<tr>
<td>Post-Op UTI</td>
<td>0.4379</td>
<td>2.40</td>
<td>0.05</td>
</tr>
<tr>
<td>Post-Op Pneumonia</td>
<td>1.1893</td>
<td>10.79</td>
<td>0.002*</td>
</tr>
</tbody>
</table>

* Represents statistical significance of p < 0.05.

Elsamadicy et al, J Clin Neuroscience 2017;41:128-131
Medications: Errors and Adverse Events After Hospitalization Are Common

- Prospective cohort study
  - 377 patients age ≥ 65
  - Admitted with CHF, acute coronary syndrome, pneumonia
  - Discharged to home
  - Measured medication reconciliation accuracy following transition to home

22% of admission meds were re-dosed or stopped at time of discharge

24% of these were suspected provider errors

Excluding suspected med changes from errors, % patients lacking understanding of:
- Re-dosed meds = 69%
- Stopped meds = 82%
- New meds = 62%

What Matters: Aligning Goals Associated with Reduced Hospitalizations

- RCT: In Home Palliative Care (IHPC)
- 297 homebound, terminally ill patients (COPD, CHF, Cancer) randomized to IHPC (155) or usual care (155)
- During study period, no significant difference in % of patients dying; IHPC group average survival shorter than UC patients (196 days vs 242 days, P=.03)

Brumley R et al, JAGS 2007;55:993-1000
Why are some older adults experiencing readmissions?

Our patient’s care transitions journey included:
- Decline in function/mobility, resulting in falls and a PTE
- New confusion/wandering at night
- New medication (oxycodone)
- No longer able to live alone

Another way of saying this:
Post-Hospitalization Syndrome
- Mobility
- Mentation
- Medications
- What Matters

Remember our patient’s story.....
Objectives

• Describe the unique vulnerabilities of older patients as they transition from hospital to home
  • Includes new or worsening mobility/functional impairments, cognitive impairments, polypharmacy/inappropriate medications, and misaligned goals
  • Contribute to Post-Hospitalization Syndrome
• Describe “best practice” strategies to improve care transitions
Transitions of Care: Past, Present, & Future

Past: Silos

Present: Roads / Bridges to connect the Silos
Key Foundational Care Transitions Interventions:

1994: Naylor Comprehensive Discharge Planning Protocol

- Comprehensive discharge planning protocol for geriatric patients
  - Initial and ongoing assessment of needs (patient and caregiver) throughout stay and 2 weeks post-hospitalization
  - Plan developed by interprofessional team and caregiver
  - Validation of education
- Implemented by gerontological clinical nurse specialist

276 community dwelling patients age ≥ 70 (mean age 76) with med-surg cardiac DRGs randomized (with 125 caregivers); most benefit in medical patients

*P < .05

Naylor et al, Ann Intern Med 1994; 120: 999-1006
Targeted Four Pillars
- Medication self-management
- Dynamic patient-centered record
- Timely follow-up
- Recognition of red-flags

Implemented by a care transitions
- Engages patient in hospital
- Monitors/coaches over 1 month

750 community-dwelling patients age ≥ 65 with 11 common med-surg DRGs randomized

Adjusted for age, sex, education, race/ethnicity, self-reported health status, chronic disease score, prior hospitalization and ED utilization, and discharge diagnosis

2009: Project Re-engineered Hospital Discharge (RED)

- Proactive patient education/self-management coaching throughout hospital stay (diagnosis, pending tests, red-flags, medications) using teach-back
- Make follow-up appointment and transmit discharge summary to PCP
- After Hospital Care Plan record remains with patient
- RN implements throughout stay; Pharmacist conducts follow-up phone calls

749 hospitalized adults, mean age 50, randomized

Key domains in targeted by care transitions interventions to date

**Figure 2. Taxonomy of interventions to reduce 30-day rehospitalization.**

<table>
<thead>
<tr>
<th>Predischarge Intervention</th>
<th>Postdischarge Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient education</td>
<td>Timely follow-up</td>
</tr>
<tr>
<td>Discharge planning</td>
<td>Timely PCP communication</td>
</tr>
<tr>
<td>Medication reconciliation</td>
<td>Follow-up telephone call</td>
</tr>
<tr>
<td>Appointment scheduled before discharge</td>
<td>Patient hotline</td>
</tr>
<tr>
<td></td>
<td>Home visit</td>
</tr>
</tbody>
</table>

**Intervention Bridging the Transition**

- Transition coach
- Patient-centered discharge instructions
- Provider continuity

PCP = primary care provider.

Hansen et al, Ann Intern Med 2011; 155:520-528
So how are we doing?

- Medicare patients (3387 hospitals; 2007-2015)
- Analyzed monthly hospital-level 30-day readmission rates
- Hospital Readmissions Reduction Program targeted (AMI, CHF, Pneumonia) and non-targeted conditions
- Overall readmission rates declined:
  - Targeted DRGs: 21.5% to 17.8%
  - Non-targeted DRGs: 15.3% to 13.1%

Is this the best we can hope for?

Zuckerman et al, NEJM 2016; 374:1543-51
How can we get unstuck?

All these care transitions programs are helping… but some of my geriatric patients still fall through the cracks… especially those with new functional/cognitive decline. Maybe we can get unstuck… by preventing post-hospitalization syndrome during the hospital stay as a care transitions strategy?
Objectives

• Describe the unique vulnerabilities of older patients as they transition from hospital to home
  • At least includes mobility/functional impairments, cognitive impairments, polypharmacy/inappropriate medications, and misaligned goals
  • Contribute to Post-Hospitalization Syndrome
• Describe “best practice” strategies to improve care transitions
  • Multimodal approaches (Naylor, Care Transitions Intervention, Project RED, others)
• Describe how we can apply geriatric principles for older and younger adults with vulnerabilities to improve care transitions
Transition of Care: Past, Present, & Future

Past: Silos

Present: Roads/Bridges to connect the Silos

Future: Added lanes for mitigation of geriatric vulnerabilities
Age-Friendly Health Systems: A Means of Preventing Post-Hospitalization Syndrome

- Transitioning U.S. to Age-Friendly Health Systems, focusing initially on the 4 M’s:
  - Mentation
  - Mobility
  - Medication
  - what Matters to patients

- Goal: “…to create health systems that are age-friendly and better able to meet the goals of the Triple Aim”

http://www.ihi.org/Engage/Initiatives/Age-Friendly-Health-Systems/Pages/default.aspx
Project BOOST Addresses the “8 P’s”

Better Outcomes through Optimizing Safe Transitions

Starting to look like the 4Ms

Problem medications:
- The most risky include warfarin, insulin, digoxin and aspirin/clopidogrel (Plavix) combination.
- Polypharmacy

Psychological, or depression:
- Including all patients with a hx of depression as well as patients who screen positive for depressive symptoms (using PHQ-2)

Principal diagnosis:
- Cancer, Stroke, Diabetes or Glycemic complication, COPD, and Heart Failure

Physical limitations
- Deconditioning, frailty, malnutrition or other limitations that impede ability to participate in care

Poor health literacy:
- Clinicians use the Teach Back method as the predominant method of patient preparation and education

Patient support:
- Social support is critical during transition

Prior hospitalization in the last 6 months:
- Single most predicative risk factor for future hospitalizations
- Identified automatically as high risk if unplanned admission in the last 6 months

Palliative care:
- Improve symptom management, patient satisfaction, limit resources including rehospitalizations for patients nearing end of life

Hansen et al, JHM 2013;8(8): 421-427; www.hospitalmedicine.org/BOOST
Project BOOST Addresses the “8 P’s”

- 11 hospitals implementing Project BOOST on pilot medical or med-surg units
- Participating hospitals:
  - Located across US
  - Teaching and non-teaching
- Outcome: Decline in same hospital, all-cause 30-day readmissions from BOOST units compared to usual care units

Hansen et al, JHM 2013;8(8): 421-427; www.hospitalmedicine.org/BOOST
Acute Care for Elders (ACE): An Interprofessional Team Model Addressing Geriatric Vulnerabilities

- **Functional Older Person**
- **Depressed Mood**
  - **Negative Expectations**
- **Acute Illness, Possible Impairment**
- **Hospitalization: ACE Unit**
- **Prehab Program:**
  - Specialized environment
  - Patient-centered, interprofessional care emphasizing *goal-aligned care*
  - Geriatric assessment *(function, mobility, cognition, medication review)*, non-pharmacologic pain management, and care/prevention protocols
  - Daily medical review
  - Discharge planning from day 1
- **Improved Mood**
  - **Positive Expectations**
- **Reduced Impairment**
- **Decreased Iatrogenic Risk Factors**

**ACE**

*Adapted from slide by SUMMA Health Care*
**UAB Acute Care for Elders (ACE) Model of Care**

**Geriatric NP:** Reviewing charts for geriatric needs and entering orders

**Additional Team Members**
- Speech
- Dietitian
- Pastoral Care
- Artist in Residence
- Counselor

**PT/OT**

**Bedside RN**

**UAB ACE Daily Interprofessional Meeting**

**Deliverables:**
- Plan for the Day
- Plan for the Stay

That includes assessment and management of acute illness AND:
- Mobility/Function
- Mentation/Cognition
- Medication Appropriateness
- What Matters: Patient/Family Goals
An Example: ACE and 30-Day Readmissions

Effects of an Acute Care for Elders Unit on Costs and 30-Day Readmissions

Kellie L. Flood, MD; Paul A. MacLennan, PhD; Deborah McGrew, MHA; Darlene Green, DSN; Cindy Dodd, BSN; Cynthia J. Brown, MD, MOPH

Table 1. Staffing and Care Processes for ACE and UC Units in Fiscal Year 2010

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ACE Unit</th>
<th>UC Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staffing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beds, No.</td>
<td>25</td>
<td>20</td>
</tr>
<tr>
<td>Patients aged ≥70 y. %</td>
<td>39.2</td>
<td>40.3</td>
</tr>
<tr>
<td>Unit nursing staff allotment, worked hours per patient-day</td>
<td>9.75</td>
<td>9.75</td>
</tr>
<tr>
<td>Physical therapists, FTE to bed ratio</td>
<td>1.19</td>
<td>1.25</td>
</tr>
<tr>
<td>Social services referrals/1.0 FTE*</td>
<td>1183</td>
<td>1201</td>
</tr>
<tr>
<td>Nurse coordinators, No.</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Care Processes</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geriatric screens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baseline and current basic ADL performance status assessed on admission</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Baseline and current instrumental ADL performance status assessed on admission</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Cognition screened on admission</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Daily IDT rounds for geriatric assessment and care coordination</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Evidence-based care processes based on daily IDT rounds and geriatric screens to prevent adverse outcomes (e.g., delirium, falls, and undernutrition)</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Volunteer visit for cognitive stimulation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Volunteer visit for mealtime assistance</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Daily medication review for high-risk or potentially inappropriate medications</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Geriatrician permitted to write orders for geriatric care–related referrals (e.g., rehabilitation, dietician, chaplain, and music therapy) and certain diets or medications</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Additional services available on request</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Formal geriatric consultation</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Chaplain</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Music therapy</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Counseling intern for patients or families with depressive symptoms, anxiety, and/or caregiver stress</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Pet therapy</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Low beds</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Geriatric-specific environmental modifications to unit</td>
<td>Yes</td>
<td>No</td>
</tr>
</tbody>
</table>

Abbreviations: ACE, Acute Care for Elders; ADL, activities of daily living; FTE, full-time equivalent; IDT, interdisciplinary team; UC, usual care.

* Social services FTEs included social workers, care managers, and utilization reviewers responsible for patients of all ages in multiple hospital units in addition to the ACE and UC units.
An Example: ACE and 30-Day Readmissions

Implications

1. Addressing geriatric vulnerabilities via age-friendly care is associated with reduced 30-day readmissions
2. Care models, like ACE, are a means of operationalizing age-friendly care

Table 2. Patient Demographics, Discharge Destination, and 30-Day Readmissions for All DRGs and the 25 Most Common DRGs

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>All Patients</th>
<th>25 Most Common DRGs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ACE Unit</td>
<td>UC Unit</td>
</tr>
<tr>
<td>Age, y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean (SD)</td>
<td>81.6 (6.9)</td>
<td>80.9 (6.6)</td>
</tr>
<tr>
<td>Median</td>
<td>81.6</td>
<td>80.5</td>
</tr>
<tr>
<td>Sex, No. (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>131 (30.6)</td>
<td>133 (34.1)</td>
</tr>
<tr>
<td>Female</td>
<td>297 (69.4)</td>
<td>257 (65.9)</td>
</tr>
<tr>
<td>Race or ethnicity, No. (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>276 (64.5)</td>
<td>231 (59.2)</td>
</tr>
<tr>
<td>Black</td>
<td>147 (34.4)</td>
<td>154 (39.5)</td>
</tr>
<tr>
<td>Other</td>
<td>5 (1.2)</td>
<td>5 (1.3)</td>
</tr>
<tr>
<td>Marital status, No. (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>167 (39.0)</td>
<td>140 (35.9)</td>
</tr>
<tr>
<td>Not married</td>
<td>261 (61.0)</td>
<td>250 (64.1)</td>
</tr>
<tr>
<td>Discharge destination, No. (%)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home</td>
<td>281 (65.7)</td>
<td>282 (72.3)</td>
</tr>
<tr>
<td>Skilled nursing facility</td>
<td>87 (20.3)</td>
<td>72 (19.5)</td>
</tr>
<tr>
<td>Other facility</td>
<td>23 (5.4)</td>
<td>11 (2.8)</td>
</tr>
<tr>
<td>Inpatient rehabilitation</td>
<td>31 (7.2)</td>
<td>18 (4.6)</td>
</tr>
<tr>
<td>or intermediate care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Died in hospital, No. (%)</td>
<td>6 (1.4)</td>
<td>7 (1.8)</td>
</tr>
</tbody>
</table>

Patients readmitted to UAB Hospital within 30 d of discharge, No. (%)

- ACE Unit: 34 (7.9)
- UC Unit: 50 (12.8)
- P Value: .02

- ACE Unit: 19 (7.3)
- UC Unit: 24 (11.2)
- P Value: .14
ACE-Like Care As the Foundation for Care Transition Planning

Care plan coordinated by interprofessional team

Reassessment in standardized intervals throughout hospitalization

Standardized assessment of function, mobility, cognition + psychosocial in all patients at admission

This is vulnerability assessment for all ages
Improving Efficient Recognition of Vulnerable Patients

UAB Ace Tracker

Names listed above are not actual patients. These are used for simulation cases only.
Unit-Based Care Delivery Redesign (Age-Friendly) – UAB Virtual ACE Intervention….

Goal: Prevention of Post-Hospitalization Syndrome as much as possible

• **Trains ALL providers:**
  - Nurse, Patient Care Technician, PT, OT, Pharmacist, Physician, Chaplain, Dietitian, Social Worker, etc.

• **Education, Clinical Pathways, and Tools focusing on:**
  - The “Why”
  - **Mobility:** Function & Safe Mobility
  - **Medication & Mentation:**
    - Delirium Prevention & Management
    - BEERs medications
  - Pain Assessment & Management
  - What **Matters**: Care Transitions
  - All coordinated via interprofessional team communication structures
Daily Interprofessional Team Meetings to Coordinate Care and Transition Planning on ACE....

Geriatric Screens for Vulnerabilities

...and 26 other medical-surgical-neurosciences services across UAB Hospital

Hematology

Oncology
...and informs care transition planning from Day 1

- House Calls
- Home Health
- Rehab
- Telehealth
- Paramedicine
- Palliative Care/Hospice
- Community Health Workers/Lay Navigators
# ED and Hospital Utilization Reduction in UAB House Calls (HC) Patients (2015-2017)

<table>
<thead>
<tr>
<th>Duration Pre- and Post-HC Enrollment</th>
<th>Hospital Admission or ED Visit without admission</th>
<th>Time Period</th>
<th># Encounters</th>
<th>% Decrease Post-HC Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3mo</td>
<td>Admission</td>
<td>Before</td>
<td>68</td>
<td>66.2%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER Only</td>
<td>Before</td>
<td>23</td>
<td>78.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>3-6mo</td>
<td>Admission</td>
<td>Before</td>
<td>60</td>
<td>23.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>46</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER Only</td>
<td>Before</td>
<td>25</td>
<td>40.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>&gt;6mo</td>
<td>Admission</td>
<td>Before</td>
<td>219</td>
<td>28.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>157</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER Only</td>
<td>Before</td>
<td>75</td>
<td>21.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>After</td>
<td>59</td>
<td></td>
</tr>
</tbody>
</table>

Dr. Marianthe Grammas, UAB Geriatrician, and House Calls team provides comprehensive care in the home.

Daughter: “This has truly been a game changer. It’s really difficult to move my mother in and out of the house.”

Manuscript in preparation
FY 2018 UAB Hospital Wide CMI Adj LOS (excludes Psych, Rehab, OB) and 30-Day Readmissions

- CMI Adj LOS
- % Patients w 30-Day Readmission
Objectives Revisited

• Describe the unique vulnerabilities of older patients as they transition from hospital to home
  • At least includes mobility/functional impairments, cognitive impairments, polypharmacy/inappropriate medications, and misaligned goals
  • Contribute to Post-Hospitalization Syndrome

• Describe “best practice” strategies to improve care transitions
  • Multimodal approaches (Naylor, Care Transitions Intervention, Project RED, others)

• Describe how we can apply geriatric principles apply for younger adults with complex needs
  • Next phase of improving care transitions may include hardwiring ACE-like care processes to identify vulnerabilities in patients of all ages – geriatric care becomes just care
  • Vulnerabilities for post-hospital syndrome may be present in younger adults
Huge thanks to the team!

- **UAB Division of Gerontology, Geriatrics and Palliative Care**
  - Katrina Booth, MD
  - Mariamthe Grammas, MD
  - Jasmine Vickers, MPH
  - Kelsey Kennedy, MS4
  - Richard Kennedy, PhD

- **UAB Department of Care Transitions**
  - Alison Garretson, MBA, RN
  - Pam Cargo, BSN, RN, CCRN, LLSGB
  - Marteria Garner, BSN, RN
  - Jaclynn Gothard, MBA, RN
  - LaTonya Freeman, BSN, RN
  - Marian Stanton, SW
  - Heather Bradley, BSN, RN
  - Joann Clough, RN, MAOM
  - Leigh Ann Duncan, MSW, LICSW
  - Eddie Mathews, MD

- **UAB Division of Interprofessional Practice and Training**
  - Emily Simmons, MSN, RN-BC, CNL
  - Shari Biswal, MSN, RN, PCCN, CNL
  - David James, DNP, RN-BC, CCNS, LSSGB
  - Terri Middlebrooks, BSN, RN
  - Beth Clarkson, MSN, NE-BC
  - Helen Mathews, PT
  - Christy McDougal

- **UAB Surgical Departments**
  - Don Reiff, MD
  - Melanie Morris, MD
  - Holly Richter, MD
  - Michael Straughn, MD
  - Isuzu Meyer, MD
  - Haller Smith, MD
  - Emily Malone, MPH

- **Aurora Health System and ACE Tracker Collaborative**
  - Michael Malone, MD
  - Aaron Malsch RN, MSN, GCNS-BC
  - Mary Hook, PhD, RN-BC
  - Marsha Volbrecht, MS, CSW, NHA
  - Ann Gallo
  - Trish Maloney
  - Many more

*Jasmine Vickers, MPH, PhD Candidate, Research Assistant, collects and enters ALL our data*
THANK YOU

UAB Hospital – 1152 beds with lots of vulnerable patients
Kellie Flood, kflood@uabmc.edu