THE HOSPITALIZED ELDERLY PATIENT

U. Ohuabunwa MD
Learning Objectives

- Understand the hazards of hospitalization in the acutely ill hospitalized geriatric patient

- Identify iatrogenic risk factors that contribute to poor outcomes in hospitalized older adults

- Identify the pitfalls that are associated with the transition of patients from the acute care setting to other settings of care.
Learning Objectives

- Evaluate the discharge readiness of acutely ill geriatric patients
- Assess patients for appropriate discharge locations
- Understand the process of efficient and effective care coordination
Acknowledgements

- Tracey Doering MD: for adaptation of elements of her presentation on Hospitalization of the Elderly
- Rosanne Leipzig MD, Patricia Bloom MD, Helen Fernandez MD: for adaptation of elements of their presentation on Acute Care of the Hospitalized Elderly Patient
Ms Smith is a 78 year old woman who presented with increasing anorexia, malaise, nausea. She had also noted a low grade fever and right flank pain.

In the last 2 days, she had been unable to eat much due to the feeling of nausea and had become increasingly weak.
Past Medical History/Medications

- DM 2 – Most recent HgA1C 9.5%.
- Hypothyroidism - Last TSH 8.500
- HTN
- CKD – Baseline creatinine 1.7
Current Medications

- Metformin 500mg bid
- Glyburide 10mg qd
- Synthroid 150 mcg qd
- Lisinopril 40mg qd
Physical Examination Findings

- **Vitals:** T 37.9°C    HR 100    BP 110/70    RR 16

- **Gen:** Ill looking but responding appropriately to questions

- **Resp/CVS/GI:** no abnormal findings

- **GU:** Right CVA tenderness

- **Neuro:** Alert & oriented to time, place, person
Pertinent Laboratory Findings

- CBC - WBC 11,000 (75% neutrophils, no bands)
- Chemistry – Na 129, BG 170, BUN 30, Cr 1.7
- UA
  - LE 3+
  - nitrite +
  - WBC 26-50
Assessment and Plan

- **UTI**: Started on Levaquin IV
- **Hyponatremia**: Hypovolemic. Will hydrate
- **DM2**: Continue home medications. Target good glycemic control. Accuchecks Q4H
- **HTN**: BP on the low side. Will monitor before restarting lisinopril
- **CKD**: Ensure adequate hydration
- **DVT prophylaxis**: Lovenox 40mg SQ QD.
Hospital Course - Hospital Day #1:

- On the first night of hospital stay, she can’t sleep. Complains of back pain

- Crosscover called who writes for
  - Benadryl 25mg qhs
  - Hydrocodone and acetaminophen
  - Laxative
Hospital Course - Hospital Day #2

- During rounds you note that she appears confused. Not oriented to time or place
- NL vitals and rest of physical exam
- Accucheck – BG 50, Other labs NL
- You give an amp of D50W and maintain with D5W
- You reduce the dose of glyburide to 5mg qday
Hospital Course - Hospital Day #2

- Check back on her 1 hour later: fully oriented to time and place, NL BG.

- On the 2nd night of hospital stay, she complains of itching and so cross cover writes for hydroxyzine 10mg q6hrs prn.

Any thoughts?
During rounds again, you note that she appears confused. Not oriented to time or place.

NL vitals and physical exam. Accucheck – BG 55, Other labs NL.

You discontinue the glyburide and maintain the D5W.
On the 3rd night of hospital stay, she is becoming increasingly confused and agitated.

Vital signs normal. BG 70. Crosscover is called who recommends restraints.

What’s going on?
Hospital Course - Hospital Day #4:

- During rounds again, you note that she is still confused. Not oriented to time or place

- VS review shows an O2 sat of 88%, **HR of 120** with an **irregular rhythm**

- **Dry mucous membranes**
The nurse informs you that she has not had much to eat or drink in the last 2 days.

She notes that her urine output in the last 24 hours is only 400 cc, despite an intake of 3 liters.

You order a foley’s catheter to be placed.

What’s going on?
Questions

- What is going on with Ms Smith?

- What are the issues that surround the hospitalized geriatric patient?

- What is our role as providers caring for hospitalized geriatric patients?
  - How can we improve the hospitalization experience of geriatric patients?
Demographics

- Population over age 65 is now 13%, and projected to be 20% by 2030.
- 38% of hospital admissions
- 49% of hospital days
- Severity of illness rising
- Rates of hospitalization are twice as great in pts over age 85
What are the issues that surround the hospitalized geriatric patient
RISKS FOR HAZARDS OF HOSPITALIZATION *

- Incontinence
- Polypharmacy
- Insomnia
- Malnutrition/N.P.O.
- Falls
- Depression
- Delirium
- Infection
- Ulcers
- Deconditioning
- Incontinence
- Immobility

- Restraints
- Immobility
- Isolation
- Unfamiliar Environment
- Sensory Deprivation
Hazards of Hospitalization

- Functional decline
- Immobility
- Delirium
- Depression
- Restraints
- Adverse drug reaction
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure Ulcers
Consequences of Hospitalization

- 23.3% risk of being unable to return home and require nursing home placement
- 35% decline in some basic ADL
- 50% of elderly patients experience some kind of complication related to hospitalization
Interaction of Aging and Hospitalization

<table>
<thead>
<tr>
<th>Changes with Usual Aging</th>
<th>Contribution of Hospitalization</th>
<th>Potential Primary Effects</th>
<th>Potential Secondary Consequences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reduced muscle strength and aerobic capacity</td>
<td>Immobilization, high bed and rails</td>
<td>Deconditioning, fall</td>
<td>Dependency</td>
</tr>
<tr>
<td>Vasomotor instability</td>
<td>Reduced plasma volume</td>
<td>Syncope, dizziness</td>
<td>Fall, fracture</td>
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<tr>
<td>Baroreceptor insensitivity and reduced total body water</td>
<td>Inaccessibility of fluids</td>
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<td></td>
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<tr>
<td>Reduced bone density</td>
<td>Accelerated bone loss</td>
<td>Increased fracture risk</td>
<td>Fracture</td>
</tr>
<tr>
<td>Reduced ventilation</td>
<td>Increased closing volume</td>
<td>Reduced $P_{O_2}$</td>
<td>Syncope, delirium</td>
</tr>
<tr>
<td>Reduced sensory continence</td>
<td>Isolation, lost glasses, lost hearing aid, sensory deprivation</td>
<td>Delirium</td>
<td>False labeling, physical restraint, chemical restraint</td>
</tr>
<tr>
<td>Altered thirst, taste, smell, and dentition</td>
<td>Barriers, “tethers,” therapeutic diets</td>
<td>Dehydration, malnutrition</td>
<td>Reduced plasma volume, tube feeding</td>
</tr>
<tr>
<td>Fragile skin</td>
<td>Immobilization, shearing forces</td>
<td>Pressure sore</td>
<td>Infection</td>
</tr>
<tr>
<td>Tendency to urinary incontinence</td>
<td>Barriers, “tethers”</td>
<td>Functional incontinence</td>
<td>Catheter, family rejection</td>
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Usual Aging

Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

Hazards

- Functional decline
- Immobility
- Delirium
- Depression
- Restraints
- Adverse drug reaction
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure Ulcers
Hazards

- Functional decline
- **Immobility**
- Delirium
- Depression
- restraints
- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Review of studies showed that bed rest was associated with worse outcomes after medical or surgical procedures, or primary treatment of medical conditions.

*Lancet* 1999; 354: 1229-33
Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

• Loss of strength/day at bed rest
  • Football players: 1-1.5% strength/day (10%/week)
  • Elderly patients: 5%/day (35%/week)

• Reconditioning takes much longer than deconditioning

Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

• Bone resorption of elderly acutely ill person at bedrest 50 TIMES usual involutional rate

Functional Decline - Consequences

What the Studies Show

- Early 1990’s (5 sites):
  - 31% lose ≥ 1 basic ADL at discharge c/w pre-admission
    - 2/5 of these remained impaired 3 months later
  - 40% have IADL decline at 3 months

- 1998-2008
  - 42% lose > 1 basic ADL at discharge c/w pre-admission (1 site)
    - 6 months later
      - 23.3% non-recovered
      - 17.4% dead

- Similar initial declines in Israel, Italy

Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

• Usual Aging: $pO_2 = 90 - \text{ (age over 60)}$
  
  • Costochondral calcification and reduced muscle strength diminish pulmonary compliance and increase RV

• Bed rest (supine position) decreases $pO_2$ by 8 mm on average
  
  • Closing volume increases, more alveoli hypoventilated

$pO_2$ for an 80 year old:

  • Normal: 70
  
  • At bedrest: 62
Effects of Reduced Ventilation

- Hypoxia – Reduced PO2
- Delirium
- Syncope
Hazards

- Functional decline
- Immobility
- **Delirium**
- Depression
- restraints
- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

Delirium

- Most common hazard of hospitalization
- Multifactorial
- 14-56% have it on admission
- 12-60% acquire it
- 32%-67% go unrecognized
- Misdiagnosed as dementia
Delirium in Elderly Hospitalized Patients: Morbidity and Mortality

- Increased
  - Mortality
  - Institutionalization
  - Length of Stay
  - Physical and Chemical Restraints
    - Pressure Ulcers
    - Dehydration
    - Aspiration
    - Malnutrition
    - Deconditioning

Ref: Inouye SK. NEJM 2006;354:1157-65
Delirium

- Marcantonio et al. (Harvard 2003)
- 551 admissions to subacute rehab
- Delirium associated with worse ADL and IADL recovery

Factors in Delirium

- **Predisposing**
  - Age
  - Impaired cognition
  - Dependence in ADLS
  - High medical comorbidity

- **Precipitating**
  - >6 meds, >3 new
  - Psychotropic meds
  - Acute medical illness
  - Vascular or cardiac surgery
  - Hip fx
  - Dehydration
  - Environmental change
Drugs Commonly Causing Delirium

- Alcohol, other sedative/hypnotics
- Anticholinergics (diphenhydramine, tricyclics, cimetidine, theophylline)
- Opioid analgesics (esp meperidine)
- Corticosteroids
- Antihypertensives/cardiac drugs - digoxin, amiodarone
- Antiparkinsonian drugs
- Psychoactive drugs (anxiolytics, hypnotics) – Benzodiazepines
- Any drug with action in CNS
Hazards

- Functional decline
- Immobility
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- Depression
- restraints
- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Depression

- Major depression: 10-21%
- Minor depressive symptoms 14-25%
- Underrecognized
- Poorer outcomes
- Higher mortality rate, unrelated to severity of medical illness
- More likely to deteriorate in hospital, and less likely to improve at discharge or at 90 days
Depression and mortality

![Graph showing survival rates over follow-up months for different symptom counts.]
Hazards

- Functional decline
- Immobility
- Delirium
- Depression
- Restraints
- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Restraints

- Lead to all the hazards of immobilization, plus increased agitation, depression, and injury
- Restraints do NOT decrease falls (may increase by increasing deconditioning*)
- JAHCO Acute Med/Surg Standard for Restraints:
  - Applied when a restraint is necessary for the patient’s wellbeing and can be used to improve medical care
  - All patients have the right to the least restrictive environment of care

Restraints

- In 1992, 7.4%-17% of medical pts were restrained
- In 1998, 3.9%-8.2%
- Reasons: prevent disruption of therapy, reduce falls, and confine confused patients
- Evidence does not support this
- Serious negative outcomes result
Hazards

- Functional decline
- Immobility
- Delirium
- Depression
- restraints

- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Adverse drug reactions

- Most frequent iatrogenic complication
- Increased length of stay, higher costs, doubling of risk of death
- Risk increases exponentially with number of medications
- High risk: greater than 4 or 5 drugs
Medications to avoid

- Antihistamines
- Narcotic analgesics
- Benzodiazepines
- Tricyclic antidepressants
- Histamine-2 receptor antagonists
Important Problem drugs

- Warfarin
- Digoxin
- Insulin
# Medications to Avoid in the Elderly and Alternatives

<table>
<thead>
<tr>
<th>Medications of Risk</th>
<th>Recommendations</th>
<th>Alternatives</th>
</tr>
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<tbody>
<tr>
<td><strong>Antihistamines:</strong> Confusion, oversedation, orthostatic hypotension, falls, constipation and urinary retention due to anticholinergic effects</td>
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<tr>
<td>Diphenhydramine</td>
<td>Avoid use as hypnotic</td>
<td>Temazepam 7.5 mg hs</td>
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<tr>
<td>Hydroxyzine</td>
<td>Avoid use as opioid adjunct</td>
<td>Zolpidem 5 mg hs</td>
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<td></td>
<td>Use lowest effective dose for allergic reactions</td>
<td>Trazodone 50 mg hs</td>
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<td></td>
<td>Use a non-sedating antihistamine for seasonal allergy</td>
<td>Non-sedating antihistamines: Loratadine 10 mg daily, Fexofenadine 60 mg daily or bid</td>
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<tr>
<td><strong>Narcotic Analgesics:</strong> Meperidine - confusion, oversedation, orthostatic hypotension, falls, constipation and urinary retention due to anticholinergic effects; metabolite may produce agitation and seizures; short duration of analgesia. Propoxyphene - poor analgesic effect with usual opioid and anticholinergic effects</td>
<td>Use alternative pain medication</td>
<td>Acetaminophen - provides analgesia equivalent to propoxyphene; add codeine or oxycodone if pain relief inadequate: oxycodone 2.5 mg q4-8h</td>
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<tr>
<td>Meperidine</td>
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<td>Morphine: initially low doses (e.g., 2-4 mg q3-4h) suffice</td>
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<tr>
<td>Propoxyphene</td>
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<tr>
<td><strong>Benzodiazepines:</strong> Confusion, sedation and falls</td>
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<tr>
<td>Diazepam</td>
<td>Use shorter acting agent for anxiety, and for alcohol or benzodiazepine withdrawal; Use a low dose antipsychotic to treat agitation and psychosis</td>
<td>Lorazepam 0.5 – 1 mg q6h pm</td>
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<tr>
<td>Chlordiazepoxide</td>
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<td>Oxazepam 10 mg q6h pm Agitation/Psychosis:</td>
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<td>Haloperidol 0.5 – 2 mg bid or tid</td>
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<td></td>
<td></td>
<td>Risperidone 0.5 mg bid</td>
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<tr>
<td><strong>Tricyclic Antidepressants:</strong> Confusion, oversedation, orthostatic hypotension, falls, constipation and urinary retention due to anticholinergic effects</td>
<td>Use less anticholinergic TCA for neuropathic pain; use alternative agents (e.g., SSRI) for depression</td>
<td>Neuropathic pain: Desipramine 10 – 20 mg daily</td>
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<tr>
<td>Amtriptyline</td>
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<td>Nortriptyline 10 – 25 mg daily</td>
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<td>Imipramine</td>
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<td>Doxepin</td>
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<tr>
<td><strong>Histamine – 2 Receptor Antagonist:</strong> Confusion, depression and headache due to decreased renal elimination</td>
<td>Reduce usual dose by 50%</td>
<td>Famotidine 10-20 mg daily or 20 mg every other day</td>
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</tbody>
</table>
Polypharmacy

- No single tool can identify the cause
- Many medications are often necessary to treat multiple diseases (DM, CHF, hyperlipidemia)
- Some causes: multiple prescribers, multiple pharmacies-drug interactions, and drug duplications
Prescribing guidelines

- Know medications that pt is taking
- Individualize therapy
- Reevaluate daily
- Minimize dose and number of drugs
- Start low, go slow
- Treat adequately; do not withhold therapy
- Recognize new symptoms as potential drug effect
- Treatment adherence
Hazards

- Functional decline
- Immobility
- Delirium
- Depression
- restraints
- Adverse drug reactions
- **Nosocomial infections**
- Incontinence
- Malnutrition
- Pressure ulcers
Nosocomial infections

- 50% of cases are in elderly patients
- Urinary tract, lungs and gastrointestinal tract
- Risks: older age, catheters, antibiotics, fecal or urinary incontinence, glucocorticoids
- Resistant organisms: Get records of cultures from nursing homes
Prevention measures

- Hand washing
- Limit use of broad spectrum antibiotics
- Discharge patients as soon as possible
- Limit use of in-dwelling catheters as much as possible
- Reassess need for in-dwelling catheters daily
Hazards

- Functional decline
- Immobility
- Delirium
- Depression
- restraints
- Adverse drug reactions
- Nosocomial infections
- Incontinence
- Malnutrition
- Pressure ulcers
Urinary incontinence

- 35% of hospitalized patients
- 5% acquire it in the hospital
- Remember transient causes: DIAPPERS
- Not an indication for a catheter
- Void q 2 hours
- Falls occur with patients trying to get to the bathroom
DIAPPERS:
Transient Urinary Incontinence

- D-elirium
- I-nfection (not asymptomatic bacteruria)
- A-trophic Vaginitis
- P-harmaceuticals
- P-sychiatric
- E-nocrine
- R-stricted Mobility
- S-tool impaction

Hazards

- Functional decline
- Immobility
- Delirium
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- Adverse drug reaction
- Nosocomial infections
- Incontinence
- **Malnutrition**
- Pressure Ulcers
Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

- Older adults tend toward intravascular dehydration
- Thirst is less for degree of hyperosmolarity
- Renal concentrating ability often impaired
- Salt wasting increases

Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

- Sense of taste decreases with age
  - Hospital food often tasteless
  - Decreased intake if not salted or seasoned
- 25-30% of hospitalized elderly are under/malnourished
- Under/malnutrition a strong negative predictor of clinical outcome
- Readily available markers:
  - Serum albumin (after rehydration - check the Hb)
  - TLC (WBC x lymph %) (WNL=2000+)
Nutrition

- Independent risk factor for mortality
- Assess at admission
- Minimize NPO orders
- Consequences of malnutrition: pressure ulcers, impaired immunity, and longer length of stay
Nutrition

Covisky, et al. JAGS, 47: 532-538
Hazards

- Functional decline
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- Pressure Ulcers
Bed Rest and Hospitalization are Dangerous to the Health of Older Adults

- Skin necrosis results from direct pressure > capillary filling pressure (=32 mmHg) for more than 2 hours
  - Sacral pressure after short immobilization=70 mm
- Increased likelihood of shearing forces and exposure to moisture increase risk of skin breakdown
- Pressure ulcer prevalence 20-25%
Complications of Pressure Ulcers

Increased mortality
- 3x more likely to die if develop pressure ulcer in hospital

- Osteomyelitis
  - reported in 38% of patients in infected pressure ulcers

- Sepsis
  - if related directly to pressure ulcer, mortality nears 50%
Pressure Ulcer Prevention Key Points

- Use of Special Support Surfaces
- Turning Schedules
- Remobilization
- Managing Moisture
- Friction and Shear
- Nutritional Replacement
How can we improve the hospitalization experience of geriatric patients
What the admitting care team can do

- Establish baseline
- Compare baseline
- Prevent iatrogenic illness
- Understand patient values
- Initiate discharge planning
- Interdisciplinary work rounds
- Hold family conferences
- Immunize
Establish baseline

- ADLS
- IADLS
- Mobility
- Living situation
- Social support
- Discuss and obtain advance directives
Compare baseline

- Functional assessment - current ADL level
- Assess mobility - gait, upper and lower extremity range-of-motion
- Assess cognition - dementia, delirium?
- Assess nutritional status - malnourished, dehydrated?
- Assess affect - anxious, depressed?
- Estimate length of stay - DRG
- Discharge planning – Interdisciplinary approach, expected discharge site
Daily rounds

- Interdisciplinary work rounds – clinical, functional, psychosocial
- Therapies needed?
  - Catheters
  - Central lines
  - Medications
  - Nasal cannulas
  - Telemetry
  - restraints
- Target discharge date - Initiate discharge planning
- Hold family conferences
Recommendations for Modification of Physical and Functional Environment

- Ambulation
  - Low bed without rails
  - Carpeting
  - Assistance
  - Minimization of tethers

- Reality Orientation
  - Clocks
  - Calendars
  - Dressing
  - Communal Dining

- Increased sensory stimulation
  - Proper Lighting
  - Hearing Aids/Glasses
  - Newspaper/Books

- Functional Change
  - Team management
  - Interdisciplinary rounds
  - Family Participation-Goals
  - Discharge Planning
Discharge

- The patient’s baseline level of physical functioning predicts the discharge level of functioning:
  - Reassess performance of basic ADL, IADL
- Check mobility: is patient able to walk independently?
- Assess clinical stability
- Discharge to home or alternate site based on the functional status, available home supports, need for rehabilitation or placement in long-term care setting.
1) Bed Rest is for Dead People and a few others. GET THE PATIENT MOVING!!!

2) The fewer drugs, the better. Review meds frequently.

3) Get out IV lines and catheters as soon as possible.

4) Avoid restraints whenever possible.

5) Assess and monitor mental/cognitive status DAILY.
TEN COMMANDMENTS of Care for the Hospitalized Elderly

6) Delirium is a medical emergency. Treat with antipsychotics only when indicated.
7) Watch for depression.
8) Pay attention to amount of food consumed. Consider supplements.
9) Start discharge planning with admission
10) Involve patient and family in decision-making and advance directives.
Ms Smith

- Ms Smith improved and was discharged home. At the time of discharge, she was oriented to place and person but not to time.

- She was however sent home without instructions on how to care for herself. She lives alone and had great difficulty getting out of bed to use the toilet, and she could not prepare meals for herself. She had great difficulty managing her medications and had to be readmitted for blood sugars running above 600mg/dl.
Hazards of Poorly Executed Transitions of Care

- Patients experience heightened vulnerability during transitions between settings.
- Quality and patient safety are compromised during this vulnerable period.
Hazards of Poorly Executed Transitions of Care

- High rates of medication errors
- Inappropriate discharge and discharge setting
- Inaccurate care plan information transfer
- Lack of appropriate follow-up care
Hazards of Poorly Executed Transitions of Care

- Problems that occur during transitions have been codified
  - medication management
  - continuity of the care plan lead the list

- 49% of discharged patients had lapses related to medications, test follow-up, or completion of a planned workup (Moore et al.)
Hazards - Medication Errors

- Medication discrepancy among discharged patients
  - Coleman et al - 14% (Arch Intern Med, 2005)
  - Moore et al - 42%
  - Wong et al - 41%
  - Incomplete prescriptions and omitted medications being the most common
  - 29% of instances had the potential to affect outcomes

- Gray et al. found 20% of patients have adverse med reactions post-discharge. (Annals of Pharmacotherapy, 1999)
Hazards - Poor Communication
Provider - Patient

Qualitative studies show patients and caregivers:

- Are unprepared for their role in the next care setting
- Do not understand essential steps in the management of their condition
- Cannot contact appropriate health care practitioners for guidance
- Are frustrated by having to perform tasks practitioners have left undone.
Hazards - Poor Communication Provider - Provider

- Study of 300 consecutive admissions to 10 New York City nursing homes from 25 area hospitals
- Legible transfer summaries in only 72%
- Clinical data often missing (ECG, CXR, etc.)
- Contact info for hospital professionals who completed summaries present in less than half

Henkel G.  Caring for the Ages 2003
Outcomes of Poorly Executed Transitions

- Re-hospitalization
- Greater use of hospital emergency, post-acute, and ambulatory services
- Further functional dependency
- Permanent institutionalization
Hospital Readmissions

- 19.6% of Medicare beneficiaries readmitted in 30 days (Jencks et al., NEJM, 2009).

- Readmission results in
  - Increased healthcare costs
  - Iatrogenic complications, such as adverse drug events, delirium, and nosocomial infections
  - Progressive functional decline
Studies of Hospital Readmissions

- Only half of patients re-hospitalized within 30 days had a physician visit before readmission
  - Unknown if lack of physician visit causes readmissions—but poor continuity of care, especially for many chronically ill patients

- 19% of Medicare discharges followed by an adverse event within 30 days—2/3 are drug events, the kind most often judged “preventable”

- Potential high cost savings — unplanned readmissions cost Medicare $17.4 billion in 2004 (Jencks, et al., NEJM, 2009)
Transitions of Care

How do things go wrong
Care Transitions Process

Patient Admitted:
- Assessment
- Define Problem
- Treatment Plan

Patient Treated:
- Investigations
- Procedures
- Consultations

Patient improved and discharged:
- Readiness for Discharge
- Discharge Setting
- Discharge Education
- Care Coordination
- Provider Communication

Post Discharge Follow-up:
- DC Summary
- Medication Reconciliation
- Follow-up appointments
- Follow-up Consultations
- Follow-up tests
Provider Role in Care Transitions

Patient Admitted
- Assessment
- Define Problem
- Treatment Plan

Patient Treated
- Investigations
- Procedures
- Consultations

Patient improved and discharged
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Post Discharge Follow-up
- DC Summary
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- Follow-up Consultations
- Follow-up tests
Potential Lapses in Care Transitions Process

Patient improved and ready for discharge
- Readiness for Discharge
- Discharge Setting
- Discharge Education
- Medication Reconciliation
- Care Coordination
- Provider Communication
  - PCP communication
  - DC Summary

Discharged to the next care setting
- Medication Compliance
- Dietary Compliance
- Keep follow-up appointments
- Transportation
- Caregiver support
- Home Health/Community Resources

Post Discharge Follow-up
- DC Summary review
- Medication Reconciliation
- Follow-up appointments
- Follow-up Consultations
- Follow-up tests
Factors Contributing to Failure in Transitions of Care

- System-Related Factors
- Provider-Related Factors
- Patient-Related Factors

Failed Transitions
Figure 2. Taxonomy of errors at time of hospital discharge

- **Health Care System**
  - Lapse of communication
    - Discharge summary to PCP
    - Inpatient team to PCP
    - Community services with PCP
  - Ind adequate Patient Education
  - Medication Error
  - Lack of timely follow-up
  - Lapse in community services

- **Patient**
  - New Medical Problem
    - Deteriorization of known medical problem
      - Distant from discharge
      - Early Post-discharge
      - Drug/Alcohol use
        - Language/Cultural barrier
        - Medication non-adherence
          - Doesn't keep follow-up appointment
    - Inappropriate discharge
      - Inappropriate medication
      - Inadequate use of community services

- **Clinician**
  - Lab/Test error
    - Not ordered
    - Not performed
    - Not seen
    - Not acted upon

**Rehospitalization**
Transitions of Care

How can we Improve the Process
A set of actions designed to ensure the coordination and continuity of care as patients transfer between different locations or different levels of care in the same location – AGS definition of Care Transitions
Solution to Problem

- Tailored towards what will work best for the patients in different hospital settings

- Interventions
  - System related
  - Patient related
  - Provider related
BEST PRACTICES FOR CARE
TRANSITIONS – Patient Related

- Preparation for what to expect at the next care site
- Opportunity to provide input about their values/preferences into the plan of care
- Input from informal care providers who are involved in the execution of the plan of care.
- Clear advice on how to manage their conditions, recognize warning symptoms
- Contact of a health professional who is familiar with their plan of care
BEST PRACTICES FOR CARE
TRANSITIONS – Patient Related

- Arrangements for admission to next level of care - rehabilitation facility or a home health agency or an outpatient appointment

- Arrangements for transportation to a follow-up ambulatory visit

- Timely evaluation by the receiving clinician to ensure implementation of the care plan

- Timely evaluation by the consultant clinicians

- Timely completion of recommended post discharge tests
The “sending” and “receiving” healthcare professionals require:

- A uniform plan of care to facilitate communication and continuity across settings

- An accessible record that contains a current problem list, medication regimen, allergies, advance directives, baseline physical and cognitive function

- Contact information for all professional care providers as well as informal care providers
BEST PRACTICES FOR CARE

TRANSITIONS – System Related

- Efficient transmission of vital aspects of care plan – intra and inter facility
- Arrangements for follow-up appointments and test are in place prior to discharge
- System in place to ensure that patients receive their medications prior to discharge
- System in place to ensure appropriate and adequate education of patients by staff
Other Interventions

- A number of programs have been developed that aim to improve care as older adults transition across healthcare setting.

- Coordination of care by a “coordinating” health professional who oversees both the sending and receiving aspects of the transition.

- Interventions are divided into two groups based on intensity:
  - The “coach,” “guide,” approach
  - The “guardian angel” approach, which involves intensive case management by medical care providers.
## SUMMARY OF CARE TRANSITIONS BEST PRACTICES

### Table 1: During Hospitalization
- Risk screen patients and tailor care
- Establish communication with primary care physician (PCP), family, and home care
- Use “teach-back” to educate patient/caregiver about diagnosis and care
- Use interdisciplinary/multi-disciplinary clinical team
- Coordinate patient care across multidisciplinary care team
- Discuss end-of-life treatment wishes

### Table 2: At Discharge
- Implement comprehensive discharge planning
- Educate patient/caregiver using “teach-back”
- Schedule and prepare for follow-up appointment
- Help patient manage medications
- Facilitate discharge to nursing homes with detailed discharge instructions and partnerships with nursing home practitioners

### Table 3: Post-Discharge
- Promote patient self-management
- Conduct patient home visit
- Follow up with patients via telephone
- Use personal health records to manage patient information
- Establish community networks
- Use telehealth in patient care
What Could have been done differently for Ms Smith

☐ Your Thoughts?