The (Frail) Older Patient

with Diabetes

November, 2016
Owensboro Health

- 477 Bed Regional Hospital
- 32 Bed ICU
- 30 Transitional Care Beds
- Level III Trauma Center
- Level III NICU
- Largest employer west of Louisville in the Commonwealth of Kentucky
Bill J. Bryant, MD FAAFP CPPS CMD

- CAQ (Geriatrics)
- Owensboro Health
  - Chief Quality & Patient Safety Officer
  - Medical Director of the Transitional Care Center
- Bill.Bryant@OwensboroHealth.org
Patient Story
26% of patients **over the age of 65 years** have diabetes...

• ...and this number is expected to grow rapidly...


*In standards of Medical Care in Diabetes-2016. Diabetes Care 2016;39 (suppl.1):S81-S85*

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13% of the population

8% of hospital discharges

1.8% of the population

8% of hospital discharges

13% of the population

40% of hospitalized patients

Source:
UpToDate: Accessed 1/15/2016
Agency for Health Care Policy and Research. Rockville, MD 2010
Objectives:

By considering current limitations and shortcomings within a historical perspective, promote an innovative vision for a more holistic model of management for the frail elderly patient with diabetes to achieve optimal outcomes.

Define Frailty and Geriatric Syndrome

Clarify glycemia treatment goal modifications in the older patient

Promote safe prescribing in the older patient to avoid adverse effects and hypoglycemia.

I will **not** be addressing:

- Type 1 Diabetes
- End of life care
- Comprehensive review of diabetes in the older patient
Innovation

A new idea, device, or method
To do things differently, we must see things differently.

John Kelsch, Xerox, Quality Healthcare in America Project
Patient Story
"Any symptom in an elderly patient should be considered a drug side effect until proven otherwise."

J. Gurwitz, 1995
Don’t prescribe a medication without conducting a drug regimen review.
Frailty

**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.

A biologic syndrome that reflects a state of decreased physiological reserve and vulnerability to stressors.
Hospital management of older adults  Author Melissa Mattison, MD, SFHM
Section Editors Kenneth E Schmader, MD Andrew D Auerbach, MD, MPH Deputy Editor Lee Park, MD, MPH
“Third leading cause of death behind heart disease and cancer”

Journal of Patient Safety, September 2013, Volume 9, Issue 3

Martin Makary. BMJ 2016;353:i2139

2012 • 78.8 yrs
2000 • 78 yrs
1975 • 73 yrs
1950 • 68 yrs
1925 • 57 yrs
1900 • 47 yrs

(Life Expectancy average of male and female ages)
frail patients are at risk for marked and often disproportionate decompensation,… adverse events, procedural complications, prolonged recovery, functional decline, disability, and mortality.
Patient Story
1900 • 47 yrs

1925 • 57 yrs

1950 • 68 yrs

1975 • 73 yrs

2000 • 78 yrs

2012 • 78.8

• Sulfonylureas oral medications 1955

• Human insulin 1978

2002

Defined IFG 100-125 as pre-diabetes; (later: A1C 5.7-6.4% also)

2008: ACCORD, ADVANCE & VADT:
The results from these studies fail to show benefit of intensive glycemic control on CV outcomes in people with type 2 diabetes who are at high CV risk.

The results from these studies lead to clinical recommendations that call for a more individualized approach for setting glycemic goals and treatment targets.

(Life Expectancy average of male and female ages)
Hypoglycemia should be avoided in older adults with diabetes.

It should be screened for and managed by adjusting glycemic targets and pharmacological interventions.
Patients with risk factors for serious hypoglycemic represent a large subset of individuals receiving hypoglycemic agents...

Approximately one-half had evidence of intensive treatment.
Indeed, what was previously considered good control for all is now considered overtreatment in elderly patients because it is associated with more harm than benefit.
In view of the findings from the ACCORD study, VADT, and ADVANCE trials all of which showed no benefit or harm associated with intensive glycemic control...

How do well-meaning physicians seemingly ignore the evidence and either initiate therapy inappropriately or fail to step down therapy where indicated?

(Possible explanations)

... patient-centered medicine is **challenging and requires relentless mindfulness** to assimilate the latest evidence and the changing health status of patients, to include preference, cognitive function, life expectancy, and other competing illness demands.

... clinical inertia peers to work both ways: *physicians also hesitate to pull back or scale down therapy.*
Evidence Base
There are few long-term studies in older adults demonstrating the benefits of intensive glycemic, blood pressure, and lipid control.
Older adults (≥65 years of age) with diabetes should be considered a high priority population for depression screening and treatment. B

Hypoglycemia should be avoided in older adults with diabetes. It should be screened for and managed by adjusting glycemic targets and pharmacological interventions. B
Other cardiovascular risk factors should be treated in older adults with consideration of the time frame of benefit and the individual patient.

Treatment of hypertension is indicated in virtually all older adults, and lipid-lowering and aspirin therapy may benefit those with life expectancy at least equal to the time frame of primary or secondary prevention trials. E
Geriatric Concepts

Disability

Comorbidity
Multimorbidity

Cognition

Geriatric Syndromes

Frailty
Geriatric Syndromes are clinical conditions common in older adults that share underlying causative factors and involve multiple organ systems.

They include a number of clinical conditions that, unlike traditional syndromes, do not fit a discrete disease category.

Examples:
- Incontinence
- Cognitive impairment
- Delirium
- Falls
- Pressure ulcers
- Pain
- Weight loss
- Anorexia
- Functional decline
- Depression
- Multimorbidity.

A geriatric syndrome is a multifactorial condition occurring primarily in frail elderly which is usually due to multiple contributing factors and results from an interaction between patient-specific impairments and situation–specific stressors.
Polypharmacy: Discussion:

- medications may contribute to or exacerbate geriatric syndromes alone or through drug-drug or drug–disease interactions.

Complexity

Paradigm of Geriatric Syndromes

...rarely explained by a single cause.

Can we check a urine????

Simplicity

Covinsky et al JAMA. 2011; 306(16):1782-1793
As common as UTIs are in nursing home residents, asymptomatic bacteriuria is more common, occurring in > 30% of NH residents, and 100% of those chronically catheterized.

Every day, frail older patients are evaluated with unnecessary urine tests, incorrectly labeled with a UTI diagnosis, and treated with potentially harmful therapy.

Scapegoating of UTIs for the myriad behavioral and functional changes that occur commonly in frail older patients may delay identification of the correct diagnosis.

Heidi L. Wald, MD
U. of Colorado School of Medicine
This approach differs from the traditional medical approach...

Comparison of Two Approaches to Geriatric Syndromes using Falls as an example

Geriatricians think and see things differently

New way of thinking

Ten Ways to Improve the Care of Elderly Patients in the Hospital. Angeline Maria Labella et al. Journal of Hospital Medicine 2011; 6: 351-357.
It ain’t what you don’t know that gets you into trouble.

It’s what you know for sure that just ain’t so.

Mark Twain
1900: 47 yrs
1925: 68 yrs
1950: 68 yrs
1975: 73 yrs
2000: 78 yrs
2012: 78.8 yrs

Institute of Medicine (IOM) reports on challenges ... as the population ages.

1978: 1st Geriatric Certifying examination

(Life Expectancy average of male and female ages)
The challenge: geriatric medicine is a young discipline...


IOM Report:
- Scarcity of faculty
- Few providers choose this career
- Decreasing number...
  - entering training programs
  - choose to recertify

2008

2015
Hospitalists care for elderly patients daily, but few have specialized training in geriatric medicine.

Ten Ways to Improve the Care of Elderly Patients in the Hospital. Angelena Maria Labella et al. Journal of Hospital Medicine 2011; 6: 351-357.
Medications to Avoid or Use with Caution in Older People

>40 medications or medication classes

Divided into 5 categories

Journal of American Geriatrics Society. 2015

- The systematic process of identifying and discontinuing drugs in instances in which existing or potential harms outweigh existing or potential benefits...

- Is part of the good prescribing continuum which spans therapy initiation, dose titration, changing or adding drugs, and switching or ceasing drug therapies.
**Gabapentin example**

- **Caution:** *Abrupt withdrawal* can cause seizures or withdrawal symptoms
- **Common reactions (selected)**
  - Dizziness
  - Somnolence
  - Ataxia
  - Fatigue
  - Peripheral edema
  - Nystamus
  - Nausea/vomiting
  - Hostility
  - Tremor
  - Emotional lability
  - Blurred vision
  - Asthenia
  - Xerostomia
  - Hyperkinesia
  - Constipation
  - Abnormal thinking
  - Weight gain

Epocrates accessed 10/24/15
1 in 5 older adults is taking potentially inappropriate medications in the office and community settings.

1 in 6 hospital admissions of older adults is because of an adverse drug event (4X > younger persons).

> 75 yo: 1 in 3 hospital admissions is because of an adverse drug event.

1 in 6 older patients experiences an adverse drug event while in the hospital.

In 45 days period after hospitalization an event identified in nearly 1 in 5 discharges.

> 1/3 ADEs considered preventable

More severe events were more likely to be preventable...

Estimated that 12-17% of general medical patients experience ADEs after hospital discharge,
- a large percentage of which may be preventable.
• 1 in 5 older adults is taking potentially inappropriate medications in the office and community settings
• 1 in 6 hospital admissions of older adults is because of an adverse drug event
  (4X > than younger persons).
• > 75 yo: 1 in 3 hospital admissions is because of an adverse drug event
• 1 in 6 older patients experiences an adverse drug event while in the hospital
• Estimated that 12-17% of general medical patients experience ADEs after hospital discharge,
  a large percentage of which may be preventable.
• In 45 days period after hospitalization an event identified in nearly 1 in 5 discharges.
  > 1/3 ADEs considered preventable
• More severe events were more likely to be preventable...
The 2013 AGS DM Guideline update: Cognitive Impairment

Dementia was more likely in persons with diabetes mellitus...

Suggested diabetes mellitus was associated with faster cognitive decline.

If there is evidence of cognitive impairment in an older adult with diabetes mellitus and delirium has been excluded as a cause...

Identify reversible conditions.

Increased difficulty with self-care should be considered a change in clinical status.

More than “checking a urine” and “adding a memory pill”
Safety: Hypotension
• ... only two guidelines in this review discussed specific adverse effects in the elderly such as orthostatic hypotension or falls.

• Antihypertensive medications have been linked with adverse outcomes in a number of studies and more work is need to fully understand the risks associated with antihypertensive pharmacotherapy in older persons.
• If an older adult has DM and requires medical therapy for hypertension, then the target blood pressure should be less than 140/90 mmHg if it is tolerated. (1A)

• There is potential harm in lowering systolic blood pressure to less than 120 mmHg in older adults with type 2 diabetes mellitus (1B)
...caution is advised in inducing decreases in DBP to <60 mm Hg in any patient with diabetes mellitus or who is > 60 years of age.

In older hypertensive individuals with **wide pulse pressures**, lowering SBP may cause very low DBP values (<60).

This should alert the clinician to assess carefully any untoward signs or symptoms, especially those resulting from myocardial ischemia. (IIa; C)

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Clinicians, however, should consider 2 exceptions to this recommendation.

First, in those elderly patients in whom a SBP <150 is readily and safely obtained with just 1 or 2 drugs, a further modest intensification of treatment to achieve a value <140 could be considered...

The second exception to the recommendations applies to a patient whose SBP remain ≥150 under the following 3 circumstances that:

1) despite taking a regimen of 4 well-selected and appropriately dosed drugs, this goal has not been achieved;

2) prescribed therapy is causing unacceptable side effects, particularly postural changes that could result in the potentially disastrous consequences of physical injury; and...

3) in attempting to reach the SBP target, the DBP is being reduced to a potentially dangerous level < 65 mmHg.

*Under any of these circumstances, the lowest safely achieved SBP ≥ 150 is acceptable.*

BP

J-Curve: How low is too low?

? <120 ?

? <60 ?
SPRINT Trial: Patients with diabetes and stroke were excluded ...

Start low, Go Slow
### Patient Characteristics / Health Status

<table>
<thead>
<tr>
<th></th>
<th>Reasonable A1C Goal</th>
<th>Fasting / Pre-prandial Glucose</th>
<th>Bedtime Glucose</th>
<th>Blood Pressure</th>
<th>Lipids</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthy</td>
<td>&lt; 7.5%</td>
<td>90 - 130</td>
<td>90 - 150</td>
<td>&lt; 140/90</td>
<td>Statin unless contraindicated or not tolerated</td>
</tr>
<tr>
<td>Complex / Intermediate</td>
<td>&lt; 8.0%</td>
<td>90 - 150</td>
<td>100 - 180</td>
<td>&lt; 140/90</td>
<td>Statin unless contraindicated or not tolerated</td>
</tr>
<tr>
<td>Very Complex / Poor Health</td>
<td>&lt; 8.5%</td>
<td>100 – 180</td>
<td>110 – 200</td>
<td>&lt; 150/90</td>
<td>Consider likelihood of benefit from statin (secondary prevention &gt; primary)</td>
</tr>
</tbody>
</table>

*(Adapted from): Table 10.1-Framework for considering treatment goals for glycemia, blood pressure, and dyslipidemia in older adults with diabetes

*(Adapted from): Chapter 10. Older Adults. American Diabetes Association

Diabetes Care 2016;39(Suppl. 1) :S81-S85*
See previous Framework Slide

These categories are general concepts;
treatment should be individualized;
taking patient/caregiver preferences into consideration
Choose therapies that optimize benefit, minimize harm, & enhance Quality of Life.
Adapted from Ian Morrison: 
Hospitals in Pursuit of Excellence. Accelerating Performance Improvement. HRET. April 2013 
Accessed 10/15/16
Evidence Based Medicine:
• Geriatrics Principles
• Diabetes Principles
• Internal Medicine Principles

Safety & Reliability Focus
• First do no harm
• Less is more

Patient Centered Care
• Optimal Outcomes for Older Patients