

**DSME for Older Adults:
Relative Utility of Selected
Assessment Tools**

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Co-Author of AADE Practice Advisory “Special Considerations in the Management and Education of Older Persons with Diabetes” (December 13, 2013)

Background

Beyond Health Literacy



**The Psychometrics of
Diabetes Self-management**

In Aging Patients



**DSME for Older Adults:
Relative Utility of Selected
Assessment Tools**

Older adults with diabetes

- I. Trends in prevalence, costs, delivery of care
- II. Current guidelines and tools for assessing their DSM* needs, challenges, resources
- III. Likely sources of DSM errors and non-adherence
- IV. Criteria for evaluating quality and relevance of assessments
- V. Most useful assessments for older adults

*DSM=diabetes self-management

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National Diabetes Statistics Report, 2014



Estimates of Diabetes and Its Burden in the United States

This document is intended to provide up-to-date scientific data and statistics on diabetes and its burden in the United States. Formerly referred to as the National Diabetes Fact Sheet, this consensus document is written for a scientific audience.

FAST FACTS ON DIABETES

29.1 million people or 9.3% of the U.S. population have diabetes.

DIAGNOSED

21.0 million people

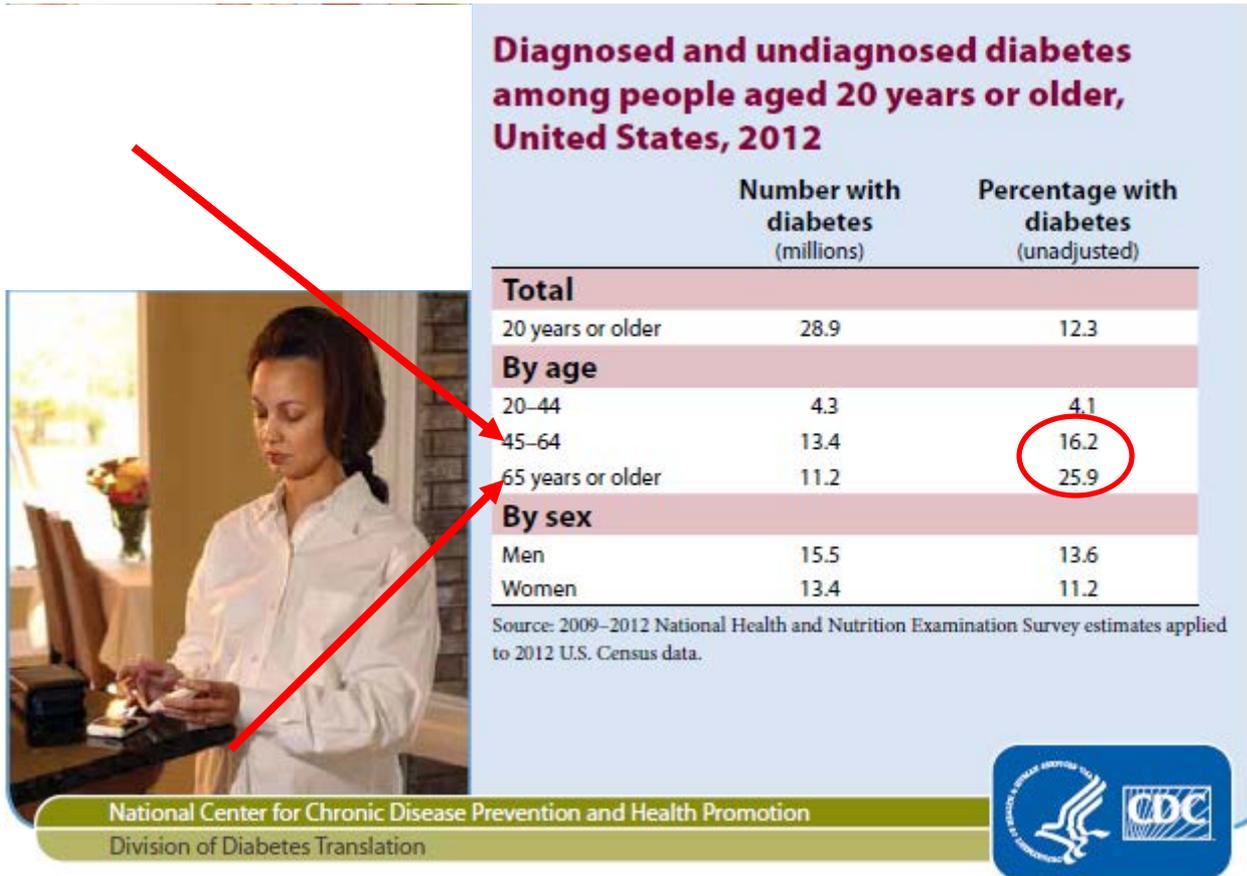
UNDIAGNOSED

8.1 million people

(27.8% of people with diabetes are undiagnosed).

All ages, 2012

Older adults are more likely to have diabetes



New cases of DM in persons >65 will continue to increase

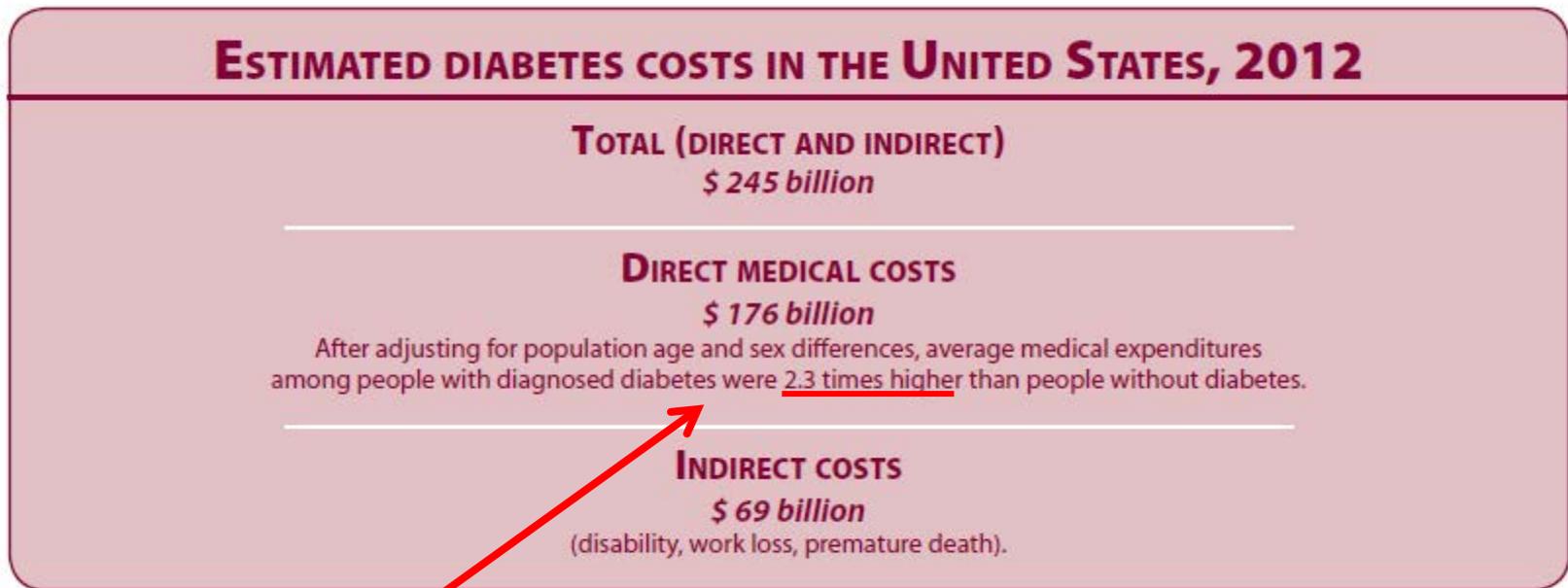
New Cases of Diagnosed Diabetes

New cases of diagnosed diabetes among people aged 20 years or older, United States, 2012

	Number of new diabetes cases	Rate of new diabetes cases per 1,000 (unadjusted)
Total		
20 years or older	1.7 million	7.8
By age		
20–44	371,000	3.6
45–64	892,000	12.0
65 years or older	400,000	11.5

Source: 2010–2012 National Health Interview Survey, 2009–2012 National Health and Nutrition Examination Survey, and 2012 U.S. Census data.

People with diabetes have higher health costs



Forecast for 2025: 50% increase in prevalence and costs

Pre-Diabetes and Diabetes Trends¹ among Seniors in the United States

U.S. Seniors Diabetes Data and Forecasts	2010	→	2025
Population	40,229,000		63,907,000
Pre-diabetes	20,115,000	→	31,954,000
Diagnosed diabetes	7,901,000	→	12,551,300
Undiagnosed diabetes	2,920,600	→	4,639,700
Total with diabetes (diagnosed and undiagnosed)	10,821,600		17,191,000
Total with pre-diabetes or undiagnosed diabetes	23,035,600		36,593,700
Complications:			
Visual impairment	1,607,800	→	2,435,000
Renal failure	20,250		26,700
Leg amputations	27,180		31,400
Annual deaths attributable to diabetes	109,520		135,900
Total annual cost (2010 dollars)	\$105.7 B	→	\$168.0 B
Annual medical costs	\$74.3 B		\$118.1 B
Annual nonmedical costs	\$31.4 B		\$49.9 B

65+ in the United States: 2010

Special Studies

Current Population Reports

By Loraine A. West, Samantha Cole, Daniel Goodkind, and Wan He

Issued June 2014

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U.S. Department of Health and Human Services
National Institutes of Health
NATIONAL INSTITUTE ON AGING

U.S. Department of Commerce
Economic and Statistics Administration
U.S. CENSUS BUREAU
census.gov

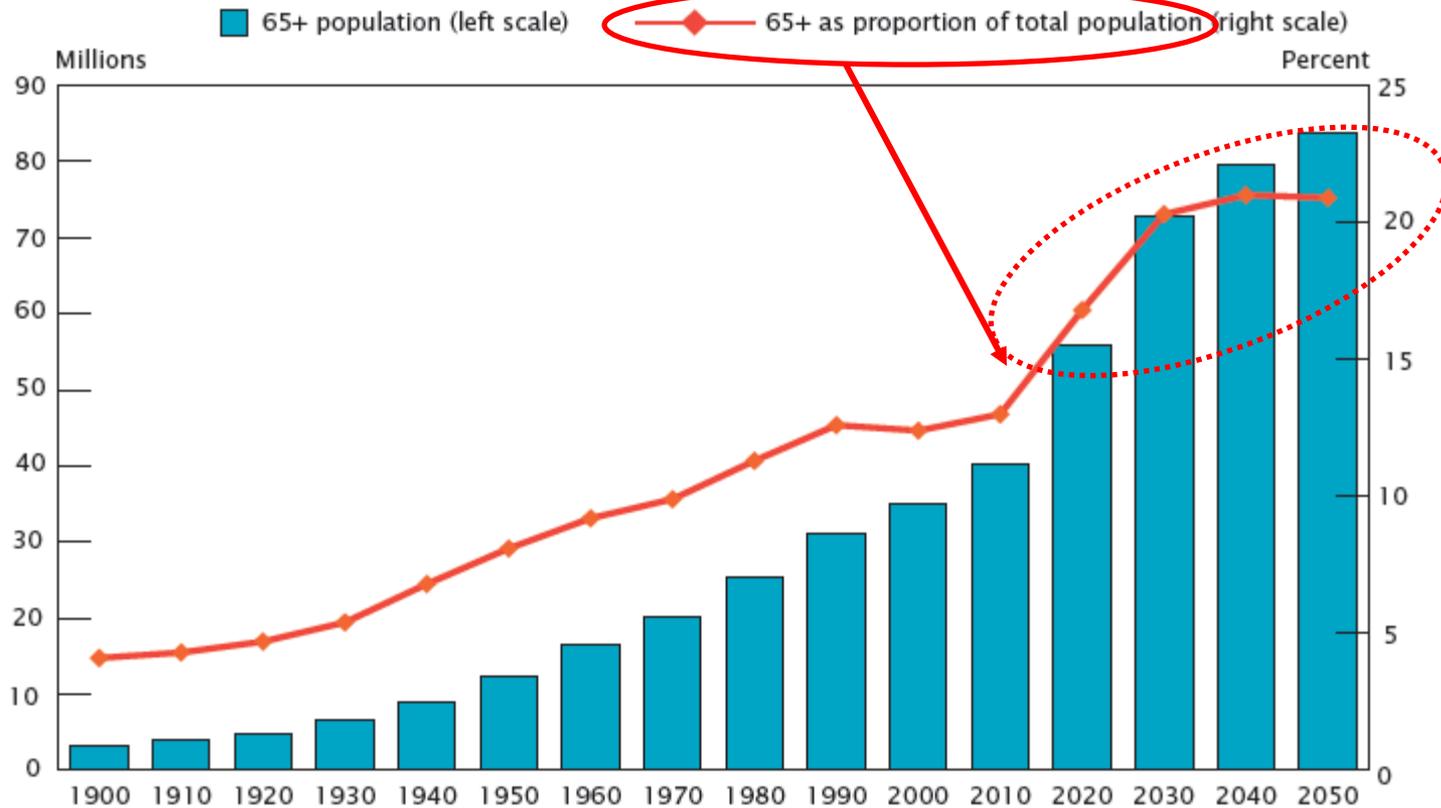
United States[™]
Census
Bureau

Population getting older and older

Figure 1-1.

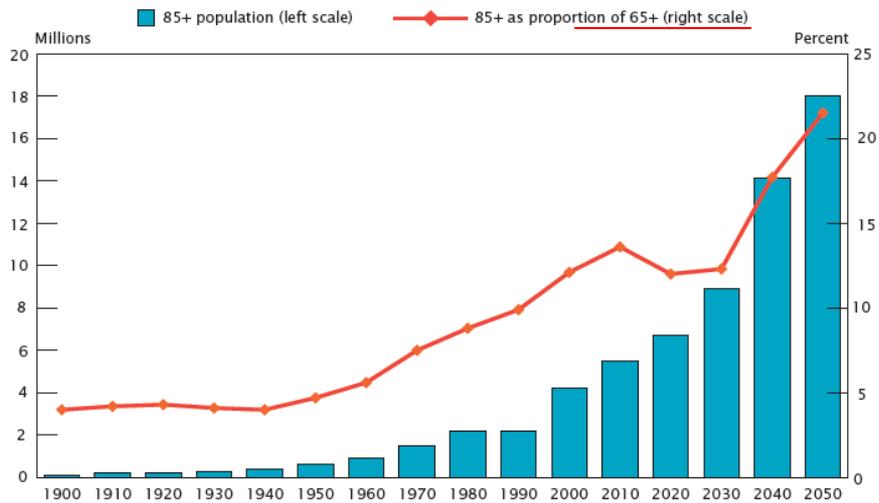
Population Aged 65 and Over: 1900 to 2050

(For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)



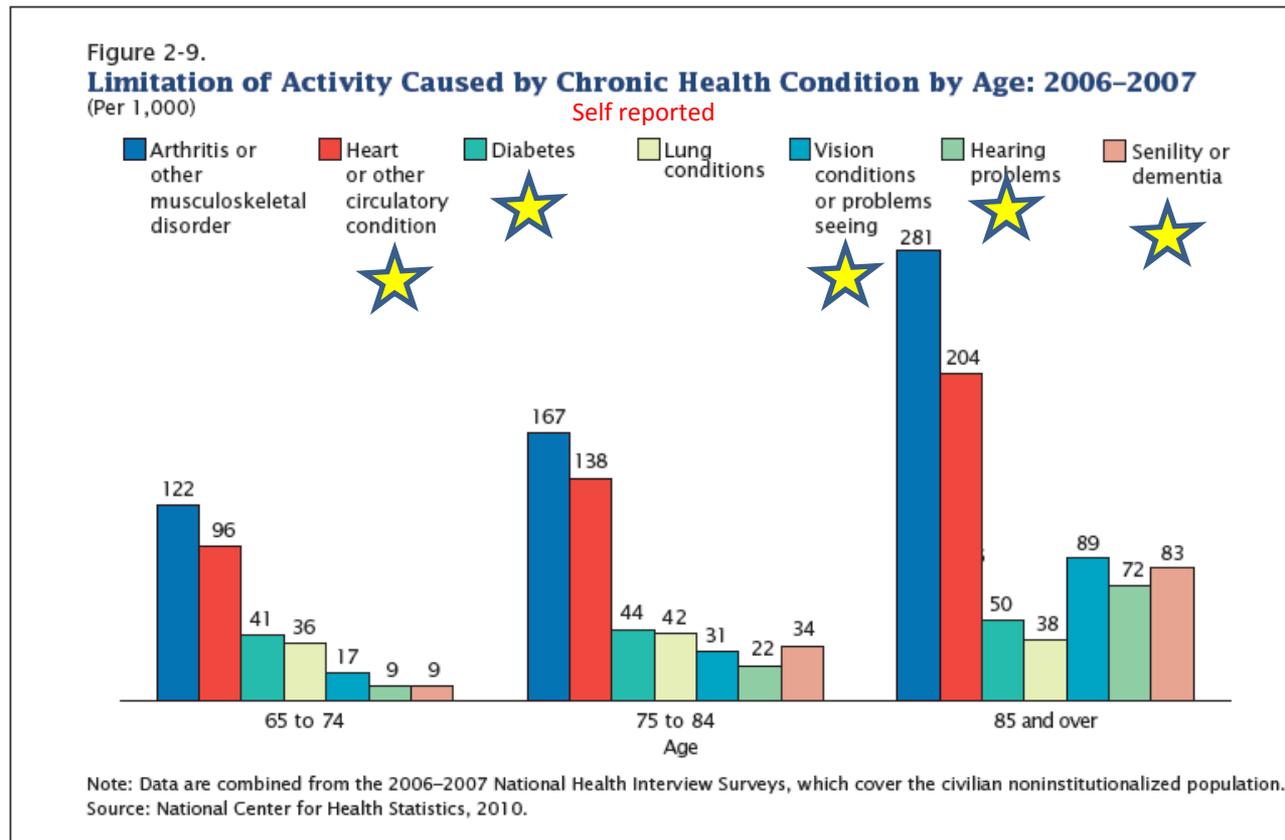
Sources: 1900 to 1940, and 1960 to 1980, U.S. Bureau of the Census, 1983; 1950, U.S. Bureau of the Census, 1953; 1990, U.S. Bureau of the Census, 1992; 2000, U.S. Census Bureau, 2001; 2010, U.S. Census Bureau, 2011; 2020 to 2050, U.S. Census Bureau, 2012a; 1900 to 2010, decennial census; 2020 to 2050, *2012 National Population Projections*, Middle series.

Figure 1-3.
Population Aged 85 and Over: 1900 to 2050
 (For information on confidentiality protection, nonsampling error, and definitions, see www.census.gov/prod/cen2010/doc/sf1.pdf)

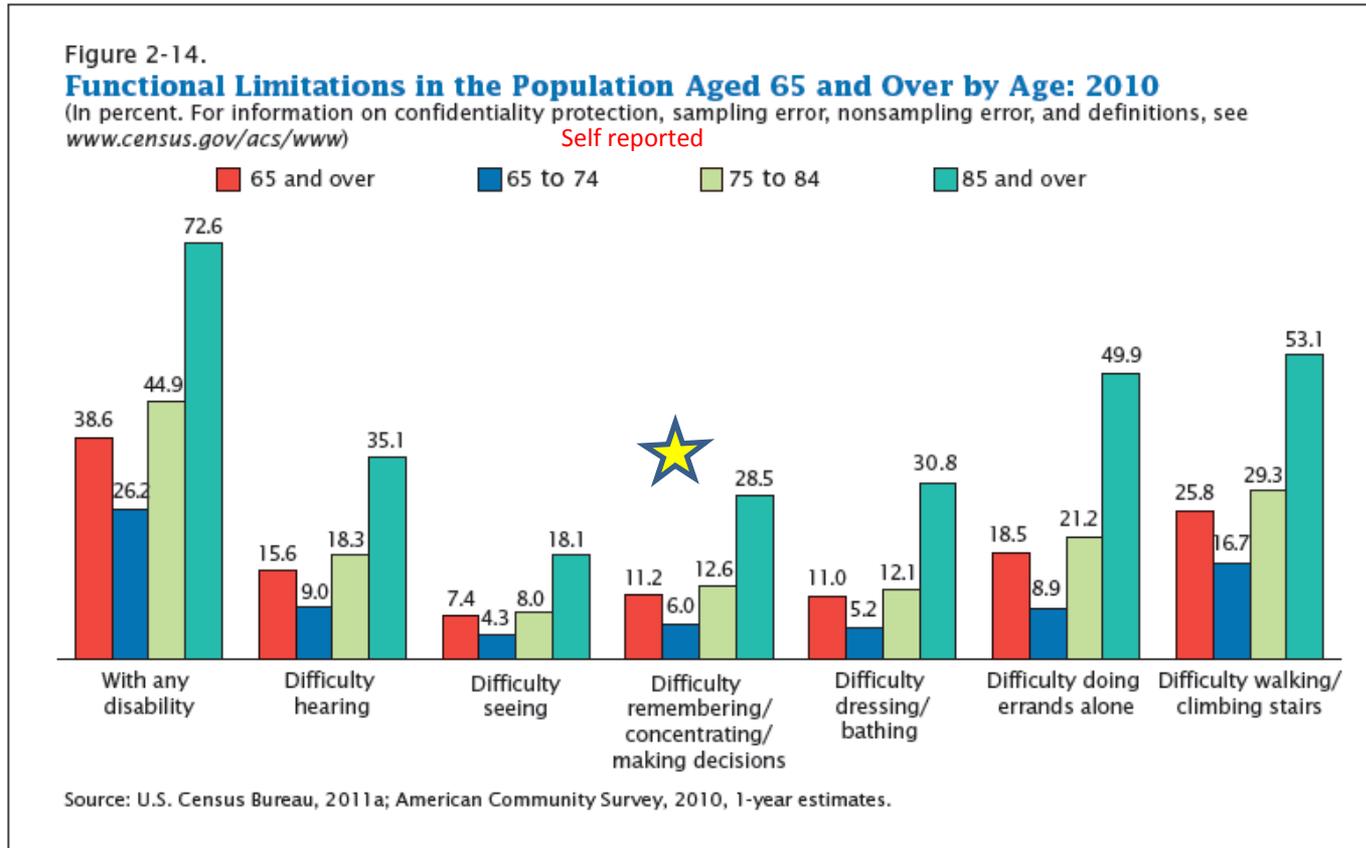


Sources: 1900 to 1940, and 1960 to 1980, U.S. Bureau of the Census, 1983; 1950, U.S. Bureau of the Census, 1953; 1990, U.S. Bureau of the Census, 1992; 2000, U.S. Census Bureau, 2001; 2010, U.S. Census Bureau, 2011; 2020 to 2050, U.S. Census Bureau, 2012a; 1900 to 2010, decennial census; 2020 to 2050, 2012 National Population Projections, Middle series.

The older old have more chronic conditions that limit their activity

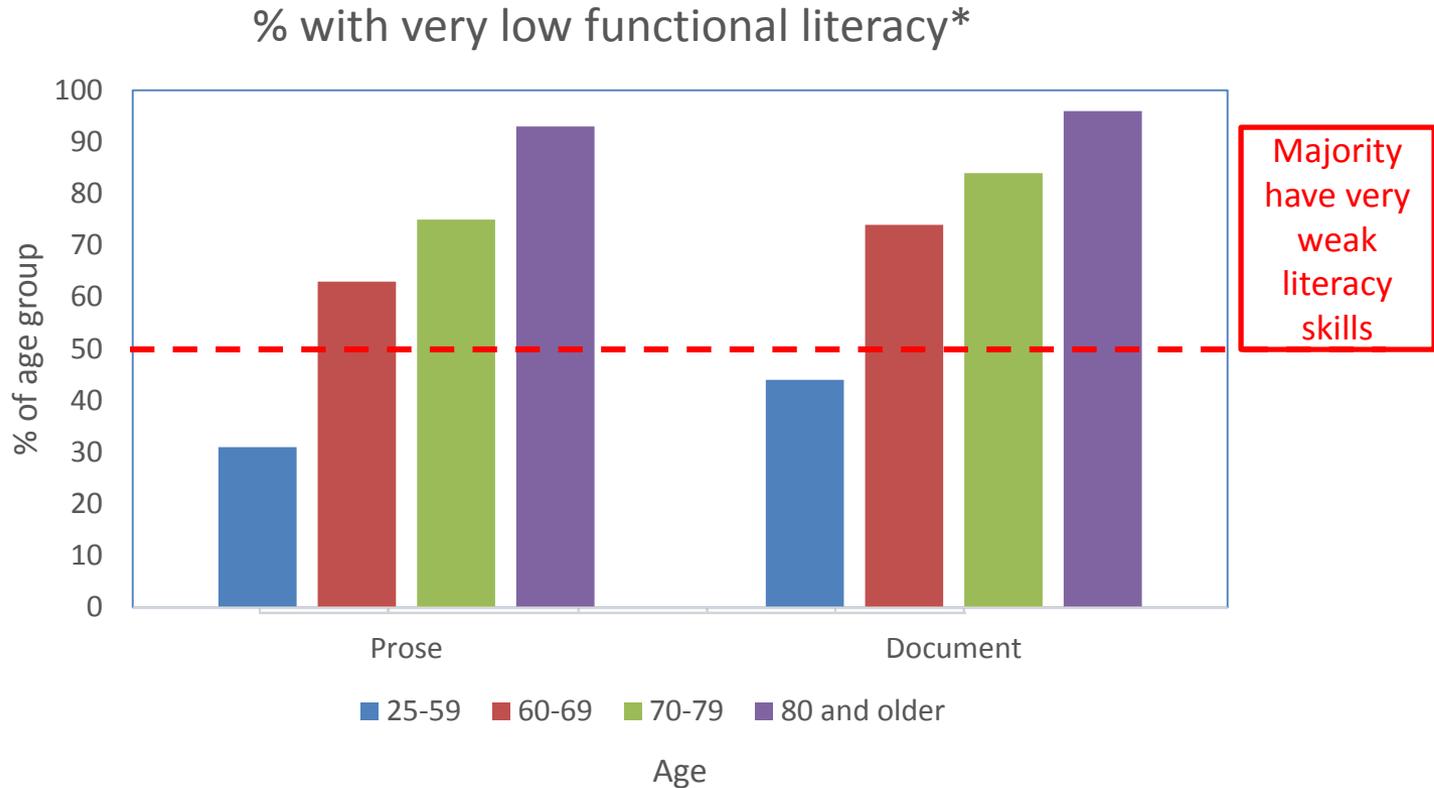


The older old have more functional limitations



The older adults have less functional literacy

Objectively assessed



*Level 1 or 2 on NCES adult literacy survey's 5-level scale Source: Tables 1.2 and 1.3 of *Literacy of Older Adults in America*, 1996, <http://nces.ed.gov/pubs97/97576.pdf> (accessed 8/1/14)

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Patient-Centered Medical Home (PCMH)

Whole person orientation:

the personal physician is responsible for providing for all the patient's health care needs or taking responsibility for appropriately arranging care with other qualified professionals. This includes care for

all stages of life;

acute care, chronic care, preventive services,
and end of life care.

Care is coordinated and/or integrated:

across all elements of the complex health care system (e.g., subspecialty care, hospitals, home health agencies, nursing homes) and the patient's community (e.g., family, public and private community-based services). Care is facilitated by registries, information technology, health information exchange, and

other means to assure that patients get the indicated care when and where they need and want it

in a culturally and linguistically appropriate manner.

Diabetes PCMH

The care of individuals with diabetes—in particular,

those with diabetes

mellitus (type 2 diabetes)—provides one of the best opportunities to

illustrate the promise of the patient centered medical home.

The medical home offers patients a team-based model of care led by a provider that ensures high-quality, compassionate and coordinated care, superb access and communication, and is committed to quality and safety.

The evidence demonstrates that proper management of diabetes can reduce the risk of complications; well-designed care coordination interventions, delivered to the right individuals, can improve patient, provider and payer outcomes.

Program of All-inclusive Care for the Elderly (PACE)

A team of health care professionals will give you the *coordinated care you need*.

These professionals are also experts in working with older people.

They will work together with you and your family (if appropriate) to develop your most effective plan of care.

<http://www.medicare.gov/your-medicare-costs/help-paying-costs/pace/pace.html>

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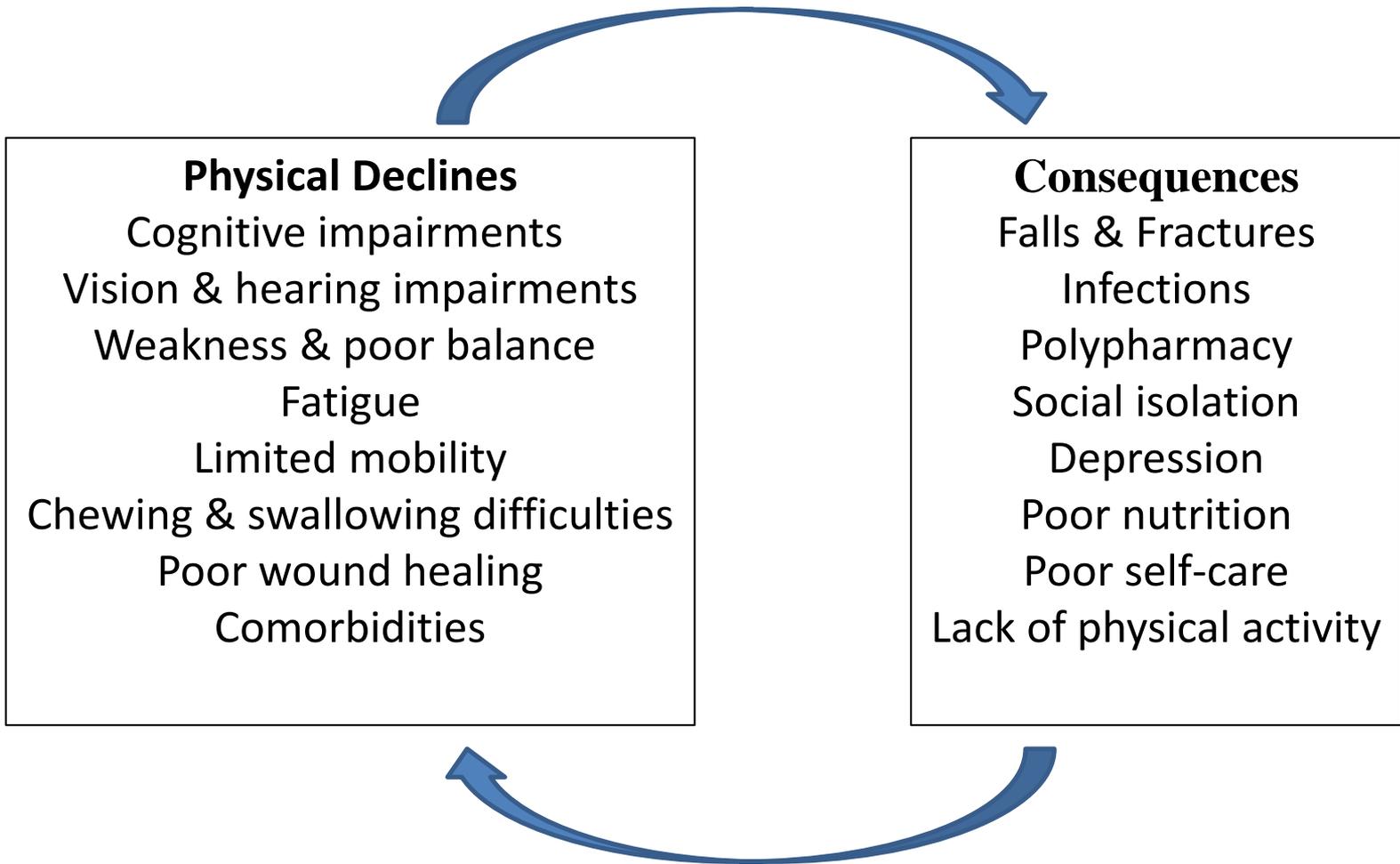
Geriatric syndromes

Biological syndromes unique to aging bodies:

Age-related biological declines
across multiple organ systems

which become increasingly vulnerable to dysregulation,
yield altered diagnostic signs and symptoms,
and often lead to a downward spiral in health & mobility.

Common elements in geriatric syndromes



Frailty Syndrome

Indicators

- Loss of appetite
- Loss of muscle mass
- Loss of bone mass
- Loss of mobility
- Fatigue
- Poor balance
- Risk of falls
- Poor physical health
- Homeostenosis*

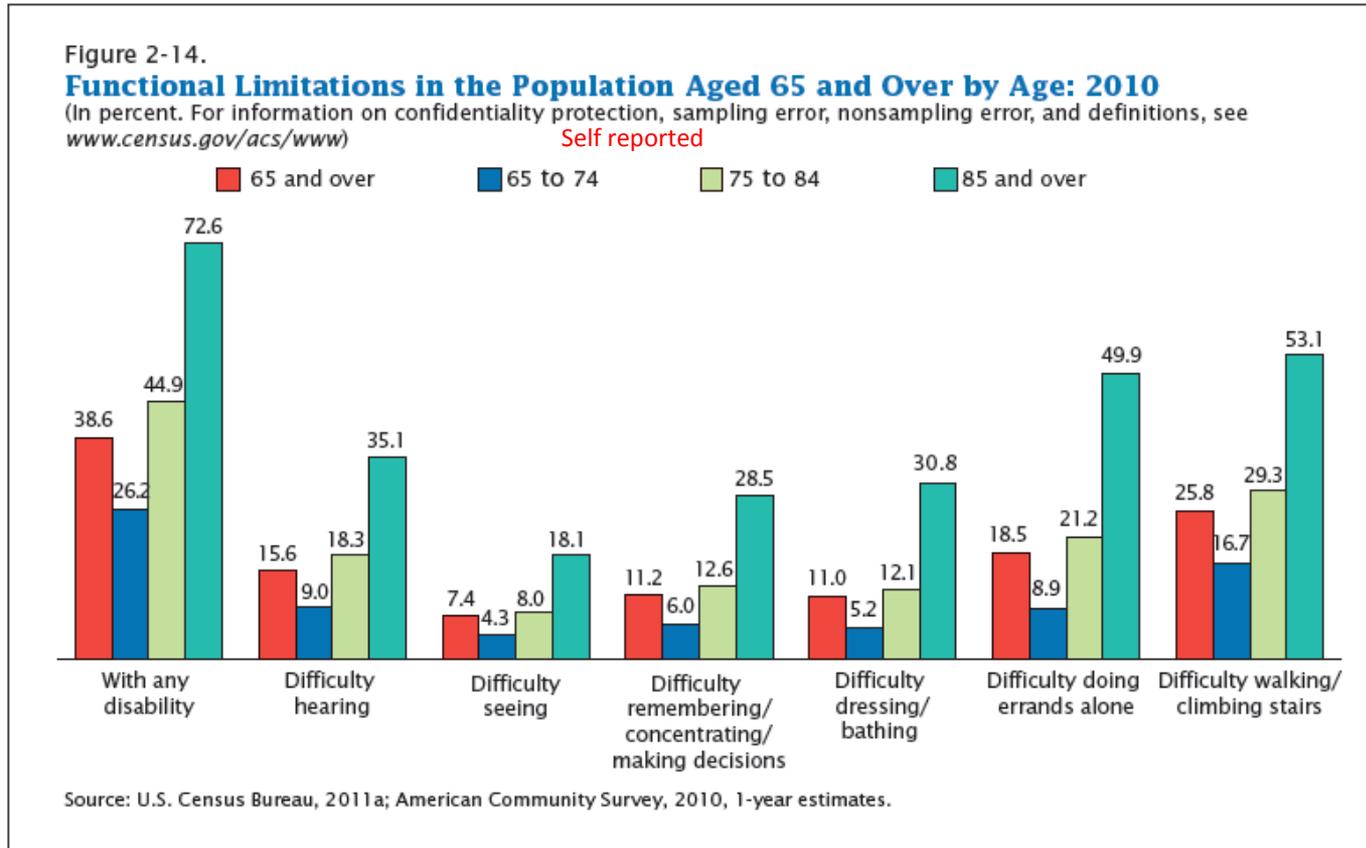
Clinical diagnosis— 3 of the following

1. Unintentional weight loss (10 lbs. in past year)
2. Self-reported exhaustion
3. Weakness (Grip Strength)
4. Slow walking speed
5. Low physical activity

* Difficulty maintaining homeostasis under physiological stress

Recall

The older old have more functional limitations



Functional Categories of Older People with Diabetes

Category 1: Functionally Independent

Category 2: Functionally Dependent

Sub-category A: Frail

Sub-category B: Dementia

Category 3: End of Life



Diabetes Disaster Averted series:

<http://www.diabetesincontrol.com/articles/practicum>

Diabetes Disaster Averted #51: Careful Listening Saves Lives

A few years ago, I was working as a Nurse Practitioner in an endocrinology practice. One of my longstanding elderly patients, age 82, called me to report that the paramedics had to come to her house because she passed out...

I scheduled her for an appointment the next day, and took her history. She'd had diabetes for about 15 years, and was taking a long acting insulin at bedtime and rapid acting insulin before her meals. I reviewed her activities of the day (meal times, insulin doses and times, and activity level). She reported that she had her dinner, and then next thing she knew she was passed out at the dinner table. I performed a complete physical exam, which was normal. I was ready to order a battery of lab tests, and considering testing her for gastroparesis since it appeared that she'd had a severe hypoglycemic reaction so soon after eating.

I reviewed her recent episode with her again, stating "so you ate your dinner, and then you passed out..." at which point she interrupted with "no, I did not eat my dinner, I HAD it, it was right in front of me on the table, and then I passed out...." The conclusion was that she had a severe hypoglycemic reaction because she delayed her dinner. }

Lesson learned: Obtain a complete history from the patient, choosing words carefully, and make sure you and your patient are speaking the same language and have the same meaning! The lesson learned from this case saved a lot of time and money from unnecessary testing and work up.

Louise DeRiso, MSN, CRNP, CCRC

Coordinator, Vascular Clinical & Translational Research Center

University of Pittsburgh

"Do Not Crush, Chew or Cut"

From the Institute for Safe Medication Practices (ISMP): When a patient is prescribed a timed release medication such as Glucotrol XL or Glucophage XR, clinicians need to ensure that the patients understand that they should not crush, chew or cut these pills. The medications must be swallowed whole.

In one case an elderly patient was prescribed Glucotrol XL to treat elevated blood sugars. This is a specially formulated medication that releases an entire day's supply of the medication slowly over a 24-hour period. The pill was too large for the woman to swallow, so she chewed it. She soon complained of feeling dizzy, weak, listless, and lethargic. Chewing the drug caused it to be released all at once, causing dangerously low blood glucose levels, which could have been fatal....



In some cases pills are coated so the medication won't be released in the stomach where it may cause irritation. In other cases, special coatings or other properties slow the delivery of the medication into the body so that the drug is delivered over a period of time. This is more convenient than having to take a drug several times a day, but if these pills are crushed or chewed, the way they are supposed to work will be destroyed and the medication may go into the body too fast. If that happens, then a large amount of the drug will be released all at once, which could cause side effects or serious harm.

The Power and Dangers of Advertising

Recently a 69 year old man returned to see me after being started on a single bedtime dose of Levemir via the Flex pen along with a long acting sulfonylurea. He had received education about basal insulin action from the start. On return his morning glucose was terrible but I noticed that the rest of the day his glucose was near goal. I began to wonder if his sulfonylurea was working better with the addition of basal insulin but was puzzled by the worsening overnight rise. I was considering lowering the oral dose and increasing the basal dosing to balance glucose control better when he volunteered a critical piece of information nonchalantly....



He proudly announced that he had been listening to NovoNordisk commercials on TV and realized that when you use the Flex pen you need to eat a meal right afterwards. Since he was getting his insulin at bedtime, he decided he should add a fourth meal to the day. This was occurring after his bedtime dose of insulin and AFTER his glucose check.

It was then obvious he did not need a basal rate increase but instruction in the action of Levemir and the difference to the Novolog Flex pen action. If adjustments had been made without changing the dietary cause, this individual may have needed a very high basal dose to control this prandial

problem and could have experienced increased hypoglycemia during the day.

Lesson Learned:

Many other sources of information through the media are now available and can be very confusing to a patient. Take time to re-evaluate a patient's understanding of their medications at subsequent visits.

Lynn White MS, FNP, CDE, BC-ADM

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All Insulins Not the Same

I recently had a home care patient who had been discharged from a skilled nursing facility with a prescription for regular insulin, and who was put on a sliding scale dosage. The patient was experiencing hypoglycemic reactions. I was called to see him to find out why he was having multiple hypoglycemic reactions. When I asked to see how he and his wife were calibrating and injecting his insulin, she brought out a bottle of Lantus insulin....

The patient's wife had not filled the new prescription for the regular insulin because she thought that she already had insulin that her husband could use at home. She had the Lantus insulin which he was on prior to his hospitalization, and she wanted to use that insulin before purchasing any more. She was using Lantus for the sliding scale dosage instead of the regular insulin which was proving highly dangerous.

Lesson Learned:

Never take for granted that the patient is dosing properly or is using the insulin the doctor has prescribed.

Linda, RN, CDE

Patient's Method of Figuring Meal-time Insulin Doesn't Quite Work

Recently I assessed an 84 year old inpatient with diabetes for his insulin usage at home. In reporting his dosing he stated that after he checked his glucose before each meal he took the "first two numbers of the result," and made that his dosage for meal-time insulin. For example, if the glucose reading was 240, he would take 24 units of Humalog.

I asked him if this was his instruction per his provider and he said, "No, but it was the only thing that made sense to me that I could remember."...

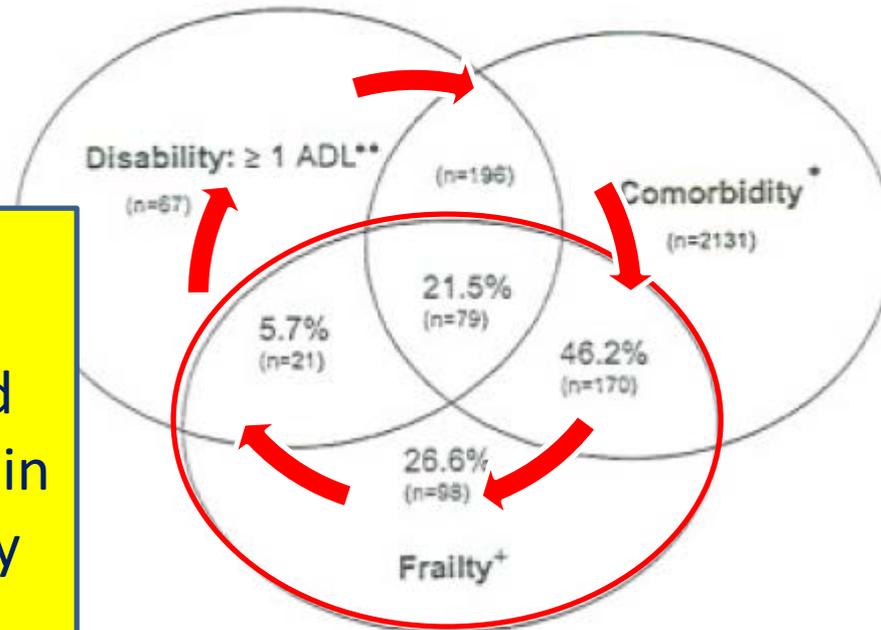
A specific teaching plan with simple dosing was designed for him and a home health evaluation for medication administration safety was also made on his return home.

Lesson Learned:

This example once again reiterates the importance of having the patient give you a verbal and sometimes a practice demonstration of what they understand to be the practice for medication administration.

*Janet Howard-Ducsay, RN, BA/BSN,
CDE
Diabetes Nurse Educator*

Most frail individuals have comorbidities, functional disabilities, or both



Relevance to DSME?
Critical tasks and complex burdens in self-care multiply with age.

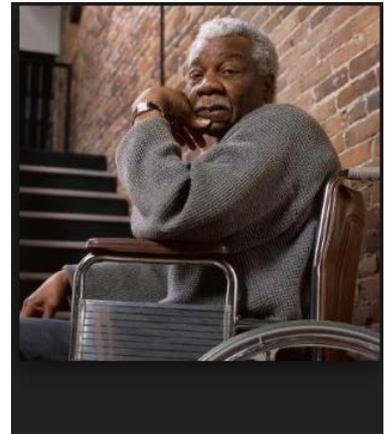
Figure 3. Venn diagram displaying extent of overlap of frailty with ADL disability and comorbidity (≥ 2 diseases). Total represented: 2,762 subjects who had comorbidity and/or disability and/or frailty. *n* of each subgroup indicated in parentheses. + Frail: overall *n* = 368 frail subjects (both cohorts). *Comorbidity: overall *n* = 2,576 with 2 or more out of the following 9 diseases: myocardial infarction, angina, congestive heart failure, claudication, arthritis, cancer, diabetes, hypertension, COPD. Of these, 249 were also frail. **Disabled: overall *n* = 363 with an ADL disability; of these, 100 were frail.

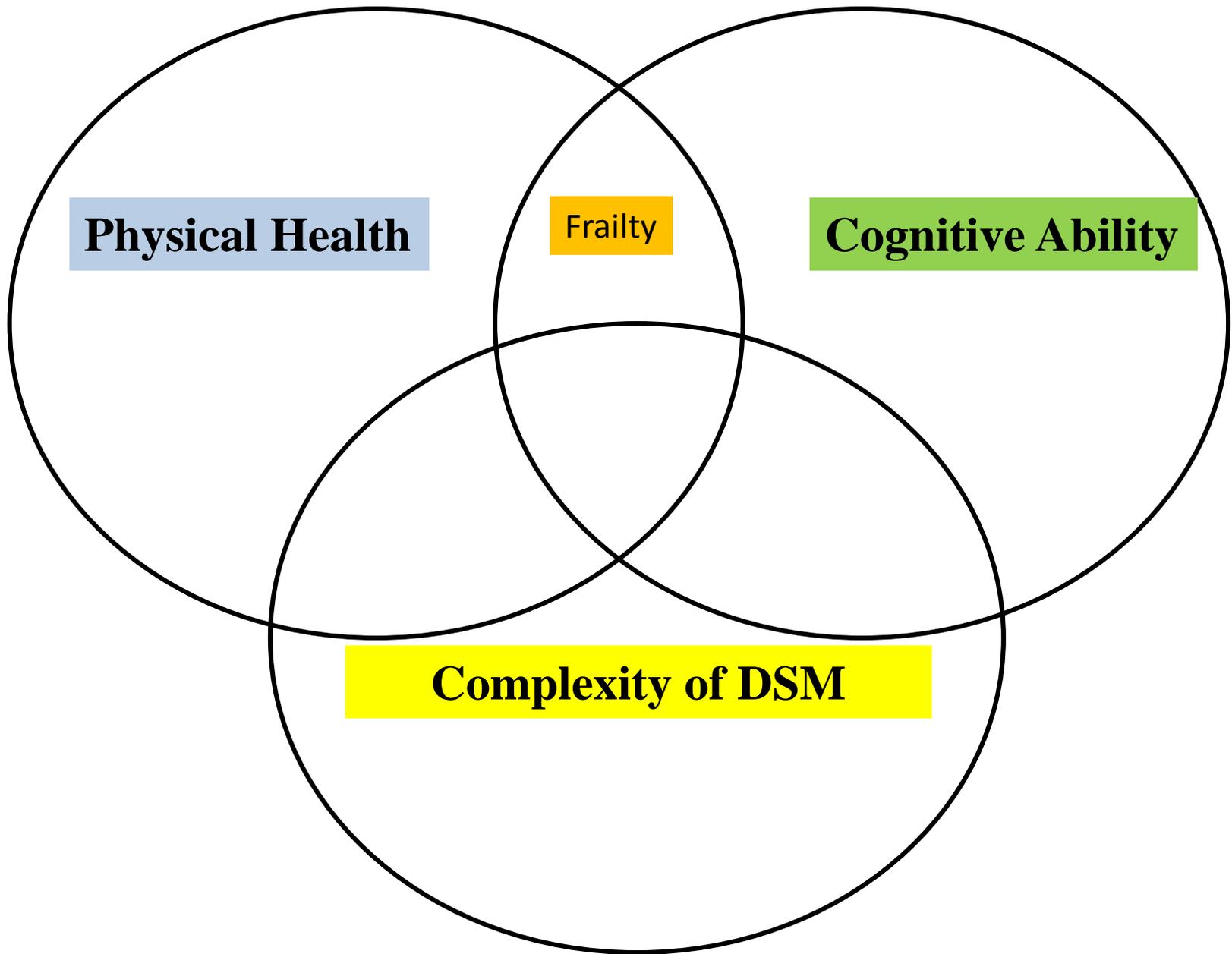
To summarize.....

➤ Many of your patients/clients will:

- have complex medical problems,
- experience heavy burdens in self-care,
- but have fewer physical and cognitive reserves for effective self-care.

➤ Patients' physical and cognitive health trajectories will differ widely





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Appropriate assessment is essential for individualizing DSME.

To do that, CDEs will need to:

1. screen older adults for most critical DSM tasks
2. assess patient's major barriers to learning
- (3. recognize the complexity levels of the DSM tasks: Bloom's Taxonomy)*



INTERNATIONAL DIABETES FEDERATION
**MANAGING OLDER PEOPLE
WITH TYPE 2 DIABETES**
GLOBAL GUIDELINE

IDF
Managing Older People with Diabetes
Global Guideline
2013

Examples of Assessment Tools and Procedures

Gait, balance & mobility

ADI & IADL

Cognition

Mood Level

Frailty Measures

Hypoglycemia Risk

Self-care Abilities

Nutritional Assessment

Pain

05 ASSESSMENT AND EVALUATION PROCEDURES FOR OLDER PEOPLE WITH DIABETES

Assessment of older people with diabetes should be a multidimensional and multidisciplinary process designed to collect information on medical, psychosocial and functional capabilities and how these may limit activities.

These data are important for:

- Organizing treatment plans.
- Arranging rehabilitative services where available.
- Conducting an annual review which should include a medicine review.
- Determining long-term care requirements.
- Planning end of life care.

The emphasis is on managing complexity and quality of life issues in older people. The assessment tests in Table 1 are designed to be routinely used in every day clinical practice by nurses and doctors, require little training, and to be a basis for screening of functional deficits. It is not expected that most or all will be routinely undertaken but these tests should be considered as part of the annual assessment and when clinically indicated. As a minimum, the consultations should include enquiring about functional capacity and cognitive and mental health.

Table 1. Examples of assessment tools and procedures^{13-21*}

Assessment domain	Examples of assessment tools and procedures	Comments
Gait, balance, and mobility	IDDP 3-steps package ²⁰	Easily adapted to guideline resource; contains information on assessing gait speed and balance ability
ADL and IADL	Bartel ADL and IADL	Universally used; minimal training required
Cognition	MiniCog or Montreal Cognitive Assessment Tool	Easy to use; good evidence as screening tools for cognitive impairment
Mood level	Geriatric Depression Scale	Widespread use; little training required
Frailty measures	Clinical Frailty Scale or CRSA 9-point Scale	Can be used as a quick assessment for features of frailty
Hypoglycaemia risk	A comprehensive history to identify risk factors (see Chapter 20-3: Hypoglycaemia)	Requires a positive commitment to consider risk factors by the clinician
Self-care abilities	SCI-R	A 13-15 item self-completed questionnaire suitable for type 1 and type 2 diabetes
Nutritional assessment	MNA-SF tool or MUST Tool	Well validated tools in widespread use; minimal training required
Pain	Pain thermometer ²² M-RNBP ²¹	For people with diabetes who have moderate to severe cognitive/communication disorder; easy to use but full validity has not yet been established ²³

ADL activities of daily living
CRSA Community Health Status Assessment
IADL Instrumental activities of daily living
IDDP Institute for Diabetes in Old People
MNA-SF Mini Nutritional Assessment-Short Form
M-RNBP Modified Raichlen's Noted Brief Pain Inventory
MUST Malnutrition Universal Screening Tool
SCI-R Self-Care Inventory Revised

The key purpose of these assessment tools is to identify one or more healthcare needs that can be addressed by clinician intervention. They require minimal training and their use is associated with additional nurse, therapist, or physician time. However, identifying early the need for mobility support, nutritional intervention, the presence of cognitive impairment, or increased support for diabetes self-care can be fundamentally important to each older person and may improve clinical outcome.

* Tools or procedures may vary from country to country.

SPECIAL ARTICLE

Diabetes in Older Adults: A Consensus Report

M. Sue Kirkman, MD,^a Vanessa Jones Briscoe, PhD, NP, CDE,^b Nathaniel Clark, MD, MS, RD,^c Hermes Florez, MD, MPH, PhD,^d Linda B. Haas, PHC, RN, CDE,^e Jeffrey B. Halter, MD,^f Elbert S. Huang, MD, MPH,^g Mary T. Korytkowski, MD,^h Medha N. Munshi, MD,ⁱ Peggy Soule Odegard, BS, PharmD, CDE,^j Richard E. Pratley, MD,^k and Carrie S. Swift, MS, RD, BC-ADM, CDE^l

More than 25% of the U.S. population aged ≥ 65 years has diabetes mellitus (hereafter referred to as diabetes). This report is the result of the Consensus Development Conference on Diabetes and Older Adults (defined as those aged ≥ 65 years) in Feb-

Additional Consensus Recommendation

for Care of Older Adults

with Diabetes

*“In order to develop and update an individualized treatment plan,
screen older adults periodically for
cognitive dysfunction,
functional status
and fall risk,
using simple tools, such as
those at*

<http://www.hospitalmedicine.org/geriresource/toolbox/determine.htm>.

WHAT ISSUES NEED TO BE CONSIDERED IN INDIVIDUALIZING TREATMENT RECOMMENDATIONS FOR OLDER ADULTS?

Comorbidities and Geriatric Syndromes

Diabetes is associated with increased risk of multiple coexisting medical conditions in older adults. In addition to the classic cardiovascular and microvascular diseases, a group of conditions termed geriatric syndromes, described below, also occur at higher frequency in older adults with diabetes and may affect self-care abilities and health outcomes including quality of life.⁵⁸

Cognitive Dysfunction

Alzheimer's-type and multi-infarct dementia are approximately twice as likely to occur in those with diabetes compared with age-matched nondiabetic control subjects.⁵⁹ The

Consensus Recommendation

for Research Question

About Diabetes in Older Adults

*“What is the impact of Geriatric Syndrome
on the management of diabetes
and the risk for
adverse treatment effects
and poor outcomes ?”*

High rates of unidentified cognitive deficits in older adults suggest that it is important to periodically screen for cognitive dysfunction. Simple assessment tools can be accessed at www.hospitalmedicine.org/geriresource/toolbox/howto.htm. Such dysfunction makes it difficult for patients to perform complex self-care tasks such as glucose monitoring, changing insulin doses, or appropriately maintaining timing and content of diet. In older patients with cognitive dysfunction, regimens should be simplified, care-

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interactions. A challenge in treating type 2 diabetes is that polypharmacy may be intentional and necessary to control related comorbidities and reduce the risk of diabetes complications.^{73,74} In one study, polypharmacy (defined as the use of 6 or more prescription medications) was associated with an increased risk of falling in older people.⁷⁵ The costs of multiple medications can be substantial, especially when older patients fall into the “doughnut hole” of Medicare Part D coverage. Medication reconciliation, ongoing assessment of the indications for each medication, and the assessment of medication adherence and barriers are needed at each visit.

Depression

Diabetes is associated with a high prevalence of depression.⁷⁶ Untreated depression can lead to difficulty with self-care and with implementing healthier lifestyle choices⁷⁷ and is associated with a higher risk of mortality and dementia in patients with diabetes.^{78,79} In older adults, depression may remain undiagnosed if screening is not performed. Clinical tools such as the Geriatric Depression Scale⁸⁰ can be used to periodically screen older patients with diabetes.



to standard assessments and treatments for incontinence, clinicians should remember that uncontrolled hyperglycemia can increase the amount and frequency of urination.

Unique Nutrition Issues

Nutrition is an integral part of diabetes care for all ages, but there are additional considerations for older adults with diabetes. Though energy needs decline with age, macronutrient needs are similar throughout adulthood. Meeting micronutrient needs with lower caloric intake is challenging; therefore older adults with diabetes are at higher risk for deficiencies. Older adults may be at risk for undernutrition due to anorexia, altered taste and smell, swallowing difficulties, oral/dental issues, and functional impairments leading to difficulties in preparing or consuming food. Overly restrictive eating patterns, either self-imposed or provider-directed, may contribute additional

risk for older adults with diabetes. The Mini-Nutritional Assessment, specifically designed for older adults, is simple to perform and may help determine whether referral to a registered dietitian for medical nutrition therapy (MNT) is needed (<http://www.mna-elderly.com/>).

MNT has proven to be beneficial in older adults with diabetes.⁸⁴ Recommendations should take into account the patient's culture, preferences, and personal goals and abilities. When nutrition needs are not being met with usual intake, additional interventions may include encouraging smaller more frequent meals, fortifying usual foods, changing food texture, or adding liquid nutrition supplements (either regular or diabetes-specific formulas) between meals. For nutritionally vulnerable older adults, identifying community resources such as Meals on Wheels, senior centers, and the U.S. Department of Agriculture's Older Americans Nutrition Program may help maintain independent living status.

Vulnerability to Hypoglycemia

In the ACCORD trial, older participants in both glycemic intervention arms had ~50% higher rates of severe hypoglycemia (hypoglycemia requiring third-party assistance) than participants under age 65 years (M. Miller, personal communication). In a population analysis of Medicaid enrollees treated with insulin or sulfonylureas, the incidence of serious hypoglycemia (defined as that leading to emergency department visit, hospitalization, or death) was approximately 2 per 100 person-years,¹⁰³ but clearly studies based on administrative databases miss less catastrophic hypoglycemia.

The risk factors for hypoglycemia in diabetes in general (use of insulin or insulin secretagogues, duration of diabetes, antecedent hypoglycemia, erratic meals, exercise, renal insufficiency)¹⁰⁴ presumably apply to older patients as well. In the Medicaid study cited above, independent risk factors included hospital discharge within the prior 30 days, advanced age, black race, and use of five or more concomitant medications.¹⁰³ Assessment of risk factors for hypoglycemia is an important part of the clinical care of older adults with hypoglycemia. Education of both patient and caregiver on the prevention, detection, and treatment of hypoglycemia is paramount.



brain function.⁶¹ Cross-sectional studies have shown an association between hyperglycemia and cognitive dysfunction.⁶² Hypoglycemia is linked to cognitive dysfunction in a bidirectional fashion: cognitive impairment increases the subsequent risk of hypoglycemia,⁶⁰ and a history of severe hypoglycemia is linked to the incidence of dementia.⁶³

High rates of unidentified cognitive deficits in older adults suggest that it is important to periodically screen for cognitive dysfunction. Simple assessment tools can be accessed at www.hospitalmedicine.org/geriresource/toolbox/howto.htm. Such dysfunction makes it difficult for patients to perform complex self-care tasks such as glucose monitoring, changing insulin doses, or appropriately maintaining timing and content of diet. In older patients with cognitive dysfunction, regimens should be simplified, care-

Hospital admissions for hyper- or hypoglycemia Medicare PWDs, ages 65+, 1999-2011

Retrospective observational study

- Both types of admission are relatively rare, so data capture most severe cases
- 279,937 patients had 302,095 hospitalizations for hyperglycemia
- 404,467 patients had 429,850 admissions for hypoglycemia
- Over the 12 years, rates of admission for:
 - ↓ – hyperglycemia dropped by 38.6 percent
 - ↑ – hypoglycemia rose by 11.7 percent

American Geriatrics Society

Guidelines for

Improving the Care of Older Adults

With Diabetes Mellitus

2013 Update

OBJECTIVES

- Incorporate high-quality new evidence with significant effect on diabetes mellitus (DM) care that has become available since the 2003 “Guidelines for Improving the Care of the Older Person with Diabetes Mellitus” into a new 2013 Guideline update.
- Improve the care of older people with DM by providing an updated set of evidence-based recommendations individualized to adults with DM aged 65 and older.

Ten years ago, the California Health Care Foundation (CHCF)/American Geriatrics Society (AGS) Panel published some of the first patient-centered clinical guidelines to assist clinicians with the complex and individualized care of older adults with DM.¹ The abstracted set of recommendations presented here provides essential guidance in the care of older adults with DM and is based on the 2013 AGS Guidelines, which have incorporated new evidence available since 2003. The full version of the updated guidelines, *American Geriatrics Society (AGS) Guidelines for Improving the Care of the Older Adult with Diabetes Mellitus: 2013 Update*, is available at www.GeriatricsCareOnline.org.

COMPONENTS OF CARE

The components of the 2003 guidelines were aspirin, tobacco cessation, glucose control, blood pressure management, lipids management, eye care, foot care, and DM self-management education and support (DSME/S). Specific geriatric syndromes that have been included and emphasized in the updated 2013 guidelines are depression, polypharmacy, cognitive impairment, urinary incontinence, injurious falls, and persistent pain.

Clinical and functional heterogeneities in older adults with DM that were also addressed in the 2013 guidelines are differences in general health status, age and duration of disease at diagnosis, number of years of treatment,

comorbidities and underlying chronic conditions, range of complications, degree of frailty, limits in physical or cognitive function, and differences in life expectancy (time horizon for benefit).

PATIENT-CENTERED CARE AND INDIVIDUALIZED GOALS

The 2013 guidelines update recommends DM care that is customized and prioritized to the individual person with DM, with attention to quality of life and personal and caregiver choices related to health care. The 2013 guidelines update:

- No longer recommends aspirin for the primary prevention of cardiovascular disease (CVD).
- Renews the emphasis on treating dyslipidemias with statins but not to target levels.
- Continues to support glycemic control recommendations customized to burden of comorbidity, functional status, and life expectancy.
- Presents stronger, more-prescriptive, patient-centered recommendations for lifestyle modification because of increased evidence of its importance for healthy older adults with DM.

EVIDENCE

The guidelines were updated by reviewing the existing peer-reviewed literature (2002–2012) and guidelines on each DM topic. PubMed was searched for relevant studies published in the peer-reviewed literature from 2002 to 2012. Randomized clinical trials and systematic reviews or meta-analyses were reviewed. When reasonable, the expert panel extrapolated findings to older adults with DM. Evidence tables (available at <http://www.GeriatricsCareOnline.org>) were constructed summarizing new evidence.

An expert panel consisting of general internists, family practitioners, geriatricians, clinical pharmacists, health services researchers, and certified DM educators was con-

Depression

1. Older adults with DM are at greater risk of major depression and should be screened for depression during the initial evaluation period (first 3 months) and if there is any unexplained decline in clinical status. (IIB)

On initial presentation of an older adult with DM, a healthcare professional should assess the individual for symptoms of depression using a standardized short screener,¹⁴ such as the Geriatric Depression Scale, Patient Health Questionnaire (PHQ-9), or other available instruments.¹⁵ Expert opinion suggests screening for depression when there is new-onset cognitive decline.

Psychosocial problems other than depression, such as attitudes about DM, quality of life, DM-related distress, and lack of financial resources, are also important for older adults with type 2 DM.

2. Older adults with DM who present with new-onset

Cognitive Impairment

instrument during the initial evaluation period and with any significant decline in clinical status. Increased difficulty with self-care should be considered a change in clinical status. (IIIA)

Systematic review and meta-analyses of up to 15 studies found that dementia was more likely in persons with DM and suggested that DM was associated with faster cognitive decline in older adults.^{24–26}

Simple tools are available to clinicians (http://www.hospitalmedicine.org/geriresource/toolbox/mental_status_page.htm). The Montreal Cognitive Assessment tool is available in several languages and is easily accessible for clinical and education purposes (<http://www.mocatest.org/>).

2. *If there is evidence of cognitive impairment in an older adult with DM and delirium has been excluded as a cause, then an initial evaluation designed to identify reversible conditions that may cause or exacerbate cognitive impairment should be performed within the first 3 months after diagnosis and with any significant change in clinical status. (IIIA)*

The American Academy of Neurology guidelines recommend screening older adults with evidence of cognitive impairment for depression, B₁₂ deficiency, and hypothyroidism; structural neuroimaging to identify lesions is also recommended for those recently diagnosed.²⁷ If the cognitive impairment is due to delirium, urgent assessment for etiology and management is indicated.

U.S. Geriatrics Society



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Tengo diabetes ¿Corro riesgo?

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 - > Partners
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 - > Plain Language Review

Guiding Principles for Diabetes Care



This evidence-based booklet outlines important patient-centered principles of diabetes care, helping health care professionals identify people with prediabetes and undiagnosed diabetes for treatment aimed at preventing long-term complications.

For the most recent diagnostic criteria for diabetes and prediabetes in non-pregnant adults, see NDEP's [Diabetes Numbers At-a-Glance 2011](#). This pocket guide is based on the American Diabetes Association Standards of Medical Care for Diabetes - 2011.

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Guiding Principles for Diabetes Care



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Last reviewed: 04/01/2009



Contents

- [Goals](#)
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- [Principle 2: Manage Prediabetes to Prevent or Delay the Onset of Type 2 Diabetes and Its Complications](#)
- [Principle 3: Provide Ongoing Self-Management Education and Support for People with Diabetes](#)
- [Principle 4: Provide Comprehensive Patient-Centered Care to Prevent or Delay the Onset of Diabetes Complications and to Treat Diabetes and Existing Complications](#)
- [Principle 5: Consider the Needs of Special Populations & Children, Women of Childbearing Age, Older Adults, and High-Risk Racial and Ethnic Groups](#)
- [Principle 6: Provide Regular Assessments to Monitor Treatment Effectiveness and to Detect Diabetes Complications Early](#)
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Regular monitoring of diabetes management enables the diabetes team to assess achievement of treatment goals and to adjust therapy as necessary. Regular checking for long-term complications can help detect problems at a time when they can be treated and managed successfully. The physical examination, laboratory tests, and other assessments that the team conducts to monitor management and to identify complications early should be performed during routine diabetes visits, and at quarterly and annual visits.

At each diabetes visit:

- Measure weight, blood pressure, and calculate BMI.
- Inspect feet for lesions or abnormalities if one or more high-risk foot conditions are present.
- Review self-monitoring glucose record.
- Review/adjust medications to control glucose, lipids, blood pressure. Include regular use of low dose aspirin (if there are not contraindications) for cardiovascular disease prevention, as appropriate.
- Review self-management skills, progress toward behavior change goals, dietary needs, and physical activity as indicated.
- Assess for coping, depression, or other mood disorder.
- Counsel on smoking cessation and alcohol use.
- Review interventions for weight loss.

Older adults with diabetes

- I. Trends in prevalence, costs, delivery of care
- II. Current guidelines and **tools** for assessing their DSM* needs, challenges, resources
- III. Likely sources of DSM errors and non-adherence
- IV. Criteria for evaluating quality and relevance of assessments
- V. Most useful assessments for older adults

*DSM=diabetes self-management

Single Item Literacy Screen (SILS)

“How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?”

1-Never

2-Rarely

3-Sometimes

4-Often

5-Always

Difficulty reading
and understanding
printed health related material.

The Illness Perception Questionnaire

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- [IPQ](#)
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Research using a variety of different assessment techniques suggests patients cluster their ideas about an illness around five coherent themes or components. These components together make up the patient's perception of their illness. The components provide a framework for patients to make sense of their symptoms, assess health risk, and direct action and coping. Each of these components holds a perception about one aspect of the illness and together they provide the individual's coherent view of an illness.

The major cognitive components identified from research are: Identity - which is comprised of the label of the illness and the symptoms the patient views as being part of the disease; Cause - personal ideas about aetiology which may include simple single causes or more complex multiple causal models; Time-line - how long the patient believes the illness will last. These can be categorised into acute, chronic or episodic; Consequences - expected effects and outcome of the illness; and Cure/control - how one recovers from, or controls, the illness.

These components show logical interrelationships. For example a strong belief that the illness can be cured or controlled is typically associated with short perceived illness duration and relatively minor consequences. In contrast, beliefs that an illness will last a long time and has a number of symptoms tends to be associated with more severe consequences perceptions and lower beliefs about cure or control of the disease.

An important question that we have little information on at present is where do illness beliefs come from? It is likely that people build up knowledge and impressions of illness they develop more elaborate models of particular diseases. It is not necessary to have had direct experience with an illness. The source of people's perceptions of illness is diverse and ranges from first hand experiences with a family member who may suffer from an illness, to information from the relatives and friends as well as the media. These perceptions may lie dormant until they are activated by their own illness or someone close to them.

Patient cognitive models of their illness are, by their nature, private. Patients are often reluctant to discuss their beliefs about their illness in medical consultations because they fear being seen as stupid or misinformed. Until recently, assessment of illness perceptions has been by open-ended interviews designed to encourage patients to elaborate their own ideas of the their illness. However, recently a questionnaire has been developed to measure illness perceptions in a variety of illnesses. This questionnaire assesses perceptions on each of the five dimensions by asking patients for their own beliefs about their condition. Example of the questions used to assess these components is shown below.

Component	Items
Identity	Rating of a number of symptoms that the patient sees as part of the illness. Examples from the CFS identity scale include: nausea, sore or swollen glands, forgetfulness, dizziness, stiff or sore joints, fatigue after exercise, muscle pain.
Cause	A germ or virus caused my illness. Pollution of the environment caused my illness. Stress was a major factor in causing my illness.
Timeline	My illness is likely to be permanent rather than temporary. My illness will last for a long time.
Consequences	My illness has major consequences on my life. My illness is a serious condition.
Cure-Control	There is little that can be done to improve my illness. My treatment will be effective in curing my illness.

Illness perceptions has a wide variety of uses in the health psychology area. Illness perceptions have been used to explain behaviour following heart attacks, responses to cancer screening, disability in chronic fatigue syndrome, how patients cope with cancer treatment, and a variety of illnesses such as diabetes and rheumatoid arthritis.

Number of hits

http://www.uib.no/ipq/

The Illness Perception Questionnaire

Home Using and Scoring the IPQ IPQ IPQ-R Brief IPQ Contacts Articles

Research using a variety of different assessment techniques suggests patients cluster their ideas about an illness around five coherent themes that make sense of their symptoms, assess health risk, and direct action and coping. Each of these components holds a perception about one aspect of the illness.

The major cognitive components identified from research are: Identity - which is comprised of the label of the illness and the symptoms the patient perceives; Causal models; Time-line - how long the patient believes the illness will last. These can be categorized into acute, chronic or episodic; Consequences - how the patient perceives the consequences of the illness; and Cure-control - how the patient perceives the likelihood of cure or control of the disease.

These components show logical interrelationships. For example a strong belief that the illness can be cured or controlled is typically associated with symptoms tends to be associated with more severe consequences perceptions and lower beliefs about cure or control of the disease.

An important question that we have little information on at present is where do illness beliefs come from? It is likely that people build up knowledge and impressions of illness over time. The source of people's perceptions of illness is diverse and ranges from first hand experiences with a family member who may suffer from an illness, to information from the media.

Patient cognitive models of their illness are, by their nature, private. Patients are often reluctant to discuss their beliefs about their illness in medical consultations because of a desire to avoid stigma. However, recently a questionnaire has been developed to measure illness perceptions for their own beliefs about their condition. Example of the questions used to assess these components is shown below.

Component	Items
Identity	Rating of a number of symptoms that the patient sees as part of the illness. Examples from the CFS identity scale include: nausea, sore or swollen glands, forgetfulness, dizziness, stiff or sore joints, fatigue.
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Illness perceptions has a wide variety of uses in the health psychology area. Illness perceptions have been used to explain behaviour following heart attacks, responses to chronic fatigue syndrome, how patients cope with cancer treatment, and a variety of other conditions.

Components together make up the patient's perception of their illness. The components provide a framework for patients to provide the individual's coherent view of their illness.

about etiology which may include simple single causes or more complex multiple causes. In contrast, beliefs that an illness will last a long time and has a number of consequences. It is not necessary to have had direct experience with an illness as the media. These perceptions may lie dormant until they are activated by their own illness or someone close to them.

Until recently, assessment of illness perceptions has been by open-ended questionnaires. The questionnaire assesses perceptions on each of the five dimensions by asking patients to rate their agreement with statements.

Genetic Predisposition (Italian)

RA

STD

Asthma

Acute Pain

Autism (French)

Chronic Pain

CFS

Diabetes

Fatigue (Dutch)

Hemophilia (Spanish)

HIV

HIV (German)

Hypertension

Genetic Predisposition

Genetic Predisposition (Italian)

RA

STD

Number of hits

75%

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Illness Perception Questionnaire (IPQ-R)

YOUR VIEWS ABOUT YOUR ILLNESS

Listed below are a number of symptoms that you may or may not have experienced since your illness. Please indicate by circling *Yes* or *No*, whether you have experienced any of these symptoms since your illness, and whether you believe that these symptoms are related to your illness.

I have experienced this symptom
since my illness

This symptom is *related to my illness*

Pain	Yes No
Sore Throat	Yes No
Nausea	Yes No

Yes No
Yes No
Yes No

Brief Illness Perception Questionnaire (Brief-IPQ)

The Brief Illness Perception Questionnaire

For the following questions, please circle the number that best corresponds to your views:

<p>How much does your illness affect your life?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>no affect at all 10 severely affects my life</p>
<p>How long do you think your illness will continue?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>a very short time 10 forever</p>
<p>How much control do you feel you have over your illness?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>absolutely no control 10 extreme amount of control</p>
<p>How much do you think your treatment can help your illness?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>not at all 10 extremely helpful</p>
<p>How much do you experience symptoms from your illness?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>no symptoms at all 10 many severe symptoms</p>
<p>How concerned are you about your illness?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>not at all concerned 10 extremely concerned</p>
<p>How well do you feel you understand your illness?</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>don't understand at all 10 understand very clearly</p>
<p>How much does your illness affect you emotionally? (e.g. does it make you angry, scared, upset or depressed?)</p> <p>0 1 2 3 4 5 6 7 8 9 10</p> <p>not at all affected emotionally 10 extremely affected emotionally</p>
<p>Please list in rank-order the three most important factors that you believe caused your illness. The most important causes for me:-</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p>



© All rights reserved. For permission to use the scale please contact: lizbroadbent@clear.net.nz

IPQ-R-DM

The screenshot shows a web browser window with the URL <http://www.uib.no/ipq/>. The page title is "The Illness Perception Questionnaire". The navigation menu includes "Home", "Using and Scoring the IPQ", "IPQ", "IPQ-R", "Brief IPQ", "Contacts", and "Articles". A "Languages" dropdown menu is open, showing a list of languages: Chinese, Chinese - Simplified Version (highlighted by a red arrow), Dutch, English, French, German, German (short), Greek, Hebrew, Hungarian, Italian, Icelandic, Norwegian, Persian, Portuguese, Portuguese (healthy people), Slovenian, Spanish, Swedish, and Turkish. The main content area contains text about the questionnaire's purpose and a table of components.

Component	Items
Identity	Rating of a number of symptoms that the patient sees as part of the illness. Examples from the CFS identity scale include: nausea, sore or swollen glands, forgetfulness, dizziness, stiff or sore joints, fa
Cause	A germ or virus caused my illness. Pollution of the environment caused my illness. Stress was a major factor in causing my illness.
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Cure-Control	There is little that can be done to improve my illness. My treatment will be effective in curing my illness.

Illness perceptions has a wide variety of uses in the health psychology area. Illness perceptions have been used to explain behaviour following heart attacks, responses illnesses such as diabetes and rheumatoid arthritis.

IPQ-R-DM

Listed below are a number of symptoms that you may or may not have experienced since your diabetes. Please indicate by circling *Yes* or *No*, whether you have experienced any of these symptoms since your diabetes, and whether you believe that these symptoms are related to your diabetes.

	I have experienced this symptom since my diabetes		This symptom is related to my diabetes	
	Yes	No	Yes	No
Pain	Yes	No	_____	Yes No
Sore Throat	Yes	No	_____	Yes No
Nausea	Yes	No	_____	Yes No
Breathlessness	Yes	No	_____	Yes No
Weight Loss	Yes	No	_____	Yes No
Fatigue	Yes	No	_____	Yes No
Stiff Joints	Yes	No	_____	Yes No
Sore Eyes	Yes	No	_____	Yes No
Wheeziness	Yes	No	_____	Yes No
Headaches	Yes	No	_____	Yes No
Upset Stomach	Yes	No	_____	Yes No
Sleep Difficulties	Yes	No	_____	Yes No
Dizziness	Yes	No	_____	Yes No
Loss of Strength	Yes	No	_____	Yes No

We are interested in your own personal views of how you now see your current diabetes.

Please indicate how much you agree or disagree with the following statements about your diabetes by ticking the appropriate box.

	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
IP1 My diabetes will last a short time					
IP2 My diabetes is likely to be permanent rather than temporary					
IP3 My diabetes will last for a long time					

IPQ-R-DM

	VEWS ABOUT YOUR DIABETES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
874	This diabetes will pass quickly					
875	I expect to have this diabetes for the rest of my life					
876	My diabetes is a serious condition					
877	My diabetes has major consequences on my life					
878	My diabetes does not have much effect on my life					
879	My diabetes strongly affects the way others see me					
879	My diabetes has serious financial consequences					
879	My diabetes causes difficulties for those who are close to me					
879	There is a lot which I can do to control my symptoms					
879	What I do can determine whether my diabetes gets better or worse					
879	The course of my diabetes depends on me					
879	Nothing I do will affect my diabetes					
879	I have the power to influence my diabetes					
879	My actions will have no affect on the outcome of my diabetes					
879	My diabetes will improve in time					
879	There is very little that can be done to improve my diabetes					
879	My treatment will be effective in curing my diabetes					
879	The negative effects of my diabetes can be prevented (avoided) by my treatment					
879	My treatment can control my diabetes					
879	There is nothing which can help my condition					
879	The symptoms of my condition are puzzling to me					
879	My diabetes is a mystery to me					



IPQ-R-DM



IP26	I don't understand my diabetes					
IP27	My diabetes doesn't make any sense to me					
IP28*	I have a clear picture or understanding of my condition					
IP29	The symptoms of my diabetes change a great deal from day to day					
IP30	My symptoms come and go in cycles					
IP31	My diabetes is very unpredictable					
IP32	I go through cycles in which my diabetes gets better and worse.					
IP33	I get depressed when I think about my diabetes					
IP34	When I think about my diabetes I get upset					
IP35	My diabetes makes me feel angry					
IP36*	My diabetes does not worry me					
IP37	Having this diabetes makes me feel anxious					
IP38	My diabetes makes me feel afraid					

IPQ-R-DM

CAUSES OF MY DIABETES

We are interested in what you consider may have been the cause of your diabetes. As people are very different, there is no correct answer for this question. We are most interested in your own view; about the factors that caused your diabetes rather than what others, including doctors or family may have suggested to you. Below is a list of possible causes for your diabetes. Please indicate how much you agree or disagree that they were causes for you by ticking the appropriate box.

	POSSIBLE CAUSES	STRONGLY DISAGREE	DISAGREE	NEITHER AGREE NOR DISAGREE	AGREE	STRONGLY AGREE
C1	Stress or worry					
C2	Hereditary - it runs in my family					
C3	A Germ or virus					
C4	Diet or eating habits					
C5	Chance or bad luck					
C6	Poor medical care in my past					
C7	Pollution in the environment					
C8	My own behaviour					
C9	My mental attitude e.g. thinking about life negatively					
C10	Family problems or worries					
C11*	Overwork					
C12*	My emotional state e.g. feeling down, lonely, anxious, empty					
C13*	Ageing					
C14*	Alcohol					
C15*	Smoking					
C16*	Accident or injury					
C17*	My personality					
C18*	Altered immunity					



In the table below, please list in rank-order the three most important factors that you now believe caused YOUR diabetes. You may use any of the items from the box above, or you may have additional ideas of your own.

The most important causes for me:

1. _____
2. _____

Beacon Patient-Reported Outcome Quality-of-Life Tool

- Providers in 11 southeast Minnesota counties have their patients with diabetes complete a real-time, easy-to-use assessment tool that helps in identifying and addressing their biggest quality-of-life concerns.
- Completed just before each visit, the tool asks patients to identify their biggest concern, complete a checklist that helps define specific aspects of that concern, and rank various aspects of their perceived well-being.
- Based on the patient's responses, the tool generates a list of interventions that could help the patient (tailored to the site using the tool), including treatment modifications and referrals to locally available resources.
- The electronic version also generates a graphic depiction of trends in patient responses over time. Although a formal, survey-based evaluation of the program is not yet complete, it has generated overwhelmingly positive feedback from patients and clinicians.
- **Evidence Rating** : Suggestive: The evidence consists of anecdotal feedback from patients and clinicians who have used the assessment tool.

Cited by AHRQ

<http://www.innovations.ahrq.gov/content.aspx?id=3760>

On the next few screens please tell us about a concern that you would like to discuss with your diabetes care team today and answer a few questions about how you are feeling.

This information will become part of your medical chart. This will **not** replace your regular discussion with your health care team. They will still talk to you today about test results or other health-related issues.

Not only will this allow your health care team to assist you, but it will also help us identify areas where more community resources are needed.

Please click the button below to get started. It will take about 5 minutes to complete.

BEGIN

which of the following, if any, represents your
single biggest concern
right now...

 <p>personal relationships</p> <ul style="list-style-type: none">• Family• Friends	 <p>monitoring health</p> <ul style="list-style-type: none">• Testing blood sugars• Checking feet	 <p>emotional health</p> <ul style="list-style-type: none">• Sad• Anxious• Other emotional concerns	 <p>money</p> <ul style="list-style-type: none">• Cost of medicine or supplies• Paying for care	 <p>health behaviors</p> <ul style="list-style-type: none">• Diet• Exercise• Sleep
 <p>medicine</p> <ul style="list-style-type: none">• Taking medication• Managing side effects	 <p>getting health care</p> <ul style="list-style-type: none">• Finding a provider to talk to• Scheduling appointments	 <p>work</p> <ul style="list-style-type: none">• Schedule• Environment• Managing your health condition at work	 <p>physical health</p> <ul style="list-style-type: none">• Pain• Fatigue• Physical difficulties	 <p>something else</p>



monitoring health

Have you recently had any of the following problems or concerns?
(Check all that apply)

- Difficulty testing your blood sugar (glucose) levels
- Feeling bothered by the time and energy required to test your blood sugar levels
- Difficulty keeping a record of your blood sugar levels
- Feeling bothered taking medical instruments (such as a glucose monitor, insulin syringes) wherever you go
- Difficulty finding a place to check blood sugar or take insulin when you are away from home
- Difficulty checking your feet
- Difficulty checking your blood pressure
- Difficulty monitoring weight, calories or carbs
- Something else





health behaviors

**Have you recently had any of the following problems or concerns?
(Check all that apply)**

- Eating too much or too little
- Not sticking to your meal plan
- Not exercising the right amount
- Difficulty doing everyday physical activities such as walking, climbing stairs, carrying groceries
- Not sleeping enough to feel well-rested
- Feeling you should cut down on the amount of alcohol you drink
- Feeling you should quit smoking or using tobacco
- Something else



back



next



medicine

**Have you recently had any of the following problems or concerns?
(Check all that apply)**

- Difficulty taking your medicine the way you should (at the right time and in the right amount)
- Feeling bothered by the time and energy needed to take your medicine
- Difficulty paying for your medicine
- Experiencing side effects from your medicine
- Difficulty adjusting your medicine based on sugar levels, meals or changing body weight
- Difficulty administering insulin
- Difficulty understanding what medicines you should be taking
- Something else





physical health

Have you recently had any of the following problems or concerns?
(Check all that apply)

- Pain
- Fatigue
- Vision problems
- Sleep problems
- Difficulty walking
- Shortness of breath
- Skin changes or infections
- Sexual problems
- Numbness or tingling in your hands and feet
- Something else





Resources

Materials By Type

Materials By Topic

Diabetes Initiative Tools

Record of Grantee Meetings

Resources

Grantees of the Diabetes Initiative have adapted and developed materials useful to project implementation, training, education and assessment activities. We are making them available on this Web site for others to use or adapt in their own organizations. If you use or adapt these please give credit to the developing organization.

✧ Materials By Type

- Assessment Materials, Forms & Instruments
- Patient Education Materials
- Presentations
- Program Management & Implementation
- Spanish Materials
- Staff Training Materials & Methods
- Template Recruitment & Marketing Materials



✧ Materials By Topic

- Community Health Workers (including Lay Health Workers & Educators, Coaches & Promotoras)
- Follow-up and Support
- General Administration
- Goal Setting
- Healthy Coping
- Healthy Eating
- Individual Assessment
- Linking to Quality Clinical Care
- Multiple Self Management Behaviors



Resources

Materials By Type

Materials By Topic

- Community Health Workers
- Follow-up and Support
- General Administration
- Goal Setting
- Healthy Coping
- Healthy Eating
- Individual Assessment
- Multiple Self Management Behaviors
- Partnership Models for Self Management
- Physical Activity
- Smoking Cessation
- Systems to Support Organizational Capacity for Self Management

Diabetes Initiative Tools

Record of Grantee Meetings

Resources

Individual Assessment

This section includes individual assessment materials related to various topics including goal setting, depression, action planning and more. It also includes provider documentation forms for individual patients or program participants. Materials are organized by the nature of their use.

✕ Assessment Materials, Forms & Instruments

- Action Plan Form English
- Action Plan Form Spanish
- Attitudes Survey
- BCS Patient Questionnaire
- Behavioral Health Assessment Tool
- Behavioral Health Assessment Tool Spanish
- Behavior Worksheet
- Case Management Assessment and Follow Up Form
- Case Management Intake Form
- Diabetes Clinical Form
- Diabetes Group Visit Form
- Diabetes Provider Visit Form
- Goal Follow up Form
- Goal Setting Assessment Tool
- Goal Setting Form and Tips English/Spanish
- Goal Setting Support Tool
- Health Belief Questionnaire English/Spanish
- Lifestyle Survey
- Mental Health Progress Report Form
- Nutrition Goal Setting Form
- Patient Assessment Form
- Patient Assessment Form Spanish
- Patient Diabetes Knowledge Questionnaire English
- Patient Diabetes Knowledge Questionnaire Spanish
- Patient Information Sheet English/Spanish
- Program Evaluation
- Program Evaluation Telephone Survey
- Program Intake Form
- Program Intake Form
- Project Participant Assessment
- Project Participant Post-test
- Project Participant Pre-test
- Project Participant Questionnaire
- Questions for People with Diabetes
- Ready for Change Assessment Form
- Self Efficacy Assessment Tool
- Self Management Goal Follow Up Form
- Self Management Goal Form
- Self Management Goal Form English
- Self Management Goal Form Spanish
- Short Depression Screening Tool English/Spanish
- Social Support Assessment Tool
- Social Support Assessment Tool Spanish
- Stages of Change Questions
- Type II Diabetes Standing Orders (MA Planned Visit)
- Weekly Action Plan Form
- Whisking Your Way to Health Program Evaluation



Appendix B: Health Belief Questionnaire

<p>Key: 5 = Strongly Agree; 4 = Agree; 3 = Not Sure; 2 = Disagree; 1 = Strongly Disagree Clave: 5=Totalmente Deacuerdo; 4=Deacuerdo; 3=No estoy seguro; 2=Desacuerdo; 1=Totalmente en desacuerdo</p>	
1.	<p><i>Mi diabetes esta bien controlada</i> 1. My diabetes is well controlled</p>
2.	<p><i>Tendria que cambiar demasiadas costumbres para seguir mi dieta (comidas de diabeticos)</i> 2. I would have to change too many habits to follow my diet (diabetic foods)</p>
3.	<p><i>Ha sido dificil seguir la dieta (comidas de diabeticos) que me receto el doctor</i> 3. It has been difficult following the diet (diabetic foods) the doctor ordered for me</p>
4.	<p><i>Estoy confundido por todo el medicamento que el doctor me ha dado</i> 4. I am confused by all the medication the doctor has given me</p>
5.	<p><i>Tendria que cambiar muchos habitos para tomar mi medicamento</i> 5. I would have to change too many habits to take my medication</p>
6.	<p><i>Tomar mi medicamento interfiere con mis actividades diarias normales</i> 6. Taking my medication interferences with my normal daily activities</p>
7.	<p><i>Tengo otras personas alrededor de mi que me recuerdan de comer los alimentos adecuados</i> 7. I have others around me who remind me to eat the right foods</p>
8.	<p><i>Puedo contar con mi familia cuando necesito ayuda para seguir mi dieta (comidas de diabeticos)</i> 8. I can count on my family when I need help following my diet (diabetic foods)</p>
9.	<p><i>Mi esposo/esposa me ayuda a seguir mi dieta (comidas de diabeticos)</i> 9. My husband /wife helps me follow my diet (diabetic foods)</p>
10.	<p><i>Si cambiara de "trabajo" seria mas facil seguir mi dieta (comidas de diabeticos)</i> 10. If I changed "jobs" I would be easier to follow my diet (diabetic foods)</p>
11.	<p><i>Me cansa tanto mi trabajo que es dificil seguir mi dieta (comidas de diabeticos)</i> 11. My work makes me so tired that it's hard to follow my diet (diabetic foods)</p>
12.	<p><i>Podria controlar mi peso si las presiones de mi trabajo no fueran tan grandes</i> 12. I could control my weight if the pressures of my job weren't so great</p>

How do CDEs prioritize ?

Much to teach.

DSM behaviors

Test BG

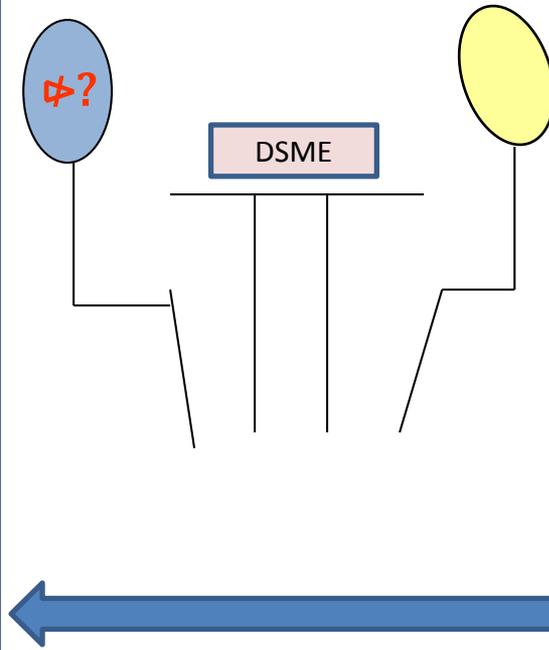
Feet

Eyes

Diet

Meds

Etc.



Many standards to meet.

American Guidelines: DSME &/or Elderly

- ADA/Endo Soc 2013
- Joslin 2007, 2009
- ADA/AGS 2012
- ADA/EASD 2012
- ADA 2014
- AGS 2012, 2013
- ACOG 2011
- AAFP 2009
- APA 2004, 2012
- Others
- AACE/ACE/OS 2011
- AACE 2013
- IDF 2013

Older adults with diabetes

- I. Trends in prevalence, costs, delivery of care
- II. Current guidelines and tools for assessing their DSM* needs, challenges, resources
- III. Likely sources of DSM errors and non-adherence**
- IV. Criteria for evaluating quality and relevance of assessments
- V. Most useful assessments for older adults

*DSM=diabetes self-management

Patient's Method of Figuring Meal-time Insulin Doesn't Quite Work

Recently I assessed an 84 year old inpatient with diabetes for his insulin usage at home. In reporting his dosing he stated that after he checked his glucose before each meal he took the "first two numbers of the result," and made that his dosage for meal-time insulin. For example, if the glucose reading was 240, he would take 24 units of Humalog.

I asked him if this was his instruction per his provider and he said, "No, but it was the only thing that made sense to me that I could remember."...

A specific teaching plan with simple dosing was designed for him and a home health evaluation for medication administration safety was also made on his return home.

Lesson Learned:

This example once again reiterates the importance of having the patient give you a verbal and sometimes a practice demonstration of what they understand to be the practice for medication administration.

*Janet Howard-Ducsay, RN, BA/BSN,
CDE
Diabetes Nurse Educator*

Diabetes Disaster Averted #51: Careful Listening Saves Lives

A few years ago, I was working as a Nurse Practitioner in an endocrinology practice. One of my longstanding elderly patients, age 82, called me to report that the paramedics had to come to her house because she passed out...

I scheduled her for an appointment the next day, and took her history. She'd had diabetes for about 15 years, and was taking a long acting insulin at bedtime and rapid acting insulin before her meals. I reviewed her activities of the day (meal times, insulin doses and times, and activity level). She reported that she had her dinner, and then next thing she knew she was passed out at the dinner table. I performed a complete physical exam, which was normal. I was ready to order a battery of lab tests, and considering testing her for gastroparesis since it appeared that she'd had a severe hypoglycemic reaction so soon after eating.

I reviewed her recent episode with her again, stating "so you ate your dinner, and then you passed out..." at which point she interrupted with "no, I did not eat my dinner, I HAD it, it was right in front of me on the table, and then I passed out...." The conclusion was that she had a severe hypoglycemic reaction because she delayed her dinner. }

Lesson learned: Obtain a complete history from the patient, choosing words carefully, and make sure you and your patient are speaking the same language and have the same meaning! The lesson learned from this case saved a lot of time and money from unnecessary testing and work up.

Louise DeRiso, MSN, CRNP, CCRC

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University of Pittsburgh

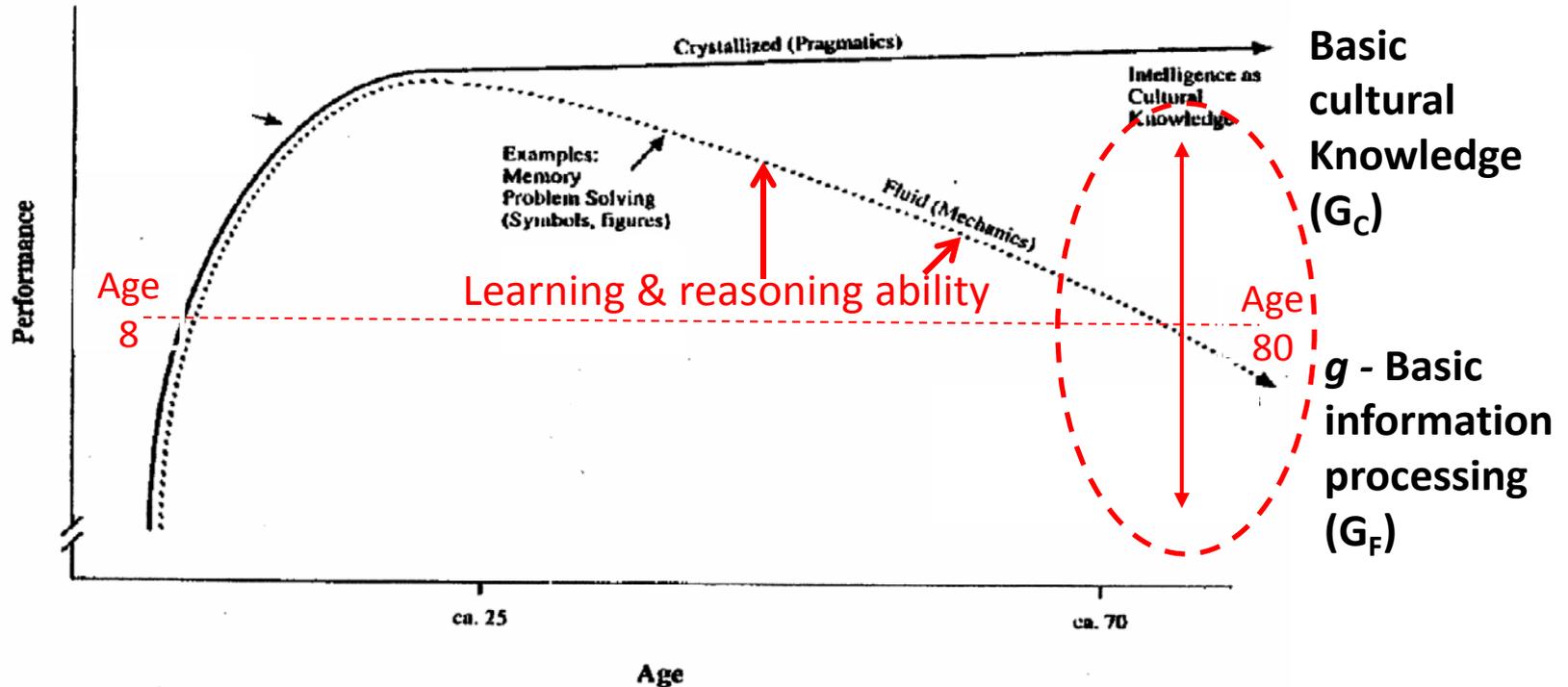
Normal age-related cognitive decline

How important?

Cognitive ability \approx ability to learn & reason well \approx functional literacy

Cognitive ability \rightarrow better DSM

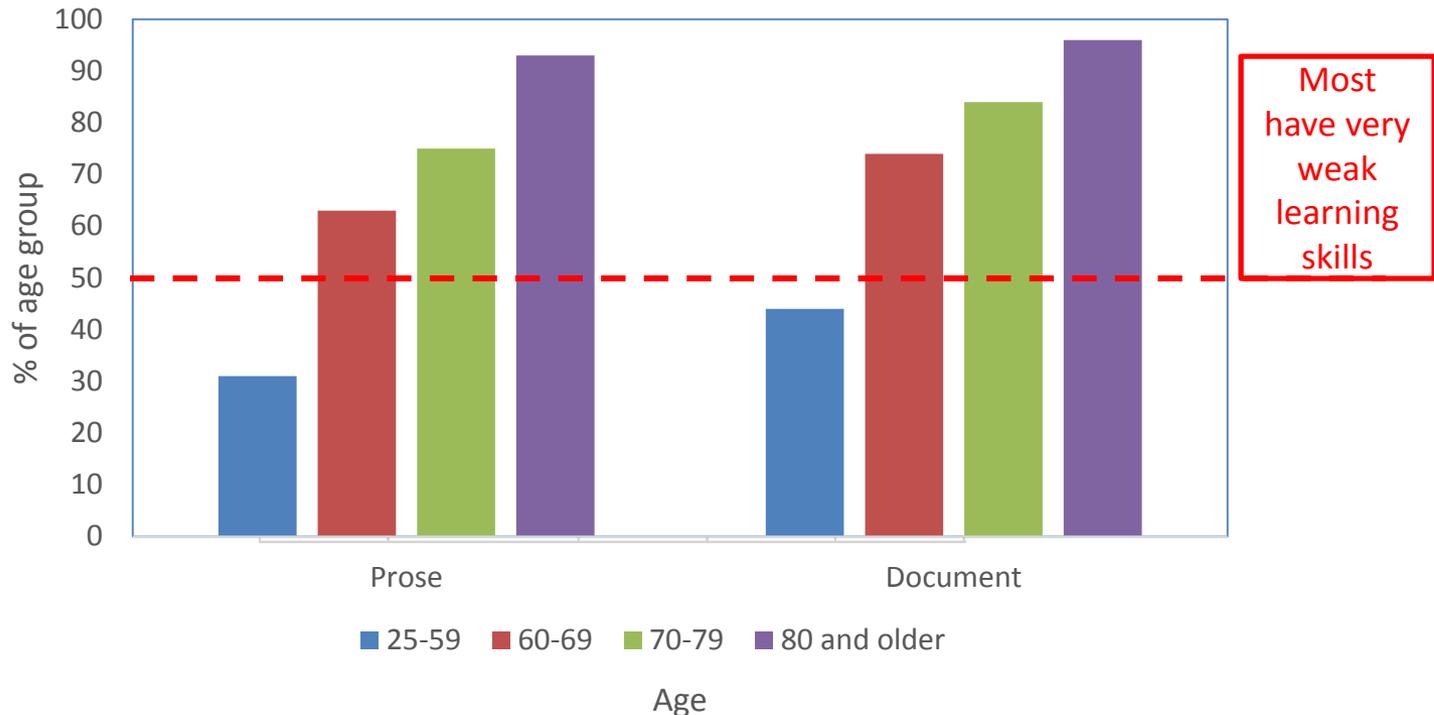
Functional literacy \rightarrow better adherence



Recall: older adults have less functional literacy

How handicapping? VERY!

% with very low functional literacy*



*Level 1 or 2 on NCES adult literacy survey's 5-level scale Source: Tables 1.2 and 1.3 of *Literacy of Older Adults in America*, 1996, <http://nces.ed.gov/pubs97/97576.pdf> (accessed 8/1/14)

Typical literacy items, by difficulty level

National Adult Literacy Survey (NALS), 1993

Community dwelling

NALS difficulty level	% US adults peaking at this level: Prose scale				Simulated everyday tasks	
	Age				Daily self-maintenance in modern literate societies	
	16-59	60-69	70-79	80+		
5	4	1	1	0	<ul style="list-style-type: none"> Use calculator to determine cost of carpet for a room Use table of information to compare 2 credit cards 	
4	20	8	5	1	<ul style="list-style-type: none"> Use eligibility pamphlet to calculate SSI benefits Explain difference between 2 types of employee benefits 	
3	35	27	19	6	<ul style="list-style-type: none"> Calculate miles per gallon from mileage record chart Write brief letter explaining error on credit card bill 	
2	25	33	22	27	<ul style="list-style-type: none"> Determine difference in price between 2 show tickets Locate intersection on street map 	
1	16	30	42	66	<ul style="list-style-type: none"> Total bank deposit entry Locate expiration date on driver's license 	

Includes normal cognitive decline

Typical literacy items, by difficulty level

National Adult Literacy Survey (NALS), 1993

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1	16	30	42	66	<ul style="list-style-type: none"> NOT reliable informants! Locate expiration date on driver's license 	

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National Adult Literacy Survey (NALS), 1993

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The "simple" becomes harder or impossible to do

Typical literacy items, by difficulty level

National Adult Literacy Survey (NALS), 1993

NALS difficulty level	% US adults peaking at this level: Prose scale				Simulated everyday tasks	
	Age				Daily self-maintenance in modern literate societies	
	16-59	60-69	70-79	80+		
5	4	1	1	0	<ul style="list-style-type: none"> Use calculator to determine Use table of information to 	Elements of “process complexity” <ul style="list-style-type: none"> number of features to match level of inference abstractness of info distracting info
4	20	8	5	1	<ul style="list-style-type: none"> Use eligibility pamphlet to Explain difference between 	
3	35	27	19	6	<ul style="list-style-type: none"> Calculate miles per gallon Write brief letter explaining 	
2	25	33	22	27	<ul style="list-style-type: none"> Determine difference in p Locate intersection on str 	
1	16	30	42	66	<ul style="list-style-type: none"> Total bank deposit entry Locate expiration date on driver’s license 	

complexity ↑

Task difficulty level is *not* about readability, but about “problem solving”

DocumentL - Microsoft Word

File Home Insert Page Layout References Mailings Review View PDF

Spelling & Research Grammar Thesaurus Word Count Translate Language New Comment Delete Previous Next Track Changes Reviewing Pane Accept Reject Previous Next Compare Block Authors Restrict Editing

Readability doesn't make a complex task easy

 **To be or not to be, that is the question.**

Ingredients of readability:
ASW: Average syllables per word
ASL: Average words per sentence

$206.835 - (84.6 * \text{ASW}) - (1.015 * \text{ASL})$

$(0.39 * \text{ASL}) + (11.8 * \text{ASW}) - 15.59$

Readability Statistics

Counts	
Words	10
Characters	32
Paragraphs	1
Sentences	1
Averages	
Sentences per Paragraph	1.0
Words per Sentence	10.0
Characters per Word	3.0
Readability	
Passive Sentences	0%
Flesch Reading Ease	100.0
Flesch-Kincaid Grade Level	1.2

OK

Page: 1 of 1 Words: 10

11:34 AM 6/28/2012

Recall

Appropriate assessment is essential for individualizing DSME.

To do that, CDEs will need to:

1. screen older adults for most critical DSM tasks
2. assess patient's major barriers to learning
3. *recognize the complexity levels of the DSM tasks (Bloom's Taxonomy)*

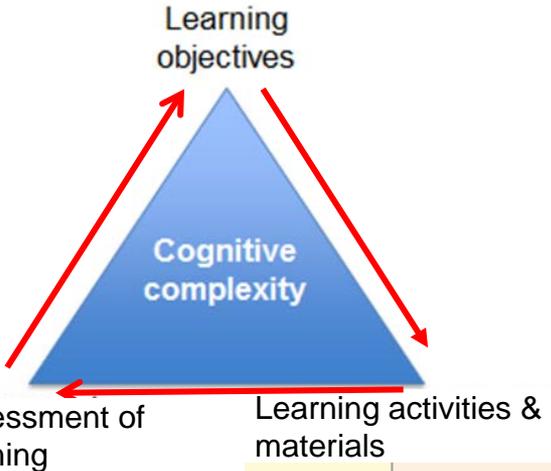
Bloom's Taxonomy of Learning Objectives (2001 revision)

Bloom's levels = continuum of cognitive complexity

Table 1. The cognitive processes dimension — categories, cognitive processes (and alternative names)

lower order thinking skills  higher order thinking skills

remember	understand	apply	analyze	evaluate	create
recognizing (identifying) recalling (retrieving)	interpreting (clarifying, paraphrasing, representing, translating) exemplifying (illustrating, instantiating) classifying (categorizing, subsuming) summarizing (abstracting, generalizing) inferring (concluding, extrapolating, interpolating, predicting) comparing (contrasting, mapping, matching) explaining (constructing models)	executing (carrying out) implementing	differentiating (discriminating, distinguishing, focusing, selecting)	checking (coordinating, detecting, monitoring, testing)	generating (hypothesizing) planning (designing) producing (construct)



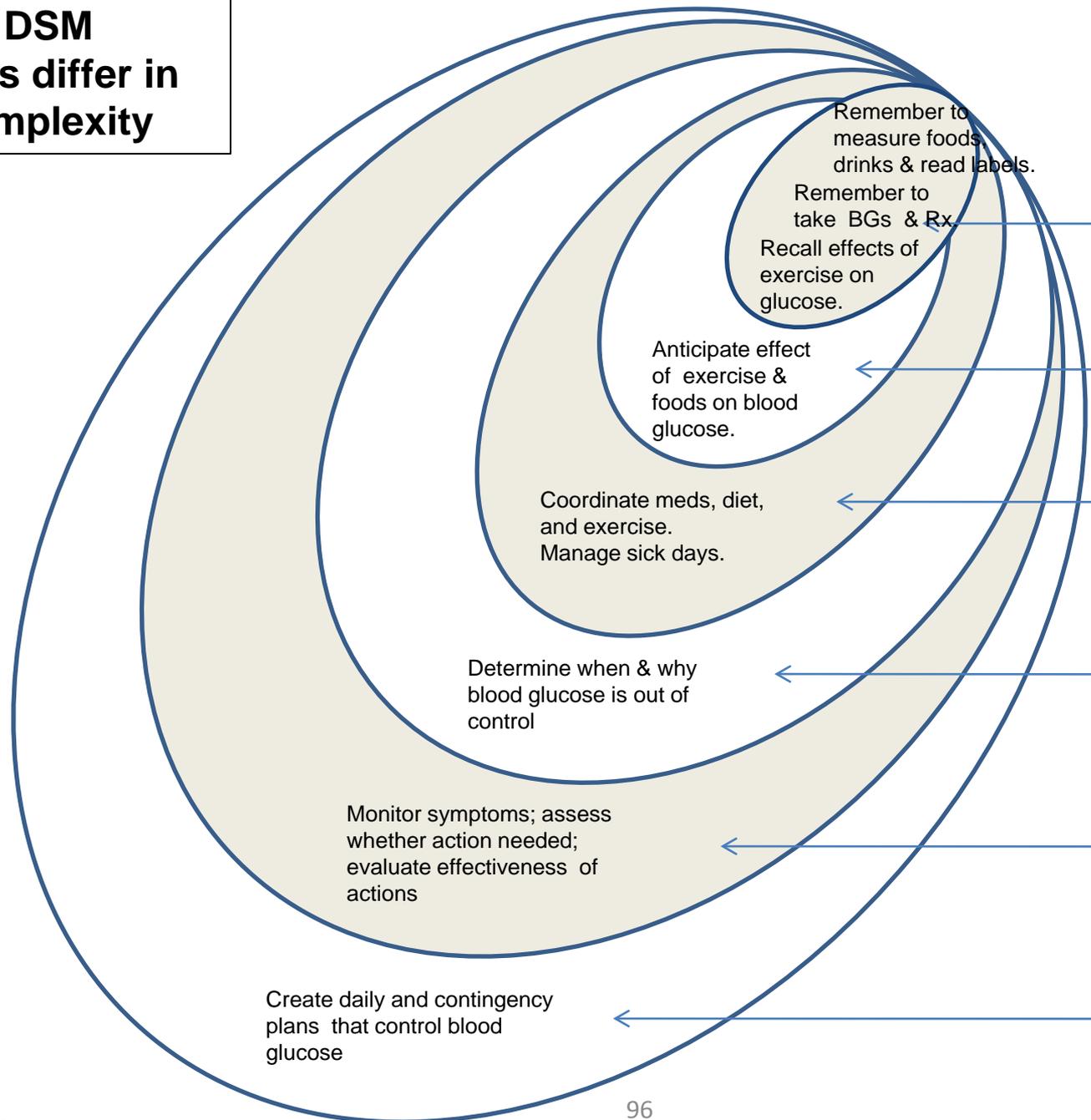
Learning objectives

Cognitive complexity

Assessment of learning Learning activities & materials

(Table 1 adapted from Anderson and Krathwohl, 2001, pp. 67–68.)

DSM tasks differ in complexity



Bloom's taxonomy of educational objectives (cognitive domain)*

Simplest tasks

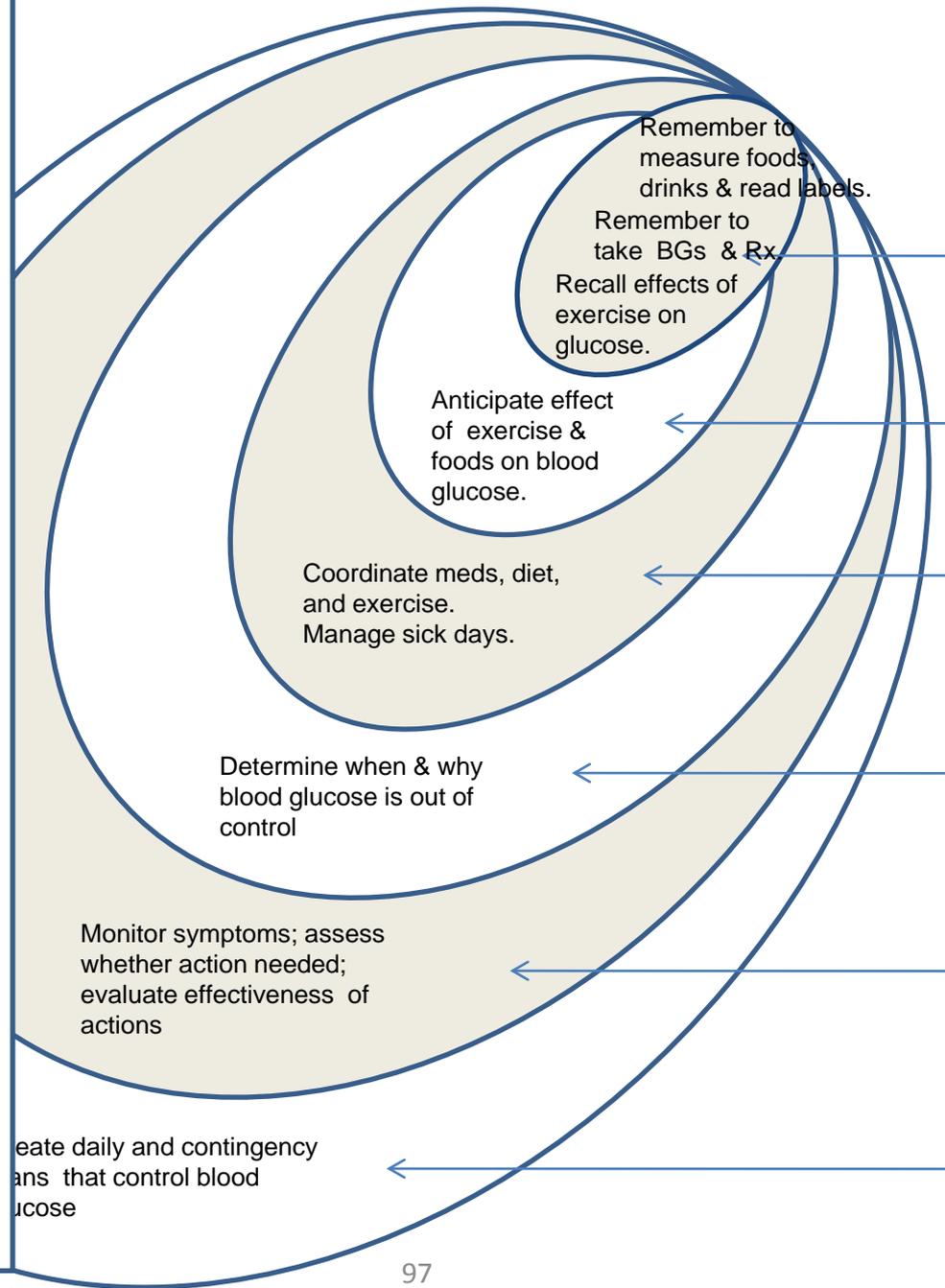
- 1. Remember**
recognize, recall, Identify, retrieve
- 2. Understand**
paraphrase, summarize, compare, predict, infer
- 3. Apply**
execute familiar task,, apply procedure to unfamiliar task
- 4. Analyze**
distinguish, focus, select, integrate, coordinate
- 5. Evaluate**
check, monitor, detect inconsistencies, judge effectiveness
- 6. Create**
hypothesize, plan, invent, devise, design

Most complex tasks

*Revised 2001: Anderson, L. W., & Krathwohl, D. R. *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. NY: Addison Wesley Longman.

Instructional strategy—minimize unnecessary cognitive load

- Teach essential DSM tasks first, one at a time
- Sequence instruction from simple to complex ideas & skills
- Adjust speed and abstractness of instruction to accommodate individual's learning needs
- **Never** assume that something is "simple" or obvious
- Confirm mastery before moving on
- Don't squander individual's cognitive resources by teaching non-essential skills and content, using too-complex materials, etc.



Bloom's taxonomy of educational objectives (cognitive domain)*

Simplest tasks

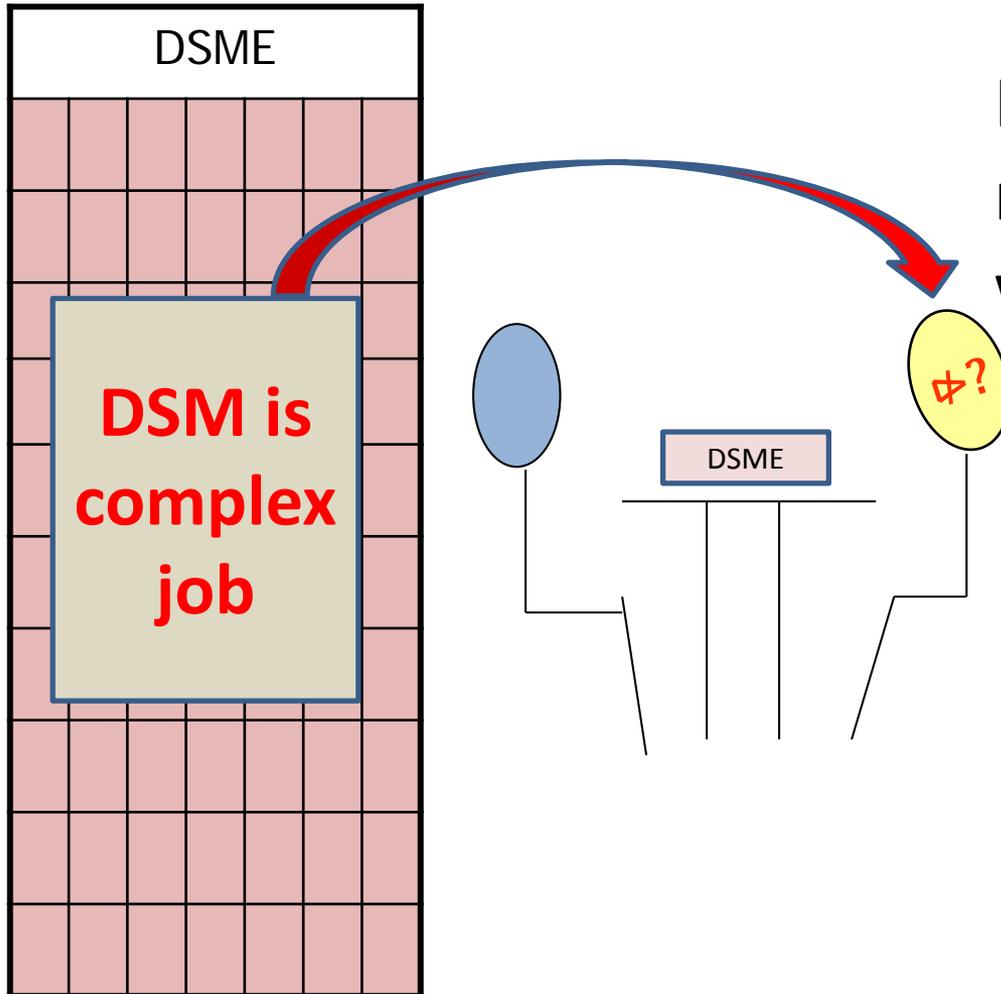
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Risk of cognitive overload!

Especially when cognitive resources are weak or declining



DSM tasks differ in complexity

Diabetes Disaster Averted #11: Label Literacy

I am a dietitian working as a diabetes educator. I often work with patients on insulin, and teach insulin to carb ratios and correction factors....

Patients need to be able to read food labels and know portion size in order to dose their mealtime insulin correctly. I often get referred patients who have had some education about food choices and carbs and I help them determine these ratios.

I was reviewing a patient's food logs and insulin dose, and I questioned the amount of carbohydrate he had stated for a particular food item, as it seemed high. I quickly found out the patient was actually looking at the weight of the food item in grams instead of looking at Total Carbohydrates grams on the food label.

The patient had erroneously calculated a higher insulin dose based on weight grams not carb grams. Luckily, he experienced no hypoglycemia.

Now I make sure to point out to patients the difference in serving weight and Total Carbohydrates, and to use only the value next to Total Carbohydrates (adjusting for serving size).

He has not been the only patient who gets confused by this.

Marilyn Baker, MS, RD, CDE

Take home message:

In addition to looking at weight grams patients often use the % of daily allowance as the amount of carbs they eat. And even the most experienced counter can make a big mistake. It is always good to remind your patients exactly what they should be looking for on the label each time you see them.

Remember to measure foods, drinks & read labels.

Remember to take BGs & Rx

Recall effects of exercise on glucose.

effect
se &
blood

st,

Bloom's taxonomy of educational objectives (cognitive domain)*

Simplest tasks

1. **Remember**
recognize, recall, Identify, retrieve
2. **Understand**
paraphrase, summarize, compare, predict, infer
3. **Apply**
execute familiar task,, apply procedure to unfamiliar task
4. **Analyze**
distinguish, focus, select, integrate, coordinate
5. **Evaluate**
check, monitor, detect inconsistencies, judge effectiveness
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Most complex tasks

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Lesson learned: Obtain a complete history from the patient, choosing words carefully, and make sure you and your patient are speaking the same language and have the same meaning! The lesson learned from this case saved a lot of time and money from unnecessary testing and work up.

Louise DeRiso, MSN, CRNP, CCRC

Coordinator, Vascular Clinical & Translational Research Center

University of Pittsburgh

She did not accurately **remember** ("eat dinner") the DM ed,
She did not **understand** ("eat vs had meal"),
Could not **apply** instructions appropriately,
Could not **analyze** her situation
Could not **evaluate** what she did wrong

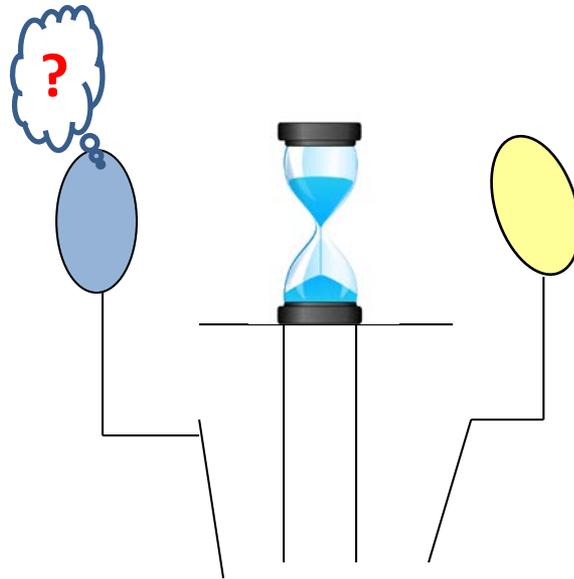
Older adults with diabetes

- I. Trends in prevalence, costs, delivery of care
- II. Current guidelines and tools for assessing their DSM* needs, challenges, resources
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- IV. Criteria for evaluating quality and relevance of assessments**
- V. Most useful assessments for older adults

*DSM=diabetes self-management

What is most important to know

- about this patient
 - right now
 - and *why*?



Is the assessment tool

Clinically relevant ?

Valid ?

Reliable ?

Useful ?

For your elderly patient ?

Criteria for evaluating assessment tools

- **Clinical relevance:** Is what you intend to measure, really worth measuring?
 - In *this* population*
 - For *my* purposes
- **Validity:** Does this tool really measure it?
 - In *this* population
- **Reliability:** Does it provide results precise and consistent enough for my purposes?
 - In *this* population
- **Utility:** Do the benefits of using it outweigh the costs/harm?
 - In *this* population

*Here, older adults with diabetes

Single Item Literacy Screen (SILS)

“How often do you need to have someone help you when you read instructions, pamphlets, or other written material from your doctor or pharmacy?”

1-Never

2-Rarely

3-Sometimes

4-Often

5-Always

Difficulty reading
and understanding
printed health related material.

1. Clinical relevance

Is what you intend to measure,
really worth measuring?

- High priority patient behavior or outcome?
 - A big causal influence?
 - Malleable? (fixable)
 - In my intended population?
 - Results would guide instructional decisions
- How do you know that?
Good evidence, or mostly supposition?

2. Validity

Does the tool really measure what it claims to?

- Am I really clear about what I want to measure ?
- Does this tool really measure it?
 - Solid *evidence*?
 - Label is poor guide
 - Same label often means different things (e.g., “quality of life”)
 - Different labels often mean same thing (e.g., “literacy” & “cognitive ability”)
 - Testimonials are poor guide
- Any validation for older adults?

3. Reliability

How precise and consistent are the results this tool provides?

- Margin of error (if “continuous” variable)?
- Or, rate of false positives and false negatives (if categorical)?
- Accurate enough for my intended use?
- Any evidence for older adults?

Evidence matters, popularity does not.

4. Utility

Do the benefits outweigh the costs/harm of using this tool?

- Acceptable to patients & providers?
- Comprehensible to users?
- Feasible for practical use?
 - Expense; time to administer, score and record; flow of work; staff
- Consequences of collecting and using the info?
 - Benefits of true positives and negatives
 - Harm of false positives and negatives

Evidence matters, wishful thinking does not

Older adults with diabetes

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*DSM=diabetes self-management

Assessment Realities

- Myriad assessments, but few validated for older adults
- Older adults have a more complicated DSM job
- Older adults tend to have fewer cognitive resources for learning and doing DSM well
- But they differ enormously—one size does not fit all

**The most useful assessment tools for the elderly
answer these questions:**

1. What is most important, right now, for this patient to *learn to do DSM*?
2. What are the *major barriers* to this patient learning to *do DSM*?
3. What is the most effective way to *teach* this patient ?

***And* meet these criteria:**

Clinically relevant

Valid

Reliable

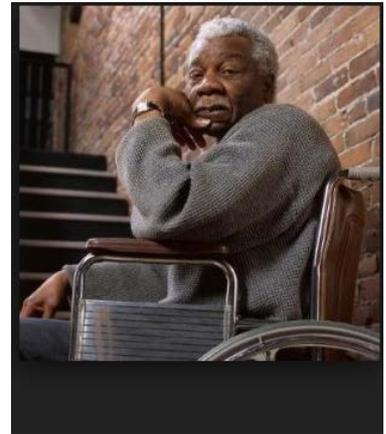
Useful

Recall.....

- Many of your patients/clients will:
 - have complex medical problems,
 - experience heavy burdens in self-care,
 - but have fewer physical and cognitive reserves for effective self-care.
- Patients' physical and cognitive health trajectories will differ widely



Good Assessment Matters!



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