## IT COSTS HOW MUCH?!

NAVIGATING FINANCIAL WELLNESS AND AFFORDABLE MEDICATION ACCESS IN UNINSURED AND UNDERINSURED PATIENTS

Alisha Crowley, MD FACP Madeleine Greene, PharmD Candidate 2026

## DISCLOSURES



Neither presenter receives any compensation from any drug company or pharmacy discussed in this presentation.



Brand names are used where manufacturer is relevant for reimbursement.



Generative Al is used in this presentation for formatting purposes only.

MR. P financial hardship. Ask

Mr. P is a 62-year-old Rhode Islander with previously well controlled diabetes and CKD III on empagliflozin 25 mg, glimepiride 2 mg, atorvastatin 40 mg, amlodipine 10 mg, and lisinopril 20 mg. biride was mistakenly filled for I mg d-re with a transient increase in 4 that roselved with resuming 2 anately, Mr. P's workplace as canceled when he lost his

## GETTING NEW INSURANCE

Lurrent When attempting to go Mr. P submitted Income portion of the year a Only-- Unless This error meant by Specifically Medicaid in the automate chose a plan with a premium Asked afford. The plan covered doc or visits with a moderate copay, but had \$1000 deductible for medications. Despite covering empagliflozin, it became immediately unaffordable.

Repor

## NAVIGATING THE NEW FINANCES

Mr. P receives 10 mg samples of empagliflozin from his nephrologist. He continues on his glimepiride at a higher dose. His AIc increases to a peak of 8.4. His regimen is frequently adjusted, and ultimately he takes a combination of bexagliflozin 20 mg and glimepiride 6 mg daily, and acarbose 25 mg with meals. A I c returns to 7.3, never dipping below 7. Mr. P deals with frequent GI upset and is eagerly awaiting the next open enrollment period and when his eventual Medicare eligibility begins.

## INSURANCE REVIEW BINGO

Tier Cost-Sharing Tier Deductible Co-Insurance Copay Exemption Out of Class Preferred Covered Pocket Formulary **Brand Exclusion** Indication Drug Maximum Patient Mail Order Preferred Discount Generic Copay Card Assistance Pharmacy Pharmacy Coupon Program

## MEDICARE

Covers Elderly, Dialysis Patients, and Long Term Disabilities

#### Part A- Hospital Insurance

•\$1676 Deductible

#### Part B- Outpatient Care, Home Health Care, DME, Preventive Services

- •\$257 Deductible
- •Generally covers 80%

#### Part C-"Advantage" or Managed Medicare Plans from Private Companies

Variable

#### Part D- Drug Coverage

- •Donut Hole is now CLOSED
- •Maximum \$2000 Out of Pocket- Can be divided monthly
- •Three Tiers + Specialty
- •Negotiated Rates go into effect in January
- •Jardiance
- •Januvia
- •Farxiga
- •Several insulins (Fiasp, Novolog
- •2027 adds
- •Semaglutide
- Tradjenta
- •Janumet

## **MEDICAID**

### Covers Low Income Populations

### Paid for by Federal and State Funds

Typically covers services at %100

### Administered by commercial companies

- Neighborhood Health Plan of RI
  - TRUST
    - Childless Adults, including those with disabilities, excluding pregnant people
  - ACCESS
    - Everyone Else
- UHC Rhode Island Medicaid Plan

Show Patients
How To
Navigate the
Formulary in

## MEDICAID QUALIFYING INCOMES

Household Size	Adults 19–64 (138% FPL)	Pregnant Individuals (258% FPL)	Children ≤ 18 (261% FPL)
1	\$1,799	\$3,364	\$3,468
2	\$2,432	\$4,548	\$4,689
3	\$3,064	\$5,730	\$5,907
4	\$3,697	\$6,911	\$7,126
5	\$4,330	\$8,096	\$8,347
6	\$4,962	\$9,277	\$9,565
7	\$5,594	\$10,459	\$10,783
8	\$6,227	\$11,643	\$12,004
Each additional person →	+ \$632 / mo.	+ \$1,181 / mo.	+ \$1,221 / mo. (approx.)*

## COMMERCIAL INSURANCE

### **Employer Based**

- At least 60% of total allowed costs
- Substantial coverage of hospitalization
- Affordable (9.02% income)

## Exchange Plans

- Open Enrollment
  - Nov I- Jan 21
- Special Enrollment for
  - Moving
  - Lost Coverage,
  - Marriage/Divorce
- •HMO vs PPO
- ·High Deductible or Low Deductible
- Catastrophic Plans

#### **ACA Essential Health Benefits**

- Ambulatory patient services
- Emergency services
- Hospitalization
- Maternity & newborn care
- •Mental health & substance use disorder services, including behavioral health treatment
- Prescription drugs
- Rehabilitative & habilitative services & devices
- Laboratory services
- •Preventive & wellness services and chronic disease management
- Pediatric services, including oral and vision care

#### **Rhode Island Additions**

- Infertility Treatment
- •Home Health Care Services
- Hearing Aids
- Cancer Innovations- Trials and Off-label Drugs
- Donor Testing for Transplant
- Wigs

Plan Category	Plan Pays (Approx.)	You Pay (Approx.)	Deductible Level (Typical)	
Bronze	60%	40%	High	
Silver	70%	30%	Moderate	
Silver with Extra Savings (Cost-Sharing Reduction)	73–96%	6–27% (depending on income eligibility)	Low	
Gold	80%	20%	Low	
Platinum	90%	10%	Low	

# ACA METAL TIER COVERAGE LEVELS

## DRUG CLASSES FOR DIABETES

Biguanides

Meglitinides

Sulfonylureas

Thiazolidinediones

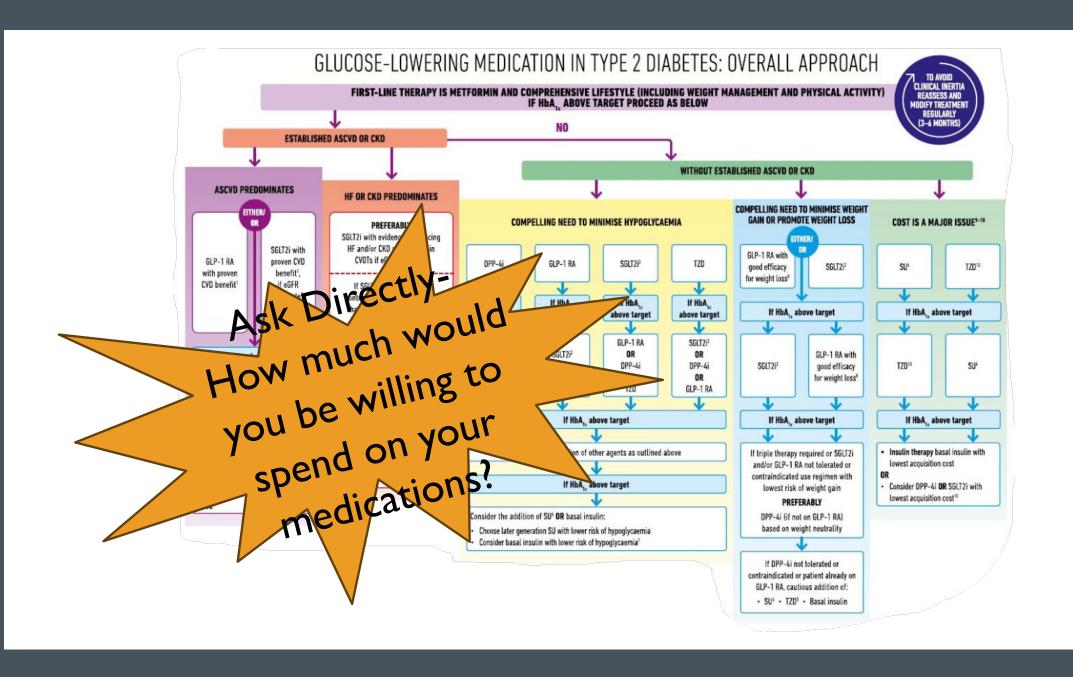
Alpha- glucosidase Inhibitors

Amylin Analogues

Sodium-glucose Cotransporter 2 Inhibitors (SGLT2is) Dipeptidyl Peptidase-4 Inhibitors (DPP-4s)

Glucagon-like Peptide-I Agonists (GLPIs)

Insulin and Insulin Analogues



## **BIGUANIDES**

#### Mechanism

- \perp hepatic gluconeogenesis, \perp intestinal absorption of glucose, and \perp insulin sensitivity by \perp peripheral glucose uptake and utilization.
- ↑ glucose utilization in skeletal muscle and adipose tissue by ↑ cell membrane glucose transport.

#### Side Effects

- GI (diarrhea, nausea, vomiting),
- Low hypoglycemia risk
- Vitamin B12, folate deficiencies
- Mild weight loss
- Lactic acidosis (boxed warning)

#### Alc Lowering

• ~ 1%

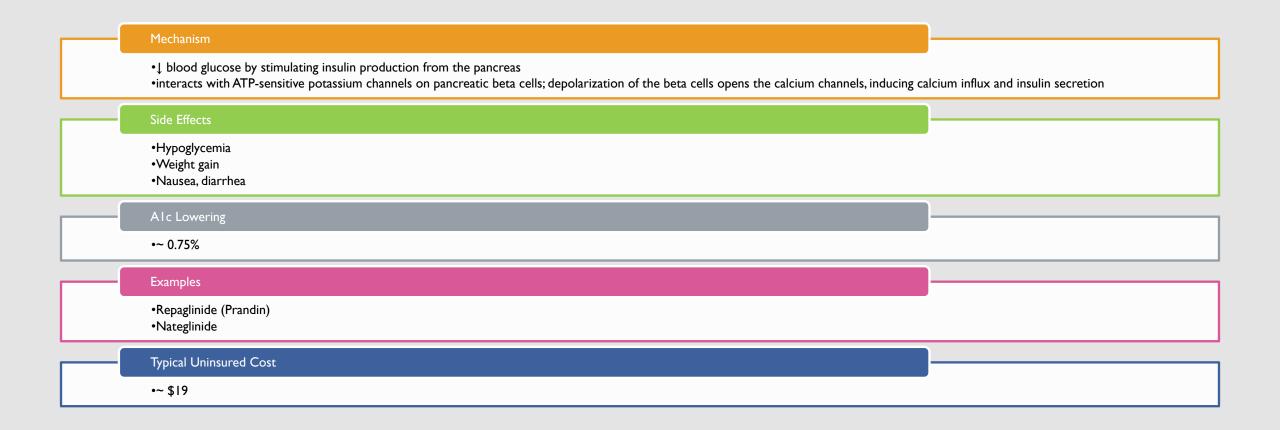
#### Examples

• Metformin (Glucophage)

#### Typical Uninsured Cost

•~\$9

## **MEGLITINIDES**



## **SULFONYLUREAS**

#### Mechanism

- blood sugar by stimulating pancreatic islet cells, which causes an 1 in insulin secretion
- •bind to ATP-sensitive potassium-channel receptors on the pancreatic cell surface, causing depolarization of the membrane
- •stimulates calcium ion influx through voltage-sensitive calcium channels, † intracellular concentrations of calcium ions, which induces the secretion of insulin.

#### Side Effects

- Hypoglycemia
- •Weight gain
- •GI upset (nausea, diarrhea)
- •Dermatologic reactions

#### A1c Lowering

•~ 1.25%

#### Examples

- •First-generation
- •Chlorpropamide (Diabinese)
- •Tolbutamide
- •Second-generation
- •Glimepiride (Amaryl)
- •Glipizide (Glucotrol, Glucotrol XL)
- •Glyburide (Micronase, Glynase)
- •Gliclazide (Diamicron)

#### Typical Uninsured Cost

•~ \$13

## **THIAZOLIDENEDIONES**

#### Mechanism

• ↑ of insulin sensitivity in adipose tissue, skeletal muscle, and the liver

#### Side Effects

- Hypoglycemia
- Heart failure
- Edema
- Weight gain

#### Alc Lowering

•~I.25%

#### Examples

- Pioglitazone
- Rosiglitazone

#### Typical Uninsured Cost

·~\$13

## **ALPHA-GLUCOSIDASE INHIBITORS**

#### Mechanism

- Slow the breakdown and absorption of carbohydrates in the small intestine
- Competitively inhibit a-glucosidase enzymes (maltase, sucrase, glucoamylase) normally break down complex carbohydrates, oligosaccharides, and disaccharides into absorbable monosaccharides (mainly glucose).

#### Side Effects

- GI discomfort
- Diarrhea
- Liver damage

#### Alc Lowering

•~0.5-0.8%

#### Examples

- Acarbose (Actos)
- Miglitol

#### Typical Uninsured Cost

•~ \$25

## **AMYLIN ANALOGUES**

#### Mechanism

- Compensates for decreased Amylin secretion in patients who require insulin
- Slows gastric emptying
- ↓ Glucagon secretion

#### Side Effects

- Nausea
- Hypoglycemia/Hyperglycemia
- Injection site reaction

#### Alc Lowering

• 0.2-0.7%

#### Examples

• Pramlintide (Symlin)

#### Typical Uninsured Cost

·~\$1000

## SODIUM-GLUCOSE COTRANSPORTER 2 INHIBITORS (SGLT2s)

#### Mechanism

- Renal glucose reabsorption in the proximal tubule
- •Theoretical 90% reduction, actual is closer to 50%
- •Secondary osmotic diuresis- †uric acid excretion.

#### Side Effects

- •Genitourinary infections
- •Dehydration/Hypotension
- •AKI
- •Lower extremity amputation
- Euglycemic DKA

#### Alc Lowering

•0.4-0.9%

#### Examples

- •Empagliflozin (Jardiance)
- •Dapagliflozin (Farxiga)
- •Canagliflozin (Invokana)
- Bexagliflozin (Brenzavvy)
- •Ertugliflozin (Steglatro)

#### Typical Uninsured Cost

•\$300-600

## DIPEPTIDYL PEPTIDASE-4 INHIBITORS (DPP-4s)

#### Mechanism

- •↑GLP-I and GIP(Glucose-Dependent Insulinotropic Polypeptide) concentration by ↓breakdown
- ↓ YY (a satiety signal)
- •↑ Glucose dependent insulin secretion

#### Side Effects

- Liver Toxicity
- •↑ Heart Failure symptoms/hospitalizations
- Upper respiratory tract infection
- Joint Pain/Myalgia
- Pancreatitis

#### Alc Lowering

•0.6-0.8%

#### Examples

- •Alogliptin (Nesina)
- •Sitagliptin (Januvia)
- •Saxagliptin (Onglyza)
- •Vildagliptin (Galvus)
- •Linagliptin (Tradjenta)

#### Typical Uninsured Cost

**•**\$150-700

## GLUCAGON-LIKE PEPTIDE-I AGONISTS (GLPIs)

#### Mechanism

- •↑insulin secretion
- •Glucose dependent inhibition of glucagon secretion from pancreatic alpha cells
- ↓ Beta cell apoptosis
- •Direct hypothalamic effects on satiety

#### Side Effects

- •Nausea and vomiting
- •Diarrhea or Constipation
- Dehydration
- Dizziness
- •Injection site reactions
- Pancreatitis

#### Alc Lowering

•1-2.1\*\*%

#### Examples

- •Exenatide (Byetta)
- •Liraglutide (Victoza)
- •Dulaglutide (Trulicity)
- •Semaglutide (Ozempic)
- Tirzepatide\*(Mounjaro)
- •Orforglipron\*\*

#### Typical Uninsured Cost

•~\$500

## INSULIN AND INSULIN ANALOGUES

#### Mechanism

- †Glucose uptake and glycogen synthesis
- Lipolysis and gluconeogenesis
- $\bullet \downarrow Glucagon$  and other counterregulatory hormones

#### Side Effects

- Hypoglycemia
- Weight Gain

#### Alc Lowering

Variable

#### Examples

- Aspart/Lispro (Humalog)
- Regular
- NPH
- Detemir (Levemir)
- Glargine (Lantus)
- Degludec (Tresiba)

#### Typical Uninsured Cost

• \$25-250

#### MARK CUBAN COST PLUS DRUGS

- Mail order only
- Works with limited insurers
  - (copay may be higher t
- Price = Cost \*1.15 + \$5
- Shipping
  - \$5-15 without re-
  - \$55 refrigera
- No controlled san
- Limited additional phar
- Carries statins and a

Ayıilable Drugs lrbose flozin/Metformin (XR)

Requires Email

Address, Credit

Card, and Physical

Card, and Address vride (XR)

peri

**l**etformin lyburide (micronized)

yburide/Metformin

- L. aglutide
- Metformin (XR)
- Miglitol
- Nateglinide
- Pioglitazone
- Repositinide

#### **WALMART**

- Storefront and mail order
- Accepts almost all insurances
- Limited to sulfonylureas and metformin for reduced cost
  - \$9 list for certain medications
- Full pharmacy available including controlled substances

#### AMAZON AND RXPASS

## Amazon Pharmacy

- Accepts most insurances
- Mail order only
  - Can deliver to a locker
- Limited controlled substances

#### Amazon RxPass

- Prime membership required
- Additional \$5/month cost
- Cannot use with Medicaid

- Glipizide
- Glyburide/Metformin
- Glyburide-Micronized
- Amlodipine/Olmesartan
- Amlodipine
- Atorvastatin
- Doxazosin
- Ezetimibe/Simvastatin
- Lisinopril
- Losartan
- Ramipril
- Rosuvastatin

## WALGREENS RX SAVINGS FINDER

"Walgreens Rx Savings Finder can help you find prescription discount cards that can help you find the lowest price on a medication at Walgreens.

Lowest price means the price available when you purchase a medication without using insurance coverage.

Simply search for your medication and show the card from your phone to your Walgreens team member or you can print, text or email yourself a free prescription discount card, and show it to your Walgreens team member."

## BLINK HEALTH

Blink Rx compares prices from multiple pharmacies to find the lowest cost of your medication

The doctor sends the prescription in to BlinkRx

You can choose to pick the prescription up a at local pharmacy or have it delivered

Provides resources for patients to determine if their medication is covered by their insurance.

## DISCOUNT CARDS

#### **■**GoodRx

Participating pharmacies: CVS pharmacy, Walmart, Walgreens, Stop n Shop, Shaws, Hannaford Brothers Pharmacy, Big Y Foods Pharmacy, Price Chopper, Costco

#### **■SingleCare**

Participating pharmacies: CVS Pharmacy, Kroger, Walmart,
 Walgreens, Harris Teeter, Publix, Costco, Food Lion

#### Optum Perks

Participating Pharmacies: Walmart, CVS Pharmacy, Walgreens

#### **■WellR**x

■Participating pharmacies: CVS Pharmacy, Kroger, Walmart, Hannaford, Walgreens, Albertsons

#### **■BuzzRx**

- ■Participating pharmacies: CVS Pharmacy, Walgreens, Walmart, Kroger
- \*Cards may also be accepted at pharmacies local to you. The website for each program will allow you to search by drug and zip code for the lowest price available.

## DISCOUNT CARDS COMPARING INJECTABLE PRICES

GoodRx	GoodRx	SingleCare	WellRx	BuzzRx	Optum perks
Ozempic	\$499	\$825-1,026	\$959.89	\$973.79-1,127.7 5	\$1,000
Insulin Lispro	\$26.01-47.60	\$35.11-53.25	\$25.20-42.99	\$38.88-57.17	\$56.51-57.99
Glargine	\$88.27-114.57	\$20.93-39.64	\$99.47-145.07	\$161.59-181.76	\$126-144
Degludec	\$87.75-200.46	\$126.78-141.21	\$103.85-141.14	\$180.07-189.49	\$254-269

## COPAY CARDS

## NOVO NORDISK

#### ■ MyInsulinRx<sup>™</sup> →

- Pay \$35 for a monthly supply of any combination of Novo Nordisk insulin products, up to 3 vials or 2 packs of pens (up to 35 mL), regardless of insurance.
- Products: Fiasp (insulin aspart injection) 100u/mL, Novolog (insulin aspart injection) 100u/mL), Novolog Mix 70/30 (insulin aspart protamine and insulin aspart injectable suspension) 100u/mL, Tresiba (insulin degludec injection) 100u/mL, 200u/mL

#### ■Ozempic 0.5, I, and 2 mg→

- Pay as little as \$25 for a 1-month, 2-month, or 3-month for up to 48 months, if your commercial insurance covers Ozempic
- This offer is subject to a monthly savings limit. The maximum savings amount will vary based on your prescription duration: up to \$100 for a 1-month supply, \$200 for a 2-month supply, and \$300 for a 3-month supply.

#### ■Rybelsus 7 and 14 mg→

- Pay as little as \$10 for a 1-, 2-, or 3-month prescription for up to 48 months, if your commercial insurance covers Rybelsus
- This offer is subject to a monthly savings limit. The maximum savings amount will vary based on your prescription duration: up to \$100 for a 1-month supply, \$200 for a 2-month supply, and \$300 for a 3-month supply.

#### ■Novo Nordisk Self pay→

Ozempic: \$499 per month

Wegovy: \$499 per month

#### ■Wegovy→

■28-day supply equivalent to one month of treatment. Pay as little as \$0 subject to a max savings of \$225/month with commercial insurance. Government beneficiaries excluded.

#### ■Zegalogue→

Pay \$35 or \$99 for each one-pack prescription for up to 48 months from date of Savings Offer activation.

## COPAY CARDS



#### ■Zepbound (tirzepatide) Vials self pay→

- 0.5 mg/0.5 mL- \$349/mo
- 5 mg, 7.5 mg, 10 mg, 12.5 mg, and 15 mg/0.5 mL available for \$499/ mo

#### ■Mounjaro Savings Card→

If you and your healthcare provider decide it makes sense, you can request a 3-month prescription to be sent to your pharmacy and pay as little as \$25 in total for the 3-month prescription. One month is defined as 28 days and up to 4 pens. Three months is defined as 84 days and up to 12 pens.

#### ■Eligibility→

- You have been prescribed Mounjaro for an approved use consistent with FDA approved product labeling
- You are enrolled in a commercial drug insurance plan
- You are not enrolled in any state, federal, or government funded healthcare program, including, without limitation, Medicaid, Medicare, Medicare Part D, Medicare Advantage, Medigap, DoD,VA,TRICARE®/CHAMPUS, or any state prescription drug assistance program
- You are a resident of the United States or Puerto Rico; and
- You are 18 years of age or older.

#### ■Lilly Insulin Value Program→

**Products**- Humalog (insulin lispro injection) 100u/mL, Humalog Junior Kwikpen (insulin lispro injection) 100u/mL, Humalog Kwikpen (insulin lispro injection) 200u/mL, Humalog Mix 50/50 (insulin lispro protamine and insulin lispro injectable suspension) 100u/mL, Humalog Mix 75/25 (insulin lispro protamine and insulin lispro injectable suspension) 100u/mL

"All Lilly insulins are available for \$35 a month whether you have commercial insurance or no insurance. Terms and conditions apply. Government restrictions exclude people enrolled in federal government insurance programs from Lilly's \$35 solutions. But federal law provides that Medicare Part D beneficiaries also pay no more than \$35 per month for insulin.

## **COPAY CARDS**

# BOEHRINGER INGELHEIM PHARMACEUTICALS

#### Jardiance(empagliflozin) / Synjardy (empagliflozin/metformin)

- Only valid for commercially insured patients in the
   50 United States, DC, and Puerto Rico
- insurance policy must provide coverage for Jardiance
- Cannot be eligible to be reimbursed for the cost of the prescription by Medicaid, Medicare, Medigap, the Retiree Drug Subsidy Program, VA, DOD, TRICARE®, or any state patient or pharmaceutical assistance program, or any state employee health plans
- Pay as little as \$10 Per month

## PATIENT ASSISTANCE PROGRAMS

- **■**Boehringer Ingelheim, Inc. Cares Foundation-
- ■PAP Eligibility Requirements
  - reside in the U.S. or a U.S. territory
  - being treated as an outpatient by a U.S. licensed health care provider
  - uninsured or have Medicare Part D coverage
  - total household income before taxes and deductions is 250% below FPL
  - May request additional documentation to verify the information provided in the application form for purposes of determining patient eligibility
    - Requested documentation may include but is not limited to items such as Federal Tax Return, W2, 1099, Pension statement, Social Security statement, Pay Stubs, proof of denial for the Medicare Part D LIS/Extra Help, etc.

## Patient Assistance Programs

#### AstraZeneca- AZ&ME PAP Eligibility Requirements-US resident treated by a US healthcare No commercial or (cannot be enrolled annual adjusted gro ELIGIBILITY Sanofi- Sanofi Patlent C PAP Eligibility authorized to be under prescr: ∍ U.S. or U.S. no insurance treatment via your insuranc<sup>\*</sup> of $\leq 400\%$ of the current must De engible for Medicaid, you will be cion of Medicaid denial before being eligibility **ELIGIBILIT**

#### Novo Nordisk- NovoCare

- ■PAP Eligibility Requirements-
  - Be a US citizen or legal resident
  - Have a total household income that is at or below 400% of the federal poverty level
  - Have Medicare or no insurance (Note: If you have private or commercial insurance, you are not eligible for the PAP), Not be enrolled in or qualify for any other federal, state, or government program such as Medicaid, Low Income Subsidy (Extra Help Program), or Veterans Affairs (VA) Benefits (If you are eligible for Medicaid, you must sign the Patient Declaration section of the latest version of the PAP application stating that you are not enrolled in, plan to enroll in, or are eligible for Medicaid or Medicare Extra Help/LIS (proof of denial must be submitted if requested)- 2026 changing, cannot have Medicare
  - If you have Medicare, a copy of your insurance cards
  - Prescribing provider name, state, email address
  - Tax documents from the most recent year you filed taxes
  - Proof of income
  - ELIGIBILITY 12 MONTHS

Manufacturer	Product	Price	Commercial/Government insurance	FPL Requirements
Boehringer Ingelheim Pharmaceuticals, Inc.	Jardiance® (empagliflozin)	\$0-10 x 1-3 month rx	Medicare or no insurance	<250%
AstraZeneca	Farxiga® (dapagliflozin)	\$0	Medicare or no insurance	<300%
Combination Products				
Boehringer Ingelheim Pharmaceuticals, Inc.	Synjardy® (empagliflozin/metformin)	\$0-10 x 1-3 month rx	Medicare or no insurance	<250%
	Synjardy® XR	\$0-10 x		
	(empagliflozin/metformin HCl extended-release)	1-3 month rx		
AstraZeneca	Xigduo® (dapagliflozin/metformin)	\$0	Medicare or no insurance	<300%

# PATIENT ASSISTANCE PROGRAMS

## SGLT2 INHIBITORS

Manufacturer	Product	Price	Commercial/ Government insurance	FPL Requirements
Novo Nordisk	Ozempic® (semaglutide)	\$0	Medicare or no insurance	≤400%
	Rybelsus <sub>®</sub> (semaglutide)	\$0		
Combination Products				
Sanofi	Soliqua® (insulin glargine and lixisenatide) injection 100u/mL and 33mcg/mL	\$0	Medicare and commercial insurance allowed if drug not covered or no insurance	≤400%

## PATIENT ASSISTANCE PROGRAMS

GLPI RAS

Manufacturer	Product	Generic	Price	Commercial/Government insurance	FPL Requirements
Novo	Novolog® 100u/mL	Insulin aspart injection	\$0	Medicare or no insurance	≤400%
Nordisk	Tresiba® 100u/mL, 200u/mL	Insulin degludec			
	Fiasp® 100u/mL	Insulin aspart			
	Novolin® N 100u/mL	Isophane insulin human suspension			
	Novolin® R 100 u/mL	Insulin human injection			
	Insulin Aspart Injection 100u/mL				
	Insulin Degludec Injection 100u/mL, 200u/mL				
Sanofi	Toujeo® 100u/mL	Insulin glargine injection	\$0	Medicare and commercial	≤400%
	Lantus® 100u/mL	Insulin glargine injection		insurance allowed if drug not covered or no insurance	
	Admelog® 100u/mL	Insulin lispro injection			
	Apidra® 100u/mL	Insulin glulisine injection			
Combination Products					
Novo Nordisk	Novolog Mix® 70/30	Insulin aspart protamine and insulin aspart injectable suspension	\$0	Medicare or no insurance	≤400%
	Novolin® Mix 70/30	Human insulin isophane suspension and human insulin injection			
	Insulin Aspart Protamine and Insulin Aspart Mix 70/30				

## PATIENT ASSISTANCE PROGRAMS

#### **INSULINS**

Manufacturer	Product	Price	Commercial/Government insurance	FPL Requirements
Novo Nordisk	Zegalogue® (dasiglucogon) 0.6mg/0.6mL	\$0	Medicare or no insurance	≤400%
Boehringer Ingelheim Pharmaceuticals, Inc.	Tradjenta® (linagliptin) 5mg tablet	\$0	Medicare or no insurance	<250%
Combination Products				
Boehringer Ingelheim Pharmaceuticals, Inc.	Trijardy® XR (empagliflozin/linagliptin/metformin HCl Extended-release	\$0-10 x 1-3 month rx	Medicare or no insurance	<250%
	Jentadueto® (linagliptin/metformin HCI)	\$0-10 x 1-3 month rx		
	Jentadueto® XR (linagliptin/metformin HCl extended- release	\$0-10 x 1-3 month rx		

## PATIENT ASSISTANCE PROGRAMS

OTHER

# CASHBACK PROGRAMS



FSA- Pretax savings, used within the calendar year on a traditional insurance plan

HSA- Investable, pretax savings, carries from year to year on a high deductible plan



Data Brokering- Sells your data (with consent) to provide compensation (POGO)



Surveys/Research Compensation- Modest but with data protections.

Drug Class	Walmart	CostPlus Drugs	Amazon Pharmacy	Amazon RxPass	GoodRx	Copay Card	Patient Assistance Program
Biguanides (Metformin)	\$9	\$5.57	\$16.10	*(with glyburide)	\$9- Walmart	N/A	Merck (with sitagliptin)
Meglitinides (Repaglinide)	\$291.06	\$6.64	\$17.10	N/A	\$22.45 S&S	N/A	N/A
Sulfonylureas	\$9 Glimepiride	\$5.34 Glimepiride	\$2.21 Glipizide	Glyburide	\$9 Walmart	N/A	N/A
Thiazolidinediones (Pioglitazone)	\$15.58	\$5.95	\$14.30	N/A	\$13.62 Shaws	N/A	N/A
Alpha-Glucosidase Inhibitors (Acarbose)	\$85.24	\$15.35	\$17.60		\$26.24 Walgreens	N/A	N/A
Amylin Analogues (Pramlintide)	\$1,243	N/A	N/A	N/A	\$1,044 CVS	NA	AstraZeneca
Sodium-Glucose Cotransporter 2 Inhibitors (SGLT2is)	\$579.66 Dapagliflozin	\$49.85 Bexagliflozin	\$265.50 Dapagliflozin + Metformin	N/A	\$332.99 CVS-Dapagliflozin	\$10 Jardiance	AstraZeneca, Boehringer Ingelheim, J&J
Dipeptidyl Peptidase-4 Inhibitors (DPP-4s	) \$160.93 Alogliptin	N/A	\$93.60 Alogliptin + Metformin	N/A	\$108.65 CVS-Sitaglipting	s \$5 Januvia	Merck, , Boehringer Ingelheim
Glucagon-Like Peptide-1 Agonists (GLP-1s)	\$780.06	\$144.95 Liraglutide	\$470.09 Liraglutide	N/A	\$328.50 CVS Liraglutide	\$0-25 Multiple	Lilly, Sanofi, Novo Nordisk, AstraZeneca
Insulin and Insulin Analogues	\$25 70/30	N/A	\$33 Lispro	N/A		\$35- Multiple	Novo Nordisk, Sanofi

#### **SUMMARY TABLE**

#### REFERENCES

- 1. Acarbose. Clinical Pharmacology powered by ClinicalKey.Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 2. AZ&Me. (n.d.). AZ&Me prescription savings program. AstraZeneca. Retrieved October 31, 2025, from https://www.azandmeapp.com/
- 3. BlinkRx. (n.d.). BlinkRx: Home delivery and medication savings. Retrieved October 31, 2025, from https://www.blinkrx.com/
- 4. Boehringer Ingelheim. (n.d.). Boehringer Cares patient assistance portal. Retrieved October 31, 2025, from https://www.boehringer-ingelheim.com/us/about-us/sustainable-development/our-commitment/boehringer-cares-patient-assistance-portal
- 5. BuzzRx. (n.d.). BuzzRx prescription discount savings card. Retrieved October 31, 2025, from https://www.buzzrx.com/
- 6. Centers for Medicare & Medicaid Services. (n.d.). Parts of Medicare. Retrieved November 1, 2025, from https://www.Medicare.gov/basics/get-started-with-Medicare/Medicare-basics/parts-of-Medicare
- 7. **Centers for Medicare & Medicaid Services.** *Rhode Island: State required benefits* [Internet]. Baltimore (MD): U.S. Department of Health and Human Services; [cited 2025 Nov 1]. Available from: https://www.cms.gov/files/document/ri-state-required-benefitspdf
- 8. Collins, L., & Costello, R. A. (2024, February 29). Glucagon-like peptide-1 (GLP-1) receptor agonists. In StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing. Retrieved November 2, 2025, from https://www.ncbi.nlm.nih.gov/books/NBK551568/
- 9. Davies, M. J., Aroda, V. R., Collins, B. S., Gabbay, R. A., Green, J., Maruthur, N. M., Rosas, S. E., Del Prato, S., Mathieu, C., Mingrone, G., Rossing, P., Tankova, T., Tsapas, A., & Buse, J. B. (2022). *Management of hyperglycaemia in type 2 diabetes, 2022: A consensus report by the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD)*. Diabetologia, 65(12), 1925-1966. https://doi.org/10.1007/s00125-022-05787-2
- 10. Dungan, K., & DeSantis, A. (2025). Amylin analogs for the treatment of diabetes mellitus. In UpToDate. Retrieved November 1, 2025, from https://www.uptodate.com/contents/amylin-analogs-for-the-treatment-of-diabetes-mellitus#H6
- Eli Lilly and Company. (2025, October 15). Lilly's oral GLP-1, orforglipron, demonstrated superior glycemic control in two successful Phase 3 trials, reconfirming its potential as a foundational treatment in type 2 diabetes [Press release]. PR Newswire. Retrieved November 2, 2025, from
- https://www.prnewswire.com/news-releases/lillys-oral-glp-1-orforglipron-demonstrated-superior-glycemic-control-in-two-successful-phase-3-trials-reconfirming-its-potential-as-a-foundational-treatment-in-type-2-diabetes-302584124.html
- 12. Glipizide. Clinical Pharmacology powered by ClinicalKey.Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 13. GoodRx. (n.d.). Prescription savings and drug price comparison. Retrieved October 31, 2025, from https://www.goodrx.com/
- 14. In: Merative<sup>TM</sup> Micromedex® RED BOOK (electronic version). Merative, Ann Arbor, Michigan, USA. Available at: https://www-micromedexsolutions-com.uri.idm.oclc.org/ (cited: 2025 October 30).
- 15. Lilly (n.d.). Lilly Direct—prescription savings and support. Eli Lilly and Company. Retrieved October 31, 2025, from https://www.lilly.com/lillydirect/
- 16. Mark Cuban Cost Plus Drug Company. (n.d.). Available medications. Retrieved November 2, 2025, from https://www.costplusdrugs.com/medications/
- 17. Metformin. Clinical Pharmacology powered by ClinicalKey. Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 18. Nateglinide. Clinical Pharmacology powered by ClinicalKey.Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 19. Nathan, D. M., Buse, J. B., Davidson, M. B., Ferrannini, E., Holman, R. R., Sherwin, R., & Zinman, B. (2010). The effect of oral antidiabetic agents on A1C levels: A systematic review of randomized clinical trials. Diabetes Care, 33(8), 1859–1864. https://doi.org/10.2337/dc10-0610
- 20. NovoCare. (n.d.). Savings and patient assistance options for diabetes medications. Novo Nordisk. Retrieved October 31, 2025, from
  - https://www.novocare.com/diabetes/help-with-costs/savings-offers.html
  - https://www.novocare.com/diabetes/help-with-costs/pap.html
  - https://www.novocare.com/diabetes/help-with-costs/help-with-insulin-costs.html
- 21. Optum Perks. (n.d.), Prescription discounts and coupons. Optum. Retrieved October 31, 2025, from https://perks.optum.com/
- 22. Petersen, M. C., & Shulman, G. I. (2018). Mechanisms of insulin action and insulin resistance. Physiological Reviews, 98(4), 2133-2223. https://doi.org/10.1152/physrev.00063.2017
- 23. Pioglitazone. Clinical Pharmacology powered by ClinicalKey.Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 24. Repaglinide. Clinical Pharmacology powered by ClinicalKey.Tampa (FL): Elsevier. c2025- [2025 October 30]. Available from: http://www.clinicalkey.com.
- 25. Ryan, G. (2009). Review of pramlintide as adjunctive therapy in treatment of diabetes mellitus. PMC. Retrieved November 1, 2025, from
  - https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2761191/#:~:text=Amylin%20lowers%20serum%20glucose%20by,effects%20are%20hypoglycemia%20and%20nausea
- 26. Sanofi. (n.d.). Sanofi patient connection: Patient assistance connection. Retrieved October 31, 2025, from https://www.sanofipatientconnection.com/patient-assistance-connection
- 27. SingleCare. (n.d.), Free prescription discount card and savings app. Retrieved October 31, 2025, from https://www.singlecare.com/
- 28. UnitedHealthcare (n.d.). Original Medicare [Website]. Retrieved November 1, 2025, from
  - https://www.uhc.com/Medicare/Medicare-education/original-Medicare.html#:~:text=Medicare%20Part%20B%20pays%2080%25%2C%20and%20you%20pay%2020%25
- 29. UpToDate. (n.d.). Sodium-glucose cotransporter-2 inhibitors for the treatment of hyperglycemia in type 2 diabetes mellitus [Internet]. Retrieved November 1, 2025, from
- https://www.uptodate.com/contents/sodium-glucose-cotransporter-2-inhibitors-for-the-treatment-of-hyperglycemia-in-type-2-diabetes-mellitus#H2276212146
- 30. U.S. Centers for Medicare & Medicaid Services. (n.d.). Catastrophic health plans. Retrieved November 1, 2025, from https://www.healthcare.gov/choose-a-plan/catastrophic-health-plans/
- 31. WellRx. (n.d.). ScriptSave WellRx prescription discount program. Retrieved October 31, 2025, from https://www.wellrx.com/
  - Walgreens, (n.d.), Walgreens Rx savings finder, Retrieved October 31, 2025, from https://www.walgreens.com/topic/pharmacy/rx-savings-finder.jsp

# QUESTIONS?

PLEASE REACH OUT!

## Step Ahead: Early Detection, Education and Multidisciplinary Care for Diabetic Foot Health

Mary Elizabeth Brady, BSN, CWCN VNA of Care New England

Lisa Gould, MD, PhD, FACS

Past President, Wound Healing Society

Patient Education Committee, American College of Surgeons



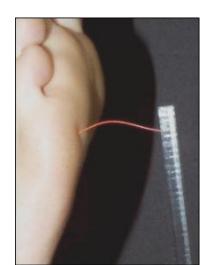




#### Video animation

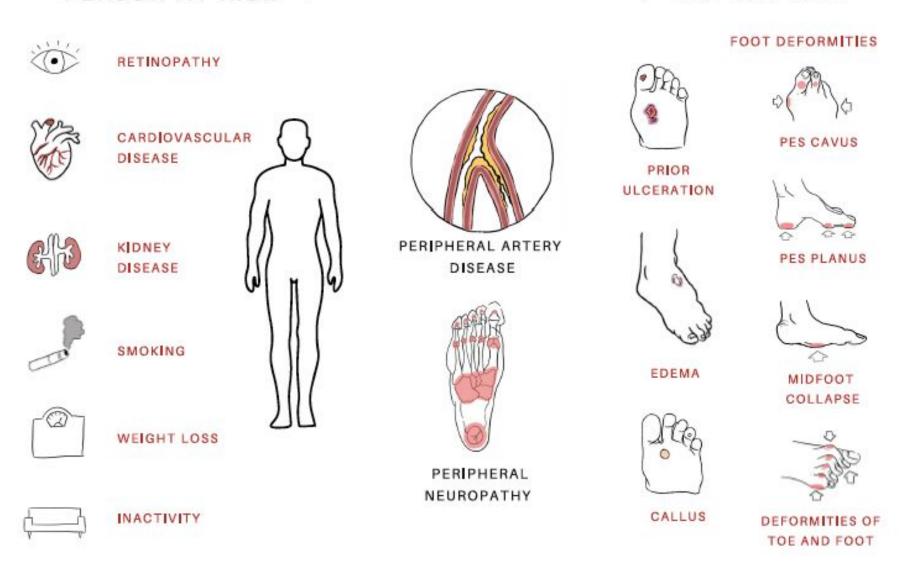
#### **Diabetic Foot Ulcer Facts**

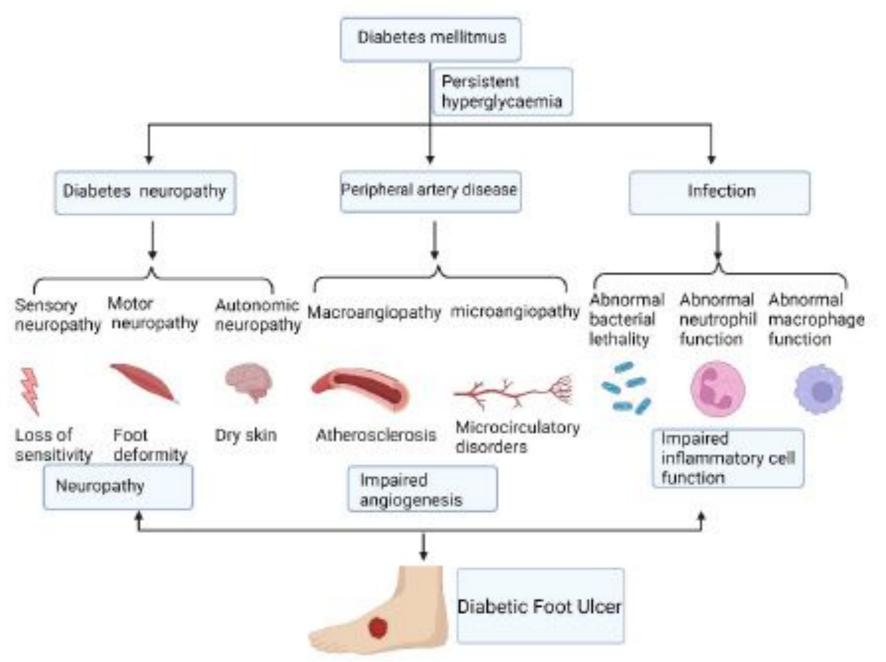
- Est. 1.3 million patients per year in US<sup>1</sup>
- 20% of all diabetes-related hospital admissions
- •>86,000 lower extremity amputations/yr in US
  - Risk of amputation increases with age
- More hospital-bed days than all other diabetes complications
- Neuropathy (60%) plus angiopathy (50%)



1.Margolis DJ, Malay DS, Hoffstad OJ, et al. Economic burden of diabetic foot ulcers and amputations. Diabetic Foot Ulcers. Data Points #3. January 2011. AHRQ Publication No. 10(11)-EHC009-2-E.

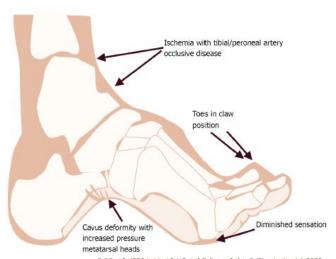
#### PERSON AT RISK ← FOOT AT RISK





World J Diabetes 2022; 13(12): 1001-1183

#### **How does it start?**



DOI: 10.4239/wjd.v13.i12.1106 Copyright © The Author(s) 2022.









JAMA. 2023;330(1):62-7 doi:10.1001/jama. 2023.10578

#### **DFU: Know What You Are Seeing**



Neuropathic



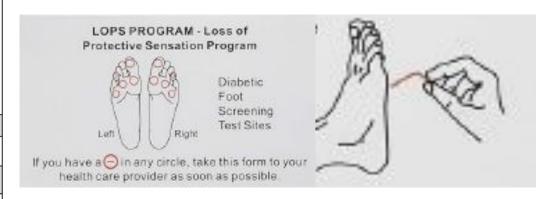
Deep Space Infection



Charcot

# 60 second screening to identify the high risk

Name:					
ID#: Phone #:	Facility:	CHECK BOTH FEET (Circle correct response)  YES on either foot is = HIGH RISK			
DOB (dd/mm/yy):/_ Gender: M $\square$ F $\square$ Years with	recording to the second				
Ethnicity: Black $\square$ Asian $\square$ C Date of Exam (dd/mm/yy):_	LEFT		RIGHT		
History	1. Previous Ulcer	NO	YES	NO	YES
	2. Previous amputation	NO	YES	NO	YES
Physical exam	3. Deformity	NO	YES	NO	YES
	4. Ingrown toenail (thickened nail fold)	NO	YES	NO	YES
Foot lesions Remember to check 4 <sup>th</sup> and 5 <sup>th</sup> web spaces and nails for fungal infection Remember to check for inappropriate footwear	<ol> <li>Absent pedal pulses</li> <li>(Dorsalis Pedis and/ or Posterior Tibial)</li> </ol>	NO	YES	NO	YES
	6. Active ulcer	NO	YES	NO	YES
	7. Blisters	NO	YES	NO	YES
	8. Calluses (thick plantar skin)	NO	YES	NO	YES
Neuropathy MORE THAN 4/10 SITES LACKING FEELING = "YES"	9. Monofilament exam (record negative reaction): a) Right/10 negatives (≥ 4 negatives = Yes)	NO	YES	NO	YES
	b) Left/10 negatives (≥ 4 negatives = Yes)	NO	YES	NO	YES
		Total # of	YES:	Total # of	YES:



Disposable Monofilaments, Pack of 20 LOPS (Loss of Preventative Sensation) 5.07 Measuring Tool for Diabetic Foot & Neuropathy Screening, Monofilament Set, Includes Instruction Card

POSITIVE SCREEN: One or more 'yes' — Refer to a foot specialist or team for prevention, treatment and foot specialist or team for prevention, treatment and foot specialist or team for prevention, treatment and

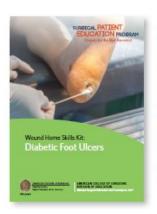
#### Who needs Special Shoes, Socks, Care?

Foot Risk Classification and Follow-up Guide						
Assessment Findings ↓	Risk	Follow Up (mths)	Prof. Nail Care	Shoes	Orthotics + Diabetic Socks	Activity
No Neuropathy	0	12	-	Well fitting	Well fitting shoes	As able
Neuropathy	1	6	+/-	Professional fit	Custom full contact	As able, monitor, guided by foot exam
Deformity	2a	3-4	+/-	+/- custom fit	Custom full contact	Avoid excessive walking,  √non-impact exercises
Peripheral Vascular Disease	2b	3-4	+	Professional fit	Soft full contact	Dependent on ischemic pain, √non-impact exercises
Ulcer Hx or Active ulcer	3a	1-2	+/-	Professional fit	Custom fitted	Activity dependant on exam, √non-impact exercises
Hx Amputation	3b	1-2	+/-	Special clinic (assessment) Modified footwear	Specialized clinic: amputation/prostheses, +/- walking aid	Based on tissue tolerance, √non-impact exercises

#### Shoe-wear options and 'rules'

- Medicare will cover 80% of the cost of one pair of therapeutic shoes (diabetic shoes) and inserts for people with diabetes:
- Physician treating the diabetes must certify medical necessity: document presence of Diabetes and one of the following conditions:
  - A history of partial or complete foot amputation
  - A history of foot ulcers
  - A history of pre-ulcerative calluses
  - Peripheral neuropathy with evidence of callus formation
  - Poor circulation
  - Foot deformity
- The shoes and inserts must be **prescribed** by a podiatrist or other qualified doctors and provided by a podiatrist, orthotist, prosthetist, or pedorthist.
- Provider Notes: The supplier must receive the order before Medicare is billed and must keep it on file.
- In person evaluation by the shoe supplier
- Medicare Advantage Plans will have specific steps for approval and purchase.
- · Some Options in Rhode Island:
  - Steve's Shoe and Pedorthic Center
  - · Pedorthic Technologies, Inc
  - Yorker Shoes
  - GoodFeet Store

# **Resource for Patient Education:**ACS Home Wound Skills Toolkits



#### Diabetic Foot Ulcers

Includes identification and classification, treatment, wound care and prevention, dressing and bandaging, pain management, negative pressure wound therapy, and discharge plan.



#### Venous Leg Ulcers & Lymphedema

Includes identification, treatment, wound care and prevention, dressing and bandaging, pain management, compression therapy, and discharge plan.



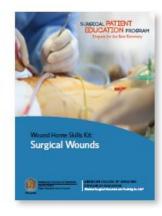
#### **Pressure Ulcers**

Includes identification and staging, treatment, wound care and prevention, dressing and bandaging, pain management, negative pressure wound therapy, and discharge plan.



#### Abrasions & Lacerations

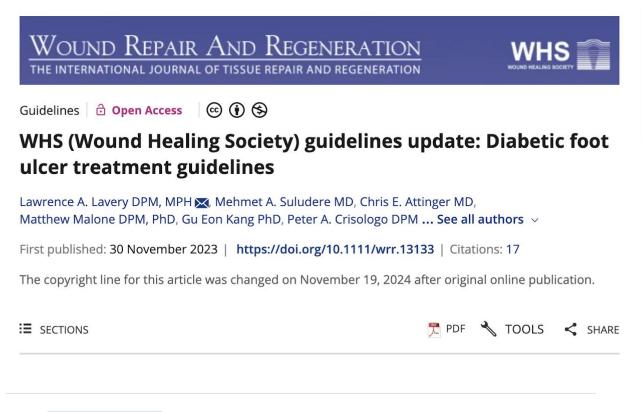
Includes skin tears, abrasions, animal bites and stab wounds, wound care and closures, dressing and bandaging, problem solving, and discharge plan.



#### Surgical Wounds

Includes, wound care and closures, dressing and bandaging, surgical drains, and negative pressure wound therapy, problem solving, and discharge plan.

#### Resources for Clinician Education



Practice Guideline > Diabetes Metab Res Rev. 2024 Mar;40(3):e3651. doi: 10.1002/dmrr.3651. Epub 2023 Jun 11.

#### Guidelines on the prevention of foot ulcers in persons with diabetes (IWGDF 2023 update)

Sicco A Bus <sup>1 2</sup>, Isabel C N Sacco <sup>3</sup>, Matilde Monteiro-Soares <sup>4 5 6</sup>, Anita Raspovic <sup>7</sup>, Joanne Paton <sup>8</sup>, Anne Rasmussen <sup>9</sup>, Lawrence A Lavery <sup>10</sup>, Jaap J van Netten <sup>1 2</sup>



#### **Benefits of Home Care**



Home care nursing offers a unique opportunity to provide personalized education and care directly in the patient's home.

This setting allows healthcare professionals to gain valuable insight into the patient's daily life and environment—often revealing discrepancies between what patients report and what is observed.

#### **Benefits of Home-Based Care:**

- Assess patients in their natural habitat
- Identify environmental and social factors affecting health
- Build stronger rapport and trust
- Tailor interventions to real-life conditions





#### **Multidisciplinary Collaboration:**

Effective home care involves a team approach

- Providers
- Nurses
- Physical Therapists (PTs)
- Occupational Therapists (OTs)
- Patients and their caregivers

#### Patient Education: A Personalized Approach

#### **Key Principles:**

- There is no one-size-fits-all method for teaching.
- Engagement (buy in) is essential—patients must be active participants.
- Avoid lecturing; instead, foster dialogue and understanding.
- Focus on **short-term goals** to prevent overwhelm.
- Tailor education to the patient's personality and learning style.



#### **Factors to Consider:**



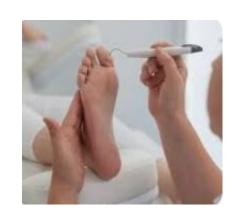
- Use language the patient understands.
- Consider family dynamics—identify the primary caregiver.
- Assess stress levels in the home environment.
- Respect cultural influences on health behaviors and diet.
- Remember this is their home you have been invited in

#### **Diabetes Education Essentials**

- Explain how diabetes affects the body.
  - Short term and long term but not all at once
- Emphasize the importance of knowing their A1C
- Educate on the importance of foot care
- Encourage keeping a blood sugar log to:
  - Track trends
  - . Understand food impacts
  - Detect early signs of infection

#### Basic Foot Care

Wash your feet thoroughly everyday



- Dry them thoroughly, and don't forget to dry between your toes
- Moisturize your feet, but avoid moisturizing between your toes
- Keep your toenails trimmed, and use an emery board to file down sharp edges
- Check your feet for sores, cuts, blisters, corns, or redness daily.
   Let your doctor know if you find any of these.

- Wear moisture-wicking socks
- Before putting your shoes on, check for sharp objects (i.e. small rocks)
- Wear shoes that fit well and don't rub your feet
- While you're at it, avoid these:
  - Don't walk around barefoot
  - Don't soak your feet
  - Don't smoke



https://diabetes.org/about-diabetes/complications/foot-complication

#### **Lifestyle and Health Promotion:**

- Support smoking cessation.
- Teach signs and symptoms of infection.
- Discuss dietary changes with cultural sensitivity:
  - Example: Asking an Italian to give up pasta or an Irish person to avoid potatoes may require creative, respectful alternatives.

## Thank you! Questions?





Martha Kole-White, MD, CPPS

**Alexis Gimovsky, MD** 

11/13/2025

# **Gestational Diabetes** in the Al Era: From **Predicting Pregnancy Complications to** Lifelong Health Insight

#### Disclosure

We have NOTHING to disclose or any conflicts of interest with the presented material in this presentation

#### Lecture Objectives

- Recognize the shared metabolic pathways linking gestational and pregestational diabetes to immediate and long-term maternal and neonatal outcomes
- Describe how surveillance and care coordination influence both glycemic control and patient follow-through
- Identify how gestational diabetes acts as an early clinical signal of future cardiometabolic disease — a "window of predictive opportunity"
- Explore how **Al-enabled tools** can support workflow in monitoring, risk stratification, and postpartum continuity
- Evaluate ethical limitations and equity concerns, particularly around access and algorithmic bias in maternal health technology

#### Overview

GDM and preexisting diabetes as windows into both immediate and future maternal/fetal health

 Rather than treating GDM as a time-limited pregnancy condition, we can view it as a lifespan health alert

What if we could identify and support the highest-risk patients before complications occur?

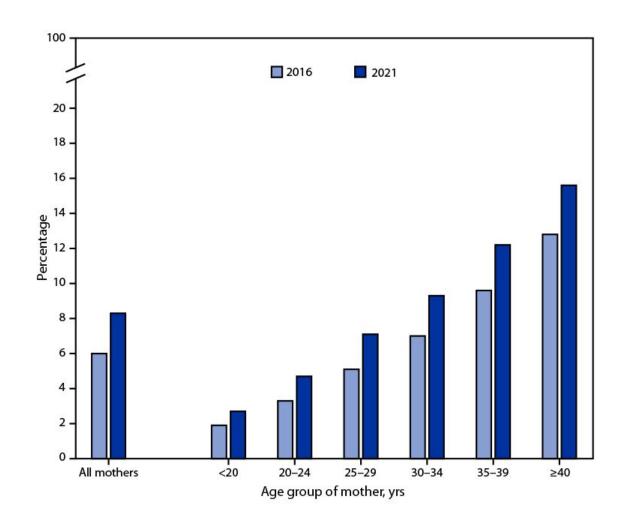
 Al offers not just prediction — but constant digital "follow-up presence" that can close known gaps in care transitions

# Clinical Challenges and Risks of GDM



#### **Gestational Diabetes**

- 4-9% of pregnancies affected by GDM
- \$1.6 billion spend annually in the US on GDM care



# Clinical Foundations: Pathophysiology

- Normal pregnancy = progressive insulin resistance due to placental hormones
- These hormones increase maternal lipolysis and decrease insulin sensitivity → more glucose for fetus
- In most pregnancies,  $\beta$ -cells compensate by increasing insulin secretion
- If pancreatic reserve is inadequate → maternal hyperglycemia → fetal hyperinsulinemia and overgrowth.
- After delivery, placental hormones drop → insulin sensitivity rapidly normalizes.



Gestational diabetes reflects underlying metabolic vulnerability, not just a temporary condition.

#### **Clinical Foundations: Risks**

#### **Maternal risks**

- operative delivery
- preeclampsia
- long-term T2DM and CVD



#### **Fetal risks**

- macrosomia
- neonatal hypoglycemia
- intrauterine fetal d
- future metabolic imprinting



### Clinical Foundations: Management

#### **Diagnosis:**



- Universal screening 24–28 weeks
- Followed by confirmatory testing if positive

## Lifestyle modification:

- Nutrition counseling
- Exercise



## Pharmacologic therapy:

Insulin (first-line)



### **Clinical Foundations: Delivery**

GDM Type	Control	Recommended Delivery Timing	Comments
A1GDM	Diet-controlled	39'0 – 40'6 wks	Expectant management acceptable if reassuring testing
A2GDM	Medically managed, well controlled	39'0 – 39'6 wks	Consider earlier if other complications
Poorly controlled	Persistent hyperglycemia	37'0 – 38'6 wks	May require inpatient management
Unstable / additional obstetric indication	_	<37 wks as indicated	For standard maternal or fetal concerns

## **Clinical Foundations: Postpartum Care**

- PP glucose tolerance test either during PP hospitalization or 4-12wks PP
- Early PP contact
- Comprehensive PP visit

## Clinical Foundations: Postpartum Care

### PP glucose tolerance test

- during PP hospitalization OR
- 4-12 wks PP



#### **Early PP contact**

- Within 3 wks
- Ensure resolution of acute pregnancy-related issues.
- Support lactation and glucose self-monitoring if still ongoing.
- Reinforce the plan for definitive glucose testing at 4-12 weeks.

### **Comprehensive PP visit**

- By 12 wks
- Review PP glucose results
- Counsel on future DM and CV risk
- Discuss contraception, weight management, and plans for long-term follow-up with a primary care provider.

### GDM as a Predictor of Future Disease



#### Case

- 32-year-old G3P1 with pre-pregnancy BMI 35, diagnosed with GDM at 28 weeks and escalated from diet to basal insulin.
- Delivered a macrosomic fetus at 38 weeks due to poor control during pregnancy
- Missed postpartum visits and did not have a primary care provider
- At 38 diagnosed with T2DM



## GDM as a Predictor of Future Disease

- GDM is not just a transient diagnosis it reflects underlying β-cell dysfunction and metabolic inflexibility that persists beyond delivery
- Pregnancy acts as a 'metabolic stress test' -GDM reveals underlying insulin resistance and vascular dysfunction
- People with prior GDM remain at increased long-term risk even if glucose normalizes postpartum
- Up to 50% develop T2DM within 5-10 years!

#### **Timeline of Risk**

#### 1-3yrs

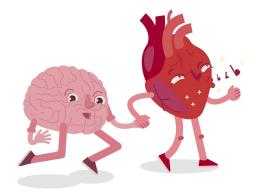
- persistent insulin resistance
- hypertension onset

#### 5-10yrs

- T2DM
- dyslipidemia
- metabolic syndrome



- coronary artery disease
- stroke
- heart failure

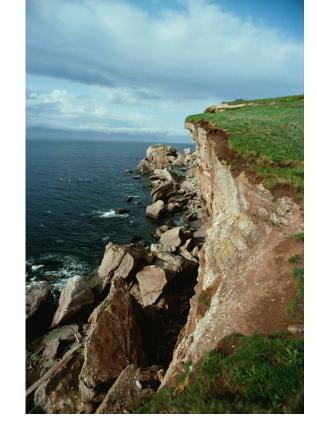


#### The Postpartum Cliff

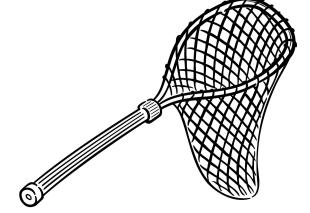
- **The Magnitude:** 50-70% of women with GDM will develop T2DM within 10-20 years.
- **The Drop-Off:** Only **25-50%** of women complete recommended postpartum glucose tolerance testing (GTT).

#### Barriers:

- Logistical hurdles (childcare, transportation).
- Insurance/cost barriers.
- Lack of clear referral to a PCP/Endocrinologist.
- Patient perception: "Pregnancy is over, so the disease is over."
- **The Result:** A major missed opportunity for primary prevention of T2DM and cardiovascular disease.



# GDM as a Predictor of Future Disease: Solutions



- Initiate cardiometabolic referral at the time of GDM diagnosis not after delivery
- Embed **automatic electronic prompts and tracking flags** into the health record to prevent silent loss to follow-up
- Postpartum planning should be framed as Phase 2 of diabetes prevention, not discharge paperwork
  - Counsel on diet, exercise and weight management
  - Encourage breastfeeding
  - Refer to PCP to monitor blood pressure, lipids and HbA1c regularly
  - Document GDM history in EMR to ensure future screening
- Digital tools and patient portals can sustain engagement during the high-dropout phase (6 weeks-12 months postpartum)

### Al in action

Diabetes & Technology in Pregnancy

#### Al in Action

- Predictive models for GDM and preeclampsia
- Continuous glucose monitors (CGM) with real-time alerts
- Clinical decision support tools for insulin adjustment
- Natural language processing (NLP) to flag high-risk charts
- Personalized care platforms using remote data

#### Traditional care vs Al enabled care

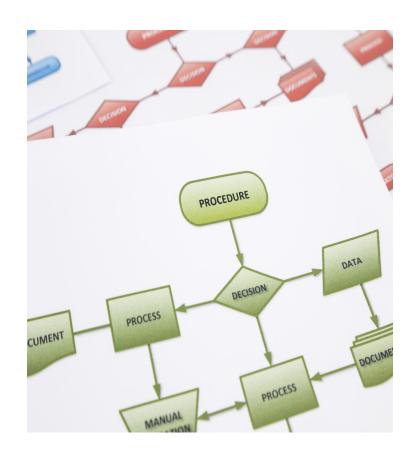
- Paper logs vs → connected CGM/app
- Missed GTT vs Auto-flag & digital reminders
- Reactive insulin adjustment vs 📊 predictive dashboard

#### **Example 1: Prediction**

**The Goal:** Predict GDM risk much earlier than the 24-28 weeks

**How Al Learns:** Algorithms analyze large EHR data sets.

 Key Inputs: Pre-pregnancy BMI, genetics/family history, age, ethnicity, parity, and baseline lab values (e.g., early fasting glucose).



#### **Example 1: Prediction**

#### **The Prediction Advantage:**

- Traditional: Reactive diagnosis after disease onset (28 weeks).
- Al-Enhanced: Proactive risk stratification in the **first trimester** (10-14 weeks).
- Earlier risk determination, earlier treatment, improvement in outcomes



- Software module
  - Often integrated into the Electronic Health Record
  - Follows established clinical protocols like ACOG

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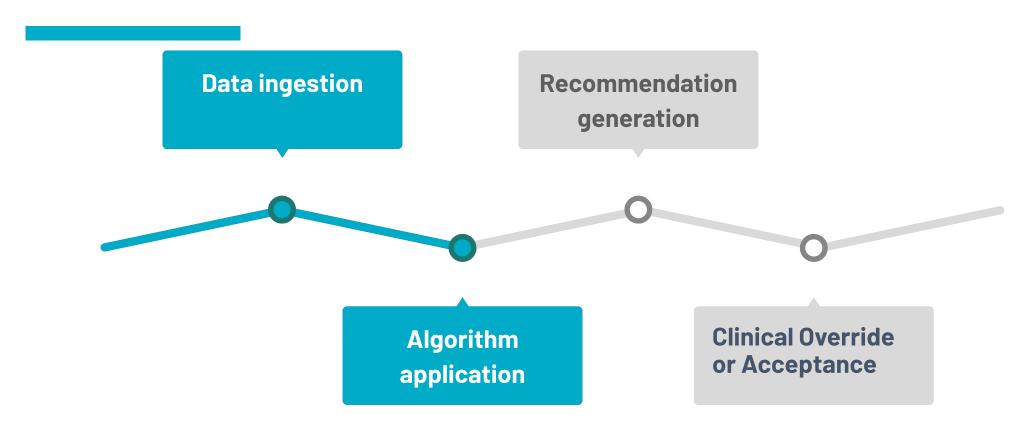


- A pregnant patient, 30 weeks gestation, is on a regimen of NPH 10 units at bedtime.
  - Her target for Fasting Glucose is ≤95 mg/dL.
- Fasting values the last 3 days were 105, 112, 98



Day	Breakfast Pre Carbs Post insulin		Lunch Pre Carbs Post Insulin		Dinner Pre Carbs Post Insulin		Bedtime Caris Insulin	
М	14	51	21-70	1	138	2/	70	- /
Т	AL	51	112	7	145	0	102	-
w	82	5/	130	1	14	0/	183	,
T	126	4/	101	7	94	8)	95	,
F	lor	5/	(7	,	183	0		<u> </u>





- Apply protocol-based insulin titration logic consistently
- Continuously ingests glucose data trends
- Suggestions, not mandates





#### **Ethical considerations**

- Bias in algorithms
- Access disparities





### Case

Al and GDM together, predict future health

#### Case

- Case: a 32 yo G2P1 at 10 weeks gestation with BMI 29, a personal history of GDMA1 and a family history of DM2 presents for care.
- Her clinic uses an Al-based risk prediction model that analyzes structured and unstructured data from the EHR (e.g., BMI, ethnicity, social determinants, prior glucose results, and free-text clinical notes).
- The model estimates a 77% probability that she will develop GDM later in pregnancy and provides a risk-stratified action plan.

#### Counseling

- The Al system automatically generates a summary for the clinician
- The clinician reviews the Al rationale and engages the patient in shared decision-making.
- Instead of early glucose testing, she is referred to a digital diabetes prevention program (DPP) tailored for pregnancy

"Patient has a high predicted risk for GDM based on BMI, family history, and prior GDM. Evidence suggests a structured nutrition and physical activity program can reduce risk by 25-35%."



## Monitoring

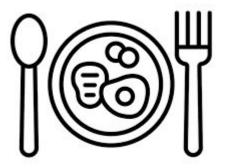
- The Al tool links her wearable
- It monitors step counts, heart-rate zones, and dietary trends.
- The AI model recalculates GDM risk monthly and provides trend feedback
- · Clinician receives brief dashboard updates rather than alerts





#### Case: Step 3 - Social & Behavioral Support Integration

. Using data from social determinants fields and clinic zip-code data, the Al recommends:



- Local access to affordable healthy meal options through Walmart grocery delivery and WIC-approved foods.
- Text reminders for hydration and balanced meal timing.



### Case: Step 4 - Pregnancy

- . At 28 weeks, she is diagnosed with GDM, but remains normoglycemic/controlled with medical nutrition therapy.
- . She has a healthy delivery of a term baby, normal size for gestational age





 At 6 weeks postpartum she has not completed recommended follow-up glucose testing.

She asks:

 "What is my risk of developing type 2 diabetes or cardiovascular disease in the next 5-10 years, and what should I do now?"



### Case: Step 5 - Postpartum

- Postpartum, the Al automatically flags her for a 6–12 week glucose tolerance test.
  - Enrolled in a cardiometabolic health pathway that includes weight, lipid, and BP monitoring through the same digital app for 1 year postpartum.
  - . Sends periodic prompts to primary care for follow-up on long-term CVD risk.



#### Case: Step 6 - Outcome

- The patient maintains healthy weight gain, normoglycemia, and completes postpartum follow-up
- The Al's early risk identification plus non-invasive, behavior-focused intervention prevented medication for GDM and improved long-term metabolic tracking.



# Strategies for Seamless Postpartum Coordination

- Closed-Loop Referral System
- Telehealth Integration
- The "Teachable Moment" Hand-off
- Health System Coordination



#### **Call to Action & Future Directions**

- Tight glycemic control still matters.
- Al tools can enhance—not replace—clinical judgment.
- GDM is a teachable moment to promote long-term health.

#### References

- 1. American College of Obstetricians and Gynecologists (ACOG). (2018). Practice Bulletin No. 190: Gestational Diabetes Mellitus. Obstetrics & Gynecology, 131(2), e49–e64. Reaffirmed 2023.
- 2. Society for Maternal-Fetal Medicine (SMFM). (2021). Consult Series #52: Management of Pregnancies Complicated by Diabetes Mellitus. American Journal of Obstetrics & Gynecology, 225(3), B35–B48.
- 3. American Diabetes Association (ADA). (2024). Standards of Medical Care in Diabetes—2024. Section 14: Management of Diabetes in Pregnancy.
- 4. UpToDate. (2024). Management of Gestational Diabetes Mellitus. Retrieved from https://www.uptodate.com
- 5. Catalano, P. M., & Shankar, K. (2017). Obesity and pregnancy: Mechanisms of short term and long term adverse consequences for mother and child. BMJ, 356, j1.
- 6. Buchanan, T. A., Xiang, A. H., & Page, K. A. (2012). Gestational diabetes mellitus: Risks and management during and after pregnancy. Nature Reviews Endocrinology, 8(11), 639–649.
- 7. Shah, B. R., Retnakaran, R., & Booth, G. L. (2008). Increased risk of cardiovascular disease in young women following GDM. Diabetes Care, 31(8), 1668–1669.
- 8. Tobias, D. K., et al. (2017). History of gestational diabetes and long-term CVD risk: systematic review & meta-analysis. JAMA Intern Med, 177(12), 1735–1742.

### Enhancing Age-Friendly Diabetes Management through the 4Ms Framework

Karen D'Antonio, BS, RN, CDOE





#### **Objectives**

- Describe the 4Ms Framework of Age-Friendly Health Systems and its significance in optimizing diabetes care for older adults.
- Explore how the 4Ms align with ADA 2025 Standards of Care and CMS Age-Friendly Hospital Measure.
- Identify strategies for integrating the 4Ms into practice for diabetes management, to enhance clinical outcomes and patient experience.



Why the 4Ms
Framework in
Diabetes Care?



The 4Ms help simplify and personalize care.

Older adults often have multiple chronic conditions and medications.

Cognitive or functional changes can affect self-management.

Risk of hypoglycemia, falls, and medication interactions increases with age.

Goals of care and what matters most can shift over time.



#### **Age Friendly – Communities**



#### **The 8 Domains of Livability**

The availability and quality of these community features impact the well-being of older adults — and help make communities more livable for people of all ages.

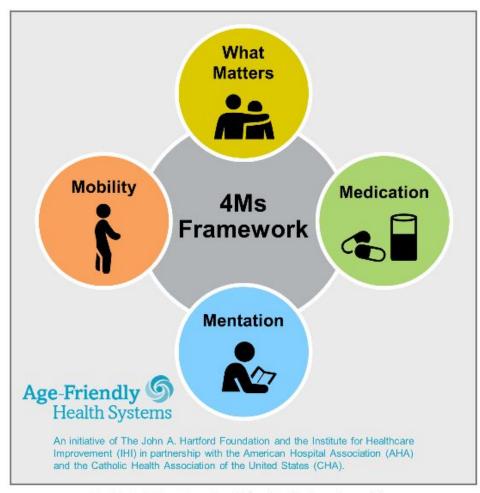
- 1. Outdoor Spaces and Buildings
- 2. Transportation
- 3. Housing
- 4. Social Participation
- 5. Respect and Social Inclusion
- 6. Work and Civic Engagement
- 7. Communication and Information
- 8. Community and Health Services







#### **Age Friendly – Health Systems**



#### **What Matters**

Know and align care with each older adult's specific health outcome goals and care preferences including, but not limited to, end-of-life care, and across settings of care.

#### Medication

If medication is necessary, use Age-Friendly medication that does not interfere with What Matters to the older adult, Mobility, or Mentation across settings of care.

#### Mentation

Prevent, identify, treat, and manage dementia, depression, and delirium across settings of care.

#### Mobility

Ensure that older adults move safely every day in order to maintain function and do What Matters.



## **Age Friendly Hospitals**

Hospital	Key Actions		
	<ul> <li>Ask the older adult What Matters, including their health outcome goals and care preferences</li> <li>Document What Matters</li> <li>Document the older adult's preferred support person or caregiver</li> <li>Review medications and document high-risk medication use</li> <li>Screen for delirium at least every 12 hours and upon any change in function or behavior</li> <li>Screen for mobility limitations</li> </ul>	<ul> <li>Align the care plan with What Matters</li> <li>Deprescribe, adjust doses, and avoid high-risk medications</li> <li>Ensure sufficient oral hydration</li> <li>Orient to time, place, and situation (or validation and orienting cues with dementia)</li> <li>Ensure that older adults have their personal adaptive equipment and hearing and vision devices</li> <li>Prevent sleep interruptions; use nonpharmacological interventions to support sleep</li> <li>Ensure early, frequent, and safe mobility</li> </ul>	

AgeFriendlyHealthSystems GuidetoUsing4MsCare FINAL July2020.pdf (hubspotusercontent-na1.net)



## **Ambulatory Care**

Ambulatory	Key Actions (to occur at least annually or after change in condition):		
	<ul> <li>Ask the older adult What Matters</li> <li>Document What Matters</li> <li>Document the older adult's preferred support person or caregiver</li> <li>Review medications and document high-risk medication use</li> <li>Screen for dementia/cognitive impairment. (Consider using a staging tool for older adults who have been diagnosed with dementia.)</li> <li>Screen for depression</li> <li>Screen for mobility limitations</li> </ul>	<ul> <li>Align and provide care according to What Matters</li> <li>Deprescribe, adjust doses, and avoid high-risk medications</li> <li>If screen is positive for cognitive impairment, refer for further evaluation and manage manifestations of cognitive impairment</li> <li>If depression screen is positive, identify and manage factors contributing to depression and initiate, or refer out for, treatment</li> <li>Ensure safe mobility, including safe home environment; identify and set a daily mobility goal</li> </ul>	

AgeFriendlyHealthSystems GuidetoUsing4MsCare FINAL July2020.pdf (hubspotusercontent-na1.net)



## **Nursing Homes**

Assess	Act On			
Know about the 4Ms for each older adult in your care	Incorporate the 4Ms into care delivery and document in the care plan			
Key Actions (to occur regularly or with change in condition):				
Ask the older adult What Matters to them, including their health outcome goals and care preferences	<ul> <li>Align the care plan with What Matters</li> <li>Deprescribe or do not prescribe high-risk medications and optimize all other</li> </ul>			
Document What Matters and ensure that all team members have access to response	medications  • Ensure sufficient oral hydration			
<ul> <li>Document the older adult's preferred support person or caregiver</li> </ul>	<ul> <li>Orient older adults to time, place, and situation if/when appropriate</li> </ul>			
<ul> <li>Review for high-risk medication use, polypharmacy, adverse drug events, adequate monitoring</li> </ul>	<ul> <li>Ensure that older adults have their personal adaptive equipment</li> </ul>			
<ul> <li>Screen for delirium on admission; at least every 24 hours and upon change in condition in SNF;</li> </ul>	<ul> <li>Prevent sleep interruptions; use non- pharmacological interventions to support sleep</li> </ul>			
upon change in condition or as needed in long- term care	<ul> <li>Manage behaviors related to dementia; consider further evaluation and/or referrals</li> </ul>			
Screen for dementia	<ul> <li>Identify and manage factors contributing to depression; consider further evaluation and/or referrals</li> </ul>			
Screen for depression				
Screen for mobility	Promote early, frequent, and safe mobility			

Age-Friendly Health Systems: Guide to Care of Older
Adults in Nursing Homes
(hubspotusercontent-na1.net)



## New Age Friendly Hospital Measure





#### **CMS 1808-P**

- Inpatient & LTC hospital prospective payment system Age-Friendly Structural Measure
- CY 2025 reporting period, FY 2027 payment determination.
- Goal: ensure that hospitals implement the 4Ms and provide evidence-based, high-quality care for all older adults.
- This measure evaluates hospitals' dedication to enhancing care for patients aged 65 and above across various hospital settings, such as the hospital ward, operating room, or emergency department.
- Results will be publicly available on Care Compare.

  2025 CMS Proposed Age-Friendly Hospital Measure (johnahartford.org)

New CMS Measure Will Publicly Report On Hospitals' Commitment And Capabilities To

Provide Age-Friendly Care



#### **Geriatric Emergency Departments**

- Accreditation is an option (3 different levels)
- Hospitals need to meet certain standards related to:
  - Staffing (clinical champions, executive sponsorship, patient advisor)
  - Physical Environment enhancements (high-quality signage, reduced noise, natural lighting, elevated toilets)
  - Care Processes (education, QI plan)
  - Workflow and Metrics (ED boarding, dashboard)
  - Resources available (assistive devices, non-slip socks, etc.)

Accreditation Levels - Comparison Overview | Geriatric Emergency Department Accreditation Program (acep.org)

<u>A Roadmap to Successful Geriatric Emergency Department Accreditation</u> <u>Across a Healthcare System - GEDC (gedcollaborative.com)</u>



## The 4Ms Applied to Diabetes Care



#### ADA 2025 Alignment



Emphasize individualized, person-centered care



Highlight hypoglycemia and medication safety as critical concerns



Promote comprehensive management: glycemic targets, comorbidities, functional status



Encourage shared decision-making aligned with patient goals and preferences



Support integration of multidisciplinary care and community resources



#### Using the 4Ms Framework of Age-Friendly Health Systems to Address Person-Specific Issues That Can Affect Diabetes Management

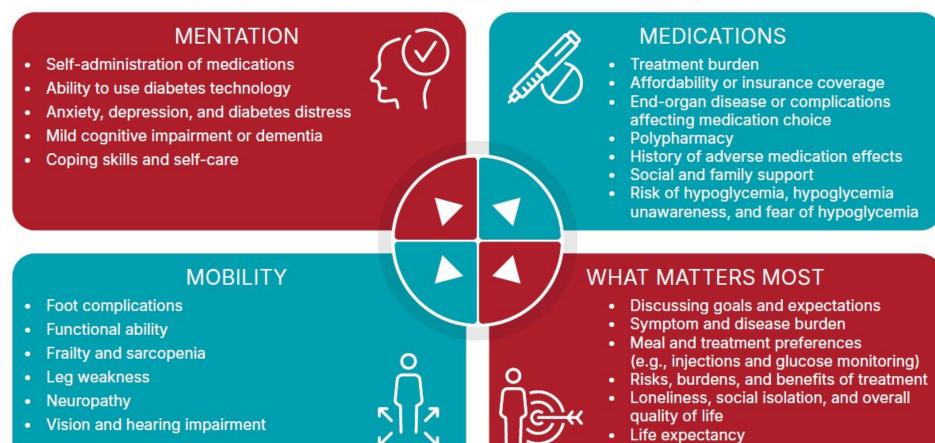


Figure 13.1—Using the 4Ms framework of age-friendly health systems to address person-specific issues that can affect diabetes management.



## What Matters: Aligning Diabetes Care with Patient Goals

- Identify patient goals, preferences, and priorities
- Discuss realistic glucose targets considering age, comorbidities, and life expectancy
- Use shared decision-making to guide treatment adjustments



#### WHAT MATTERS MOST

- Discussing goals and expectations
- Symptom and disease burden
- Meal and treatment preferences (e.g., injections and glucose monitoring)
- Risks, burdens, and benefits of treatment
- Loneliness, social isolation, and overall quality of life
- Life expectancy



- Review all medications for safety and interactions
- Minimize hypoglycemia risk (avoid high-risk sulfonylureas in older adults)
- Simplify regimens when possible



## Healthcentric Advincing Healthcare Quality | Empowering Health

# Mentation: Cognitive Health and Diabetes Care

- Screen for cognitive impairment, depression, and delirium
- Adjust diabetes goals if cognitive decline affects self-management
- Engage caregivers in management plans

#### MENTATION

- Self-administration of medications
- Ability to use diabetes technology
- · Anxiety, depression, and diabetes distress
- Mild cognitive impairment or dementia
- Coping skills and self-care





# **Mobility: Maintaining Function and Independence**

- Assess risk of falls and exercise limitations
- Encourage safe physical activity to support glucose control
- Coordinate with PT/OT for functional support as needed

# MOBILITY • Foot complications • Functional ability • Frailty and sarcopenia • Leg weakness • Neuropathy • Vision and hearing impairment



#### Applying the 4Ms: Case Scenario

#### Mr. Robert Thompson

- Age 78, Type 2 diabetes, hypertension, mild cognitive impairment
- Lives alone, attends senior center twice weekly
- Medications: Metformin, insulin glargine, lisinopril, gabapentin
- Concerns: Hypoglycemia, dizziness, hand pain, maintaining independence



## Applying the 4Ms: Mr. Thompson

**4M** 

**What Matters** 

Medication

Mentation

**Mobility** 

#### **Assessment**

Values independence, staying active, avoiding hospitalization

Polypharmacy, recent hypoglycemia

Mild cognitive impairment affecting self-management

Dizziness, mild decline in walking ability, back pain

#### **Care Approach / Intervention**

Align glucose targets with goals, discuss trade-offs between strict control and safety

Review all meds for safety, simplify insulin regimen, and use pill reminders

Screen cognition, engage caregiver, use teach-back for instructions

Evaluate fall risk, encourage safe activity, PT referral to maintain strength and balance



#### **Practical Strategies / Tips**

- Ask what matters most at every visit
- Simplify medications and review for safety
- Screen for cognitive changes and engage caregivers
- Assess mobility and fall risk regularly
- Coordinate with community resources and Age-Friendly services
  - Age and Disability Resource Centers or Area Agencies on Aging
  - Senior/community centers
  - Diabetes Self-Management programs, for peer support and education



#### **Key Take Aways**

- 4Ms help align diabetes care with patient goals
- Safety, cognition, and mobility are essential considerations
- Integration with community and health system resources improves outcomes



## **Resources to Explore Further**



#### **Looking for More Information?**

 Institute for Healthcare Improvement Age-Friendly Health Systems Implementation Guides:

https://www.ihi.org/initiatives/age-friendly-health-systems/resources-and-news How to Have Conversations with Older Adults About "What Matters" (ihi.org) American Diabetes
 Association Older Adults:
 Standards of Care in
 Diabetes—2025

13. Older Adults: Standards of Care in Diabetes—2025 | Diabetes Care | American Diabetes Association



#### Meeting the Measure

- Age Friendly Hospital Measure
  - Effective January 2025
  - Attestation measure
  - Based on 4Ms Framework
  - Multiple domains
- For more information (scroll down for hospital measure resources):
  - <a href="https://www.ihi.org/partner/initiatives/age-friendly-health-systems/resources-and-news">https://www.ihi.org/partner/initiatives/age-friendly-health-systems/resources-and-news</a>



## Thank you