

Diabetes and Hypertension Project ECHO* Clinic

*ECHO: Extension of Community Healthcare Outcomes

March 10, 2022

Before we begin:

- Rename your Zoom screen with your name and organization
- Claim CE: text 25392-25389 to 804-625-4041
 - Go to vcuhealth.org/echodmhtn for instructions on creating your account

*The Diabetes and Hypertension ECHO is made possible
by funding through CDC Cooperative Agreement
NU58DP006620-InnoVAte.*

Zoom Reminders



Diabetes & Hypertension Project Echo

- You are all on **mute**. Please **unmute** to talk.
- If joining by telephone audio only, press ***6** to mute and unmute.
- Use the chat function to speak with our team or ask questions.

Unmute

Chat Box



Start Video



Invite



Participants



Share



Chat



Record

Leave Meeting

ECHO is all teach, all learn



Interactive



Co-management
of cases



Peer-to-peer
learning



Collaborative
problem solving

Helpful Reminders

- Please feel free to eat your lunch or step away briefly if needed
- We are recording and can share sessions upon request
 - Each session's slides are available on www.vcuhealth.org/echodmhtn
- Please **do not share any protected health information** in your discussion or the chat box
- Project ECHO operates on the “All Teach, All Learn” model
 - Feel free to ask questions in the chat or unmute to ask questions at designated times
 - We're all here to learn from each other and value each person's input and expertise!



VCU Health Diabetes & Hypertension ECHO Clinics

VCU Hub Team

Principal Investigator	Dave Dixon, PharmD
Administrative Medical Director ECHO Hub	Vimal Mishra, MD, MMCI
Clinical Experts	Niraj Kothari, MD Trang Le, MD
Project Coordinator/IT Support	Madeleine Wagner

- One-hour ECHO clinics on 2nd Thursdays
- Every ECHO clinic includes a didactic presentation followed by case discussions
- Website: www.vcuhealth.org/echodmhtn
 - Directions for claiming CE can be found here
 - You have up to six days after our session to claim CE by texting **25392-25389** to **804-625-4041**

Disclosures

Trang Le, M.D., has no financial conflicts of interest to disclose.

Niraj Kothari, M.D., has no financial conflicts of interest to disclose.

Lauren Pamulapati, Pharm.D., has no financial conflicts of interest to disclose.

There is no commercial or in-kind support for this activity.

Diabetes in Older Adults

Questions for discussion:

Do you approach setting health goals for older adults differently from your younger patients living with diabetes? If so, how?

Questions for discussion:

What are some strategies you use to promote medication adherence?

Questions for discussion:

What are some challenges older patients on injectable drugs might experience, and how do you work through those?

Questions for discussion:

What are some behavioral health strategies you've used to help manage complicated cases?

Questions for discussion:

What are the top issues or behaviors you've seen patients engaging in that derail their progress, and how have you addressed them?

Other questions?



Case Study #1

80 YOF with PMH of T2DM, HTN, HLD, OA, asthma, cataracts, and recurrent PE (currently on warfarin). Presents for routine diabetes follow-up.

- Current diabetes regimen:
 - Trulicity (dulaglutide) 3mg once weekly – tolerating well
 - Basaglar (insulin glargine) 26 units once daily
 - Metformin 500mg twice daily – self-tapered from 1g qAM + 500mg qPM due to GI intolerance
- 2-week blood glucose log (side bar)
- Insurance: Medicare (affordability concerns; utilizes Patient Assistance Programs for high-cost medications)
- **What would you do today for glycemic control?**

Date	A1c	Fructosamine
3/1/22	--	411
2/4/22	11.9	--
11/7/22	11.2	--
6/25/21	8.8	--
3/13/21	13.1	--

	Fasting	Bedtime
Avg	151	109
N	14	2
Min	70	90
Max	243	128
>200	2	0
<70	0	0

Any clarifying questions?

Case Study #2

72 YOF with PMH of T2DM, HTN (uncontrolled), HLD, CKD (stage 3b), HIV (on Biktarvy), and DJD.

- Current diabetes regimen:
 - Lantus (insulin glargine) 60 units once daily
 - Novolog (insulin aspart) 19/19/20
 - Jardiance (empagliflozin) 10mg once daily – c/o yeast infection at 25mg dose and hesitant to retreat at higher dose again
- Past meds tried: Metformin (did not tolerate); Januvia (tolerated but was replaced by other meds)
- 2-week blood glucose log (side bar)
- Insurance: Medicare (moderate difficulty affording medications)
- **What would you do today for glycemic control and regimen simplification?**

Date	A1c	Fructosamine
3/1/22	9.6	--
11/30/21	8.5	--
8/25/21	8.3	--
5/17/21	8.5	--
2/2/21	7.8	--

	Break-fast	PPG	Lunch	Dinner	PPG	Bed
Avg	161	141	158	146	266	195
N	12	2	6	4	2	4
Min	69	90	93	69	216	138
Max	245	192	264	200	316	245
>200	2	0	1	0	2	2
<70	1	0	0	1	0	0

Any clarifying questions?

Case Study #3

69 YOF with PMH of T2DM with retinopathy, neuropathy, and gastroparesis, HTN, HLD, CKD (G4/A2), CVA x 2, and chronic constipation.

- Current diabetes regimen:
 - Tresiba (insulin degludec) 22 units qAM
 - Novolog (insulin aspart) 2/2/7 + 1:50>200 mg/dL up to 4 additional units per meal
- 4-week blood glucose log (side bar)
 - Hypoglycemic episodes related to activity (grocery shopping or doctor's appointments)
- Insurance: Medicare (little to no difficulty affording medications)
- **What recommendations would you make today?**

Date	A1c
12/6/21	9.2
7/21/21	10.1
4/12/21	9.8

	Breakfast	Lunch	Dinner
Avg	187	244	159
N	26	23	25
Min	97	127	44
Max	325	300	300
>200	9	18	8
<90	0	0	3
<70	0	0	1

Any clarifying questions?

Guideline Review

Glycemic Goals in Older Adults: ADA Recommendations

Patient Characteristics/ Health Status	Reasonable A1c goal	Fasting or Pre- meal glucose mg/dL	Bedtime glucose mg/dL
Healthy (few chronic illnesses, intact cognitive/functional status)	< 7 - 7.5%	80-130	80-180
Complex/intermediate (multiple chronic illnesses or 2+ IADL impairments or mild-moderate cognitive impairment)	< 8.0%	90-150	100-180
Very complex/poor health (long-term care or end-stage chronic illness or mod-severe cognitive impairment or 2+ ADL dependencies)	Avoid reliance on A1c; based on avoiding hypoglycemia	100-180	110-200

ADL (activities of daily living) = bathing, dressing, eating, toileting, transferring

IADL (instrumental activities of daily living) = preparing meals, shopping, managing money, using the telephone, managing medications

Endocrine Society Recommendations

Overall Health Category		Group 1: Good Health	Group 2: Intermediate Health	Group 3: Poor Health
Patient characteristics		No comorbidities or 1-2 non-diabetes chronic illnesses* and No ADL [‡] impairments and ≤1 IADL impairment	3 or more non-diabetes chronic illnesses* and/or Any one of the following: mild cognitive impairment or early dementia ≥2 IADL impairments	Any one of the following: End-stage medical condition(s)** Moderate to severe dementia ≥2 ADL impairments Residence in a long-term nursing facility
		<p>Reasonable glucose target ranges and HbA1c by group</p> <p>Shared decision-making: individualized goal may be lower or higher</p>		
Use of drugs that may cause hypoglycemia (e.g., insulin, sulfonylurea, glinides)	No	Fasting: 90-130 mg/dL Bedtime: 90-150 mg/dL <7.5%	Fasting: 90-150 mg/dL Bedtime: 100-180 mg/dL <8%	Fasting: 100-180 mg/dL Bedtime: 110-200 mg/dL <8.5% [‡]
	Yes [‡]	Fasting: 90-150 mg/dL Bedtime: 100-180 mg/dL ≥7.0 and <7.5%	Fasting: 100-150 mg/dL Bedtime: 150-180 mg/dL ≥7.5 and <8.0%	Fasting: 100-180 mg/dL Bedtime: 150-250 mg/dL ≥8.0 and <8.5% [‡]

Note: While glucose targets are highlighted for each group in this framework, overall health categories can also be considered for other treatment goals such as blood pressure and dyslipidemia. See Appendix A on "How to use the conceptual framework."

* Coexisting chronic illnesses may include osteoarthritis, hypertension, chronic kidney disease stages 1-3, or stroke, among others.

**One or more chronic illnesses with limited treatments and reduced life expectancy. These include metastatic cancer, oxygen-dependent lung disease, end-stage kidney disease requiring dialysis, and advanced heart failure.

[‡] As long as achievable without clinically significant hypoglycemia; otherwise, higher glucose targets may be appropriate. Note also that the lower HbA1c boundary was included as data suggesting increased hypoglycemia and mortality risk at lower HbA1c levels are strongest in the setting of insulin use. However, the lower boundary should not reduce vigilance for detailed hypoglycemia assessment.

[‡] HbA1c of 8.5% correlates with an average glucose level of approximately 200 mg/dL. Higher targets than this may result in glycosuria, dehydration, hyperglycemic crisis and poor wound healing.

[‡] ADLs include bathing, dressing, eating, toileting, and transferring, and IADLs include preparing meals, shopping, managing money, using the telephone, and managing medications.

Includes data from Cigolle CT, Kabeto MU, Lee PG, Blaum CS. Clinical complexity and mortality in middle-aged and older adults with diabetes. *J Gerontol A Biol Sci Med Sci* 2012; 67(12):1313-1320 (39); and from Kirkman MS, Jones Briscoe V, Clark N, et al. Diabetes in older adults. *Diabetes Care* 2012; 35(12): 2650-2664 (40).

Abbreviations: IADL, instrumental activity of daily living; ADL, activity of daily living; SU, sulfonylurea.

Drug Therapy Summary

Drug Class	Place in therapy	Hypoglycemia?	Cost	Considerations?
Biguanides (e.g. metformin)	First-line	No	Low	<ul style="list-style-type: none"> - Renal adjustments - GI distress and impact on nutritional status - B12 deficiency -- monitor
DPP-IV Inhibitors	Second line	No	Brand only	<ul style="list-style-type: none"> - No renal adj for linagliptin - Avoid saxagliptin and alogliptin in HF - Overall, well tolerated and ease of use (oral/daily)
SGLT-2 Inhibitors	Second line	No	Brand only	<ul style="list-style-type: none"> - Oral daily admin is convenient - CV and renal benefits - Watch out for volume depletion - Use lowest dose to gain benefits but minimize SE
GLP-1 RA	Second-line	No	Brand only	<ul style="list-style-type: none"> - Highly efficacious with low hypoglycemia risk - GI side effects – nausea/vomiting/appetite suppression - CV benefits! - Weekly options (simple); Easiest to inject = Trulicity
TZDs	Last line	No	Low	<ul style="list-style-type: none"> - Use cautiously in those on insulin, risk for or pre-existing CHF, osteoporosis, falls or fractures, and macular edema
Sulfonylureas	Last line	Yes	Low	<ul style="list-style-type: none"> - AVOID glyburide - If using, choose glipizide or glimepiride
Insulin	Depends on glycemic control	Yes	Depends*	<ul style="list-style-type: none"> - Hypoglycemia risk! → use lowest dose possible - Prefer long-acting agents (e.g., basal insulin) - Minimize multiple daily injections (such as bolus injections) → Once daily injections preferred

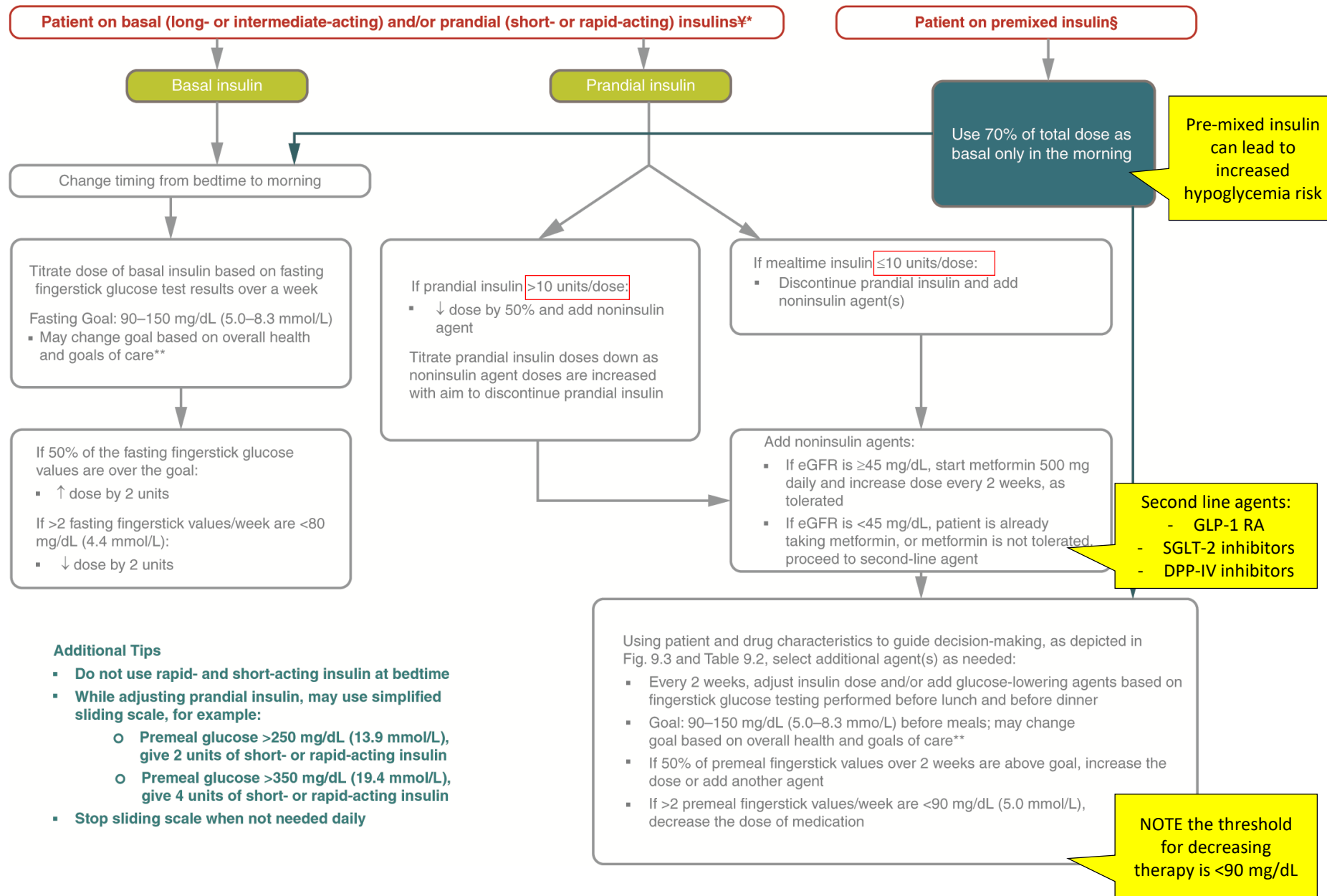
*Medicare insulin costs in VA capped at \$35/month

When to adjust therapy?

Health Status	A1c goal	Rationale/ Considerations	When to SIMPLIFY	When to DE-INTENSIFY
Healthy	< 7 - 7.5%	<ul style="list-style-type: none"> - Able to perform complex tasks when health is stable - May be at risk for administration errors when acutely ill 	<ul style="list-style-type: none"> - If <u>severe or recurrent hypoglycemia</u> occurs on <u>insulin</u> therapy - Wide glucose excursions - Cognitive/functional ↓ after acute illness 	<ul style="list-style-type: none"> - If <u>severe or recurrent hypoglycemia</u> occurs on <u>noninsulin</u> therapy with high hypoglycemia risk - Wide glucose excursions - Presence of polypharmacy
Complex/ intermediate	< 8.0%	<ul style="list-style-type: none"> - Co-morbidities may affect self-management abilities and capacity to avoid hypoglycemia - Long-acting formulations may ↓ pill burden and complexity of med regimen 	<ul style="list-style-type: none"> - If <u>severe or recurrent hypoglycemia</u> occurs on <u>insulin</u> therapy - Unable to manage complexity of an insulin regimen - Significant change in social circumstances 	<ul style="list-style-type: none"> - If <u>severe or recurrent hypoglycemia</u> occurs on <u>noninsulin</u> therapy with high hypoglycemia risk - Wide glucose excursions - Presence of polypharmacy
Community Dwelling receiving care in SNF or short-term rehab	Avoid A1c reliance Target BG 100 – 200 mg/dL	<ul style="list-style-type: none"> - Glycemic control for recovery, wound healing, hydration, & infection avoidance - Patients recovering from illness may not have returned to baseline cognitive function at time of discharge 	<ul style="list-style-type: none"> - If treatment regimen increased in complexity during hospitalization, may reinstate pre-hospitalization med regimen during rehab 	<ul style="list-style-type: none"> - If hospitalization for acute illness resulted in weight loss, anorexia, short-term cognitive decline, and/or loss of physical functioning
Very complex/ poor health	Avoid A1c reliance. Avoid hypoglycemia or symptomatic hyperglycemia	<ul style="list-style-type: none"> - <u>No benefits of tight glycemic control in this population</u> - <u>Hypoglycemia should be avoided</u> - Most important outcomes are maintenance of cognitive and functional status 	<ul style="list-style-type: none"> - If on insulin and patient wants to decrease injections or fingerstick - If patient has <u>inconsistent eating</u> pattern 	<ul style="list-style-type: none"> - If <u>non-insulin agents with high hypoglycemia risk</u> in context of cognitive dysfunction, depression, anorexia, or inconsistent eating pattern - If taking any meds w/o clear benefit
End of Life	Avoid low BGs and symptoms of high BGs	<ul style="list-style-type: none"> - Goal is to provide comfort and avoid tasks or interventions that cause pain or discomfort - Caregivers are important in providing medical care and maintaining quality of life 	<ul style="list-style-type: none"> - If there is pain or discomfort (e.g., injections or fingerstick) - If there is excessive caregiver stress due to treatment complexity 	<ul style="list-style-type: none"> - If taking any medication without clear benefits in improving symptoms and/or comfort

BG: blood glucose; SNF: skilled nursing facility

Simplification of Complex Insulin Therapy



What to monitor for?

Diabetes specific

- Glycemic goals – A1c, finger sticks, continuous glucose monitoring
- Preventing hypoglycemia
- Selected drug therapy monitoring – side effects (e.g., hypoglycemia, affect on nutritional intake)

“Whole Person”

- Cognitive impairment – MMSE, Mini-Cog, Montreal Cognitive Assessment
- Functional status (self-management capacity)
- Medical History – co-morbidities and complications
- Polypharmacy
- Financial ability – can they afford their prescribed meds and take them as they should be?

MMSE: mini-mental status exam

Case Studies

- Anyone can submit cases: www.vcuhealth.org/echodmhtn
- Receive feedback from participants and content experts
- Earn **\$150** for submitting and presenting

Provide Feedback

www.vcuhealth.org/echodmhtn

- Feedback
 - Overall feedback related to session content and flow?
 - Ideas for guest speakers?

Access Your Evaluation

vcuhealth.org/services/telehealth/for-providers/education/diabetes-and-hypertension-project-echo



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Diabetes and Hypertension Project ECHO

Welcome to the Diabetes and Hypertension Extension for Community Health Outcomes or ECHO, a virtual network of multidisciplinary diabetes and hypertension experts. An ECHO model connects professionals with each other in real-time collaborative virtual sessions on Zoom. Participants present de-identified cases to one another, share resources, connect to each other, and grow in their expertise. This ECHO will address practice level issues and solutions related to managing complex patients with difficult to control diabetes and hypertension. [Register now for an ECHO Session!](#)

Network, Participate and Present

- Engage in a collaborative community with your peers.
- Listen, learn and discuss informational and case presentations in real-time.
- Take the opportunity to [submit your de-identified case study](#) for feedback from a team of specialists for diabetes and hypertension.
- [Provide valuable feedback.](#)
- Claim CE credit by [texting in attendance](#).

Benefits



VCU Diabetes & Hypertension Project ECHO Clinics

2nd Thursdays — 12 p.m. to 1 p.m.

Mark Your Calendars — Upcoming Sessions

April 14: Kidney Nutrition

May 12: Lightning Round

- New onset diabetes/severe hyperglycemia in the office
- Hypertensive urgency in the office (severe asymptomatic hypertension)
- Hypoglycemia unawareness

Please register if you haven't previously at www.vcuhealth.org/echodmhtn

Thank you for coming!



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