Diabetes and Hypertension Project ECHO* Clinic

*ECHO: Extension of Community Healthcare Outcomes

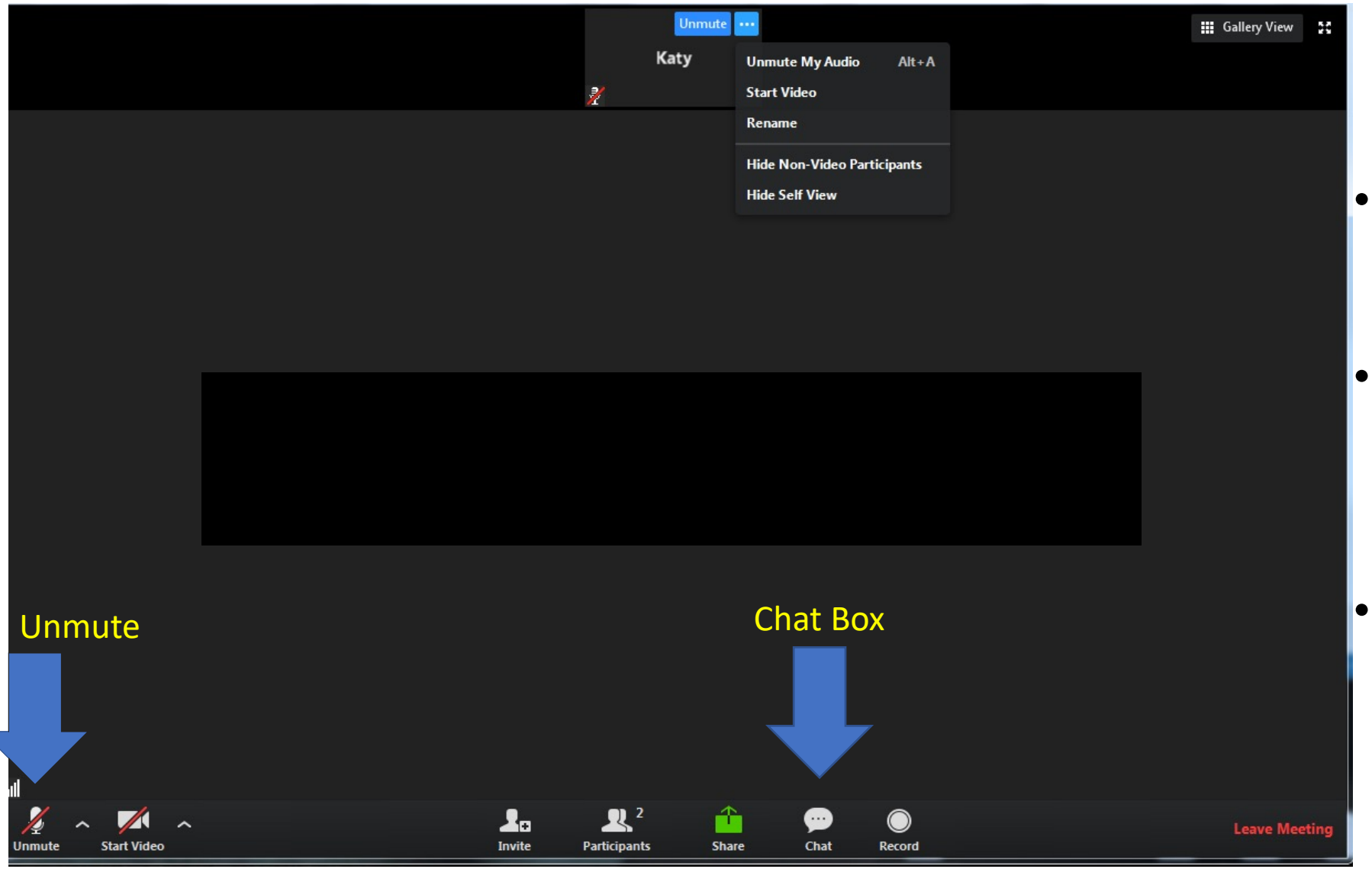
May 27, 2021

Before we begin:

- Rename your Zoom screen with your name and organization
- Claim CE: text 19164-18817 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.

Helpful Reminders



- 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

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
  - We encourage you to keep your camera on, but if you are uncomfortable being recorded, feel free to turn it off
- Please **do not share any protected health information** in your discussion or the chat
- 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

- Bimonthly, 1.5-hour tele-ECHO clinics on 2nd and 4th Thursdays
- Every tele-ECHO clinic includes a 30-minute didactic presentation followed by case discussions
- Didactic presentations are developed and delivered by interprofessional experts
- Website: www.vcuhealth.org/echodmhtn
  - Directions for creating an account and claiming CE can be found here also
  - You have up to six days after our session to claim CE by texting **19164-18817** to **804-625-4041**

Hub and Participant Introductions

VCU 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, BA

- Use chat function for introduction
  - Name
  - Organization

Reminder: Mute and unmute screen to talk or press *6 for phone audio

Share your name and organization in the chat.

Disclosures

Kim Varney, Pharm.D., has no financial conflicts of interest to disclose.

Evan Sisson , Pharm.D., has no financial conflicts of interest to disclose.

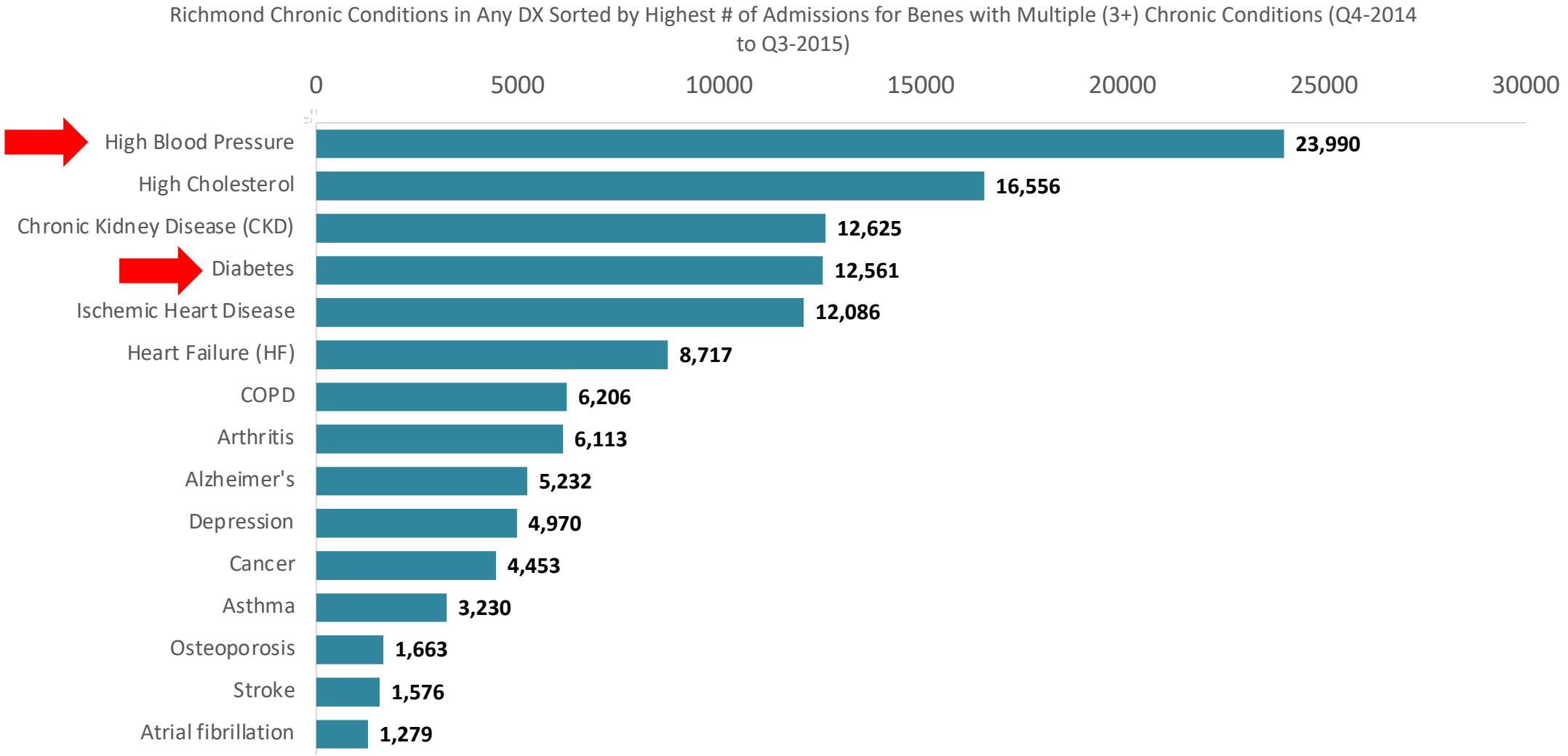
Trang Le, M.D., has no financial conflicts of interest to disclose.

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

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

Team-Based Approaches to Diabetes and Hypertension Care

Richmond Top Chronic Conditions by Volume of Admissions



Reaching

Medically Underserved with Diabetes and High Blood Pressure

Project ECHO®
Virginia Commonwealth University

Rx

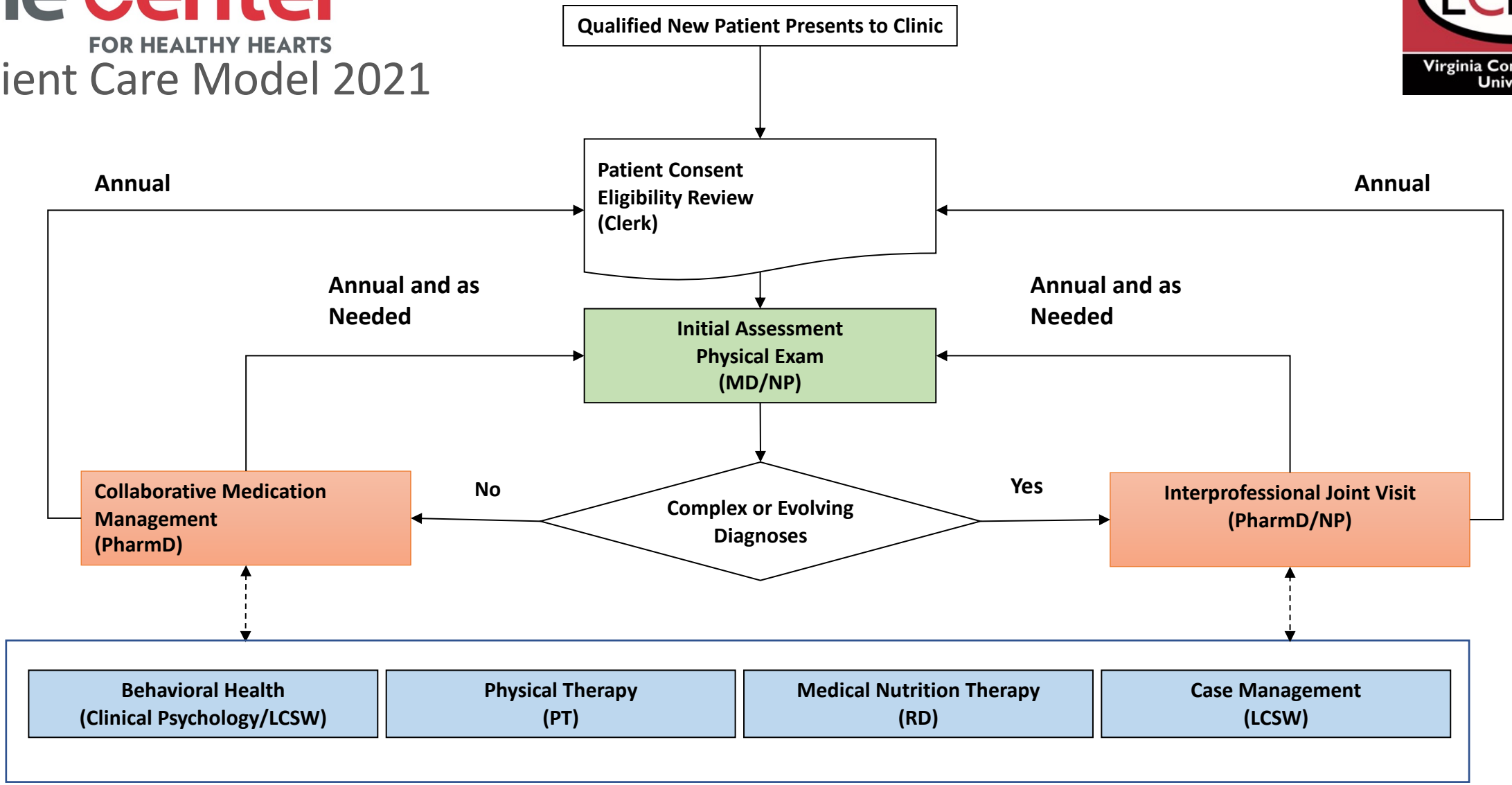
Rx

Rx

Gas | Groceries | Hotels | More

Virginia Commonwealth University
VCU
Mama J's Kitchen
Greater Richmond Convention
Perly's
The Jefferson
Cary Street
COURT END
CITY CENTER
Richmond
Kabana Rooftop
VCU Medical Center Emergency Room at...
Parker Field
EAST END
PETER PAUL
The Market at 25
E Broad St
E Canal St
S 8th St
N 18th St
N 14th St
Venable St
UNION HILL
Carrington St
CENTRAL OFFICE DISTRICT
DOWNTOWN
SHOCKOE SLIP
SHOCKOE BOTTOM
Exxon
Union Market
The Poe Museum
Virginia Holocaust Museum
Proper Pie Co
James River
S 14th St
BELLE AND MAYO ISLANDS
Belle Isle
Bookbinder's Seafood & Steakhouse
Satellite
Google
Map data ©2021 United States Terms Privacy Send feedback 1000 ft

Patient Care Model 2021



Updated 5/4/2021

Sisson EM, Dixon DL, Kildow DC, et al. Pharmacotherapy. 2016 Mar;36(3):342-7. doi: 10.1002/phar.1710. Epub 2016 Feb 24.

Center Patient Characteristics

Characteristics (n=172)* *Patients with ≥2 pharmacist visits during 2009	n (%)
Age mean ± SD, years	51.3 ± 9.9 (32-81)
Gender	
Female	106 (61.63)
Male	66 (38.37)
Ethnicity	
African American	131 (76.16)
White	31 (18.02)
Asian	4 (2.33)
Hispanic	3 (1.74)
Other	3 (1.74)
Past Medical History	
Hypertension	172 (100.00)
Hyperlipidemia	56 (32.56)
Diabetes	32 (18.60)
CVA/TIA	7 (4.07)
Coronary Artery Disease	6 (3.49)
Smoker	67 (38.9)
Body Mass Index (BMI) mean, kg/m^2	33.5 ± 8.2

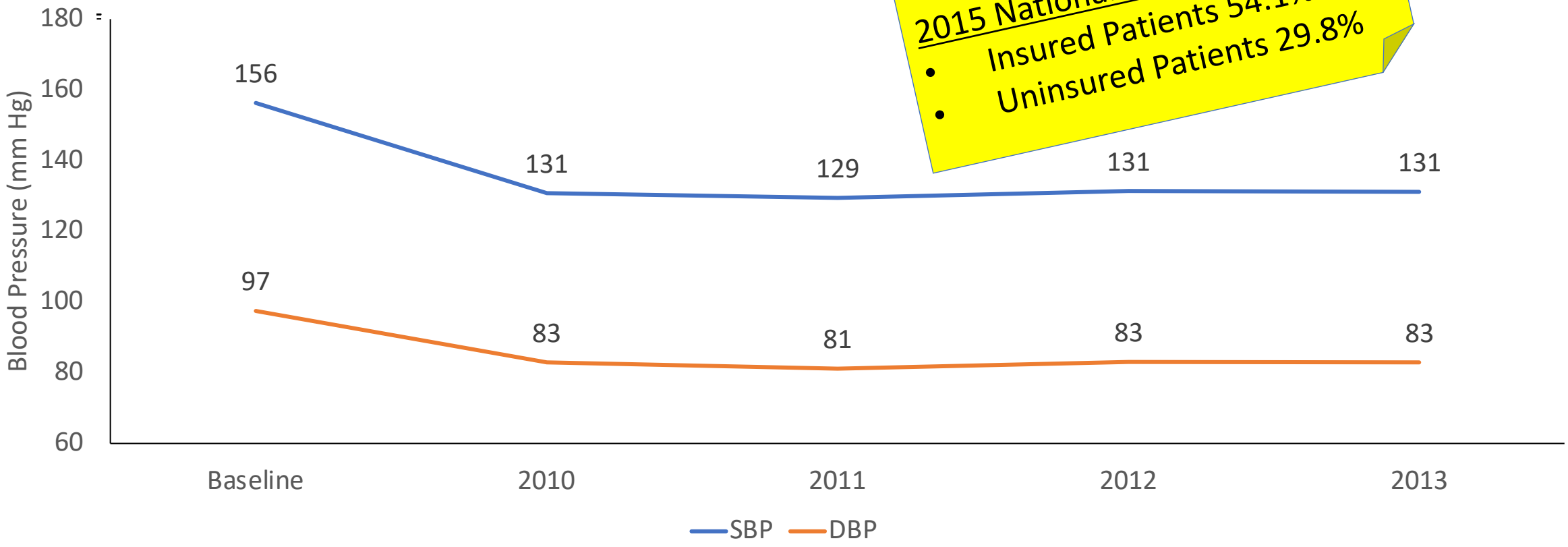
Mean Blood Pressure (BP) for All Patients Baseline through 2013 (n=172)

BP Control Rate

- Center 68.2%

2015 National BP Benchmarks

- Insured Patients 54.1%
- Uninsured Patients 29.8%



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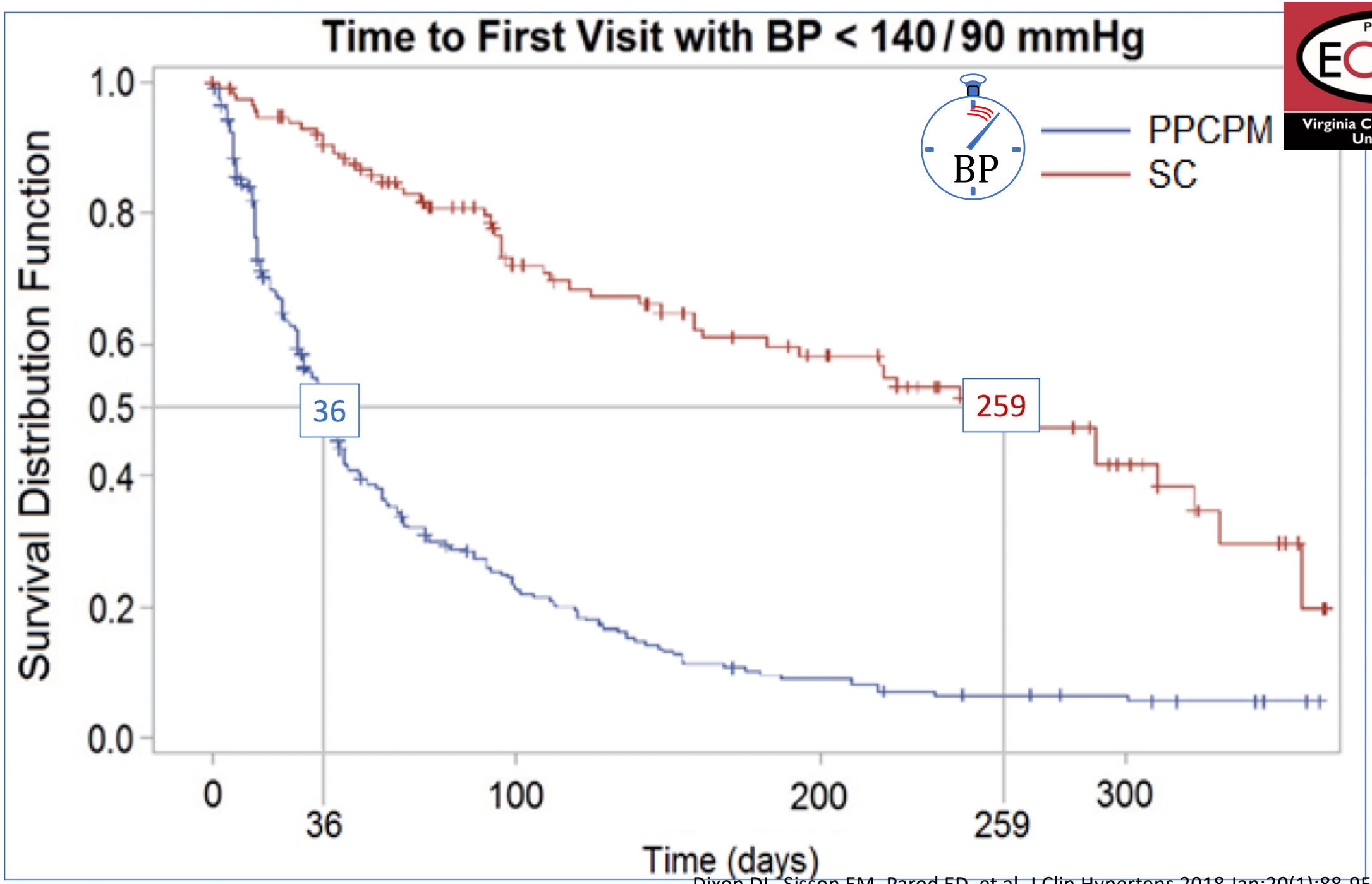

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Dixon DL, Sisson EM, Parod ED, et al. J Clin Hypertens 2018 Jan;20(1):88-95.

Center Time to Goal: Results

	PPCPM	SC	p-value
Change in SBP	-24.86	-15.83	0.0005
Change in DBP	-14.96	-7.54	<0.0001
# Days to Goal BP (median, 95% CI, IQR)	36 (30-43, 15-95)	259 (182-322, 95-357)	<0.001
# Visits to Goal BP (mean, SD)	3.3 (1.6)	2.8 (1.3)	0.04
% at goal at 12 months	81%	44%	<0.0001
Therapeutic Inertia	27.6%	43.7%	<0.0001

$$\text{Therapeutic Inertia} = \frac{(\text{\# visits not at BP goal}) - (\text{\# visits with an intervention})}{\text{total \# visits}}$$

Dixon DL, Sisson EM, Parod ED, et al. J Clin Hypertens 2018 Jan;20(1):88-95. Okonofua EC, Simpson KN, Jesri A, et al. Hypertension. 2006;47(3):345-51.

Telehealth Solutions for Uninsured People with Diabetes and High Blood Pressure

Project ECHO
Virginia Commonwealth University

the center
FOR HEALTHY HEARTS

zoom

practicefusion

American Heart Association.
Check. Change. Control.®

Di

updox

doximity

Secrets of Center Success

- Optimization of distinct interprofessional roles
  - Diagnoses established by **physicians and nurse practitioners**
  - Medication management by **pharmacists**
  - Urgent care by **nurse practitioners**
  - Case management by **nurses**
  - Education and coaching by **behavioral health**
  - Nutrition education by **dietitians**
- Access to a common medical record
- Frequent follow-up with evaluation

- Collaborative practice agreement with sufficient scope of practice to implement medication changes at the time of the visit
- Specialized services – focus on chronic disease challenges
  - Certified Diabetes Care and Education Specialists
  - Cardiology, Nephrology
  - Clinical pharmacy specialists

Secrets

1. High touch – right provider skill mix
2. High intensity – right visit frequency

Objectives

- Describe components of the chronic care model as it applies to diabetes
- List roles of the clinical pharmacist in diabetes self care and support across inpatient and outpatient settings

1. Improving Care and Promoting Health in Populations: *Standards of Medical Care in Diabetes—2021*

American Diabetes Association

Diabetes Care 2021;44(Suppl. 1):S7–S14 | https://doi.org/10.2337/dc21-s001

The American Diabetes Association (ADA) "Standards of Medical Care in Diabetes" includes the ADA's current clinical practice recommendations and is intended to provide the components of diabetes care, general treatment goals and guidelines, and tools to evaluate quality of care. Members of the ADA Professional Practice Committee, a multidisciplinary expert committee (https://doi.org/10.2337/dc21-SPPC), are responsible for updating the Standards of Care annually, or more frequently as warranted. For a detailed description of ADA standards, statements, and reports, as well as the evidence-grading system for ADA's clinical practice

The Chronic Care Model

1. Delivery system design: (moving from a reactive → proactive care delivery system where planned visits are coordinated through a team-based approach)
2. Self-management support
3. Decision support (evidence based, effective care guidelines)
4. Clinical information systems (using registries that can provide patient-specific and population-based support to the care team)
5. Community resources and policies (identifying or developing resources to support healthy lifestyles)
6. Health systems (to create a quality oriented culture)

Care Teams for Diabetes

- The patient-centered care team should avoid therapeutic inertia and prioritize timely and appropriate intensification of lifestyle and/or pharmacologic therapy for patients who have not achieved the recommended metabolic targets
- Care management teams include nurses, dietitians, pharmacists, social / outreach workers, and other providers

Diabetes Care – Team Based Approach

Francesco Celi, M.D.
Fearless Leader

Diabetes Care – Team Based Approach

Diabetes Care – Team Based Approach

At VCU Health, the Endocrine Division provides a broad, team-based approach to the management of patients with Type 1 and Type 2 Diabetes

Inpatient Diabetes consult service

(7 days/week):

- Endocrine faculty / fellow service
- APP (Nurse Practitioner) service
- Inpatient diabetes educators (RN, RD)

Outpatient clinics:

- Endocrine faculty / fellow clinics
- APP (Nurse Practitioner) clinic
- PharmD clinic
- Diabetes educators present at every visit
- Remote Patient Monitoring for Diabetes

Diabetes Care – Team Based Approach

Inpatient Patient Care Services

- 7 days a week coverage for management of diabetes: VCU Diabetes Consult Team
- Clinical Pharmacists are present on most inpatient rounding services for help with management of hyperglycemia in hospital
- Clinical Pharmacists assist primary team with diabetes medication choices upon hospital discharge (insulin, metformin, SGLT-2, GLP-1)
- Clinical Pharmacists help with medication reconciliation during hospital admission, and medication counseling upon hospital discharge

(i.e., overall diabetes management, carb-controlled diet, insulin pen teaching, syringe injection, use of glucometer, etc..)

Endocrine Pharmacist Involvement – In-Hospital Diabetes Protocols

Inpatient Hospital Protocol / Order Development and Maintenance:

- General Hyperglycemia: SC insulin (basal, bolus, correction dose)
- DKA/HHS: continuous insulin intravenous infusion
- Steroid induced hyperglycemia
- Treatment of Hypoglycemia
- Prevention of Hypoglycemia
- IV Regular insulin via IV push protocol and Hyperkalemia Orderset
- Home Insulin Pump Management
- Continuous Glucose Monitoring for Diabetes patients with COVID

Endocrine Pharmacist Involvement – Education and Research

- **Education**
  - Pharmacy residents in clinic for rotation experience. Provide education during the rotation experience, through journal clubs, and case conferences.
  - Medical students and residents are on clinic site for informal education.
  - Present to Endocrine Grand Rounds once a year for formal didactic education.

- Once protocols or changes are made, pharmacist helps develop and present education to various disciplines throughout hospital

- **Pharmacy Resident Research**
  - Pending review of Hyperkalemia/Insulin Protocol in hospital (pre and post)

Endocrine Pharmacist Involvement –
Medication Safety Committee

- Diabetes Pharmacist representation on Quality Improvement Med Safety Hospital Committees
  - **<u>Prevention and treatment of Hypoglycemia</u>**:
    - IV insulin via IV push administration (hyperkalemia protocol, stand alone orders)
    - Discontinuation of carbohydrate intake in patients receiving insulin (TPN, enteral)
    - SC basal insulin inappropriately dosed
  - Coordinate between various disciplines (medicine, pharmacy, nursing, nutrition services) and hospital leadership
  - Present to other committees to get buy-in and feedback
  - Development of education

Endocrine Pharmacist Involvement – Electronic Medical Record Transition

- Currently transitioning from Cerner to EPIC
  - involved in the Diabetes Management orderset transitions, on both inpatient and outpatient sides

Outpatient Pharmacy Involvement – Diabetes Management

Multiple Outpatient VCU Pharmacy Clinics involved in management of Diabetes:

1. **Pharmacy Diabetes Clinic**: in-person/telephone/virtual patient visits for close management or follow up diabetes management:
   - In-between primary Endocrine provider appointments; Endocrine provider refers pt to me
   - Faster titration of insulin (weekly, monthly); esp in severely uncontrolled diabetes
   - Follow therapeutic plans set forth by primary Endocrine provider; maintain relationship with primary Endocrine provider
   - Goal to decrease hospitalizations, optimize metabolic outcomes, provide long-term follow up

2. **Ambulatory Care Clinics** involved in DM management:
   - Complex Care Clinic (all disease states)
   - HIV clinic
   - BMT clinic
   - Solid Organ Transplant Clinic

Endocrine Pharmacist:
Outpatient Liaison for Providers

- **Primary focus**: provide clinically indicated diabetes medications to patients in an affordable way

  - Therapeutic substitution based on insurance coverage (deductibles; donut holes)
  - Finding discounts for patients who can't afford standard of care meds with insurance (insulin, GLP-1s, SGLT-i)
  - Increase compliance; patients on *multiple* medications, complex social situations (homeless, jobless, overnight shift, vision or hearing impaired, etc..)
  - Education on storage of meds, administration of meds, dietary changes, dosing changes
  - Addressing and managing adverse effects

Endocrine Pharmacist:
Building outpatient Protocols; Research

<u>Outpatient Protocol / Order Set Development and Maintenance</u>:

- Endocrine outpatient infusions: Prolia, Evenity, Tepezza
- Treatment of Hypoglycemia

<u>Pharmacy Research</u>

- IRB pending for research on outcomes of COVID (+) patients with a continuous glucose monitor for diabetes, and transition to Remote Home Monitoring

Pharmaceutical Industry Liaison

- Meet with drug representatives and medical liaisons
- Insight into ongoing studies, or new data/indications
- Available discounts thru the company

Questions?

Case Study #1– Outpatient Pharmacy Diabetes Clinic Referral

45 yo female, presents to hospital in DKA-HHS:

- Hypertension: chlorthalidone 12.5 mg daily
- Chronic back and knee pain: takes Tylenol, advil
- BG >1000; bicarb 10; anion gap 20; otherwise labs WNL; weight 120 kg, A1C 6.3 %

➢Discharged home on metformin, glargine 35 units daily, lispro 10 units with each meal

➢Seen in Endocrine urgent clinic one week later; BG range 200-280, continued doses

➢Endocrine provider refers to pharmacy diabetes clinic for close follow up and titration of insulin; concerned pt may not need as much insulin next few weeks

-Any clarifying questions?

Case Study #1– Outpatient Pharmacy Diabetes Clinic Referral

- Followed patient remotely until patient seen in pharmacy diabetes clinic 2 weeks later
  - Further patient history revealed 2 recent cortisone injections in knee; pharmacist felt this was likely reason for DKA/HHS, pt likely had pre-diabetes before cortisone injections
  - BG range now 150 – 180

-Any clarifying questions?

-Any treatment suggestions?

Case Study #1– Outpatient Pharmacy Diabetes Clinic Referral

- Continued weekly follow up
- Transitioned patient to Victoza and basal insulin only, with metformin, over the following month
- BG range now 80-120; weight loss 5 pounds

Case Study #2

61 year old respiratory therapist, self-referred for diabetes management. “I don’t want to take insulin” A1c 12.2%. Endorses frequent stress eating, seeks comfort foods, and frequent hunger when trying to make healthy meal choices. “I don’t want to eat carrots and celery all day.”

PMH: Class II obesity, Obstructive sleep apnea, hyperlipidemia

Labs: A1c as above, LDL 57, normal urine microalbumin

Medications: Metformin 500mg BID, glipizide 10mg with breakfast

Social History: Enjoys no more than 1-2 beers per day,

Patient requests: avoid insulin, requests continuous glucose monitor, recommend healthy snack choices.

-Any clarifying questions?

-Any treatment suggestions?

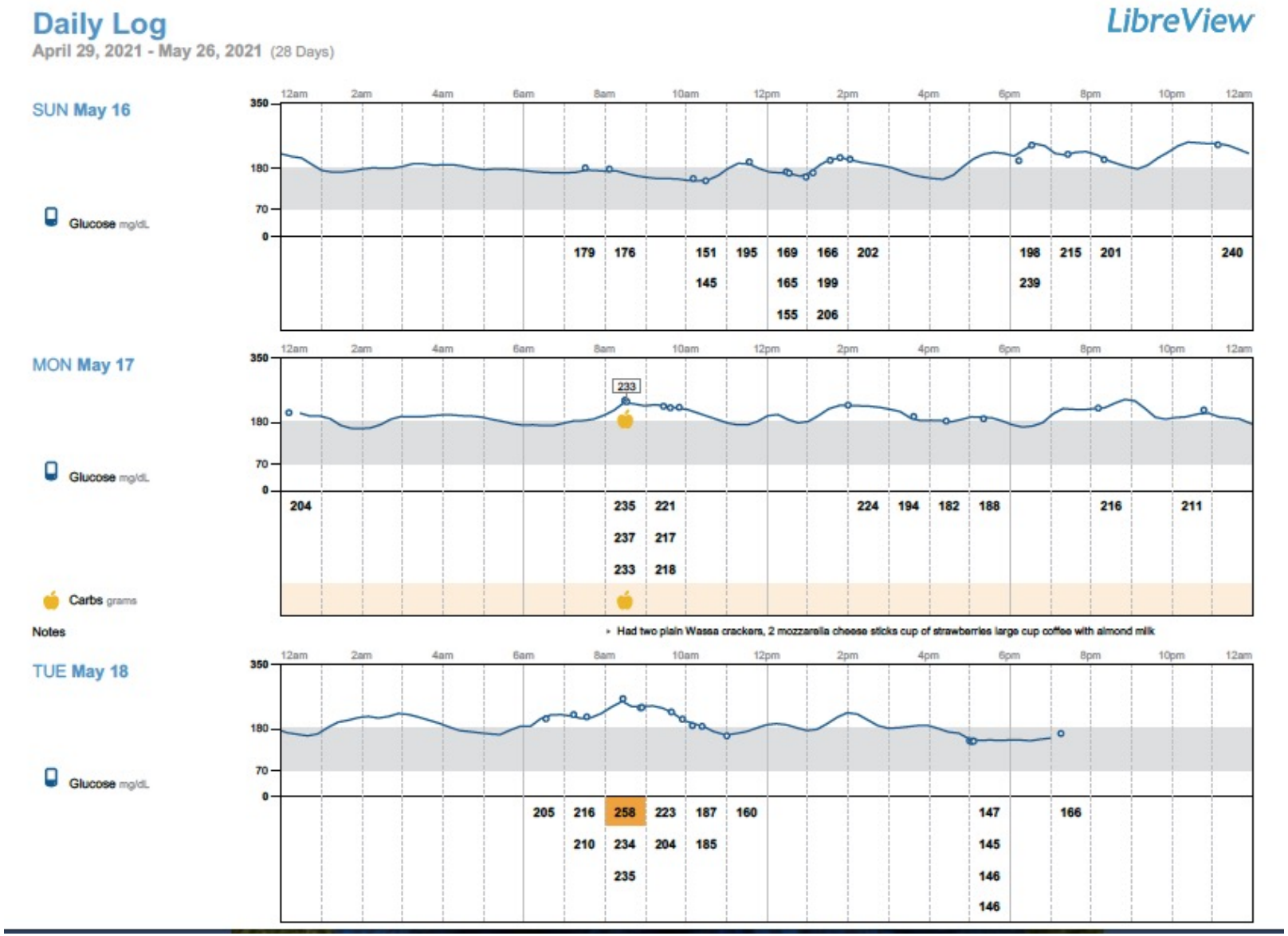
Case Study #2

- Unable to increase metformin / metformin extended release to >500mg BID due to GI intolerance
- Is willing to pay for CGM out of pocket ($75 per month)
- Started on Jardiance, then Trulicity
- Requested change to Ozempic, did not tolerate, changed back to Trulicity 1.5mg weekly
- Plateaus at BMI 35.2, and A1c 7.5-8.5%

-Any clarifying questions?

-Any treatment suggestions?

Case Study #2


Daily Log
April 29, 2021 - May 26, 2021 (28 Days)
LibreView
SUN May 16
Glucose mg/dL
179 176 151 145 195 169 165 155 166 199 206 202 198 239 215 201 240
MON May 17
Glucose mg/dL
204 235 237 233 221 217 218 224 194 182 188 216 211
Carbs grams
Notes
Had two plain Wasa crackers, 2 mozzarella cheese sticks cup of strawberries large cup coffee with almond milk
TUE May 18
Glucose mg/dL
205 216 210 258 234 235 223 204 187 185 160 147 145 146 146 166
12am 2am 4am 6am 8am 10am 12pm 2pm 4pm 6pm 8pm 10pm 12am
350 180 70 0

Case Study #2

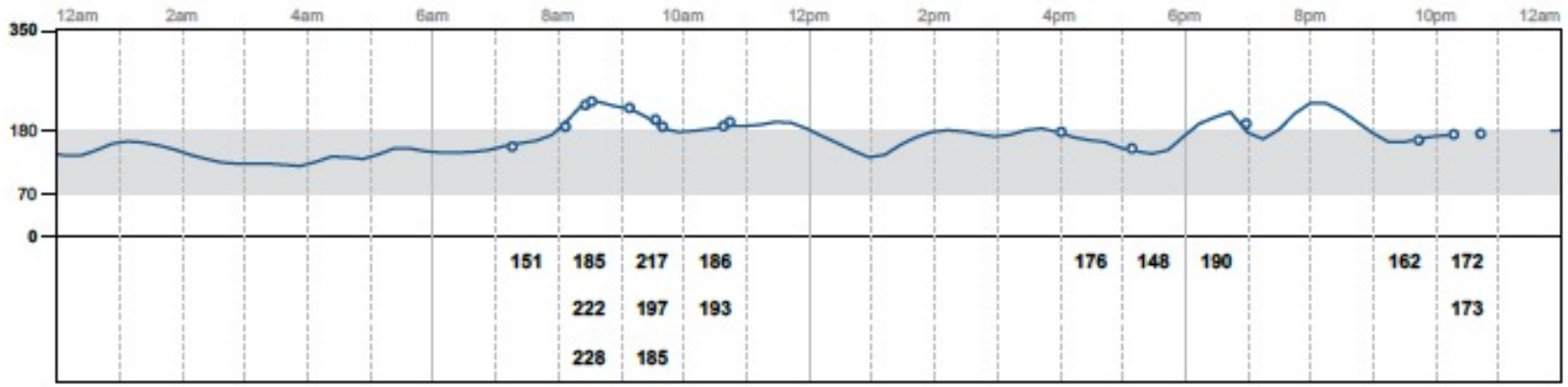
Daily Log

April 29, 2021 - May 26, 2021 (28 Days)

LibreView

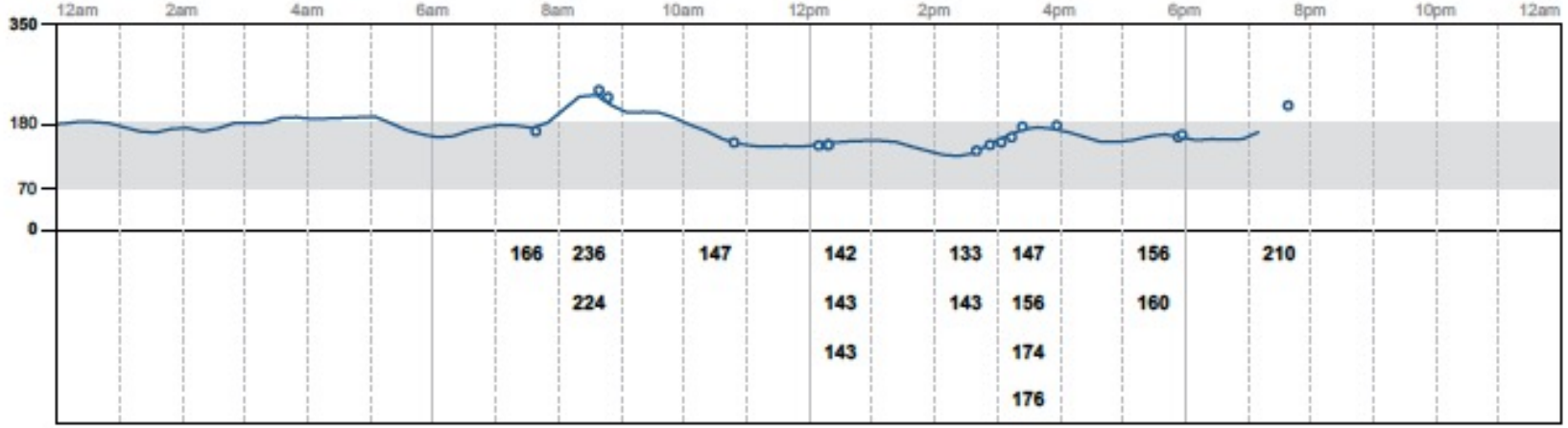
TUE **May 25**

Glucose mg/dL



WED **May 26**

Glucose mg/dL



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

For Providers

- Education
  - **Diabetes and Hypertension Project ECHO**
    - Our Team
    - Curriculum
    - Claiming CE Credit
    - Contact Us
  - VCU Nursing Home ECHO
  - VCU Health Palliative Care ECHO
  - Virginia Opioid Addiction ECHO
  - Virginia Sickle Cell Disease ECHO

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 and 4th Thursdays — 12-1:30 p.m.

Mark Your Calendars — Upcoming Sessions

June 10: Remote home blood pressure monitoring

June 24: Remote diabetes monitoring

Please register at www.vcuhealth.org/echodmhtn

Thank you, and see you in two weeks!

Text **19164-18817** to **804-625-4041** for CE credit

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