

SWINOMISH EXPERIENCES WITH EXPANDED CGM UTILIZATION AND REMOTE PATIENT MONITORING

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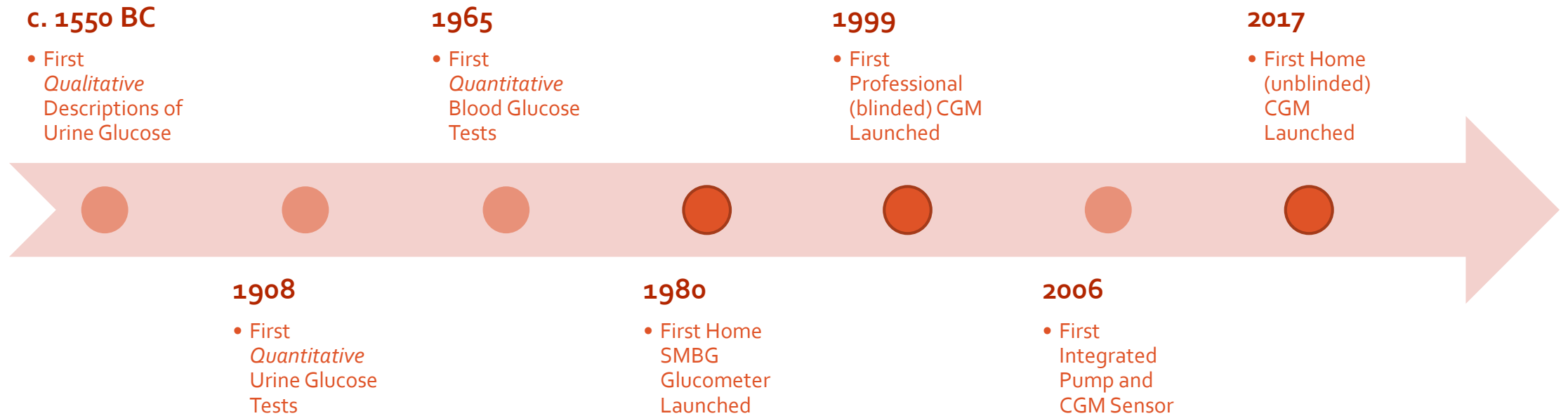
Virtual Care Implementation ECHO – Monday May 13, 2024

Disclosures & Disclaimers

- Presenters have no actual or potential financial or non-financial relationships to disclose in relation to this presentation.
- Presenters will use general terms (i.e. continuous glucose monitor [CGM]) whenever possible. Presenters use of brand/trade names does not represent an endorsement.

GLUCOSE MONITORING – OVERVIEW

Brief History of Glucose Monitoring



- 40 years of **home** fingerstick SMBG (data available to patient)
- 20+ years of **professional** CGM (data blinded to patient)
- 6+ years of **home** CGM (data unblinded/available to patient)

Glucose Monitoring Approaches

	CGM	SMBG
Sample Source	Interstitial Fluid	Capillary Blood
Advantages	Comprehensive BG Picture No/Few Missed Readings Wide Range of BG Metrics Simple to Use for Patients	Accurate Moment-in-Time BG Relatively Inexpensive Widely Used and Familiar Easy to Teach to Patients
Disadvantages	Relatively More Expensive More Info for Patients to Learn Relatively Complex, Unfamiliar May be Viewed as Invasive	User Error, Misreported Data Limited Range BG Metrics Sporadic Data May Limit Utility Inconvenient, Painful, or Bloody
Costs	Approx. \$150 - \$500 per month	Approx. \$50 - \$100 per month

Currently Available Products

- Freestyle Libre
- Dexcom G Series
- Guardian Connect
- Eversense E Series



Product Overview & Comparison

	Freestyle Libre 3	Dexcom G7	Guardian 4	Eversense E3
Sensor	14 Day Sensors 2 Sensors/Month	10 Day Sensors 3 Sensors/Month	7 Day Sensors 4 Sensors/Month	180 Day Sensor 2 Sensors/Year
	Percutaneous			Subcutaneous*
Transmitter	All-in-One Sensor		Yes – Removable and Rechargeable	
Receiver	Smartphone App Optional Receiver	Smartphone App Optional Receiver	Smartphone App	Smartphone App
Population	Age 4 and Older	Age 2 and Older	Age 14 and Older	Age 18 and Older
Retail Prices	\$	\$\$\$	<i>Unlisted</i>	\$\$
Interference	Vitamin C: ↑ BG (500+ mg daily)	Acetaminophen: ↑ BG Alcohol: ↑ BG		Tetracycline: ↑ BG Mannitol: ↑ BG
<i>*Placed by a trained healthcare provider</i>				

CGM – EVIDENCE & GUIDELINES

Potential CGM Benefits

- Improves Glycemic Control
 - Reduces HbA_{1c} Value
 - Increases Time in Range (TIR)
 - Reduces Glucose Variability
 - Reduces Time below Range (i.e. hypoglycemia events)
- Cost Effective in Most Reviews
 - Reduces Hospitalizations
 - Reduces ED Utilization
 - Reduces Lab Orders
- Improves Patient Quality of Life
- Improves Patient RX Adherence
- Improves Patient Satisfaction
- Improves Health Behaviors
 - Awareness of Nutrition Impacts
 - Awareness of Activity Impacts
 - Increased Patient Engagement
 - Increased DM Self-Management
- Provider Satisfaction

General CGM Evidence

- CGM Systematic Review (A. Kieu, et al. 2023)
 - May lower A1c additional -0.31% to -0.43% (compared to usual care)
 - May reduce hypo-related admissions (from 5.1 to 2.9/100 patient-years)
 - May improve patient satisfaction (90% CGM vs. 56% SMBG)
 - May improve diet & lifestyle understanding (70% CGM vs. 16% SMBG)
- Study Limitations
 - Many had actual or potential biases
 - Many study timeframes were short
 - Many had small group/sample sizes

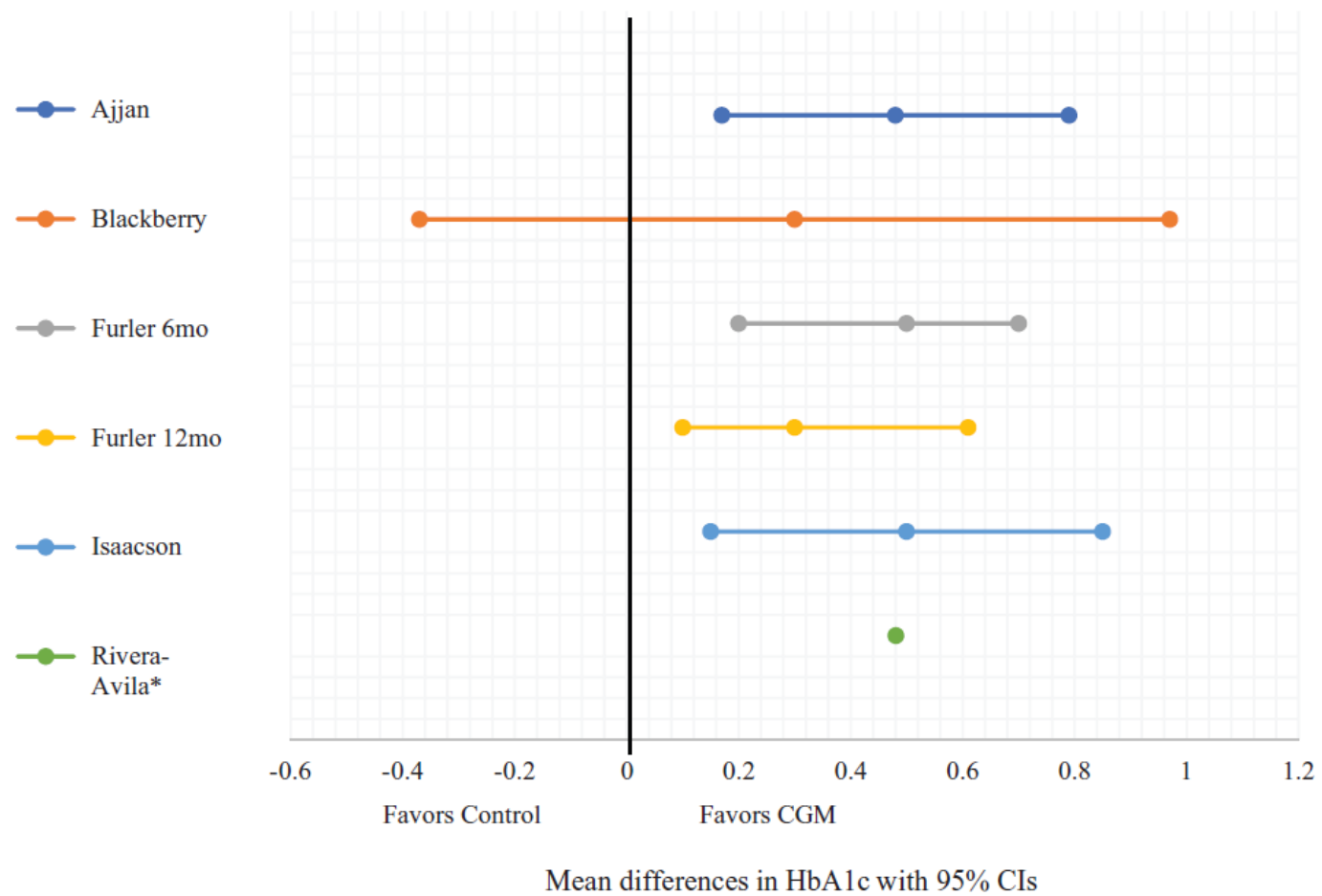


Figure 2. Forest plot of mean differences with 95% CIs of HbA1c at study end between the intervention (CGM) and control groups.

Abbreviations: CI, confidence interval; HbA1c, hemoglobin A1c; CGM, continuous glucose monitoring.

*Values for CI requested from original authors; no response.

General CGM Evidence

- Observational CGM Study (R. Bergenstal, et al. 2021)
 - Change in A1c (7.7% to 7.1%, -0.6%)
 - Mean follow-up = 10.2 months
 - Change in A1c correlated with baseline A1c category

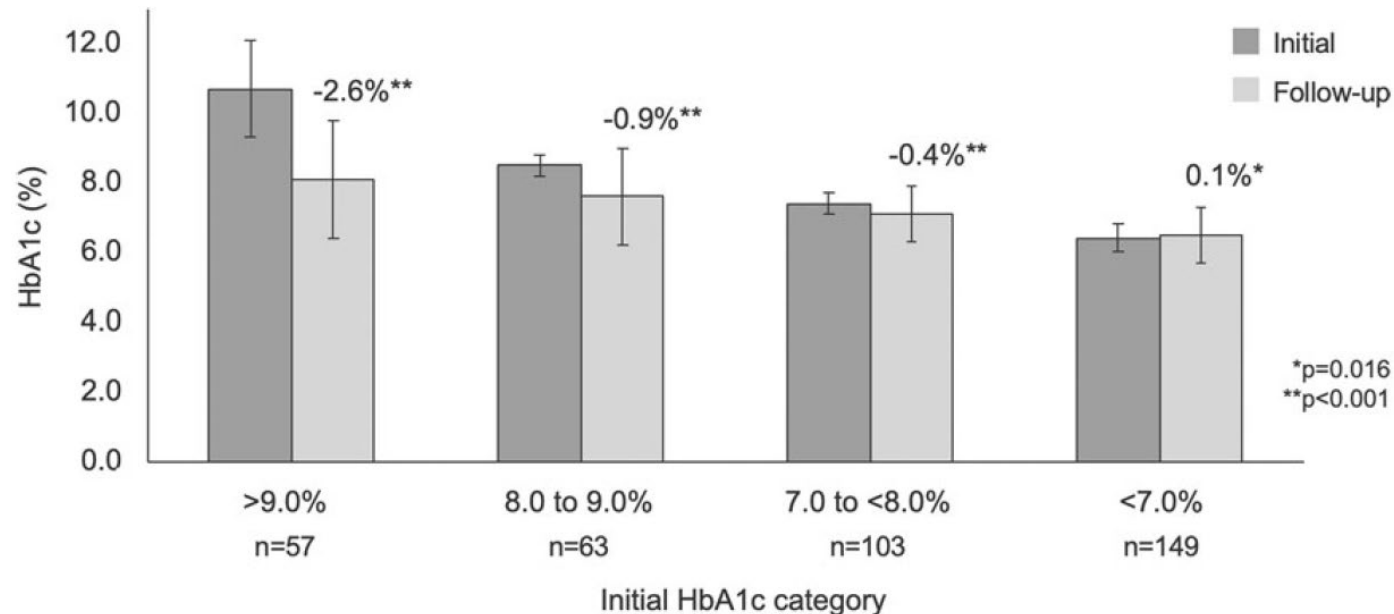


FIG. 1. Change in HbA1c stratified by baseline HbA1c.

Professional Guidelines & Statements

ADA Standards of Care (2024)	AACE/ACE (2021)
<p>CGM should be offered to patients with T₁DM or T₂DM that are treated with:</p> <ul style="list-style-type: none">- Multiple Daily Injections,- Use of Insulin Pump/CSII, or- Basal-Only Insulin (Adults)	<p>CGM is recommended for:</p> <ul style="list-style-type: none">- All persons with T₁DM,- Insulin-treated T₂DM,- High Risk Hypoglycemia, or- Hypoglycemia unawareness

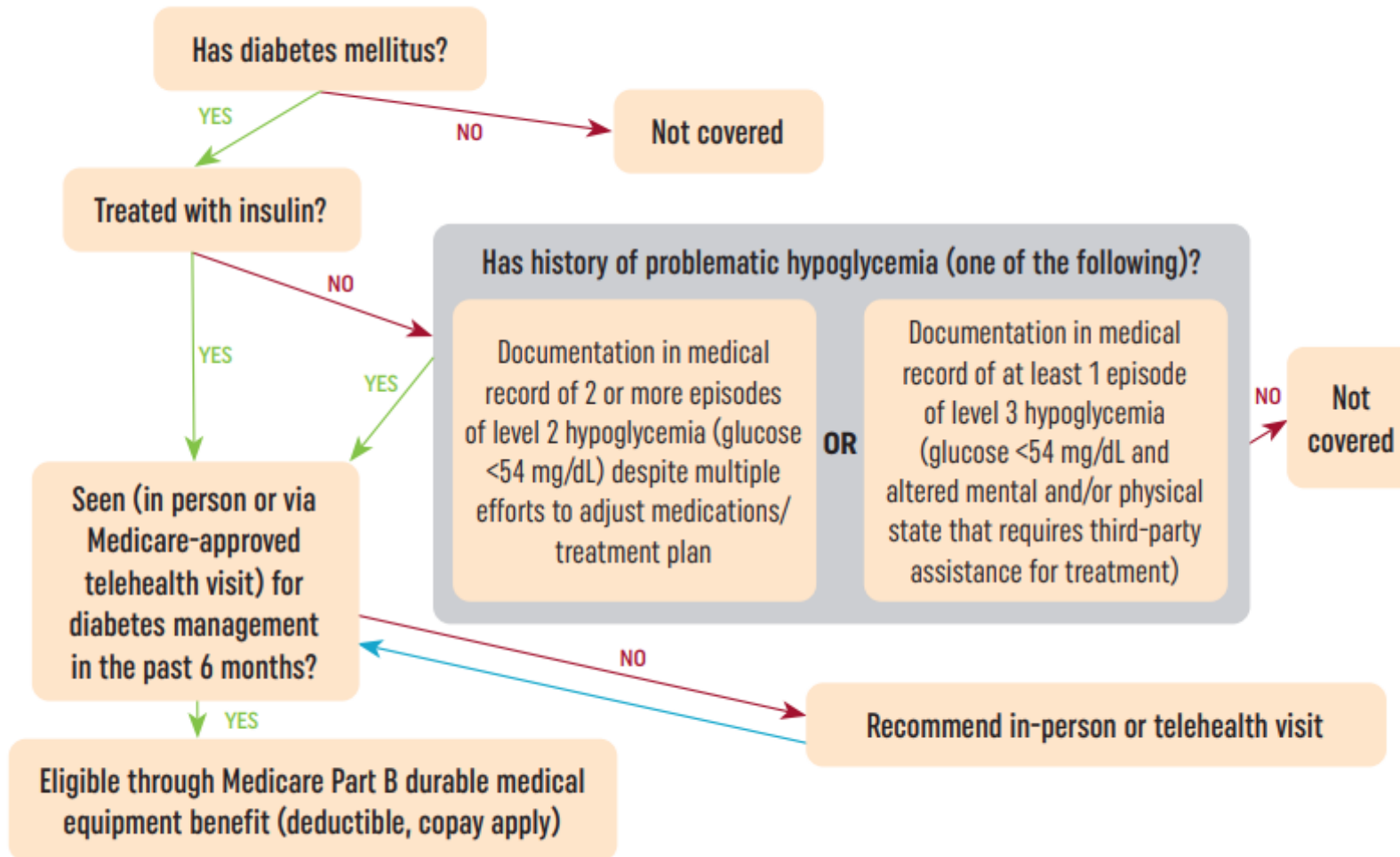
Medicaid & Medicare Coverage

Medicaid – Washington State* Criteria (2018)	Medicare Criteria (2023)
<p data-bbox="270 405 1098 458">High Possibility PRIOR AUTH Needed</p> <p data-bbox="117 534 861 582"><u>“Covered Benefit with Conditions:</u></p> <ul data-bbox="117 596 1251 1153" style="list-style-type: none"><li data-bbox="117 596 1251 715">• Unable to recognize or communicate symptoms of hypoglycemia, OR<li data-bbox="117 786 1251 905">• Suffering from 1+ severe episodes of hypoglycemia despite treatment adherence, OR<li data-bbox="117 976 1251 1153">• Unable to achieve target A1c despite appropriate treatment plan (intensive insulin regimen, fingerstick SMBG monitoring) and adherence.”	<p data-bbox="1467 405 2244 458">Submit pharmacy claims to PART B</p> <p data-bbox="1289 534 2007 582"><u>“Eligible to be covered as DME if:</u></p> <ul data-bbox="1289 596 2397 1210" style="list-style-type: none"><li data-bbox="1289 596 2397 654">• Seen by provider in past 6 months, AND<li data-bbox="1289 725 2397 782">• Currently treated with insulin, OR<li data-bbox="1289 853 2397 968">• Documented recurrent hypoglycemia events despite treatment adherence, OR<li data-bbox="1289 1039 2397 1210">• History of 1+ severe hypoglycemia event with altered mental status and/or third-party medical assistance.”

**Criteria will vary state by state. Please review the policy documents from your state’s health care authority.*

Medicare Coverage (AAFP, 2023)

Figure 1. Medicare CGM Eligibility Determination – 2023 Update



Potential CGM Candidate Profiles

- Newly diagnosed diabetes
- Active insulin titration plan(s)
- Suspected/recurrent hypoglycemia
- Treated with insulin therapy
- Hypoglycemia unawareness
- Suspected overnight hypoglycemia
- Tight A_{1c} management/goal(s)
- Uncontrolled/suboptimal control
- Infrequent home BG monitoring
- Patients with impaired dexterity
- Feedback on diet and exercise
- PWD with low health literacy
- Pregnancy/Gestational DM

SWINOMISH CGM PROGRAM

CGM Program Roadmap

Preparation

Baseline Data Evaluation, Leadership Engagement, Etc.

Design & Build*

Policy & Resource Library, EHR Dashboards, Staff Training, etc.

Implementation

Population Health Outreach, Patient Engagement, Follow-Up, etc.

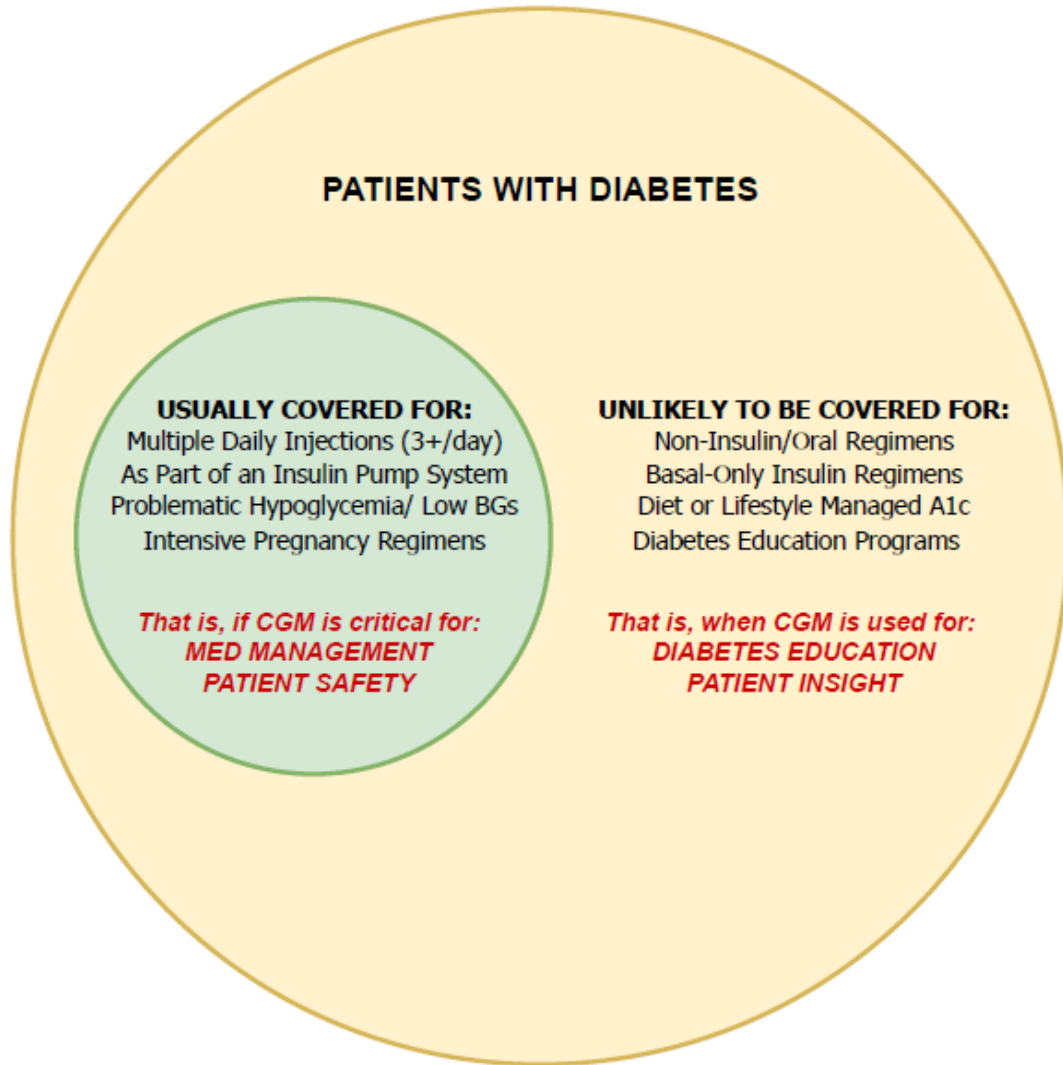
Evaluation & Improvement

Monthly Reports, Annual Reviews, Cohort Comparisons, etc.

Preparation – State of SITC Virtual Care

- **Data Analysis from January 1, 2023 to April 30, 2024**
 - ~10% of total patients have utilized Telehealth/Virtual care visit(s)
 - ~60% of total patients are web-enabled for the EHR patient portal
 - ~28% of total patients considered Active Users on the EHR portal
 - ~37% of web-enabled patients have downloaded smartphone app
 - ~28% of web-enabled patients are Active Users on smartphone app
 - No patients currently using portal or app to track/submit health data

Preparation – SITC General Approach



- GOAL: Expand CGM Utilization
- Current State:
 - CGM primarily prescribed to support medication management and/or patient safety.
- Future State:
 - CGM will also be offered to support diabetes education initiatives and/or patient engagement and adherence.

Move from models of episodic DM management to continuous DM care.

Preparation – Patient Opportunities

- **Data Analysis from Past 2 Years (2022-2023)**
 - **Between ~44-71 total patient CGM opportunities**
 - Initial review focused on CGM opportunities for higher risk patients
 - 16 patients with insulin, but no history of CGM
 - 29 patients with uncontrolled A1c, but no history of CGM
 - Additional review focused on CGM opportunities for all DM patients
 - 71 total patient opportunities (patients with no history of CGM)
- After review of potential costs and organizational resources, expanding CGM utilization was considered to be reasonable.

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Implementation – Program & Eligibility

- **Program Overview**

- SITC will offer 3 months of continuous glucose monitoring (CGM) supplies
- Patients will agree to regular follow-up with the DM Program while using
- Initially, the program will primarily focus on the Freestyle Libre 3 system

- **General Eligibility**

- All patients with Type 1 Diabetes
- All patients with Type 2 Diabetes
- Prediabetes (at provider discretion)
- Gestational Diabetes (at provider discretion)
- Pediatric patients (at provider discretion)

Implementation – Staff Responsibilities

- **Nursing Team**

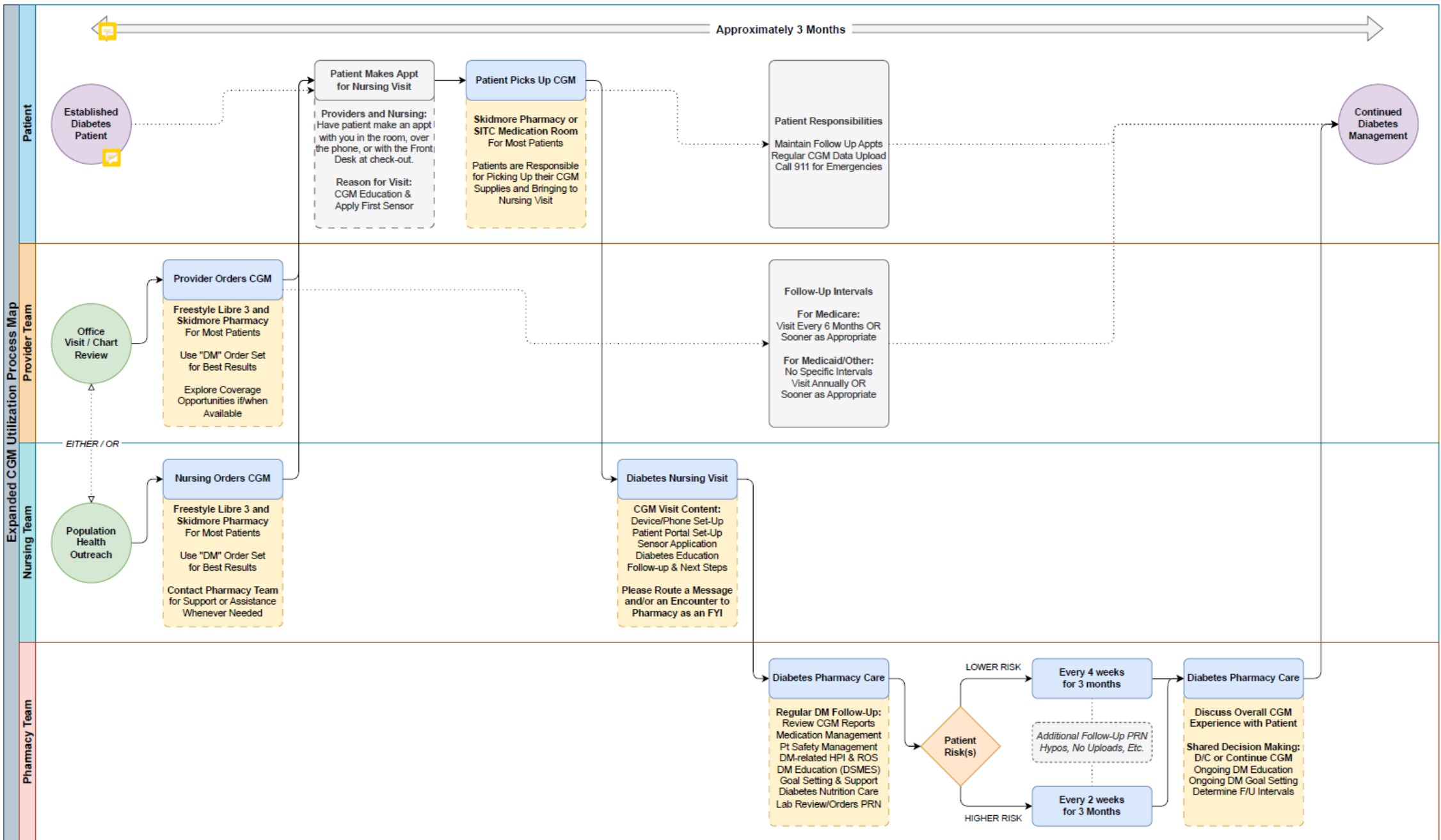
- Assisting with patient outreach, cold-calls, and general messaging
- Responsible for an initial Nurse Visit for CGM application and set-up

- **Pharmacy Team**

- Assisting with patient outreach, cold-calls, and general messaging
- Responsible for follow-up Pharmacy Visits for CGM review, med mgmt.
- Coordinates coverage, pick-ups, and other logistics with Contract Pharmacy

- **Provider Team**

- Assisting with patient outreach, discussion during regular DM visits
- Responsible for overall DM Program support and consultation



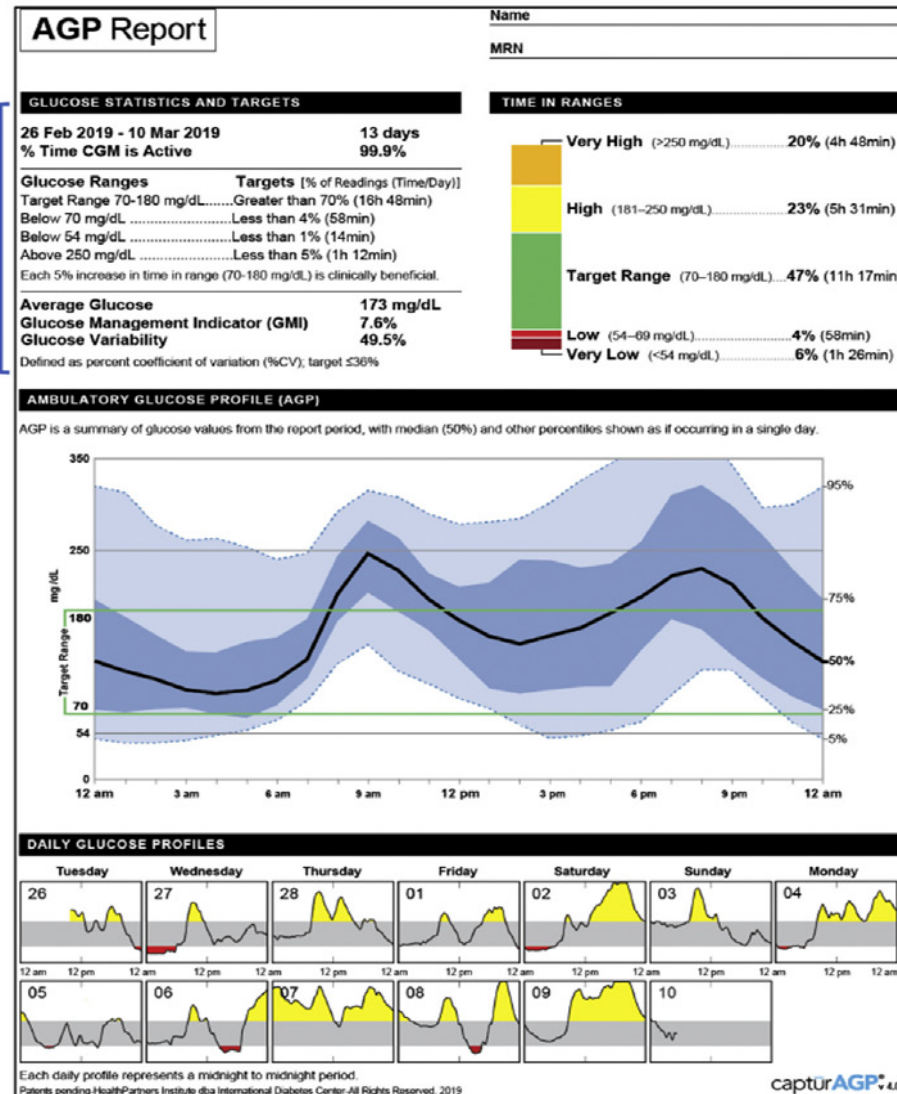
Implementation – Follow-Up Visits

- **Team-Based/Patient-Centered Framework**
- **Leverages other Healthcare Professionals**
 - Clinical Pharmacists
 - Registered Dietician
 - Nurses/Medical Assistants
- **Telehealth/Virtual Care Visit Structure May Include:**
 - Review of Ambulatory Glucose Profile (AGP) Report (*next slide*)
 - Medication Management (Stop, Start, Dose Adjustment, etc.)
 - Diabetes Education, Patient Goal Setting and Support, etc.

Ambulatory Glucose Profile (AGP) Report

- **Glucose Ranges** provides statistics regarding percentage of time within, above and below target range.
- **Glucose Management Indicator (GMI)** indicates the average H_vA1c level that would be expected based on mean glucose measured in a large number of individuals with diabetes.
- **Glucose Variability** is reported as the percentage of coefficient of variation (%CV).

- **Daily Glucose Profiles** present a glucose profile for each day covered.



- **High** (Level 1 Hyperglycemia and **Very High** (Level 2 Hyperglycemia indicate percentage of time in TIR for each of the high glucose levels.
- **Target Range** indicates %TIR within patient's target glucose range.
- **Low** (Level 1 Hypoglycemia) and **Very Low** (Level 2 Hypoglycemia) indicate percentage of time in range (TIR) for each of the low glucose levels.
- The **Ambulatory Glucose Profile (AGP)** combines daily profiles to create a one-day (24-hour) graphic. The black line indicates the median glucose level at all day parts. The dark and light blue shaded areas graphically depict the degree of glycemic variability (SD or %CV), which in this case is well above the recommended goal of <36%.

Implementation – Asynchronous Review

- **Criteria for Outreach and Management (between follow-ups):**
 - Any episode of hypoglycemia (<70 mg/dL)
 - Glucose Management Indicator (GMI) $\geq 10\%$
 - Average Blood Glucose >180 mg/dL
 - No data uploaded in past 2 or more weeks
- **Currently Utilizing the LibreView Portal** (*next slides*)



Search Patients



Custom View

0 Filters

21 Columns

Based on patient's last 14 days of available data.

5/5

Average Scans/Vie...	Glucose Manageme...	% In Target	% Below Target	% Above Target	Average Glucose...	Likelihood of Low Glucose	Avg Low Glucose Events per Day	Low Glucose Events	LibreView User Status	*Record Type	Date Last Viewed
									Pending Resend	Patient	5/8/2024
									Pending Resend	Patient	5/8/2024
7	7.1	69	0	31	157	Medium	0.1	1	Pending Resend	Patient	5/8/2024
2	6.6	90	0	10	136	Medium	0.0	0	Connected	Patient	5/8/2024
0	-	0	0	100	322	-	0.0	0	Connected	Patient	5/8/2024
1	-	12	0	88	217	Low	0.0	0	Connected	Patient	5/8/2024
12	9.5	19	0	81	258	Medium	0.0	0	Connected	Patient	5/8/2024
2	7.3	72	0	28	165	Low	0.0	0	Connected	Patient	5/8/2024
3	6.9	82	0	18	151	Low	0.0	0	Connected	Patient	5/8/2024
1	-	97	3	0	94	-	0.1	1	Connected	Patient	5/8/2024
4	6.8	77	1	22	146	Medium	0.3	4	Connected	Patient	5/8/2024
6	6.5	62	12	26	135	High	0.9	13	Connected	Patient	5/8/2024
25	7.1	75	0	25	157	Low	0.0	0	Connected	Patient	5/8/2024
6	7.2	80	0	20	162	Low	0.0	0	Connected	Patient	5/8/2024
21	6.2	100	0	0	121	Low	0.0	0	Connected	Patient	5/8/2024
29	7.0	82	0	18	154	Low	0.0	0	Connected	Patient	5/8/2024
13	7.2	70	0	30	162	Low	0.0	0	Connected	Patient	5/8/2024
9	6.4	90	0	10	130	Medium	0.0	0	Connected	Patient	5/8/2024

*Last CP Office Visit	*Last CGM Report	*Last CP Outreach
8/11/2023	N/A - No Glucose Data	4/19/2024
4/26/2024	N/A - No Glucose Data	4/12/2024
None	N/A - No Previous Reports Scanned to Chart	1/12/2024
3/16/2023	N/A - No Previous Reports Scanned to Chart	1/16/2024
2/8/2024	N/A - No Previous Reports Scanned to Chart	4/11/2024
10/25/2023	N/A - No Previous Reports Scanned to Chart	1/18/2024
3/7/2024	1/30/2024	4/22/2024
11/14/2023	11/14/2023	4/22/2024
5/8/2024	5/8/2024	4/22/2024
5/7/2024	N/A - Insufficient Glucose Data	None
3/31/2023	5/8/2024	1/22/2024
5/7/2024	5/7/2024	5/8/2024
5/7/2024	5/7/2024	4/22/2024
5/3/2024	5/7/2024	4/24/2024
5/1/2024	5/8/2024	4/16/2024
4/26/2024	5/8/2024	4/30/2024
4/30/2024	4/30/2024	4/22/2024
4/11/2024	5/8/2024	4/19/2024

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Improvement – Where We Are At Now

- **Only the beginning of our CGM Program journey (~1-2 months)**
 - ~10-15% increase in utilization of connected CGM portal (LibreView)
 - Outreach completed for ~30% of population health-patient list
- **Core group of team members dedicated to the CGM Program**
- **Monthly CGM-related reports successfully built by informaticist**
- **Utilizing both an EHR-related and the LibreView patient dashboards**

Improvement - Next Steps

- **Improved CGM-related Billing and Reimbursement**
 - Available CPT Codes (i.e. 95249, 95250, 95251)
 - Available G-Codes (i.e. G0108, G0109)
 - Other non-specific codes may also apply (e.g. 99091, 99453, 99454)
 - Discuss with your medical billing and coding team
- **Improved Patient Utilization of EHR Web Portal**
 - Goal: Increased active users by ~10-15% (from ~28%)
- **Internal Analysis of Patient Outcomes (vs Comparison Group)**
 - Retrospective review of CGM vs non-CGM cohorts
 - Changes in BG Metrics (A1c, TIR, BG), Therapy Adjustments, etc.

Improvement – Early Takeaways

- **SITC Successes**

- Nimble, Flexible, Adaptable
- Community-Level Messaging
- Low Barrier to Patient Access
- Good Smartphone Use/Uptake
- Community Tech Literacy
- Established Patient Trust

- **SITC Challenges**

- Clinic DM Care Programming
- Population Health Framework
- EHR Web Portal Active Users
- General EHR Functionality
- Unanswered Outreach Calls
- Patient Hesitation, Reluctance

Practical Advice/Program Pearls

- **Diabetes Technology is Rapidly Changing**
 - Stay up-to-date on software and hardware updates
 - Regularly review new technology, product pipelines, etc.
- **Remember to Review CGM Data Asynchronously**
 - Utilize processes and workflows that work best for your clinic
- **Choose 1 CGM Product for Program Implementation**
 - Keep it simple to start and expand program one step at a time
- **Consider Providing Patients with Guides to Online Information**
 - Manufacturers offer many in-depth instructional videos
 - National associations offer a multitude of DSMES resources

QUESTIONS & DISCUSSION

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