A Supplement to CareManagement

CE FOR CCM & CDMS APPROVED FOR 1 HOUR OF CCM, CDMS, AND NURSING EDUCATION CREDIT

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Continuous Glucose Monitoring: Interpreting the Data

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Introduction

With the influx of more technological tools to assist in the management of diabetes, health care professionals (HCP) are tasked with gaining a working knowledge of popular devices that will support persons with diabetes who are striving to achieve target glucose levels and reduce their risk of complications. The mainstays of diabetes care and education have moved beyond focusing on lifestyle modifications, diabetes pharmacologic agents, and glucose monitoring to also include using continuous glucose monitoring (CGM) data to make treatment adjustments (ADA 5. 2022, ADA 7. 2022). This supplement will explore the role of the care manager in using CGM in diabetes care. We will discuss how to educate and support persons with diabetes to review CGM data with their health care team to develop healthier behaviors, improve glycemic outcomes, and ultimately enhance quality of life.

Benefits of Choosing A Blood Glucose Meter vs. Continuous Glucose Monitoring

In recent years, a growing number of clinicians and persons with diabetes have discovered the value of CGM over the gold standard of using a blood glucose meter (BGM). The fundamental difference between using a BGM and CGM is that a BGM provides data at a single moment in time whereas CGM provides a continuous stream of data every 1-5 minutes throughout the day and night (ADA 7. 2022). Since most persons with type 2 diabetes (T2D) only use a BGM once or twice a day, wearing a continuous glucose monitor greatly increases the ability to identify key patterns such as postprandial rises and nocturnal hypoglycemia that require changes in therapy (Edelman, 2018, Janapala, 2019). Another unique benefit of CGM is the opportunity to prevent hypo- or hyperglycemia through use of trend arrows and customizable alerts and alarms (Longo, 2019). Because CGM can be used to inform in-the-moment treatment and long-term therapeutic regimen decisions, the American Diabetes Association (ADA) supports recommending CGM for adult persons with diabetes who are receiving insulin therapy.

Data from randomized controlled trials with real-time CGM (rtCGM) have shown that persons with T2D who are receiving multiple daily injections, basal insulin alone, and mixed therapies all had A1c reductions (ADA 7. 2022). The Dexcom G6, Senseonics Eversense® E3, and Medtronic Guardian™ Sensor 3 rtCGM systems transmit the glucose data continuously every 5 minutes to a receiver or other connected device such as a smartphone (Table 1). Similarly, data from observational and retrospective studies with intermittently scanned CGM (isCGM) show A1c reductions in multiple daily injections, basal insulin, and basal insulin plus noninsulin therapies in adults with T2D (ADA 7. 2022). Until recently, the Abbott Freestyle CGM systems (Freestyle Libre 14-day and Libre 2) were limited to isCGM systems that required the wearer to scan the glucose sensor to view the glucose data in a reader or other connected device such as a smartphone. The U.S. Food and Drug Administration (FDA) recently cleared the Freestyle Libre 3, a rtCGM that sends real-time data along with optional alarms to a compatible smartphone every minute (FDA, 2022).

How does CGM work?

CGM measures glucose levels in interstitial fluid via a glucose sensor placed in the subcutaneous tissue just beneath the skin. When a new sensor is placed, there is a brief warm-up period that varies by device. During this warm-up period no data are displayed until the sensor is ready to provide reliable results (Edelman, 2018). In addition, the Eversense and Medtronic sensors require daily calibrations with a fingerstick blood sample to test blood glucose in order to maintain accuracy. Because continuous glucose monitors measure interstitial fluid instead of blood, there may be a lag time of several minutes when the glucose levels are rapidly rising or falling such as after eating and during and after exercise (Ajjan, 2018). Of note, no CGM system has been cleared by the FDA for use in dialysis, pregnant, or hospitalized patients. See Table 1 to compare features of commercially available continuous glucose monitors in the United States.

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Can CGM be used to dose insulin?

The FDA has labeled some continuous glucose monitors as "non-adjunctive" or therapeutic based on performance data, meaning the wearer can safely use CGM data to make treatment decisions such as dosing insulin or treating hypoglycemia. Currently, Abbott FreeStyle Libre CGMs, the Dexcom G6, and Senseonics Eversense E3 have non-adjunctive clearance. In contrast, an adjunctive CGM requires confirmation with a blood glucose monitor before making treatment decisions (Edelman, 2018). Currently, no continuous glucose monitor has been cleared by the FDA for use in the inpatient setting. Many studies have been done since the start of the COVID-19 pandemic, with the hope of gaining approval in the future.

TABLE 1 **PERSONAL CONTINUOUS GLUCOSE MONITORING SYSTEMS AVAILABLE IN THE UNITED STATES**

CGM system	Dexcom G6	Eversense® E3	FreeStyle Libre 3	FreeStyle Libre 2	Guardian™ Sensor 3
Company	Dexcom	Senseonics Ascensia Diabetes Care	Abbott	Abbott	Medtronic
Sensor	Yes	Yes. Inserted by HCP	Yes	Yes	Yes
Warm-up period	2 hours	24 hours	1 hour	1 hour	2 hours
Sensor wear time	10 days	180 days	14 days	14 days	7 days
Transmitter	Yes. Approximately 90-day battery life	Yes. Removable, rechargeable	Use compatible device as receiver	Yes. Built into sensor, making the system one piece	Yes. 1 year, rechargeable
Receiver	Yes, or can use compatible device	Compatible device	Yes, or can use compatible device	Yes, or can use compatible device	Compatible device
Alerts	Yes	Yes	Yes	Yes	Yes
Non-adjunctive Indication (can make treatment decisions without a BGM)	Yes	No BGM required every 12 hours for the first 21 days then 1–2 times per day	Yes	Yes	No BGM required 2–4 times per day
Adult MARD	9.8%	8.5%	8.9%	9.2%	8.7%–10.6%
Integration with insulin pump	Yes	No	No	No	Yes
How often system measures glucose levels	Every 5 minutes	Every 5 minutes	Every 1 minute	Every 1 minute	Every 5 minutes
Age of approved indication (years)	≥2	≥18	≥4	≥4	≥2

Abbreviations: BGM, blood glucose meter; CGM, continuous glucose monitoring; HCP, health care professional; MARD, mean absolute relative difference;
Source: Abbott 2021, Abbott 2022, Minimed 2017, Minimed 2022, Ascensia 2022, Dexcom 2022.

The mainstays of diabetes care and education have moved beyond focusing on lifestyle modifications, diabetes pharmacologic agents, and glucose monitoring to also include using continuous glucose monitoring data to make treatment adjustments.

Coding and Reimbursement

Commercial and public insurance continues to expand reimbursement for CGM and billable services, especially professional CGM which can be anywhere from twice a year to monthly. Billing codes are available for the initiation and interpretation of both professional and personal CGM using Current Procedural Terminology (CPT) codes 95249 and 95250 for startup and training (CPT code 95249 for personal CGM and 95250 for professional CGM). The CPT code 95251 can be billed by a prescriber for data review, data interpretation, and data-driven recommendations as long as there is a minimum of 72 hours of CGM data available (AACE 2022, Janapala, 2019). Medicare's coverage of personal CGM has expanded over time, currently providing coverage for persons with diabetes administering insulin 3 or more times per day or wearing an insulin pump (CMS, 2022).

Who is a candidate for professional CGM?

The decision to monitor glucose with a blood glucose monitor or to wear a continuous glucose monitor, just as for all diabetes management strategies, should be individualized (ADA 7). The choice to not wear a continuous glucose monitor may be based on a multitude of reasons including resistance to wearing a device full time, inability to correctly place and manage the device, real or imagined annoyance with alerts and alarms, and out-of-pocket cost. For those who do not want a personal continuous glucose monitor, use of professional CGM intermittently and alternating with a BGM when the continuous glucose monitor is not worn may be a strategy to obtain helpful data.

Professional CGM systems are available as "blinded" so that the wearer does not see any data until the sensor is downloaded by an HCP and reviewed retrospectively. Dexcom also offers an "unblinded" option where the person with diabetes (PWD) is able to view glucose data on a smartphone or tablet in real time. The advantage of a blinded professional CGM is that the practice purchases and places the device on the PWD, and thus the PWD does not need to learn how to use the device. Unblinded professional CGM can provide the benefits of personal CGM for patients who cannot be reimbursed or who would like to "test drive" CGM without committing to purchasing a personal CGM system. The power of shared decision making when downloading and interpreting professional CGM data and making collaborative data-driven modifications in the diabetes regimen can be instrumental in motivating persons with diabetes to try a personal continuous glucose monitor. Although blinded professional CGM data are retrospective, the ability to identify patterns of previously undetected hypo- and hyperglycemia can successfully inform data-driven changes in meals, physical activity, and initiation, titration, and timing of diabetes medications (ADA 7. 2022, Kesavadev, 2017). Professional CGM systems available in the United States are shown in Table 2.

Who is a candidate for personal CGM?

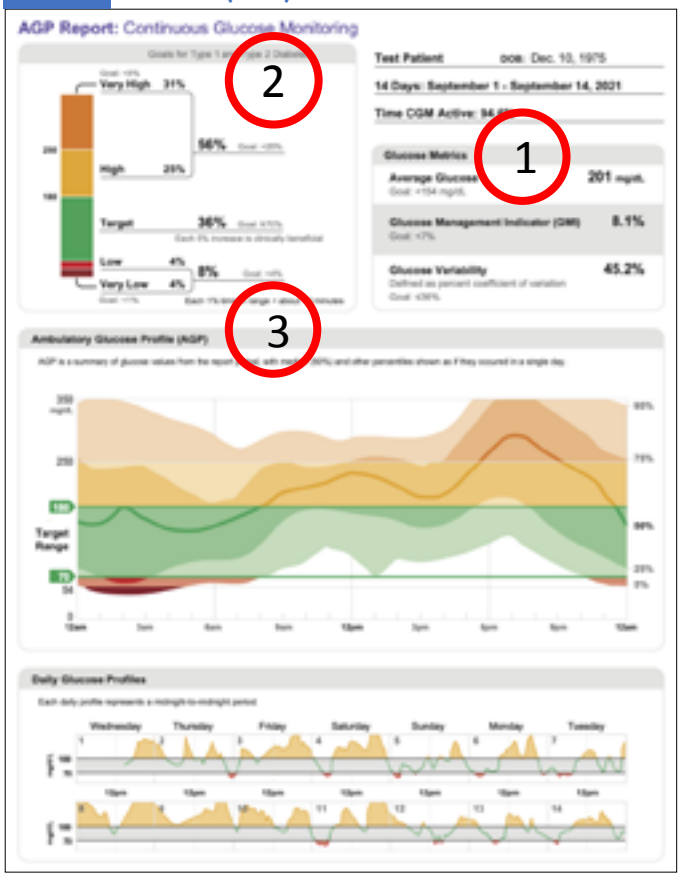
The ADA recommends that personal CGM systems should be offered to adults with type 1 and type 2 diabetes who are receiving multiple daily injections or wearing an insulin pump. Most continuous glucose monitors are worn 7-14 days, except the Senseonics Eversense E3, which is inserted completely under the skin by an HCP and worn for 180 days. Unlike a blinded professional continuous glucose monitor, a personal continuous glucose monitor will continuously transmit glucose data to a personal receiver, smartphone, smartwatch, or other compatible device and can sound alerts and alarms as well as vibrate in response to rapidly changing glucose levels and preset glucose thresholds (ADA 7. 2022, Longo, 2019). CGM that uses a smart device to display glucose data can share glucose data remotely with

TABLE 2 PROFESSIONAL CONTINUOUS GLUCOSE MONITORING SYSTEMS AVAILABLE IN THE UNITED STATES.

CGM system	Freestyle LibrePro	Dexcom Pro	Medtronic iPro2
Blinded vs unblinded	Blinded only	Blinded or unblinded with smart device	Blinded only
Sensor wear	14 days	10 days	7 days
Glucose alerts and alarms	No	Yes if unblinded	No
Calibration required	No	No	Yes

Source: Minimed 2017, Dexcom 2022, Abbott 2021

FIGURE 1 EXAMPLE OF THE AMBULATORY GLUCOSE PROFILE (AGP) REPORT



family members, caregivers, and an HCP. Determining which CGM system to use is a personalized decision made between the PWD and their HCP.

When a PWD starts wearing a continuous glucose monitor, it is important that they have a basic understanding of how to use the trend arrows, interpret the alerts and alarms, and take appropriate actions when needed. Over time, this education is key in motivating persons with diabetes to see the value of CGM in guiding self-care management activities daily in addition to making long-term lifestyle and medication adjustments in collaboration with their care team.

We will discuss a standardized method of interpreting CGM data and apply this knowledge to reviewing and interpreting downloads from two patient cases.

Downloading and Interpreting CGM Data

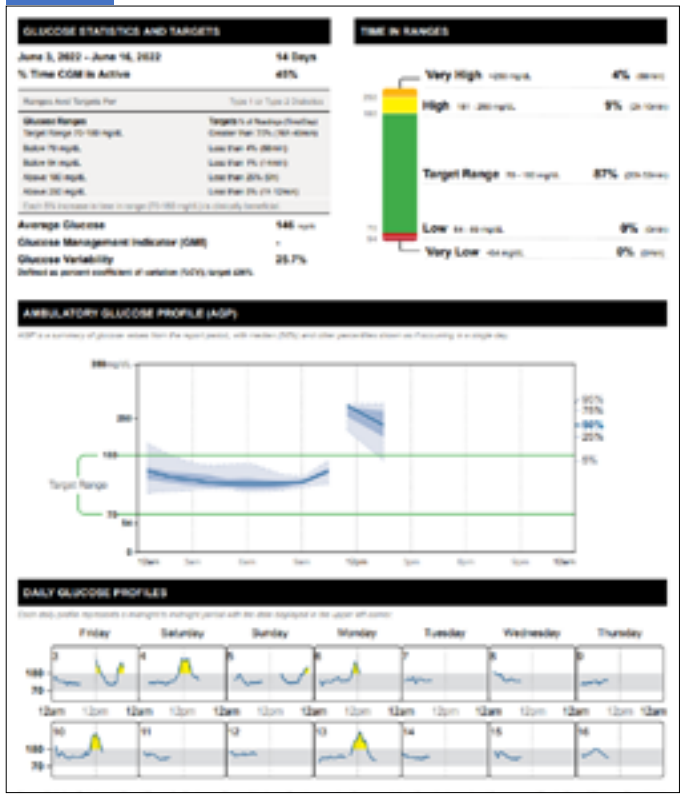
It is critical for HCPs to be trained in interpreting CGM data to assist persons with diabetes with understanding how to use trends and patterns for treatment plan changes and real-time decisions. CGM devices have the ability to upload the data to cloud-based platforms that can be viewed by the PWD and remotely by HCPs after the PWD grants access to their data. If the PWD is using a smart device to view the data, uploading will occur automatically. If a receiver is used to view data, the PWD must manually upload the receiver to a computer. Most diabetes clinics and some primary care offices upload CGM data as well.

While CGM glucose data can then be viewed in a variety of reports, the Ambulatory Glucose Profile (AGP) Report is the most standardized.

Figure 1 shows an example of the AGP Report (International Diabetes Center 2022, Battelino, 2019). The AGP is a standardized single-page glucose report that includes summary glucose statistics, a glucose profile graph, and individual daily glucose trend graphs (International Diabetes Center, 2022). This report is incorporated into proprietary CGM reporting software and helps to translate the glucose data into a graphic display for quick and easy interpretation. This standardized report is similar to an electrocardiogram (EKG) report, which includes standardized metrics and can be interpreted in a uniform manner regardless of the machine used. Table 3 describes each of the parameters included in the AGP Report as well as clinical pearls for interpreting the data.

Step 1: Assess for adequacy of data. It is recommended that CGM be used for at least 70% or about 10 of the 14 days included in the AGP Report (Battelino, 2019). If data collected

FIGURE 2 GAPS IN THE AMBULATORY GLUCOSE PROFILE (AGP) IN INTERMITTENTLY SCANNED CONTINUOUS GLUCOSE MONITORING (isCGM)



This example shows an AGP from a patient who is using isCGM and scanning infrequently, leading to gaps in trend data on AGP.

TABLE 3 **AGP REPORT METRICS**

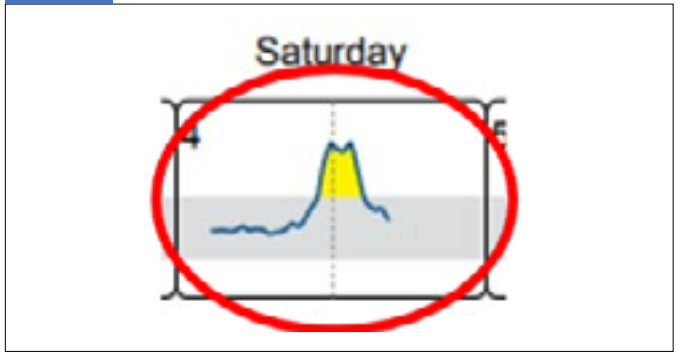
	Definition		Target	Clinical Pearls
1: Glucose Statistics and Targets				
Percentage of time CGM active	Percentage of time the CGM was actively worn and collecting data. For isCGM, each scan downloads the previous 8 hours of CGM data		>70%	Recommended to have at least 10 days of CGM data (or 70% CGM active time) available to confidently use data for treatment decisions (Danne, 2017)
Average glucose	All glucose values are added together and divided by number of readings (mean)		<154 mg/dL	Glucose targets should be individualized (ADA 5. 2022)
Glucose management indicator	Calculated from average glucose, provides a rough estimate of A1c based on the average glucose during the report period		<7%	Fourteen days of CGM data has been shown to provide a good estimation of glucose metrics for the last 3-month period (Riddlesworth, 2018). The glucose management indicator can serve as an educational and motivational tool to allow persons with diabetes to reflect on anticipated A1c if the conditions during the reporting period were continued for 2-3 months.
Glucose variability	Indicates how much glucose levels fluctuate throughout the day and night		<36%	In general, lower glucose variability is preferable since it usually indicates less hyper- and hypoglycemia (Monnier, 2021; Zhou, 2020). To improve (decrease) glucose variability, it is important to help persons with diabetes prevent and appropriately treat hypoglycemia with 15 grams of fast-acting carbohydrates followed by a 15-minute glucose recheck until the hypoglycemia is resolved. Dosing mealtime insulin 15 minutes before first bite of the meal and consuming more complex carbohydrates as part of a balanced meal plan may also help persons with diabetes minimize glucose variability.
2: Time in Glucose Ranges: Percentage of time and hours/minutes of a 24-hour day spent in glucose range				
Time above range	Very High	>251 mg/dL	<5%	Discuss frequency of missed medication and insulin doses and troubleshoot etiology
	High	181-250 mg/dL	<25%	A target of <50% time above range may be appropriate for older adults and high-risk persons with diabetes (Battelino, 2019). Reviewing appropriate timing of mealtime medications and encouraging a balanced meal plan and regular physical activity may help reduce hyperglycemia.
Time in range	Glucose 70-180 mg/dL		>70%	Time in range has become a key metric for CGM wearers to guide diabetes therapy. May be individualized to clinical situation (ie, target 70-140 mg/dL), although AGP Report will always use 70-180 mg/dL as target range. Every 5% increase in time in range has clinically significant benefits (Battelino, 2019).
Time below range	Low	55-69 mg/dL	<4%	Low glucose patterns may be present on the same day as high glucose patterns and are often interrelated. Addressing hypoglycemia is always the priority. Discuss the timing of medications, variability in meals (timing and carbohydrate content), and the role of physical activity.
	Very Low	<54 mg/dL	<1%	Immediate attention is required if the percentage is above 1%. Often associated with cognitive impairment. Particularly dangerous for persons with diabetes and individuals with cardiovascular disease. (Battelino, 2019)

TABLE 3 **AGP REPORT METRICS** *(continued)*

3: Ambulatory Glucose Profile: Daily glucose profiles are combined to represent the glucose patterns over a single 24-hour day			
Heavy (middle) line	Represents median glucose value	Ideally mostly flat and inside the target (70-180 mg/dL)	Presents "average day"; ideally is stable and in target range
Darker shading	Represents 50% of the glucose values	Ideally is narrow	The narrower the area the less the glycemic variability
Lighter shading	Represents 95% of glucose values	Ideally is close to darker shaded area	The wider the area the higher the glycemic variability
Daily glucose profile	Thumbnail boxes displaying a single day's glucose pattern. Time below range is shaded red, time above range is shaded yellow		Reviewing daily profiles helps identify patterns related to variation in schedule (ie, weekends versus weekdays), changes in self-care behaviors, and stress.

Abbreviations: CGM, continuous glucose monitoring; isCGM, intermittently scanned continuous glucose monitoring.

FIGURE 3 **DAILY GLUCOSE PROFILE DEMONSTRATING POSTPRANDIAL HYPERGLYCEMIA**



are insufficient, gaps in the AGP graph will exist as seen in Figure 2. In this example, a PWD is using an isCGM. You can see in the Daily Glucose Profiles that the PWD is scanning 1–2 times per day, resulting in the CGM being active 45% of the time. Because the sensor data is inadequate, the glucose management indicator was not calculated and care should be taken when evaluating all of the metrics for therapy changes. This AGP Report example can still be useful for counseling the PWD about the significant postprandial rise seen on several daily graphs (Figure 3).

Before beginning to identify patterns and make recommendations, it is important to orient the CGM data report with the daily schedule for the PWD, noting when the PWD typically sleeps, eats, takes diabetes medication, and is physically active. The PWD should be encouraged to interpret the data with the HCP to promote shared decision making. One helpful strategy is to draw circles around patterns directly on a copy of the AGP Report and ask the PWD to explain what they see (Johnson, 2019).

Table 4 outlines the simple steps to interpret CGM data.

Step 2: Assess for patterns of hypoglycemia. Review the results and targets for time spent in hypoglycemia. When reviewing the AGP Report, remember that if the lighter shading is touching or below 70 mg/dL, this indicates at least 5% of all glucose values are <70 mg/dL during that time. Immediate action is needed to address hypoglycemia if the darker shading is touching or below the 70 mg/dL line or the lighter shading touches 54 mg/dL (Johnson, 2019). It is important to assess hypoglycemia reported by persons with diabetes and to review the daily glucose profiles together to determine if hypoglycemia occurs on particular days (ie, weekend versus

TABLE 4 **SIMPLE STEPS TO INTERPRET CONTINUOUS GLUCOSE MONITORING DATA.**

Step 1	Assess for adequacy of data
Step 2	Assess for hypoglycemia
Step 3	Review overnight trends and patterns
Step 4	Assess for hyperglycemia
Step 5	Assess for glycemic variability
Step 6	Develop an action plan using data-driven shared decision making

Source: Minimed 2017, Dexcom 2022, Abbott 2021

CGM measures glucose levels in interstitial fluid via a glucose sensor placed in the subcutaneous tissue just beneath the skin. When a new sensor is placed, there is a brief warm-up period that varies by device. During this warm-up period no data are displayed until the sensor is ready to provide reliable results.

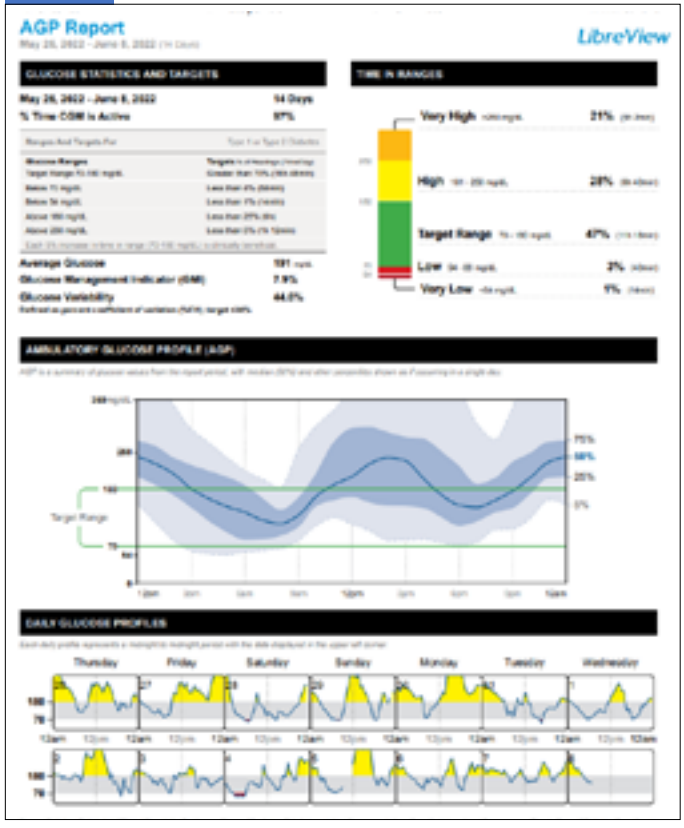
weekdays) or following periods of hyperglycemia or physical activity.

Step 3: Review overnight trends and patterns. Ideally the glucose is stable and in target range. For persons with diabetes who are overtreated with basal insulin (ie, glargine, detemir), you may see a downtrend overnight with an accompanying increased risk of nocturnal hypoglycemia (Cowart, 2020). Fasting hyperglycemia may be the result of rebound from overnight hypoglycemia, an effect called the Somogyi phenomenon (Klonoff, 2016). CGM has been proven to prevent nocturnal hypoglycemia (Olafsdottir, 2018).

Step 4: Assess for hyperglycemia. Discuss meal content, timing of diabetes medications (premeal, postmeal, or missed), and stress with the PWD if there is a large amount of glucose variability (wider area of shading). It can be helpful to assess the daily glucose profile to review specific examples.

Step 5: Assess for glycemic variability. Reviewing the daily glucose profiles may be helpful in identifying key contributing factors to variation in glucose levels.

FIGURE 4 METFORMIN + BASAL INSULIN CASE STUDY



Step 6: Set goals and make a follow-up plan for adjustment in therapy with the PWD. The PWD can be motivated if they know that a 10% increase in time in range can translate into a 0.5% decrease in A1c, a clinically meaningful benefit (Battelino, 2019).

Case Study 1: (Figure 4)

Mr. G is living in assisted living, and his diabetes management plan includes metformin 850 mg twice daily and glargine 35 units at 9 PM. His A1c has remained 8%–8.5% despite an increase in his glargine insulin dose. Mr. G requires assistance from his wife, who checks his fasting blood glucose and reports a blood glucose range of 90–135 mg/dL. To learn more about Mr. G's blood glucose levels throughout the day and night, a professional CGM system was placed with the following report (Figure 4) that we can review:

Start with a stepwise approach to reviewing data:

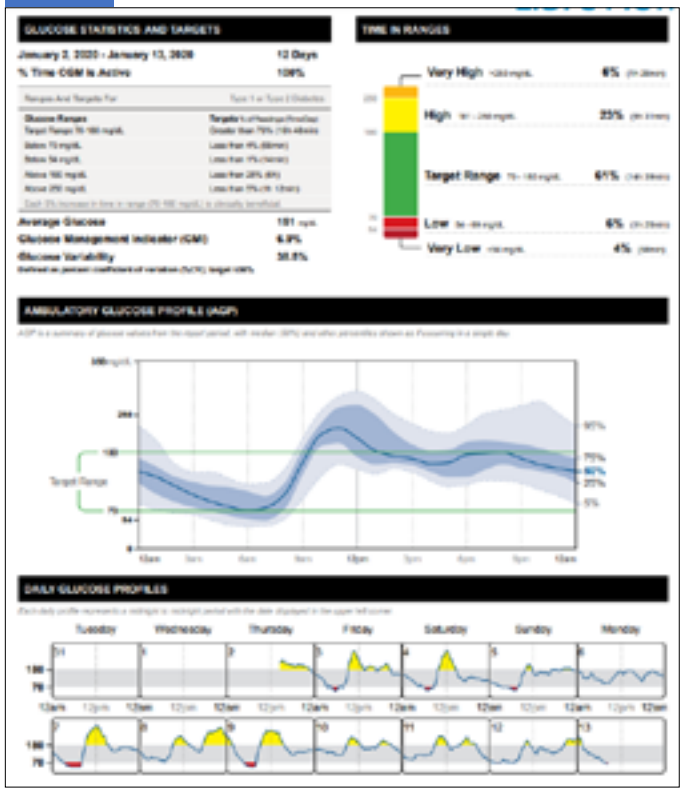
1. Assess for adequate data for use: Yes, 97%
2. Assess for hypoglycemia: Yes, nocturnal hypoglycemia after a steady decline in glucose overnight.
3. Review overnight trends and patterns: steady decline in glucose overnight with hypoglycemia
4. Assess for hyperglycemia: yes, 48% time in range with 28% high and 21% very high. Hyperglycemia appears to be postprandial and is often preceded by a drop in glucose (review 12–5 AM and 3–6 PM)
5. Assess glycemic variability: above target of 36%. Hypoglycemia and rebound hyperglycemia are likely the causes.
6. Develop an action plan using data-driven shared decision making: reduce basal insulin dose and add a glucagon-like peptide-1 receptor agonist (GLP-1 RA)

Mr. G has a sharp downtrend overnight with occasional mild hypoglycemia. His A1c is elevated due to postprandial hyperglycemia, and he is at risk for nocturnal hypoglycemia if his dinner is low in carbohydrates or if he skips dinner. After discussion with the care team and the PWD, basal insulin is reduced and a GLP-1 RA (dulaglutide) is added to the diabetes management plan since a GLP-1 RA lowers blood glucose without causing hypoglycemia.

Case Study 2: (Figure 5)

Mrs. E is a 52-year-old woman. She takes 25 units of glargine every night and 4 units of insulin aspart with meals. She has been waking up with hypoglycemia and therefore has been skipping her morning insulin aspart dose but continues to take insulin aspart with lunch and supper. Mrs. E started using a CGM system but does not have alarms enabled out of fear of interrupting her partner's sleep.

FIGURE 5 BASAL/BOLUS INSULIN CASE STUDY



Data review:

1. Assess for adequate active CGM data: Yes, 100%
2. Assess for hypoglycemia: fasting hypoglycemia 4% of the time below 54 mg/dL calls for immediate action. Note the frequent steady decline in glucose overnight.
3. Review overnight trends and patterns: steady decline overnight
4. Assess for hyperglycemia: consistent pattern of hyperglycemia following hypoglycemia
5. Assess glycemic variability: 38% is above target of 36%. Fasting hypoglycemia with post-breakfast rise as well as variability of glucose in the evening may be contributing.
6. Develop an action plan using data-driven shared decision making: reduce basal insulin, educate PWD on need for prandial insulin dosing after correcting hypoglycemia.

As you can see, Mrs. E is experiencing fasting hypoglycemia. As a result, she skipped her AM prandial insulin dose, which led to significant postmeal hyperglycemia. You work with Mrs. E and her care team and agree to reduce her glargine dose. You educate Mrs. E on the importance of treating hypoglycemia first and then taking mealtime insulin with her meal. Mrs. E and her partner discuss the importance of prevention, early identification, and treatment of hypoglycemia with you while you assist in enabling hypoglycemia alarms. This illustrates that using CGM and shared decision making can empower the PWD to understand glucose trends, make "smart" treatment decisions in real time, and improve quality of life.

Conclusion

Despite the many advantages of using CGM data to guide diabetes management, the adoption of CGM among persons with type 2 diabetes who do not receive their healthcare from diabetes specialists remains limited. We hope that this paper will be a call to action for care managers to be advocates for personal and professional CGM for persons with diabetes, caregivers, and the healthcare team. Care managers are perfectly positioned to identify persons with diabetes who could benefit from CGM and assess their willingness to try it. In the process of downloading and interpreting the data with the PWD, the care manager will help to unlock the power of CGM as a dynamic tool to manage diabetes. ■

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Continuous Glucose Monitoring: Interpreting the Data

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Questions

1. **The difference between a blood glucose meter (BGM) and continuous glucose monitoring (CGM) is that a BGM provides data at a single moment in time.**
   a. True
   b. False
2. **Wearing a continuous glucose monitor increases the ability to do which of the following?**
   a. Identify key glucose patterns
   b. Prevent hypoglycemia
   c. Identify nocturnal hypoglycemia
   d. All of the above
3. **A CGM measures glucose levels in interstitial fluid via a glucose sensor placed in subcutaneous tissue just beneath the skin.**
   a. True
   b. False
4. **The U.S. Food and Drug Administration (FDA) has approved some continuous glucose monitors so that the wearer can use the CGM data to make treatment decisions such as dosing insulin or treating hypoglycemia.**
   a. True
   b. False
5. **The criteria for wearing a continuous glucose monitor is based on which of the following?**
   a. Willingness to wear a device full time
   b. Ability to correctly place and manage device
   c. Ability to deal with alerts and alarms
   d. All of the above
6. **CGM data can identify patterns of previously undetected hypo- and hyperglycemia so that the patient can do which of the following?**
   a. Make changes in meals
   b. Make changes in physical activity
   c. Initiate, titrate, and time diabetes medications
   d. All of the above
7. **When a person starts wearing a continuous glucose monitor, it is important to understand:**
   a. How to use trends arrows
   b. How to interpret alerts and alarms
   c. How to take appropriate action when needed
   d. All of the above
8. **The Ambulatory Glucose Profile is the most standardized CGM report.**
   a. True
   b. False
9. **The Ambulatory Glucose Profile consists of which of the following?**
   a. Summary of glucose statistics
   b. A glucose profile graph
   c. Individual daily glucose trend graph
   d. All of the above
10. **What percentage of time should the continuous glucose monitor be actively worn to confidently use data for treatment decisions?**
    a. 60%
    b. 65%
    c. 70%
    d. 75%
11. **What is the target percent for glucose in "time in range?"**
    a. 50%
    b. 60%
    c. 70%
    d. 80%
12. **In analyzing the CGM report, which daily activities of the person with diabetes should be noted?**
    a. Sleeping
    b. Eating
    c. Exercising
    d. All of the above

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Continuous Glucose Monitoring: Interpreting the Data

Objectives

1. State the role of the case manager in using continuous glucose monitoring in diabetes care.
2. Define how continuous glucose monitoring works.
3. State 3 parameters included in the Ambulatory Glucose Profile Report.

Answers

Please indicate your answer by filling in in the letter:

1. _____ 2._____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10._____ 11. _____ 12. _____

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