Twitter Chat

Glucose Monitoring: Guidelines vs. Practice

During this Twitter chat we posed 10 questions on glucose monitoring guidelines vs. practice. Healthcare providers who engaged in the chat shared their learnings, insights and tips. We've culled through the hundreds of tweets posted during this chat and below share the tweets that we believe will be most valuable as you transform the diabetes care you deliver.

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What are the guidelines, standards, other documents on glucose monitoring that you or your healthcare system uses? Please share organization that published, the title and link?

To make sure my care is up to date: @AmDiabetesAssn Standards of Medical Care in Diabetes—2019. Abridged version for primary care providers: http://clinical.diabetesjournals.org /content/37/1/11 @KellyRawlings

@amdiabetesassn @ADA_DiabetesPro published guidance in 2019 Standards of Medical Care in Diabetes in a new section (7) developed for Diabetes Technology. Link: http://care.diabetesj ournals.org/content/42/Supplement_1/S71 @HopeWarshaw

Guidelines and guidance from @TheAACE @amdiabetesassn @aadediabetes @ATTDConf categorize guidance based on type of #diabetes, type of treatment (eg insulin, risk of hypoglycemia), age and life stage, etc. @HopeWarshaw

The diabetes population is a broad spectrum, diff needs for SMBG. New: Treatment of Diabetes in Older Adults: An Endocrine Society Clinical Practice Guideline #diabetesinstitute https://www.endocrine.org/-/media/endosociety/ files/guidelines/jc201900198_rp3.pdf?la=en Again for insulin users, frequent fingersticks. @KellyRawlings

@TheAACE published 2016 Outpatient Glucose Monitoring Consensus Statement. Link: https://www.aace.com/files/position-statements/ outpatient-glucose-monitoring-consensus-statement.pdf @HopeWarshaw

The recommendation in Standards of Medical Care for ppl using basal-bolus insulin therapy to check before driving or other critical tasks is a good reminder. @KellyRawlings

@aadediabetes published a practice paper, “SMBG Using Glucose Meters in the Management of Type 2 Diabetes.” Link: https://www.diabeteseducator .org/docs/default-source/practice/practice-documents/practice-papers/smbg-using-glucose-meters-in-management-of-t2d.pdf?sfvrsn=0 (@aadediabetes also published a practice paper on #CGM posted on DANA) @HopeWarshaw

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Based on these guidelines and standards and your clinical experience, share your thoughts on why you utilize Glucose Monitoring (#SMBG and #CGM) in #diabetes care?

Why use Glucose Monitoring? It can assist #diabetes care 3) as an educational/learning tool, 4) a tool to compare and contrast with A1C results, 5) more data to make clinical decisions. Do you have others? @HopeWarshaw

It can assist #diabetes care to get: 1) immediate feedback to react/treat glucose that is too high or low, 2) immediate and over time feedback on efficacy of meds, food intake, physical activity, stress, and other lifestyle behaviors @HopeWarshaw

I use #SMBG to determine if changes are needed in meals, activity or medication. It also promotes patient responsibility and motivation. In #PWD type 2: I often encourage #SMBG to demonstrate value of physical activity in diabetes management @Eatingsoulfully

I compare it to the GPS. Need to know where you are going on and know when you arrived. Love this!! @zsquaredmama

A1c is too often used by HCPs to manage #diabetes in absence of #SMBG or #CGM data. Without glucometric data A1c offers minimal insight beyond an average glucose value over last couple months #BeyondA1c @HopeWarshaw

Help to understand the relationship between food, physical activity, medication, illness, stress. Learn how to prevent and treat hypoglycemic and hyperglycemic episodes. @lorenadrago

Based on lived experience, SMBG is one way to be the scientist of your own diabetes. Structured or paired checks can show how a meal, exercise, insulin dose impact BG. Don't just check—use the info to guide your choices. @KellyRawlings

Glucose data provides a feedback loop. Partnered with behavior change the data can help guide choices and conversations @Donnaryancde

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Guidelines convey #SMBG and #CGM are important parts of care for people with #diabetes who require insulin. What are your key takeaways for glucose monitoring for people who require insulin?

All the effort to get data and the data from #SMBG or #CGM can overwhelm, especially during initial use. Critical for HCPs to make doing it realistic within a person's lifestyle, applicable, actionable. @HopeWarshaw

AACE, ADA, AADE, Joslin Diabetes Center, & International Diabetes Federation IDF endorse frequent #BGM in the clinical practice guidelines. @lorenadrago

Another bottom line from guidance in my mind: Glucose results completed by person with #diabetes and shared with HCP MUST be asked for, reviewed and used during care encounters to demonstrate the value of the effort by the person @HopeWarshaw

Checking blood glucose is only 1/3 the process. Reviewing the results with some regularity and tweaking care as needed bring the process full circle. @KellyRawlings

Access to strips & meter at all times is necessary for PWDs on intensive insulin therapy. Before meals, sometimes after. Before exercise. When low is suspected, to check treatment of low sufficient. Before driving & other critical tasks. @KellyRawlings

Making decisions on dosing and timing of insulin is the ultimate take away on insulin therapy @Donnaryancde

While #CGM is a reality for some people, it's not for many. Plus some people don't want to wear a device. We need to be realistic. @HopeWarshaw

I think strips are still important. Sensor technology is amazing, but sensors aren't available, warmed up, or worn at all times. @KellyRawlings

Tech is not avail for many #PWD (cost/access) & challenging for those with cognitive, learning or dexterity issues @susangweiner

What does routine #SMBG and #CGM assessment, teaching, knowledge and use reinforcement look like in your clinical practice for people who require insulin

#HCP should assess/consider preferences, dexterity, and visual acuity of person with #diabetes. Finances and insurance coverage must also be considered. @eatingsoulfully

Such important points about dexterity and visual acuity, given the high prevalence of diabetes in people age 65 and older. @susangweiner

This is why I keep making an important distinction to people that it is just DATA. Not a judgement, which I hear too many providers judging the numbers. @zsquaredmama

In my experience everyone should be taught optimal technique to use their specific device. Optimal use of device (including cleaning) should be reviewed using teach-back if HCP or PWD questions or inconsistent results. @HopeWarshaw

In clinical settings, I think the value of #CGM #SMBG should be taught/assessed/reinforced by all care team members. This means primary care providers need to look at the values & patterns too. @aafp @zsquaredmama

I've seen how critical it is to make sure that the device settings are set up correctly, even the clock setting. On regular basis HCPs should review optimal technique. Simple things matter to make monitoring meaningful @HopeWarshaw

Remember, the A1c is just an average, which means you may have blood sugars ranging from 100-150, or 50-200. Same average: A1c of 6.2%, but very different changes in the body. @zsquaredmama

Glucose monitoring must be meaningful. #PWD should be provided with detailed information regarding timing, frequency, and interpretation of results, when to contact the healthcare team. @lorenadrago

SMBG is necessary for intensive insulin therapy. It can be a great way to see cause-effect for diabetes treated by other means. But teaching how to use the results to guide self-care choices and adjust is key @KellyRawlings

To continue #SMBG or #CGM the #PWD, I find the #PWD must gain value from the effort and data collection. It's critical that we HCPs help make monitoring meaningful (both doing it and the data) for #PWD. @HopeWarshaw

I make sure #PWD and caregivers know the glucose goals they're shooting for–fasting, post meal, bedtime, etc. They need to know their bulls-eyes and often they don't. Review these bulls-eyes regularly. @HopeWarshaw

Per @ATTDconf guidance http://-care.diabetesjournals.org/con-tent/40/12/1631.full-text.pdf, all #PWD should "receive training to interpret and respond to their glucose data" whether #SMBG or #CGM and "facilitate appropriate use of data and #diabetes thera-pies" @HopeWarshaw

When we review and discuss as equals, the learnings are powerful. Always bidirectional conversations on results @Donnaryancde

To make monitoring meaningful and less arduous, I like to co-create with #PWD mini meaningful experiments. Ex: Come up jointly with questions to answer with data re: food, activity, sleep, caffeine, stress, etc. @HopeWarshaw

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Guidelines don't necessarily address the transition in #diabetes care to taking insulin - a challenging transition for sure. How have you used or taught #SMBG or #CGM to assist people making this transition?

In transitioning to using insulin, it's important to let #PWD know the action of the insulin & then they can expect to see changes in their blood sugar. @zsquaredmama

1/2 For example, in starting basal insulin, this insulin works in the fasting state, so we are looking at the first (usually) a.m. blood sugar to determine dosing. @zsquaredmama

2/2 But if that glucose is in range, but the glucose before bed is 3x over range, then that basal insulin is being asked to work really hard & there is something at dinner or after pushing that blood sugar over target. @zsquaredmama

Mini experiments, including pre/post meal #SMBG checks can be helpful. They can demonstrate the challenge of post meal rise despite several BG lowering meds. @HopeWarshaw

Often, #PWD transitioning to insulin are fearful of hypoglycemia. I explain how #SMBG numbers can inform decisions regarding meals, activity and insulin to minimize episodes of hypoglycemia. @Eatingsoulfully

Study by Parsons et al in non-insulin treated #T2D using #SMBG showed for completers (12 mos) number BG-lowering meds prescribed increased. Authors: potential of obtaining, using BG profiles facilitate more targeted approach to overcome therapeutic inertia. @HopeWarshaw

#CGM may help #PWD visualize the benefits of #insulin adjustments @susangweiner

And nothing scares me for the PWD diabetes than to be on a medication or combination of medications with a high potential of hypoglycemia & not even had the topic of monitoring brought up from the prescriber. @zsquaredmama

With simple protocols, people starting insulin really can be empowered to use SMBG to titrate. @KellyRawlings

Use #SMBG data to ask questions, gather info in a non-accusatory, judgemental manner. Use the data to prompt thinking, self-discovery. @HopeWarshaw

The rationale for transition is self-evident when #CGM #SMBG precedes the prescription for insulin: we see in our professional #CGM clinic. @Donnaryancde

It helps so much if there is a food/exercise/stress/sleep journal that accompanies the data. Data needs context. @MichLitch

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Guidelines convey conflicting advice for routine #SBMG for people with #diabetes who don't take insulin. They go from there's clinical benefit for structured/paired checking to no sustained benefit for 1x/day checks. What's your experience?

By structured/paired checking we mean prior to and 1-2 hrs post meal, before and after. @HopeWarshaw

"Stay between the lines" is exactly what it looks like, so better for all levels of health literacy. @KellyRawlings.

When you dig into guidance bottom line, as noted: To be useful glucose monitoring (any type) has to be integrated into a person's #diabetes self-care plan in an individualized way to make monitoring meaningful (paraphrased from @aadediabetes practice paper) @HopeWarshaw

Case study: pre-, post-meal checks used in T2D via remote monitoring intervention. "Better Type 2 Diabetes Self-Management Using Paired Testing and Remote Monitoring," Greenwood, Am. Journal of Nursing, Feb 2015 @KellyRawlings

Another bottom line from guidance in my mind is: Glucose results completed by person with #diabetes and shared with HCP MUST be asked for, reviewed and used during care encounters to demonstrate the value of the effort by the person @HopeWarshaw

Testing before/after specific events diabetes knowledge & skills, shows impact of behavioral changes, med nutrition therapy, & meds. "Effective use of paired testing in T2D: practical applications in clinical practice," Parkin et al, Diabetes Educ, 2009 @KellyRawlings

If someone will only check once daily, it helps to switch up the times. I especially think checks after the largest meal are helpful. @MichLitch

Several studies (Scavini, Acta Diabetol, 2013, Polonsky, Diabetes Care, 2011, Polonsky, Diabetes Tech and Ther, 2011) show value of structured /paired checking. Others do not b/c they reflect more common prescribing, teaching and use patterns among HCPs. @HopeWarshaw

My experience is that people who check their blood sugar & know what the data is telling them, or at least share the data w/ their MD tend to be managing their #diabetes rather than their #diabetes managing them. @zsquaredmama

I had a #PWD experience unintentional weight loss because of fear of elevated BG and diabetes complications. Data from paired #SMBG calmed the patient's fears and promoted improvement in nutritional status. @Eatingsoulfully

To engage #PWD in an effective plan to implement #SMBG it's critical to have honest and open discussion/dialog about the person's benefits and barriers to #SMBG. With this info as base, jointly develop a plan. @HopeWarshaw

This is exactly why once a day #SMBG checks need to be spaced out. Then the person with #diabetes and HCP get a better sense of what is going on. @MichLitch

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What does routine #SMBG and #CGM assessment, teaching, knowledge and use reinforcement look like in your clinical practice for people who require insulin?

The #SMBG structured/paired approaches change in insulin vs noninsulin users in frequency mainly. Partially due to insurance limits for supplies. @zsquaredmama

Specific times to do #SMBG may differ depending on the meds in use & their potential effects. Always individualize! @susangweiner

"Results that matter: Structured vs. unstructured SMBG in type 2 diabetes," Parkin et al, Diabetes Research and Clinical Practice 2012. Benefits T2D newly Dx, insulin and non-insulin T2D, post-meal. @KellyRawlings

Sys review on effectiveness of SMBG in #T2D by Machry et al https://www.diabetesresearchclinicalpractice.com/article/S0168-8227(17)30636-8/fulltext. Showed "better glycemic control in the short term" and people with #T2D with worse glycemic control at baseline had greatest benefit. @HopeWarshaw

#SMBG goal for all should be do the optimal number of checks to yield maximal info for #PWD and HCP to assess control, answer mgmt. questions, and progress therapy for positive long term outcomes. Must minimize management burden. @HopeWarshaw

Much paired testing focuses on pre- & 1-2 hours after first bite of meal. But paired testing around physical activity—such as moderate intensity, brisk walk—can be revealing, too. @KellyRawlings

I have a lot more flexibility in #SMBG timing in #PWD who do not require insulin. I can stagger the test time on different days, meals, post/preprandial & still get valuable information. Insulin regimen dictates #SMBG in #PWD requiring insulin. @Eatingsoulfully

Statement in @TheAACE "Outpatient Glucose Monitoring Consensus Statement" Link: -https://www.aace.com/files/position-statements/outpatient-glucose-monitoring-consensus-statement.pdf Meaningful monitoring will likely be different for each individual. @HopeWarshaw

In practice, for those who require insulin, there is an emphasis on hypoglycemia prevention and for those who don't is more about how to make lifestyle changes that support positive health outcomes. @lorenadrago

Data without context is just a number on a page. @MichLitch

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From your clinical experience, what have been “aha!” discovery moments that seem to help people with #diabetes gain value from #SMBG and #CGM?

When the person with diabetes tells the story not otherwise discernible by the numbers, HCPs assume what’s driving the numbers. I’m often amazed by the real story. Aha moments for sure. @donnaryancde

And the impact of stress and too little sleep. Weekly trends can also help identify hormone patterns (eg. PMS). @michlitch

Remember those tablets you'd chew to show where inadequate brushing left plaque on your teeth? Sometimes you just gotta see to believe--and that's what CGM does. @KellyRawlings

Lifestyle changes for sure. The benefit is when there are changes in dietary practices, physical activity routine, stress, illness. They are able to see how it impacts their glucose results. @lorenadrago

Speaking of being a mentor, the OneTouch Reveal app includes ... basic #SMBG patterns and point these out to the user... @HopeWarshaw

I’d like to see much more extensive use of pro CGMs in both T1 & T2 diabetes, especially at Dx and for therapy adjustments. To go from “spot checks” to seeing one’s actions keep BG “between the lines” of low and high thresholds is eye-opening. @KellyRawlings

Model the data analysis process you want #PWD to use. Be a mentor. Model the process. Demonstrate value of having glucose data to make mgmt. decisions by example. Show, don’t tell. @HopeWarshaw

I like to talk about the stair approach, before (or after) breakfast one day, and then the next before lunch, and then dinner, and then bed, and then repeat. @zsquaredmama

Use of Time in Range (TiR) can help the #PWD using #CGM to see in color (eg pie charts, bar graphs) how much they are in range, too high or too low. Good baseline from which to set self-care goals. @lorenadrago

Aha moments also occur when information is shared with other #PWD. It underscores the individuality of diabetes and how management can differ. @lorenadrago

Love this "be the scientist" approach. Gives meaning to the use of SMBG. Gives control and choice to the person living with diabetes. @KellyRawlings

The “aha!” moment was for my patient who was motivated to engage in physical activity after seeing his #SMBG results. Another patient discovered he was a night eater as a result of #CGM @Eatingsoulfully

Seeing blood sugars later in the day seem to open up the idea that their diabetes is different at different times of the day. It helps them to think about monitoring more often or at the time of day they are working on bringing glucose values to goal. @zsquaredmama

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In their practice paper @aadediabetes recommends “SMBG readings are to be used in clinical decision-making by every member of the individual’s healthcare team.” In your experience, what can help coordinate #SMBG data for team-based care?

We have a challenge when some HCPs only care about tracking A1cs. We need to promote and support a team approach with shared views of EMRs, logs and apps @Donnaryancde

Encourage #PWD who are able to send or bring in data for download. Prior to visit review recent data. Record their observations. Pose why questions. @HopeWarshaw

Coordination happens when data can EASILY be shared with care team w less effort from #pwd @susangweiner

Actually downloading data. Shared EMR or way to access other records since the reality is - care can be so fragmented. @MichLitch

Patients I work with seem so much more motivated to work towards TiR when they have CGM. There is an ability to actually keep checking in on the data to self-assess. @MichLitch

HCPs can demonstrate to #PWD and other HCPs why A1c alone is insufficient for clinical decision making. Again demonstrate value of the glucometric data. @HopeWarshaw

Every #HCP on the #PWD team should assess #SMBG data, discuss results with #PWD, including the individuals interpretation of the results and document objective and subjective information in the medical record. @Eatingsoulfully

As a RD, CDE it’s common for me to find eating patterns and glucose monitoring results that reflect need for medication changes or adjustments that I need to communicate to the prescribing provider eg: hypoglycemia, hyperglycemia. @HopeWarshaw

I work with a population with restricted health literacy and cultural diverse. The language and message have to be tailored to meet the needs and still ensure that health outcomes met. @lorenadrago

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Diabetes guidelines have yet to address recommendations on apps, download software or software as medical device. What has your experience been with these tools?

I would like to see data stations (and helpers!) in waiting rooms, to more easily download data to share for appt. Also, not so many proprietary software systems for SMBG devices—interoperability! @KellyRawlings

I recommend apps to the people with diabetes I see all the time. One reason, my phone never leaves me, but I know I would forget to bring a glucose meter to an HCP appointment. Data at hand! @zsquaredmama

Most of my patient population has type 2 & use apps primarily for tracking food & activity. I can remember a #PWD on insulin who refused to measure/count carbs. I introduced her to FigWee w/visual food portions & she improved her #BG control significantly. @Eatingsoulfully

Must personalize! Find an app, download software that causes the #PWD and HCP to do less work, not more. @HopeWarshaw

Apps can help seamlessly coordinate/share glucose logs (from SMBG or CGM) quickly w care team & get feedback that can help in real time! @susangweiner

Ask #PWD questions about their preferences in an app, software. Ask about whether they use apps or not. What they liked/disliked about tools they've had experience with. @HopeWarshaw

Digital health may be one of the answers … but not for everyone. Individual assessment is super important. Assessing the patient and providing the right tool is essential. @lorenadrago

Devices such as pedometers, weight scale, etc. can be key tools in diabetes management, as long info is used to guide choices and self-care. Teaching apps that help w/ this is just as important as teaching how to do the fingerstick! @KellyRawlings

To be of value the best app or software for #PWD and/or HCP must be one they will find easy, efficient to use, see value in and use over time … have "stickiness" @HopeWarshaw

I'm a OneTouch Reveal user, and I have been paying more attention to both the pattern messages and time in range as I've been struggling recently with management. @T2DRemission

Until HC systems approve and embed data from apps, software, it's a non-issue for the majority of HCPs. Medical necessity and meaningful use has to drive this or it's not going to be mainstream in healthcare @Donnaryancde

Learning to use tech to gather, analyze, and act on quantified self is the next self-care behavior in diabetes. High time it gets more attention in guidelines, education programs, office visit discussions. @KellyRawlings

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