MDForLives

THE GLOBAL PULSE OF HEALTHCARE · ENDOCRINOLOGY & DIABETES INSIGHT REPORT

HbA1c and CGM: When Glycemic Control Needs More Than One Number

Responses from endocrinology and diabetes clinicians on how HbA1c is interpreted alongside continuous glucose monitoring: when time in range, hypoglycemia, glycemic variability, and glucose patterns alter the clinical picture, what limits CGM use, and how glycemic assessment may evolve.

Average → Pattern → Judgement → Action

74	6	75.7%	8975620
Survey records	Countries represented USA · UK · Canada · Italy · France · Germany	Completion rate	Survey ID

WHY THIS REPORT

The harder glycemic-control question begins when the average and the pattern do not agree.

HbA1c remains one of the most familiar measures in diabetes care because it provides a longer-term view of glycemic exposure. CGM answers a different set of questions. It shows when glucose is high or low, how much it fluctuates, whether overnight or post-meal patterns are recurring, and how much time is spent inside or outside target ranges.

For endocrinologists, those two views can reinforce each other, but they can also create a decision problem. A laboratory HbA1c may appear acceptable while CGM reveals recurrent hypoglycemia. A patient may have an elevated HbA1c but also show overnight lows that make further basal intensification unsafe. A mean value may obscure marked postprandial excursions. The clinician then has to decide which part of the glucose story is most actionable.

The MDForLives survey examines that practical interpretation layer: how clinicians position HbA1c today, which CGM measures carry the most weight when metrics are discordant, where CGM has changed assessment most, how targets are individualized, what blocks effective use of sensor data, and whether CGM actually changes decisions that HbA1c alone would not have changed.

> **Survey lens.** MDForLives survey SGID 8975620 includes 74 survey records with a 75.7% completion rate across 6 countries: USA, UK, Canada, Italy, France, and Germany. Question-level bases across the core clinical items vary from 57 to 59 because response completion differs by item. Internal operational, validation, after-survey, and honeypot fields are excluded from analysis.

CLINICAL CONTEXT

Current diabetes guidance treats HbA1c and CGM as complementary views of glycemic status.

The American Diabetes Association's 2026 Standards of Care recommend assessing glycemic status using A1C and/or CGM metrics such as time in range, time above range, and time below range. The same guidance notes that CGM is particularly useful in people at risk for hypoglycemia and is now a standard method of glucose monitoring for most people with type 1 diabetes and many people with insulin-treated type 2 diabetes.

CGM changes the information available to the clinician. A1C reflects average exposure over roughly two to three months, while CGM can add time in range, low- and high-glucose exposure, mean glucose, glucose management indicator, coefficient of variation, and the daily pattern summarized in an ambulatory glucose profile. The international consensus on time in range helped standardize these metrics so that sensor data could be translated into more consistent clinical interpretation.

That makes discordance clinically useful rather than simply inconvenient. When HbA1c and CGM tell different stories, the difference can prompt questions about hypoglycemia, variability, data sufficiency, treatment timing, patient behavior, or conditions that make HbA1c less representative of the glucose pattern. The survey captures how endocrinologists resolve that tension in real-world decision-making.

External clinical context is provided for interpretation. MDForLives survey data remains the source for all respondent percentages in this report.

EXECUTIVE SUMMARY

Six signals showing how glycemic assessment is moving from one number to a connected pattern.

INSIGHT 01

HbA1c is being read in context

54.2% say HbA1c remains important but is increasingly interpreted alongside other metrics.

INSIGHT 02

Patterns lead when metrics diverge

66.1% prioritize TIR/TBR/TAR and glycemic patterns when HbA1c and CGM-derived measures are discordant.

INSIGHT 03

Time in range is the leading actionable metric

49.2% select TIR as the most clinically actionable CGM-derived measure in day-to-day practice.

INSIGHT 04

CGM changes treatment even when HbA1c looks acceptable

66.7% are likely to modify treatment when CGM reveals significant variability or hypoglycemia.

INSIGHT 05

The signal can be limited by the data pathway

43.1% select incomplete CGM data or patient adherence as a barrier; 39.7% select access, reimbursement, or interoperability.

INSIGHT 06

Integration is the expected next step

61.4% expect wider CGM use and greater integration of TIR/TBR/TAR with HbA1c to change assessment most over the next 2–3 years.

01

HBA1C IN CONTEXT

HbA1c remains important, but the dominant view is to interpret it alongside other measures

54.2% say HbA1c remains important but is increasingly interpreted alongside other metrics.

CONTEXT

HbA1c condenses weeks of glycemic exposure into one familiar number. That makes it efficient for longitudinal tracking and target discussions, but the same compression means it cannot show when glucose moved, how often lows occurred, or whether stable averages conceal wide swings.

WHAT THE DATA SHOWS

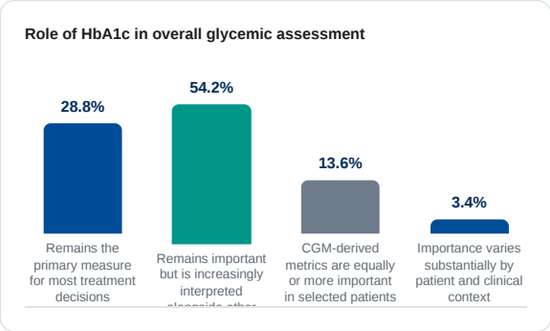
The largest group, 54.2%, says HbA1c remains important but is increasingly interpreted alongside other metrics. Another 28.8% still describe HbA1c as the primary measure for most treatment decisions. 13.6% say CGM-derived metrics are equally or more important in selected patients, while 3.4% say the relative importance varies substantially by patient and clinical context.

THE INSIGHT

The shift is not a simple HbA1c-versus-CGM replacement story. In this clinician group, HbA1c remains embedded in practice, but the majority position it inside a wider evidence set. That creates a layered decision model: the average establishes broad exposure, while CGM can explain the shape and safety of that exposure.

WHY IT MATTERS

When treatment decisions are made from a combination of measures, clinical workflows need to make those measures available together. A disconnected lab result, a separate sensor portal, and limited consultation time can undermine the very integration clinicians say they increasingly use.



02

DISCORDANT SIGNALS

When HbA1c and CGM disagree, range and pattern information carries the most weight

66.1% prioritize TIR/TBR/TAR and glycemic patterns when the two views appear discordant.

CONTEXT

Discordance can occur for several reasons. HbA1c represents a longer-term average, while CGM captures recent daily glucose behavior. Even when both measures are technically sound, they answer different questions. The clinical problem is deciding what part of the mismatch changes management.

WHAT THE DATA SHOWS

Two-thirds of respondents, 66.1%, say TIR/TBR/TAR and broader glycemic patterns most influence their interpretation when HbA1c and CGM-derived measures disagree. Hypoglycemia and glycemic variability rank next at 18.6%, followed by GMI or mean glucose at 10.2%. Symptoms and overall clinical context are selected by 5.1% as the single strongest influence.

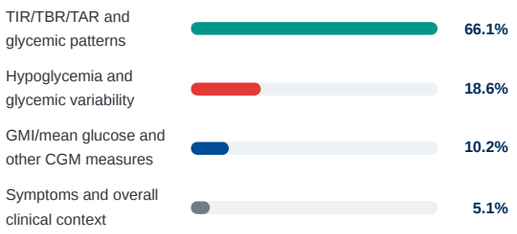
THE INSIGHT

Clinicians are resolving discordance by moving deeper into the pattern rather than substituting one summary measure for another. Range exposure, timing, and variability appear to provide the explanation that the average alone cannot.

WHY IT MATTERS

A discordant profile should not be treated as a data-quality problem by default. It may be the clinically important signal. Recurrent lows, postprandial spikes, or substantial oscillation can change the safety or timing of therapy even when the longer-term average appears acceptable.

What most influences interpretation when HbA1c and CGM are discordant



03

ACTIONABLE CGM METRICS

Time in range leads day-to-day actionability, but AGP keeps the pattern visible

49.2% select time in range as the most clinically actionable CGM-derived measure.

CONTEXT

CGM offers more metrics than a clinician can discuss equally in every visit. TIR, TBR, TAR, mean glucose, GMI, coefficient of variation, and AGP each answer a slightly different question. The challenge is deciding which signal earns attention first without losing the pattern around it.

WHAT THE DATA SHOWS

49.2% choose TIR as the most actionable single measure. AGP and overall glucose-pattern analysis rank second at 20.3%. TBR/TAR are selected by 18.6%, and glycemic variability by 11.9%. The distribution gives TIR a clear lead but not an exclusive role.

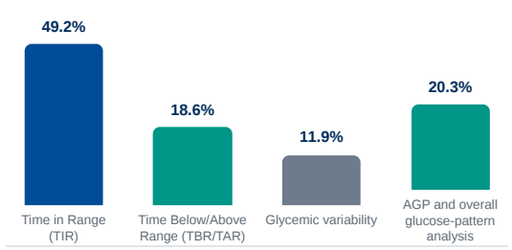
THE INSIGHT

TIR works as a concise clinical summary, while AGP, TBR/TAR, and variability help explain why the percentage looks the way it does. This is the same logic seen in the discordance question: actionability increases when the summary can be connected to timing and pattern.

WHY IT MATTERS

Standardized display becomes a workflow intervention. If the first screen makes range exposure, lows, highs, and recurring patterns easy to see, clinicians can spend more of the visit deciding what the pattern means rather than assembling the data manually.

Most clinically actionable CGM-derived measure



04

WHERE CGM CHANGES ASSESSMENT

CGM has changed glycemic assessment most where insulin and hypoglycemia make timing consequential

62.7% identify type 1 diabetes or insulin-treated type 2 diabetes as the group in which CGM has most changed assessment.

CONTEXT

The value of CGM is not identical across every diabetes population. Its clinical return is greatest when daily glucose patterns can influence immediate safety, insulin dosing, or recognition of events that intermittent measurements may miss.

WHAT THE DATA SHOWS

62.7% select type 1 diabetes or insulin-treated type 2 diabetes. 20.3% select patients with recurrent or unrecognized hypoglycemia, and 15.3% select those with marked glycemic variability. Only 1.7% choose older adults or other patients requiring individualized targets as the single group most changed by CGM.

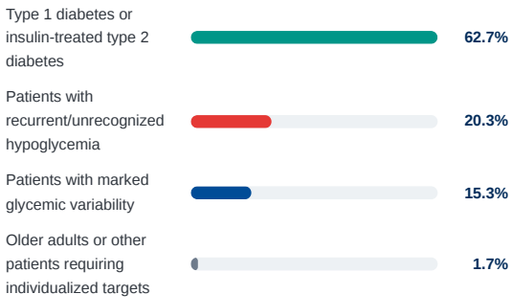
THE INSIGHT

The leading groups share a common feature: the timing of glucose can materially change the interpretation of control. Insulin exposure, unrecognized lows, and variability are situations where an average may be clinically incomplete even if it remains useful.

WHY IT MATTERS

CGM adoption and interpretation support should follow clinical need rather than novelty. The survey places the strongest perceived change in populations where sensor data can directly illuminate insulin-related decisions and hypoglycemia risk.

Patient group in which CGM has most changed assessment



05

INDIVIDUALIZING GLYCEMIC TARGETS

Hypoglycemia risk and vulnerability shape whether a target should be intensified or relaxed

50.0% give the greatest weight to hypoglycemia risk together with the current A1C/CGM profile.

CONTEXT

More glucose data does not make target-setting automatic. The same CGM profile can have different implications in a younger person with few comorbidities and in an older adult with frailty, cognitive change, or a high consequence of hypoglycemia.

WHAT THE DATA SHOWS

Half of respondents select hypoglycemia risk and the current A1C/CGM profile as the factor carrying the greatest weight in deciding whether to intensify or relax a target. 36.2% select age, frailty, cognitive status, or life expectancy. Comorbidities, complications, and treatment burden account for 12.1%, while patient preferences and quality-of-life priorities are selected by 1.7% as the single greatest factor.

THE INSIGHT

Sensor data is being interpreted through a safety lens. The two leading responses combine the glucose profile with vulnerability rather than treating numeric target attainment as sufficient on its own.

WHY IT MATTERS

Current ADA guidance likewise emphasizes individualized glycemic goals. The survey shows how that principle can become concrete: lows, frailty, cognition, life expectancy, treatment burden, and broader context may all change what an apparently “better” glucose number means for the person in front of the clinician.

Factor carrying greatest weight in intensifying or relaxing a target

50.0%
Hypoglycemia risk and current A1C/CGM profile

36.2%
Age, frailty, cognitive status, or life expectancy

12.1%
Comorbidities, complications, and treatment burden

1.7%
Patient preferences and quality-of-life priorities

06

CGM WORKFLOW FRICTION

The biggest barriers sit between collecting CGM data and turning it into a usable clinical signal

43.1% select incomplete CGM data or patient adherence; 39.7% select access, reimbursement, or interoperability limitations.

CONTEXT

CGM can generate dense, clinically rich data, but value depends on continuity, access, and interpretability. Missing wear time can weaken the profile. Separate portals or reimbursement limitations can interrupt access. A short consultation can turn a useful dataset into a time burden.

WHAT THE DATA SHOWS

Respondents could select up to two challenges. Incomplete CGM data or patient adherence leads at 43.1%, closely followed by CGM access, reimbursement, or interoperability limitations at 39.7%. Difficulty identifying clinically actionable patterns is selected by 31.0%, limited consultation time or data overload by 27.6%, and limited clinician training or confidence by 3.4%.

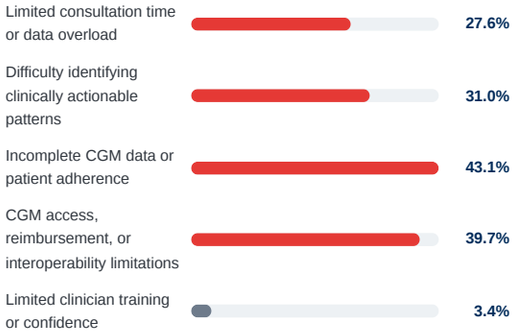
THE INSIGHT

The principal constraint is not clinician skepticism about CGM. It is the data pathway around CGM. The signal can fail because it is incomplete, inaccessible, difficult to integrate, or too time-consuming to convert into action during a routine visit.

WHY IT MATTERS

These barriers can stack. A clinician may face incomplete data and limited time, or a clear clinical indication but unreliable access. Improving CGM use therefore requires both patient-facing support for sustained data capture and system-facing work on reimbursement, interoperability, and presentation.

Challenges limiting effective CGM use in routine decisions



07

WHEN HBA1C LOOKS ACCEPTABLE

CGM can overturn reassurance when an acceptable HbA1c hides hypoglycemia or variability

66.7% are likely to modify treatment based on CGM findings in this scenario.

CONTEXT

An acceptable HbA1c can still sit above a clinically unsafe pattern. Recurrent lows and highs may average into a value that looks reasonable, while overnight hypoglycemia or large post-meal excursions remain visible on CGM.

WHAT THE DATA SHOWS

66.7% say they are likely to modify treatment when HbA1c appears acceptable but CGM reveals significant variability or hypoglycemia. A further 26.3% modify treatment selectively depending on severity and patient context. 7.0% usually monitor the CGM pattern before changing treatment.

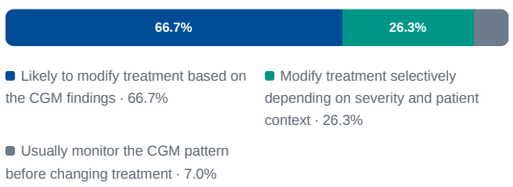
THE INSIGHT

The survey identifies a clear hierarchy: the HbA1c value does not veto a clinically important CGM signal. At the same time, respondents do not describe a fully automatic response. More than one-quarter retain explicit severity and context as part of the decision.

WHY IT MATTERS

This is where CGM most clearly changes the meaning of “controlled.” A satisfactory average can coexist with avoidable hypoglycemia or instability, so safety and pattern may justify treatment adjustment even when the laboratory value alone would not have prompted it.

Management when HbA1c appears acceptable but CGM reveals risk



08

CGM-DRIVEN TREATMENT CHANGE

For most respondents, CGM regularly changes decisions that HbA1c alone would not have changed

57.9% say this happens frequently or very frequently.

CONTEXT

The practical value of any metric is whether it changes what the clinician does. This survey asks that directly: how often does CGM lead to a treatment change that would not have been made from HbA1c alone?

WHAT THE DATA SHOWS

57.9% answer frequently or very frequently. Another 40.4% say occasionally, and only 1.8% say rarely or almost never. The result is consistent with the preceding scenario in which two-thirds would modify treatment when an apparently acceptable HbA1c masks significant variability or hypoglycemia.

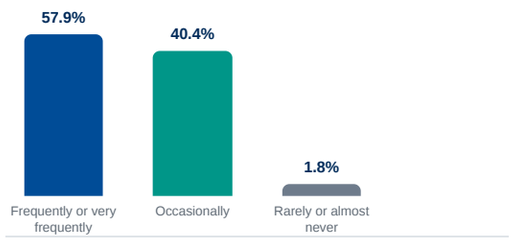
THE INSIGHT

CGM is not functioning only as a monitoring convenience in this clinician group. It is a decision-changing source of information. The strong “frequent” response suggests that sensor patterns are regularly influencing dosing, timing, de-intensification, or other management choices beyond what the average would have suggested.

WHY IT MATTERS

If CGM can alter management this often, access gaps and incomplete data are not secondary technology issues. They can determine whether clinically relevant information reaches the decision point at all.

How often CGM changes treatment beyond HbA1c alone



09

THE NEXT 2–3 YEARS

Endocrinologists expect tighter integration of CGM metrics with HbA1c, not a simple replacement of one by the other

61.4% select wider CGM use and greater integration of TIR/TBR/TAR with HbA1c as the development most likely to change assessment.

CONTEXT

CGM technology is evolving quickly, but the larger practice question is how its data will sit inside routine clinical reasoning. Future value may depend less on adding another metric and more on reducing the work required to combine the metrics clinicians already use.

WHAT THE DATA SHOWS

61.4% expect wider CGM use and greater integration of TIR/TBR/TAR with HbA1c to drive the largest change in glycemic assessment. AI/EHR-enabled interpretation and integration of glucose data ranks second at 19.3%. More individualized glycemic targets account for 15.8%, while new biomarkers or alternative measures of glycemia account for 3.5%.

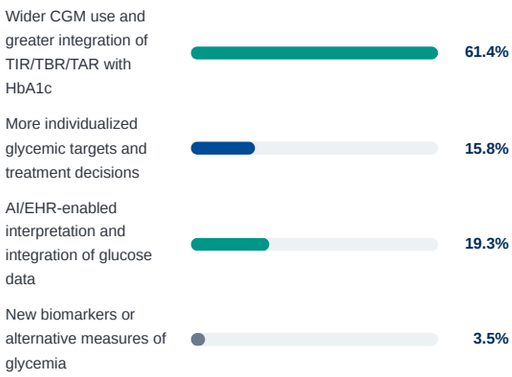
THE INSIGHT

The future clinicians describe is integrative rather than substitutive. They expect more CGM, but specifically more CGM connected to HbA1c and to the clinical workflow. AI and EHR integration may matter because they can reduce interpretation friction, not because clinicians want another disconnected layer of technology.

WHY IT MATTERS

The implementation agenda is therefore clear: consistent access, sufficient data, standardized presentation, and interoperable systems will determine whether growing CGM adoption produces faster insight or simply more information to manage.

Development most likely to change glycemic assessment over the next 2–3 years



OPEN RESPONSE LENS

When HbA1c did not fit the clinical picture, clinicians used CGM to find the risk hidden inside the average.

The open-ended item asked clinicians to think about a patient in whom HbA1c did not fully reflect the clinical picture, describe what additional glucose data revealed, and explain how it influenced management. The visible responses ranged from very brief comments to specific clinical examples.

The comments should not be converted into prevalence percentages without formal coding. Qualitatively, however, four recurring practice themes are visible. Several clinicians describe hypoglycemia that was not obvious from HbA1c, including overnight lows. Others describe postprandial hyperglycemia or marked day-to-day variability that the average did not capture. Multiple responses mention anemia, chronic kidney disease, or other conditions that made HbA1c less representative of the glucose story. TIR and the overall CGM pattern were repeatedly used to adjust insulin or rethink the regimen.

Hidden hypoglycemia

Clinicians describe frequent or overnight lows that changed the safety

Post-meal excursions

CGM exposed postprandial peaks that were not captured by intermittent interpretation and, in some cases, supported insulin dose reduction or de-intensification.

monitoring or by the HbA1c average, prompting changes in prandial insulin or dose timing.

Variability behind the average

Several responses focus on daily swings, highs and lows, or a variable overnight pattern that made the HbA1c value look more reassuring than the full profile.

HbA1c interpretation limits

Anemia, chronic kidney disease, cirrhosis, and other clinical contexts are mentioned as situations in which respondents relied more heavily on the CGM pattern.

TIR as a treatment lens

Some clinicians explicitly describe using time in range and hypoglycemia information to titrate insulin or evaluate the overall situation rather than reacting to HbA1c alone.

Regimen redesign

Specific examples include reducing long-acting insulin, increasing short-acting insulin, changing scheduling, and counseling after CGM clarified when dysglycemia was occurring.

What the open responses add: The quantitative results show that range patterns, hypoglycemia, and variability influence decisions. The clinical examples show why: CGM can reveal the timing of risk and help distinguish whether the next move is intensification, de-intensification, retiming, or further observation.

PEOPLE ALSO ASK · TOPIC FAQ

Frequently asked questions about HbA1c and CGM.

What is the difference between HbA1c and CGM?

HbA1c estimates average glycemic exposure over the preceding two to three months. CGM provides near-continuous glucose data that can show time in range, time below and above range, variability, and daily patterns. They provide complementary information rather than identical measurements.

What does time in range mean?

Time in range is the percentage of CGM readings within a defined target glucose range. It is usually interpreted with time below range, time above range, mean glucose, variability, and the individual clinical context.

Can HbA1c be in target while CGM shows hypoglycemia?

Yes. HbA1c is an average, so periods of low and high glucose can offset one another. CGM can reveal the timing and frequency of hypoglycemia even when HbA1c appears to be within an individualized target.

What is an ambulatory glucose profile, or AGP?

AGP is a standardized way of displaying CGM data across the day. It can help clinicians identify recurring patterns such as overnight lows, post-meal excursions, and periods of high variability.

What is GMI and why can it differ from HbA1c?

Glucose management indicator estimates an A1C-like value from mean CGM glucose. It is derived from sensor data rather than a laboratory HbA1c measurement, so the two values can differ and should be interpreted in context.

How much CGM data is needed for pattern interpretation?

ADA guidance and international consensus commonly use about 10 to 14 days of CGM data with adequate sensor wear for pattern assessment. Clinicians should also consider whether the captured period is representative of the patient's usual routine and treatment.

ENDOCRINOLOGY GLYCEMIC-CONTROL LENS

What this means at four points in CGM interpretation.

The survey suggests that CGM creates the most value when the data is sufficient, the clinically important pattern is easy to identify, and the result can be translated into an individualized treatment decision.

Before interpreting

Data-sufficiency lens. Check whether sensor wear, missing data, adherence, and the time period captured are sufficient to represent the pattern being discussed.

When HbA1c and CGM disagree

Pattern lens. Review TIR/TBR/TAR, hypoglycemia, variability, timing, and AGP rather than trying to force two different measures into the same answer.

When targets are reconsidered

Safety lens. Put hypoglycemia risk, frailty, cognition, life expectancy, treatment burden, and other vulnerabilities beside the numerical target.

When a pattern needs action

Decision lens. Translate where and when dysglycemia occurs into the appropriate clinical response, which may include intensification, de-intensification, retiming, education, or additional monitoring.

CLOSING PERSPECTIVE

The next step in glycemic assessment is not choosing HbA1c or CGM. It is making their differences clinically useful.

The MDForLives findings capture a practice environment in which HbA1c remains important, but the decision-making burden has changed. Clinicians increasingly have access to a second view of glycemic control: one that shows timing, exposure to low and high glucose, variability, and repeated patterns that an average cannot display.

That second view matters most when it changes the interpretation. Two-thirds of respondents prioritize range and glucose patterns when HbA1c and CGM diverge. Two-thirds are likely to modify treatment when an acceptable HbA1c hides significant variability or hypoglycemia. And most say CGM frequently changes decisions they would not have made from HbA1c alone. Together, those findings position CGM as a source of clinical context, not simply a more frequent measurement.

The open-ended examples make the pattern concrete. Clinicians describe overnight lows, postprandial peaks, marked variability, and situations such as anemia or kidney disease in which HbA1c did not fully represent what was happening. In several examples, the additional data led not to more treatment, but to a different treatment: less long-acting insulin, more attention to prandial exposure, revised timing, counseling, or a decision to reduce hypoglycemia risk.

The remaining friction is operational. CGM can only influence care when the data is available, sufficiently complete, interpretable during the visit, and connected to a workflow that allows the clinician to act. The leading barriers in the survey are incomplete data or adherence and access, reimbursement, or interoperability. If those gaps persist, wider sensor use can still leave clinicians with an incomplete decision pathway.

That is why the forward-looking result is notable. Respondents do not primarily choose a new biomarker. They choose wider CGM use and greater integration of TIR/TBR/TAR with HbA1c. The future they describe is not one number replacing another. It is a more connected model in which the average and the pattern are seen together, interpreted through the patient's vulnerability and goals, and translated into a treatment decision with less friction.

1 · Keep the average in context

Use HbA1c as one view of exposure while checking whether the CGM pattern explains clinically important highs, lows, or variability.

2 · Check data sufficiency first

Before acting on a sensor pattern, confirm that the captured data is sufficiently complete and representative for the decision being considered.

3 · Prioritize safety signals

Give hypoglycemia, time below range, and patient vulnerability appropriate weight when the average appears reassuring.

4 · Read TIR with the pattern around it

Combine time in range with TBR/TAR, variability, timing, and AGP so one percentage does not become another isolated number.

5 · Individualize the response

Use age, frailty, cognition, comorbidities, treatment burden, and the clinical context to decide whether the pattern calls for intensification, relaxation, or observation.

6 · Fix the data pathway

Improve continuity of access, interoperability, and presentation so CGM insight can reach the point of care without creating avoidable interpretation work.

Help future diabetes-technology insights reflect the decisions made between HbA1c and CGM.

Join MDForLives to share clinical perspectives on time in range, hypoglycemia, glycemic variability, data access, and treatment decisions.

Join the Panel

REFERENCES AND DATA SOURCE

Sources used for this report

1. **MDForLives internal survey report.** All Markets Report for SGID 8975620, Project: Engagement Campaign | Endo Insight Survey_Sep. 74 survey records, 75.7% completion rate, across 6 countries: USA, UK, Canada, Italy, France, and Germany. Core clinical item bases vary from 57 to 59. Internal operational, validation, after-survey, and honeypot fields were excluded.
2. **American Diabetes Association Professional Practice Committee for Diabetes.** “6. Glycemic Goals, Hypoglycemia, and Hyperglycemic Crises: Standards of Care in Diabetes—2026.” Diabetes Care, 2026.
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4. **Battelino T, Danne T, Bergenstal RM, et al.** “Clinical Targets for Continuous Glucose Monitoring Data Interpretation: Recommendations From the International Consensus on Time in Range.” Diabetes Care, 2019.
5. **American Diabetes Association Professional Practice Committee for Diabetes.** “13. Older Adults: Standards of Care in Diabetes—2026.” Diabetes Care, 2026.

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