Blood Glucose Monitoring Expert Group & Best Practice Recommendation

Why Blood Glucose Monitoring Matters[1]

- **Diabetes affects 589 million adults globally.**
- **Approximately 81% of these individuals live in low- and middle-income countries.**

- **Glucose monitoring including self-monitoring of blood glucose (SMBG) and continuous glucose monitoring (CGM), is essential for effective diabetes management[2].**

Key Challenges[3,4]

Education gaps	Access gaps	System gaps
Incorrect SMBG technique and limited DSME	High strip cost, limited device availability, and limited reimbursement	Limited digital integration and limited policy support

The BiG Consensus – Expert Recommendations [5]

- **Experts across Asia developed consensus based recommendations to improve BGM practices.**
- **Recommendation is based on a targeted literature review and structured focus areas include clinical decison making, patient engagement, technology use, and policy support.**
- **Emphasis on practical solutions for resource-constrained settings.**

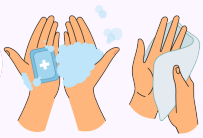
Recommended Monitoring Modalities in Real-World Settings

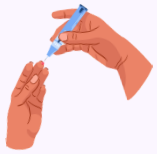
Diabetes Type	Preferred Monitoring	Resource-Constrained Settings
Type 1 Diabetes	1. CGM 2. CGM + SMBG 3. SMBG	SMBG with intermittent CGM or SMBG only
Type 2 Diabetes (Insulin)	1. CGM 2. CGM + SMBG 3. SMBG	SMBG with intermittent CGM
Type 2 Diabetes (Non-insulin therapies)	1. SMBG 2. CGM	SMBG
Gestational Diabetes Mellitus	SMBG + CGM	SMBG with intermittent CGM

Patient Engagement- Technique & Education Essentials[5,6]

- **Correct SMBG techinique is essential; up to 30% of patients use incorrect methods.**
- **Encourage structured DSME.**

Step-by-Step SMBG

01 
Wash hands with soap and water; dry thoroughly.

02 
Lance the side of the fingertip using a sterile lancet.

03 
Touch the test strip tip to the blood drop without squeezing.

04 
Wait for the glucometer to display the reading.

05 
Record the reading, time, and any relevant notes (e.g. meals, symptoms).

06 
Safely dispose of used test strips and lancets in a sharp's container or sealed plastic bottle.

Technology & Innovation[5]

To improved adherence, SMBG device selection should prioritize:

- Accuracy
- Safety
- Affordability
- Ease of Use
- Comfort
- Availability

Supporting Safe and Effective Technology Adoption

- Strengthen patient educaiton and trust
- Use approved devices
- Adopt hybrid SMBG + intermittent CGM models where appropriate

Policy & Reimbursement[3,5]

Access to monitoring tools varies widely across countries.

To improve equity, policymakers may consider:

- **Including BGM in national health packages**
- **Supporting DSME and HCP training**
- **Reducing device and strip costs through procurement**
- **Promoting culturally relevant education**

CGM Reimbursement Status	
South Korea	Yes (70% for T1D)
Singapore	Subsidized (T1D)
Thailand	Yes (T1D)

SMBG Reimbursement Status	
South Korea	Yes (Varies)
Singapore	Yes (T1D/GDM under UCS)
Thailand	Yes (T1D/GDM under UCS)

No Reimbursement

India, Indonesia, Philippines, Malaysia

Largely Out-of-Pocket

India, Indonesia, Philippines, Malaysia

Way Forward: Actionable Steps

In daily practice:

- **Implement structured SMBG and DSME during routine consultations.**
- **Use hybrid SMBG-CGM models for high-risk patients where resouces allow.**
- **Reinforce proper SMBG technique: hand hygiene, site rotation, and safe lancet use.**
- **Encourage digital tools and apps for logging and sharing glucose data.**

Advocacy Priorities:

- **Support inclusion of SMBG in national health packages and public procurement to reduce strip costs. Additionally, set quality standards for devices ande ducation to ensure safe and effective diabetes care.**

Conclusion

SMBG remins central to diabetes care. Hybrid SMBG-CGM models optimise outcomes, especially with education andpolicy support. Regional colloration is essential for equitable diabetes care.

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Access the full manuscript here:

BGM: Blood Glucose Monitoring; CGM: Continuous Glucose Monitoring; DSME: Diabetes Self-Management Education; HCP: Healthcare Professionals; GDM: Gestational Diabetes Mellitus; T1D: Type 1 Diabetes; T2D: Type 2 Diabetes; UCS: Universal Coverage Scheme

References: 1. International Diabetes Federation. Diabetes around the world - 2024. https://diabetesatlas.org/media/uploads/sites/3/2025/04/IDF_Atlas_11th_Edition_2025_Global-Factsheet.pdf. Accessed 4 Feb 2026. 2. National Institute for Health and Care Excellence (NICE). Type 2 diabetes in adults: management (NG17): economic model report. London: NICE; 2022. Available from: https://www.nice.org.uk/guidance/ng28/evidence. 3. Ewen M, Lepeska M, Abdraimova A, et al. Availability, prices and affordability of self-monitoring blood glucose devices: surveys in six low-income and middle-income countries. BMJ Public Health. 2025. https://doi.org/10.1136/bmjph-2024-001128. 4. Aggarwal V. Globalizing continuous glucose monitoring systems: a paradigm shift from traditional self-monitoring blood glucose devices. National High School Journal of Science (NHSJS). 2025.Available from: https://nhsjs.com/2025/globalizing-continuous-glucose-monitoring-systems-a-paradigm-shift-from-traditional-self-monitoring-blood-glucose-devices/. 5. Chan SP, Tarigan TJE, Bansal B, et al. Blood Glucose Monitoring Expert Group and Best Practice Recommendation-FITTER BiG. Diabetes Ther. Published online May 5, 2026. doi:10.1007/s13300-026-01867-3 6. Le Floch JP, Bauduceau B, Lévy M, Mosnier-Pudar H, Sachon C, Kakou B. Self-Monitoring of Blood Glucose, Cutaneous Finger Injury, and Sensory Loss in Diabetic Patients. Diabetes Care. 2008;31 (10):e73-e73. doi:10.2337/dc08-1174