Subject: Response to A.18 Insulin, analogue rapid-acting – diabetes mellitus - support for inclusion of analogue insulin in the WHO Essential Medicine List

Dear Essential Medicine List Team,

On behalf of Blue Circle Diabetes Foundation, India's largest patient-led diabetes organization, we respectfully submit this formal response supporting the inclusion of rapid-acting insulin analogues (insulin lispro, aspart, and glulisine) in the WHO Model List of Essential Medicines.

We appreciate the WHO Department of Noncommunicable Diseases, Rehabilitation and Disability's evaluation of the proposal. However, we believe the assessment underestimates the clinical relevance, equity implications, and access potential of these insulins, especially for people in low- and middle-income countries (LMICs). We offer the following evidence-based counterpoints for your consideration.

1. **The reliance on analogue insulins in diabetes management in LMICs**

   While HbA1c reductions with analogue insulins are modest, they come with better postprandial glucose control, reduced risk of severe hypoglycemia, and more flexible dosing—especially critical in real-world settings. The benefits are not limited to type 1 diabetes. People with type 2 diabetes who experience high post-meal spikes, pregnant women needing tight glycemic control, and children with irregular eating patterns all benefit from analogue insulins. These groups are often underserved yet stand to gain significantly. WHO's 2018 guideline conditionally recommends long-acting analogues for people with frequent severe hypoglycemia. The same rationale—improved pharmacokinetics and safety—applies to rapid-acting analogues and supports their inclusion.

2. **Flexibility offered by analogue insulins in diabetes management for food insecure contexts**

   The WHO comments suggest that existing evidence may not generalize to LMICs due to limited access to glucose monitoring. However, that very constraint strengthens the case for analogue insulins, which offer faster onset, shorter duration, and lower risk of hypoglycemia—even in the absence of continuous monitoring. These insulins also allow more flexibility in dose timing and meal structure, crucial in settings where education, food security, and health system support may be inconsistent. Importantly, analogue insulins are better suited to manage postprandial spikes from carbohydrate-rich diets, which are common in LMICs due to the

affordability and widespread availability of staples like rice, wheat, and maize. Aligning pharmacologic response with local dietary patterns ensures safer and more effective diabetes management in these environments.

3. **Wider recognition of the effectiveness of analogue insulin**

While analogue insulins are still priced higher than human insulin in many markets, the landscape is shifting. Biosimilars from manufacturers such as Biocon, Sandoz, and Wockhardt are already driving prices down, and EML inclusion would support pooled procurement and competition. Brazil offers a powerful example. In 2017, its public health system (SUS) introduced rapid-acting analogue insulins for people with type 1 diabetes who experienced frequent hypoglycemia or poor glycemic control. Through therapeutic class-based procurement, the government was able to secure analogue insulins at the same unit price as regular human insulin, showing that affordability is achievable with effective policy and negotiation mechanisms. Cost-effectiveness studies (Reviriego 2008; Cameron 2009; Nosra 2023) demonstrate that analogue insulins reduce long-term costs through fewer hospitalizations and improved outcomes, especially in people with type 1 diabetes. These results, though often based in high-income countries, are informative for LMICs striving for efficient, equitable care.

Your critique is that studies are based in HICs but as a 100,000 member strong body in an LMIC, we have come to a similar conclusion. Analogue insulins offer clear and consistent benefits in our context as well—improving safety, flexibility, and quality of life for people living with diabetes across all age groups and socioeconomic backgrounds. They are commonly used by people with type 1 diabetes, children, and pregnant women—groups for whom timing precision and glycemic control are critical. In our setting, analogue insulins are also increasingly being used in multiple daily injection (MDI) therapy, insulin pump therapy, and in individuals who struggle with post-meal spikes or hypoglycemia unawareness.

4. **The case for LMICs to offer a choice of both regular and analogue insulin, like HICs**

The WHO Model List should include both regular and analogue insulins to reflect the full range of clinically appropriate treatment options. Human insulin and analogues are complementary; expanding the list to include both enables providers and health systems to meet diverse patient needs. Denying access to analogue insulins in LMICs—where they are already standard of care in high-income countries—widens the global health gap and contradicts principles of fairness and equity.

5. **Advancing Universal Health Coverage and financial protection**

Excluding analogue insulins undermines progress toward Universal Health Coverage (UHC). Strict insulin regimens with limited flexibility increase the risk of complications and emergency care—leading to high out-of-pocket costs, particularly for low-income households. Inclusion in the EML would help countries design stronger diabetes care packages, reduce financial hardship, and improve access to safe, effective insulin for all—advancing both UHC and the Sustainable Development Goals.

We urge the WHO Expert Committee to reconsider the position laid out by the NCD Department. Including rapid-acting analogue insulins in the EML and EMLc is consistent with WHO's global mandate to promote access, safety, and health equity. The clinical evidence is clear, the cost landscape is improving, and the need is urgent. WHO has the opportunity to support countries in delivering better diabetes care to those who need it most.

Thank you for your attention and your continued leadership in global health.

Sincerely,

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