

Insulin Market Memo

Rising demand, uneven access in low- and middle-income countries (2025-2035)

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NOVEMBER 2025: With the rising prevalence of diabetes, the global insulin market is growing rapidly—but access in low- and middle-income countries (LMICs) remains deeply inequitable. This memo offers a strategic overview of projected insulin demand, treatment coverage, product trends, and emerging risks across LMICs from 2025 to 2035. It draws on CHAI's internal forecasting models and market insights to inform shared planning and drive collaboration across the insulin ecosystem. While this memo focuses on demand-side trends, it is essential to underscore that insulin access also depends on a reliable and affordable supply.

Key Takeaways



The treatment gap is substantial and persistent.

Only 35 million of the 93 million people who need insulin in LMICs currently receive it—a 62 percent coverage gap driven primarily by undiagnosed type 2 diabetes (T2DM). Despite projected coverage doubling to 75 million by 2035, access will remain concentrated in upper-middle-income countries (UMICs).



Growth is geographically concentrated. South and East Asia will account for 70 percent of all new patients enrolled in treatment over the next decade. In contrast, sub-Saharan Africa, the Middle East and North Africa, and Latin America combined will contribute just 30 percent of new patients—despite rising diabetes prevalence.



Insulin access is splitting along income lines. Human insulin, particularly in vials, remains the foundation of treatment in most LMICs due to its lower cost and broader availability. In contrast, analog insulins delivered via pens are rapidly expanding in urban, middle-income settings. Without deliberate intervention, this divide could harden into two parallel systems, offering different standards of care based on geography and income.

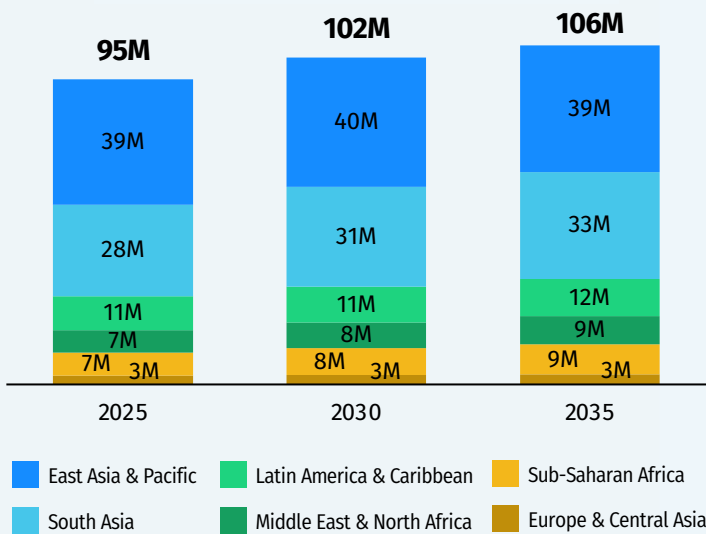


GLP-1 therapies are reshaping demand in wealthier markets. Uptake of GLP-1 medications for type 2 diabetes is expected to flatten insulin demand in UMICs, particularly in East Asia and Latin America.

Demand for insulin is rising, but growth is geographically concentrated

Insulin demand across LMICs is projected to rise from 95M to 106M people by 2035, driven by increasing diabetes prevalence. However, most of this growth is concentrated in lower-income countries, as GLP-1 therapy uptake begins to flatten demand in upper-middle-income markets like East Asia and Latin America. Where cost and availability constrain options, insulin will remain the primary—and often only—viable treatment.

Figure 1: Projected population in need of insulin in LMICs (2025-2035)



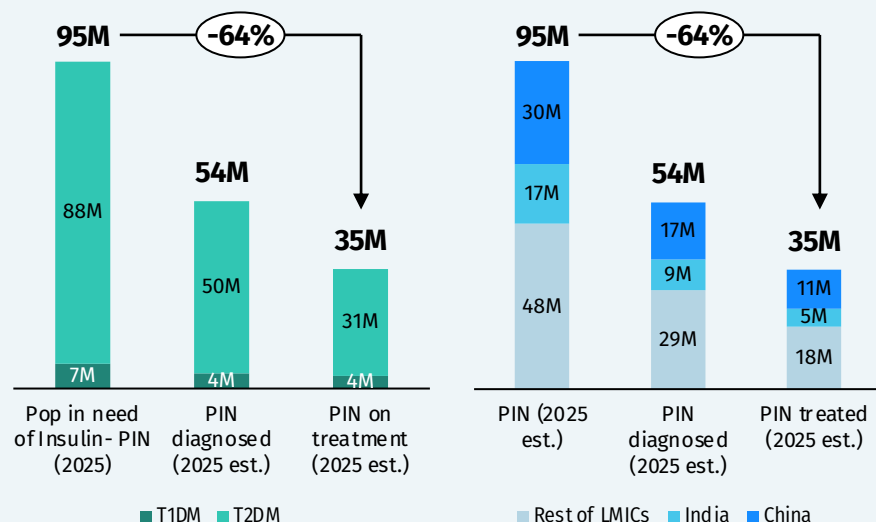
- While East Asia & Pacific (EAP) remains the largest potential insulin market, its demand is flattening—signaling a shift.** The region shows virtually no growth from 2025 to 2035, largely due to the projected uptake of GLP-1 therapies in countries such as China, where health systems are more advanced and patients may transition from insulin earlier. This signals a maturing treatment landscape.
- South Asia will drive over 40% of global demand growth, not due to rising prevalence, but due to its large population and slower adoption of alternative therapies.** GLP-1s remain out of reach for most, so insulin will remain the primary treatment. This creates both an opportunity to scale access and a risk of overdependence on insulin if new treatment options are not introduced.
- Sub-Saharan Africa (SSA) and the Middle East & North Africa (MENA) together account for over one-third of global growth in need, despite starting from a low base.** In SSA, mainly, the 39% increase in insulin need reflects both rising disease burden and population growth.
- Latin America and Eastern Europe show only marginal growth, suggesting that these markets may be stabilizing or transitioning.** As GLP-1s gain ground in urban and upper-income segments, insulin use may plateau or even decline, requiring manufacturers and governments to reassess volume forecasts and product strategies.

Access gaps are deep and persistent

Current gaps and drivers:

Across LMICs, only 35M of the 95M people in need of insulin are currently on insulin, leaving a 64% coverage gap, driven primarily by undiagnosed or untreated type 2 diabetes.

Figure 2: Snapshots of insulin access in LMICs: (left) T1DM and T2DM, (right) regional disparities



Type 1 diabetes (T1DM) represents a small share of the global diabetes burden but with a much higher unmet need: in LMICs, the true population is closer to 7.2M people in 2025 once missing prevalence is accounted for. Of these, only 3.8M are currently on treatment—highlighting a substantial diagnosis and treatment gap driven by late presentation, early mortality, and persistent access barriers.

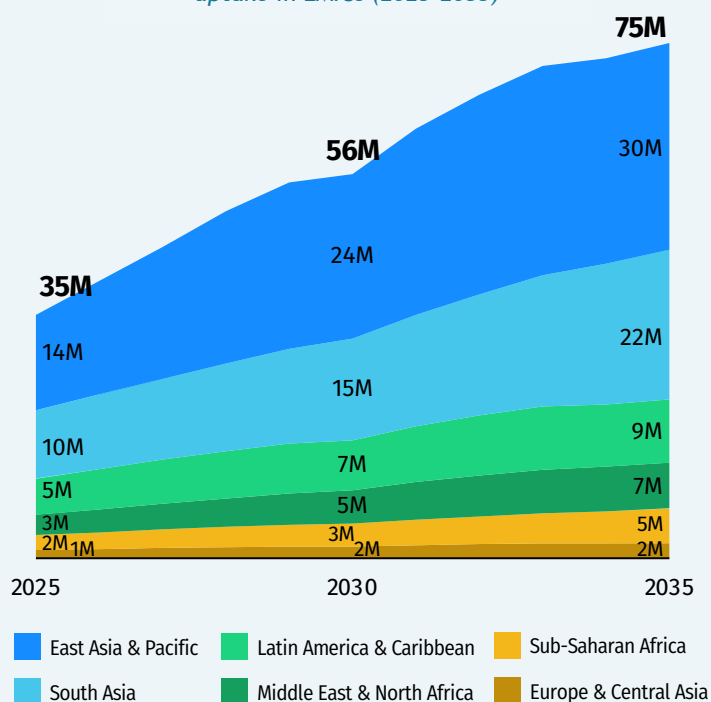
China and India together account for about 46% of both insulin need and coverage, skewing regional dynamics and masking deeper access gaps elsewhere.

⚠️ Diagnosis remains the most significant barrier to access, as nearly 40M people in LMICs in need of insulin are unaware of their condition. This reflects both health system failures and the asymptomatic nature of early-stage T2DM.

Forecasted growth and risks:

Over the next decade, insulin treatment is expected to expand dramatically. However, without deliberate efforts to ensure equity, progress will remain uneven. **Between 2025 and 2035, the number of people on insulin in LMICs is projected to more than double—from 35M to 76M, a 115% increase.** But this growth will be concentrated in just a handful of regions, underscoring persistent disparities in health system capacity.

Figure 3: Projected insulin treatment uptake in LMICs (2025-2035)



East Asia & Pacific and South Asia will account for nearly 70% of all new insulin-treated patients, reflecting stronger system readiness and diagnostic capacity. East Asia alone is expected to add 16M patients (from 14M to 30M), reinforcing its role as the largest insulin market in LMICs.

South Asia will add 12M patients (10M to 22M)—a 130% increase and the second-largest net gain globally. In contrast, sub-Saharan Africa, the Middle East and North Africa, and Latin America will together contribute only 30% of new patients enrolled on treatment, despite rising diabetes prevalence.

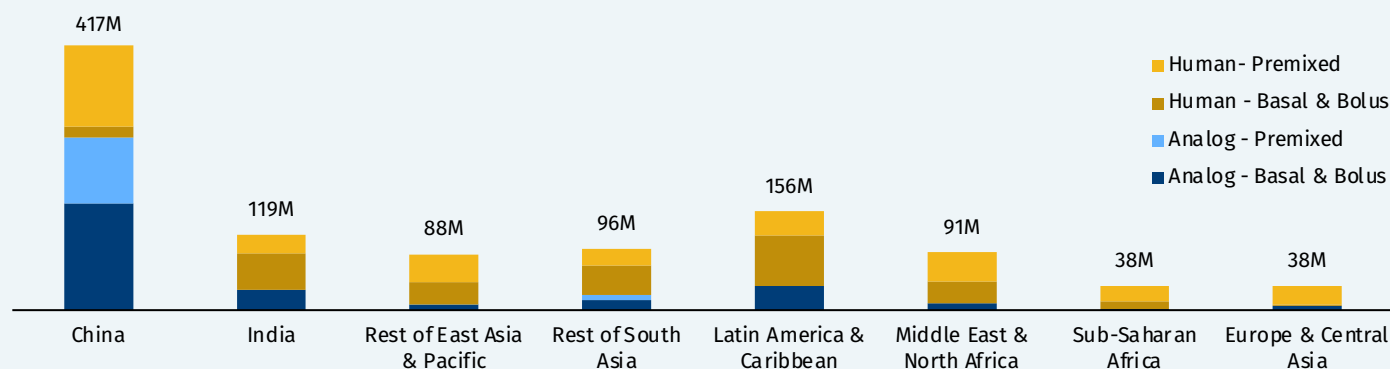
⚠️ In sub-Saharan Africa specifically, where CHAI has active NCD programs, insulin access remains constrained by limited public financing, high out-of-pocket costs, and persistent fears around insulin use among both providers and patients. Treatment is further hindered by the historical centralization of diabetes care in urban hospitals, limiting access for rural populations. These barriers continue to suppress treatment uptake, even where supply is available.

⚠️ The equity gap will widen, not narrow. Unless deliberate corrective action is taken, insulin scale-up will remain concentrated in UMICs—deepening the coverage gap and leaving lower-income regions behind.

Product fragmentation

The insulin product mix varies widely across LMICs along two key dimensions: insulin type (human vs. analog formulations) and delivery device (vials vs. pens). These choices are shaped by a complex interplay of affordability, clinical preferences, delivery infrastructure, and regulatory access.

Figure 4: Insulin types across LMIC regions (expressed in Million units)



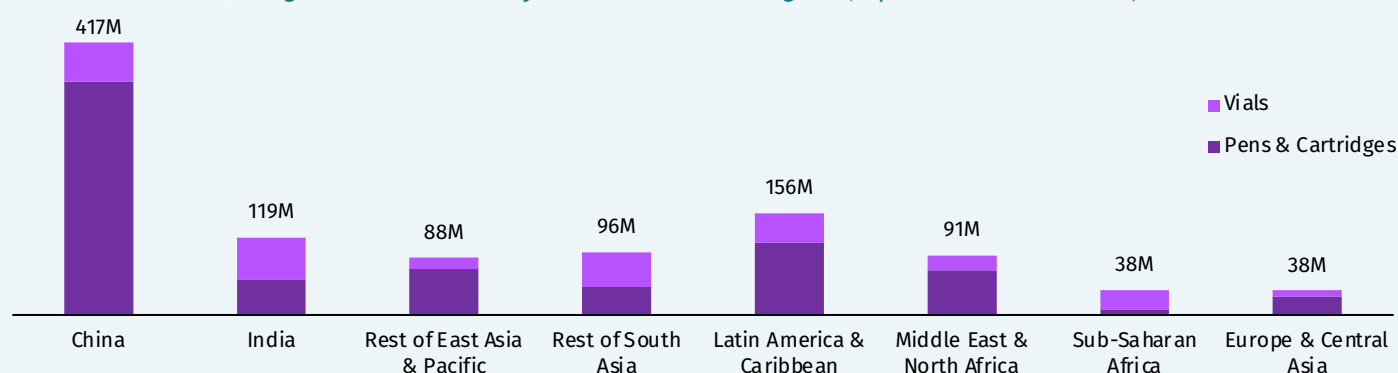
Human insulin still dominates, but analogs are emerging:

Human insulin remains the foundation of access in most LMICs, accounting for over 80% of the insulin market share in Sub-Saharan Africa, the Middle East and North Africa, and Eastern Europe. This is driven by lower cost, broader availability, and long-standing provider familiarity, especially with premix formulations.

Analogues are gaining ground in middle-income settings, with China leading the way at 65% analog use. Latin America and South Asia are also seeing uptake for analog above 20%. These shifts open new market opportunities for suppliers but also risk widening access gaps if analogs remain unaffordable and unavailable in LICs.

Premixed human insulin remains entrenched in LICs. In low-income settings—most notably in sub-Saharan Africa, Europe, and Central Asia—premix insulin use remains deeply embedded, driven by established prescribing practices, economic constraints, and the appeal of simpler treatment protocols relative to more flexible modern regimens.

Figure 5: Insulin delivery devices across LMIC regions (expressed in Million units)



Vials anchor LIC access, while pens drive growth in UMIC segments:

Vials remain dominant in lower-income countries, especially in sub-Saharan Africa (78%) and South Asia (<50%), where they are utilized as the default option in public-sector supply chains.

Pens dominate in higher-capacity markets, accounting for over 80% of insulin delivery in East Asia (including China) and over 70% in Latin America. Pen use correlates with analog uptake, greater patient segmentation, and more mature health systems.

Although pens and cartridges represent around 70% of insulin units sold in LMICs, only 43% of patients use them. This gap reflects differences in product size: pens typically contain 3 mL of insulin, whereas vials contain 10 mL, so patients on pens consume nearly 3 times as many units per year. As a result, unit sales can overstate the true reach of pens.

What will shape the future insulin landscape?

1

Market forces will not self-correct for equity.

Even with rising need, insulin management will only scale where diagnostic systems, procurement, and affordability align. LICs risk falling further behind without targeted investment in foundational access infrastructure.



What this means: Rising demand does not automatically lead to treatment scale-up. By 2035, an estimated 103 million people will need insulin, but access will depend on whether health systems can identify, reach, and sustainably treat them with the optimal insulin.

2

The two-tier insulin market risks becoming structural.

Pen-based analogs will continue to grow in urban, middle-income settings. In low-income settings, vials of human insulin will remain essential unless prices fall and new products gain regulatory traction.



What this means: Without deliberate affordability and regulatory reform, the current bifurcation — UMICs with analogs and pens, and LICs with human insulin and vials — will solidify into permanent parallel systems with fundamentally different standards of care based on geography and income rather than clinical need.

3

Product evolution is likely to be gradual and asymmetric.

Even as new products emerge, longstanding habits, such as premix human insulin vials in sub-Saharan Africa, will persist due to cost, familiarity, and limited delivery infrastructure.



What this means: Product mix changes will be slow and uneven. Prescriber practices, procurement policies, and patient expectations built over decades create inertia that new product availability alone cannot overcome. System-wide reorientation is required for transitions to occur when products become more affordable.

4

GLP-1 uptake in wealthy markets risks obscuring persistent insulin access gaps in poor ones.

GLP-1s may slow insulin demand in UMICs, while low-income settings may lack the resources to scale even basic diabetes care.



What this means: As GLP-1 therapies reduce insulin demand in wealthier LMIC markets, there's a risk of a misleading narrative that global insulin need is declining—when in reality, the poorest populations still cannot access even basic insulin therapy. Stakeholders must safeguard insulin as a public good and resist false trade-offs between supporting newer therapies in UMICs and foundational insulin access in LICs.

5

The supply side remains a critical force shaping insulin access. While this paper focuses on demand, supply-side constraints are not a secondary concern — they are a defining force that will shape how, where, and whether insulin access expands in LMICs. Factors such as limited supplier diversity, market exits, regulatory hurdles, and pricing pressures can block access even where demand systems are improving.



What this means: Demand-side readiness is necessary, but not sufficient. A resilient, diversified supply base is essential to translate need into actual treatment. CHAI will explore these supply-side dynamics—and their implications for affordability, competition, and regional manufacturing—in a follow-up memo.



Bottom line: growth won't equal access without deliberate action

Insulin coverage in LMICs is set to more than double by 2035 — *but without targeted investment and system reform, access gaps will deepen.*

Getting insulin to everyone who needs it will require a concerted effort across affordability, supply systems, and primary care delivery—and a shared commitment to closing the access gap, not just expanding the market.

Methodological notes

Input type	Overview	Sources
Countries in scope	• 120 LMICs, acknowledging several LMICS were not included: Kazakhstan, Serbia, Turkmenistan, Ukraine, Belarus, Bosnia and Herzegovina, Armenia, Moldova, Montenegro, Kosovo, Maldives, Micronesia, St Lucia, St Vincent & the Grenadine and similar small island states	A small number of countries were excluded from the scope for one of two reasons: • Geographic and market alignment with high-income markets: Countries such as Kazakhstan, Serbia, Ukraine, Belarus, and others in Eastern Europe and Central Asia are typically considered part of the European commercial market by most suppliers. • Insufficient or inconsistent data availability: Small island states (e.g. Micronesia, Maldives, St Lucia, St Vincent & the Grenadines) were excluded due to limited publicly available data or highly variable procurement and consumption patterns that are not generalizable to broader trends. These exclusions were made to preserve the accuracy and comparability of demand modeling. They do not reflect a lack of need or importance, and CHAI remains committed to supporting country-specific efforts where data and partnerships allow.
Population & Patient Profile	• Prevalence of T1DM and T2DM by region • Patient weights by age and diabetes type, Insulin-requiring T2DM rates	• IDF, T1DM • Expert interviews, literature review
Clinical Treatment Assumptions	• T1DM: 100 percent on basal-bolus regimen • T2DM: only a subset of T2DM required insulin, out of those, 75 percent on basal only, 25 percent on basal-bolus • Insulin needs (IU/kg/day) based on patient type • Hypoglycemia incidence rates	• Literature review, expert interviews
Product and Supply Data	• Vial vs. pen usage by country (Klatman et al., procurement data) • Product mix: Human insulin vs. analogues, premixes • SKU consumption assumptions (vial: 1000 IU, pen: 300 IU)	• IQVIA® data, CHAI forecast data, literature review
Market Dynamics and Growth Factors	• WHO 2030 diagnosis and treatment targets • GLP-1 displacement assumptions by income level • Diagnosis and treatment rate growth (region-specific models)	• WHO targets, expert interviews
Clustering Methodology	• Countries were grouped by region and income level to apply typical insulin use patterns. • Cluster assumptions included product preferences (e.g., human vs. analog insulin), delivery mode (vial vs. pen and public vs. private sector trends)	• Clustering leveraged World Bank health spending data, procurement data (e.g., CHAI, IQVIA®) and country-specific research. • Final clusters helped tailor the forecast to realistic market dynamics rather than applying a one-size-fits-all model.