### ACCESS TO MEDICINE FOUNDATION

## Access to diabetes care for children and young people: Pharma companies' current actions and opportunities ahead

### MAY 2025

Children and young people living in low-and middle-income countries face gross inequities when it comes to the diagnosis and treatment of type 1 diabetes. Without sustainable access to diabetes care, they are unable to manage this chronic condition, leading to severe outcomes that are entirely preventable. With global cases of type 1 diabetes among children and young people expected to reach 2.2 million by 2040, this report sheds light on current efforts to address access challenges and practical solutions to ensure children and young people get the care they need.



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### ACCESS TO MEDICINE FOUNDATION

The Access to Medicine Foundation is an independent non-profit organisation that seeks to transform the healthcare ecosystem by motivating and mobilising companies to expand access to their essential healthcare products in low- and middle-income countries.

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### About this report

This report is part of the Access to Medicine Foundation's Diabetes Care Programme. By assessing how pharmaceutical companies are addressing the access gap in low- and middle-income countries (LMICs), the Foundation aims to incentivise these companies to improve the availability of diabetes care products in these countries.

This report provides a landscape analysis of how companies are addressing the access gaps affecting children and young people (under 30 years) living with type 1 diabetes (T1D) in LMICs. In contrast to type 2 diabetes (T2D), which progresses slowly and can be managed with a variety of medicines, T1D requires immediate and continuous insulin administration, as well as continuous blood glucose monitoring, starting from diagnosis. T1D is often diagnosed in young children, who require support both at home and in school to manage their condition and adapt to lifelong changes.

This report specifically analyses the actions of the three largest insulin manufacturers: Eli Lilly and Company,\* Novo Nordisk and Sanofi. One major manufacturer of biosimilar insulins, Biocon Limited,\*\* is also in scope. These companies were profiled in the Diabetes Care Programme's 2022 report on access to insulin. They were selected for inclusion in this report because Lilly, Novo Nordisk and Sanofi are leaders in the global insulin market: they produce 83% of the insulin sold in LMICs, where they hold approximately 95% of the market share.<sup>1</sup> Biocon, although much smaller than the other three companies, is a key player in the biosimilar insulin space. The report examines 11 initiatives, implemented or supported by these four companies, that specifically focus on children and young people living with T1D in LMICs. It is important to note that these initiatives are not profiled in detail and may involve additional activities beyond what is shared in this report. To provide context and support the information presented, the report also highlights activities from other companies and implementing organisations.

### HOW THIS REPORT WAS DEVELOPED

The content in this report has been drawn from data available in the public domain, peer-reviewed literature, and global health and policy reports. The report was further informed by data collected for the 2024 Access to Medicine Index, as well as additional data collected specifically for the purpose of this publication and consultations held with experts in the diabetes care field.

This report is focused on the context and actions taking place in 113 LMICs that are home to over 80% of the world's population, using the same inclusion criteria as the 2024 Access to Medicine Index.

\*Eli Lilly and Company will be referred to as Lilly throughout the rest of this report. \*\*Biocon Biologics Limited is a subsidiary of Biocon Limited and is responsible for Biocon Limited's global biosimilars

portfolio. Throughout this report, the term Biocon is used to refer to the subsidiary, Biocon Biologics Limited.

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### **Executive summary**

Children living with type 1 diabetes (T1D) can survive and go on to lead long, healthy lives with the right care. Yet, in low- and middle-income countries (LMICs), far too many children and young people (CYP) are still dying from this manageable disease because they lack access to timely diagnosis and treatment. In 2024 alone, an estimated 30,113 preventable deaths occurred in people under 19 years of age due to T1D, with nearly 40% (11,352) in sub-Saharan Africa - the highest burden of any region.<sup>29a</sup> As T1D cases continue to rise among CYP, so does the urgency to make lifesaving insulin and other essential diabetes care products available where they are needed most. In response to this pressing issue, dedicated initiatives have been established to provide diabetes care specifically for CYP. This report examines how Lilly, Novo Nordisk and Sanofi – three companies that are key players in global insulin production, including in LMICs – along with leading biosimilar insulin manufacturer, Biocon, back 11 such initiatives providing support to CYP living with T1D in LMICs. Collectively, these 11 initiatives operate in 71 LMICs in scope. However, they are largely sustained by donations and are reaching a limited number of CYP living with T1D in these countries through the provision of diabetes-related products.



#### WHAT DOES THE REPORT FIND?

Companies are backing initiatives that supply essential diabetes care products and commodities, strengthen local healthcare systems or combine both to improve diabetes care for CYP in LMICs. **Five main findings** help chart the current landscape of these initiatives, highlighting what progress is being made, where challenges persist, and what still needs to be done to scale access for CYP living with T1D.

-	5 MAIN FINDINGS
-•	1. While over 50% of LMICs in scope are being covered by company-supported initiatives, only a limited number of CYP are being reached across these countries.
-•	<b>2.</b> Three companies are taking steps to broaden the types of products they provide to initiatives, including the provision of insulin analogues and pens in certain LMICs.
-•	<b>3.</b> All four companies contribute to capacity building initiatives – including educa- tional efforts – within the CYP-focused initiatives they support.
-•	<b>4.</b> All four companies provide donations to at least one of the 11 initiatives, which can pose risks to the long-term certainty of an initiative.
-•	5. CYP's access to long-term, affordable diabetes care remains a critical challenge

Read more on p.22-23 of the report.

### SAFEGUARDING AND SCALING ACCESS TO DIABETES CARE FOR CYP AMID SUCCESSES LIKE GLP-1 RECEPTOR AGONIST BLOCKBUSTERS

We are in an era of unprecedented demand for diabetes care products, with the number of people living with T1D projected to nearly double in the next 16 years, reaching 16.4 million globally by  $2040.^{63}$  At the epicentre of this crisis are LMICs, where the burden is expected to grow disproportionately.

At the same time, recent decades have ushered in a number of breakthroughs in diabetes care. From new insulin formulations and delivery devices to groundbreaking treatments like GLP-1 receptor agonists for obesity and diabetes, these innovations hold the potential to dramatically improve care and the quality of life for millions.

Yet, as companies race to capitalise on these advancements – driven by high profits and demand from high-income markets – they must not neglect the most vulnerable. Today, insulin remains out of reach for half of those who need it, meaning that for many CYP living with T1D in low-resource settings, diabetes care is not about effective management but mere survival.<sup>64</sup> Even when they do gain access to treatment,

it often falls below the standard of care offered elsewhere, highlighting stark disparities.

But companies have the power to change this. By making their products more accessible and ensuring that the diabetes treatments and technologies best suited to CYP are available where they are needed most, they can not only save countless lives but also enhance them. This way, no child will be left behind in the evolving landscape of diabetes care.

> 5 RECOMMENDATIONS FOR COMPANIES Read more on p.24-25 of the report.

## Current state of access to type 1 diabetes care for children and young people in lowand middle-income countries

In 2024, approximately 9.1 million people were living with type 1 diabetes (T1D), including 1.8 million children and young people (CYP).<sup>2a</sup> T1D is not only one of the most prevalent chronic diseases affecting children; its incidence is also on the rise. In 2024 alone, over 219,000 new cases of T1D were reported globally in individuals under the age of  $20.^{2a}$ 

The burden of T1D is particularly acute in low- and middle-income countries (LMICs), where various obstacles can exacerbate the challenges of managing the condition. Factors such as limited awareness and education, inadequate healthcare infrastructure and a lack of specialised care often lead to T1D being undiagnosed or misdiagnosed, delaying critical treatment and increasing the risk of long-term complications and even death.<sup>3</sup> Even when correctly diagnosed, children with T1D in these regions face ongoing difficulties in accessing the resources they need, such as insulin, delivery devices, monitoring equipment and education for both themselves and their families on managing their condition (see figure below).

For children living in LMICs, reliable access to these resources is not just a matter of maintaining health – it is a matter of survival. The stark contrast in health outcomes for children, based on where they live, illustrates the impact of access to care: in some sub-Saharan African countries, a ten-year-old with T1D may only live until age 19, while in high-income countries, life expectancy can exceed 75 years.<sup>4</sup>



**1.8 million** children and young people were living with type 1 diabetes in 2024.<sup>2a</sup>



**219,000** new cases of type 1 diabetes were reported globally in individuals under the age of 20 in 2024.<sup>2a</sup>



In some sub-Saharan African countries, a 10-year-old with T1D **may only live until age 19**, while in high-income countries, life expectancy can exceed 75 years.<sup>4</sup>

### WHICH TYPES OF PRODUCTS DO CHILDREN AND YOUNG PEOPLE LIVING WITH TYPE 1 DIABETES NEED ACCESS TO?



#### TREATMENT

Insulin is an essential hormone that helps regulate blood glucose levels. Type 1 diabetes (T1D) is fatal without it.

- Human insulin mimics the body's natural insulin production and comes in various forms.
- Insulin analogues are newer products with a targeted onset and duration of action, enabling more precise blood sugar control.

Without insulin T1D is fatal



### DELIVERY DEVICES

Essential to enable people living with diabetes (PLWD) to administer insulin effectively.

- Syringes & needles are used to draw insulin when it is provided in a vial and to administer the medicine.
- Insulin pens are an alternative to insulin syringes and can be prefilled with insulin or fitted with a replaceable insulin cartridge.
- Insulin pumps are small electronic devices that deliver insulin following a pre-programmed schedule or automatically according to blood sugar levels.



### MONITORING DEVICES

Essential for PLWD to frequently monitor their blood sugar levels.

- Self-monitoring blood glucose
   (SMBG) devices are small portable devices. PLWD use a lancet to prick their finger and a test strip to capture a drop of blood, so that the device can measure their blood sugar level.
- Continuous glucose monitoring (CGM) devices track blood glucose continuously throughout the day. They include a disposable sensor which conducts readings every few minutes and sends this information to a transmitter, or a separate device, such as a smartphone.

## HOW ARE CHILDREN AND YOUNG PEOPLE CURRENTLY GETTING ACCESS TO DIABETES CARE PRODUCTS?

Lilly, Novo Nordisk and Sanofi are leaders in the global insulin market, collectively holding over 95% of the market share in LMICs, while Biocon has emerged as a strong player in the biosimilar insulin market.<sup>1</sup> These companies offer diverse portfolios of diabetes treatments and delivery devices, all of which are crucial for managing T1D effectively. Together, their large market share and unique portfolios position them to redefine access to essential products for millions worldwide.

### COMPANIES' BROADER INITIATIVES TO EXPAND ACCESS TO DIABETES CARE ARE NOT SPECIFICALLY DESIGNED TO TARGET CHILDREN AND YOUNG PEOPLE

As highlighted in the Access to Medicine Foundation's 2022 report on access to insulin and the 2024 Access to Medicine Index, these companies have introduced a range of initiatives not only to expand access to their products but also to enhance overall diabetes care for people living with T1D in LMICs.<sup>5,6</sup> Their strategies include price ceilings, technology transfers, ad-hoc donations, supply chain capacity building initiatives, country-specific pricing strategies and other models aimed at addressing affordability and availability challenges, among other efforts.

"The large market share and unique portfolios of Biocon, Lilly, Novo Nordisk and Sanofi position them to redefine access to essential products for millions worldwide."

## EXAMPLES OF SOME OF THE COMPANIES' BROADER INITIATIVES TO EXPAND ACCESS TO DIABETES CARE

- Biocon has set a goal to make insulin accessible and affordable for one in five individuals worldwide who are insulin-dependent.<sup>7</sup> To date, the company has provided over 7.3 billion doses of recombinant human insulin and insulin analogues globally. Beyond this, Biocon implements strategies such as capacity building efforts, price ceilings and donations. Through its Mission 10 Cents strategy, which concluded in late 2022, Biocon provided recombinant insulin in vials for less than 10 cents per day in Ghana, Mozambique, the Philippines and Tanzania. Currently, Biocon is focusing on reducing the price of biosimilar insulin analogues, particularly glargine. As of April 2024, Biocon is also funding Diabetes Africa, a UK-based non-profit, to train nurses in primary healthcare facilities in Ethiopia on managing type 1 (T1D) and type 2 diabetes (T2D).
- Lilly, through its 30x30 initiative, aims to reach 30 million people annually with quality healthcare by 2030. The initiative primarily focuses on those affected by non-communicable diseases (NCDs), including diabetes, in resource-limited settings. In 2023, the initiative reached 18 million people.<sup>8</sup> The initiative includes, among other strategies, donations to humanitarian organisations and other partners, capacity building efforts, a technology transfer and country-specific pricing strategies. As part of its 30x30 initiative, Lilly participates in a technology transfer with EVA Pharma in Egypt. This technology transfer aims to produce and distribute human insulin and insulin analogue to 56 LMICs, primarily in Africa, and reach at least one million people annually by 2030.9 In December 2024, the insulin analogue, insulin glargine injection, produced by EVA Pharma was approved by the Egyptian Drug Authority and the first batch of insulin was released.<sup>10</sup> Lilly and EVA Pharma are continuing to work with the World Health Organization (WHO) to secure pre-qualification for the human insulin injection. Lilly is also partnering with International Agencies (Bangladesh) Ltd. (IABL) to supply active pharmaceutical ingredient (API) at a reduced price so that IABL can formulate, fill and finish human insulin vials and cartridges. The aim of the partnership is to reach one million people living with diabetes in Bangladesh by 2030.11

- Novo Nordisk employs several strategies to improve access to diabetes care, particularly for its human insulins. These include its Access to Insulin Commitment, which sets a price ceiling of USD 3 per vial in 77 countries and USD 2 per vial for select humanitarian organisations and NGOs. In 2023, 2.4 million people were reached through the Commitment, which is a key component of the company's Defeat Diabetes strategy.<sup>12,13</sup> Through its model, iCARE, Novo Nordisk aims to reach over 2 million vulnerable people with diabetes in sub-Saharan Africa\* and Indonesia by 2030. As of 2024, the programme had reached 433,000 people.14 Additionally, the company contributes to technology transfers to expand human insulin production. Since 2009, Novo Nordisk has partnered with Eskayef Pharmaceuticals Limited (SK+F) in Bangladesh to produce approximately three million insulin vials annually. In 2022, SK+F expanded production to include insulin cartridges.<sup>15</sup> In 2023, Novo Nordisk established a partnership with Aspen Pharmacare Holdings Limited and Aspen SA Operations (Pty) Ltd in South Africa to fill and finish human insulin vials.12
- Sanofi employs a combination of strategies to enhance access to diabetes care in LMICs, such as ad-hoc product donations, capacity building initiatives, other access programmes, country-specific pricing strategies and other models. Through its model, the Global Health Unit (GHU), Sanofi aims to provide care for 2 million people with NCDs, including 300,000 people living with diabetes, across 40 LMICs by 2030.<sup>16</sup> As part of this effort, the company is working to expand access to insulin analogues. As of January 2025, the GHU has reached over 790,000 individuals with NCD treatments, including through its Impact® brand, the company's non-profit second-brand strategy.<sup>17</sup> In November 2023, Sanofi launched its AccesS Diabetes programme, which is complementary to the GHU and aims to support approximately 190,000 people living with either T1D or T2D. diabetes. The programme focuses on promoting sustainable and equitable access to healthcare through comprehensive care solutions and includes measures to ensure affordable access to insulin analogues in countries with the highest burden of disease.18

Despite these efforts, a significant portion of the global population living with diabetes continues to be left behind. For example, the public commitments of Lilly, Novo Nordisk and Sanofi to expand access to their products currently address only about one percent of the diabetes prevalence (both T1D and T2D) across the 113 LMICs in scope of the Foundation's work. This accounts for just a fraction of the over 350 million cases in these countries, out of a global total of 525 million cases.<sup>19</sup>

There is no explicit evidence of broader initiatives from companies specifically targeting CYP, with the exception of Sanofi's Global Health Unit (GHU). Through this initiative, Sanofi has implemented many projects with local partners in LMICs, one of which was identified as having a dedicated focus on CYP.\*\* While it is likely that some CYP living with T1D are receiving support from other broader efforts in the countries where they are implemented, access to diabetes care products remains a persistent challenge for CYP in many LMICs. With these initiatives already falling short of addressing the vast numbers of people in need of care, it means that CYP are also being underserved.

\*iCARE also operates in Djibouti, which, according to the World Bank's classification, is not considered part of sub-Saharan Africa.

\*\*This initiative, Thrive T1D, in partnership with Action4Diabetes (A4D), is analysed later in this report.

### ELEVEN INITIATIVES SUPPORTED BY THE FOUR COMPANIES FOCUS SPECIFICALLY ON THE NEEDS OF CHILDREN AND YOUNG PEOPLE IN LOW- AND MIDDLE-INCOME COUNTRIES

CYP living with T1D also face especially unique challenges compared with adults when managing their condition. Younger children, for example, might be unable to monitor their blood sugar levels or administer insulin without help, making it critical for them to receive tailored support.

To address these challenges, some companies have introduced or support initiatives specifically designed to improve diabetes care for CYP. This report focuses on 11 initiatives implemented or supported by Biocon, Lilly, Novo Nordisk and Sanofi. These initiatives focus on making essential products available, capacity building or a combination to address the urgent gaps in diabetes care for CYP. While the broader initiatives of companies play a crucial role in strengthening overall diabetes care, it is important to assess CYP-focused initiatives separately because they specifically respond to the unique challenges faced by CYP and provide targeted solutions to critical gaps in diabetes care.

The accompanying table provides a high-level overview of the 11 initiatives supported by the four companies, with further details presented in the subsequent sections of this report. Biocon, Lilly, Novo Nordisk and Sanofi often act as co-leads or contributors to these initiatives, collaborating closely with industry and non-industry partners. For this reason, the report refers to these companies as "implementing" or "supporting" the initiatives. The companies' contributions to these initiatives vary widely and may include product donations, products at discounted prices, financial contributions or other forms of support.

### TABLE 1 The 11 initiatives are all partnerships and focus on making essential diabetes products available, building capacity or a combination.

	Partners	Initiative	Eligible	Number of	Timeframe	Compo	nents	Initiative reach
Company			age range	LMICs in scope where active		Product delivery*	Capacity building**	and results
BIOCON	• Research Society for the Study of Diabetes in India (RSSDI)	Biocon & RSSDI Initiative for Diabetes Knowledge in Type 1 patients (BRIDGE-1)	Under 18 years old	1 (India)	2021 - 2023	✓	$\checkmark$	<ul> <li>1,201 children provided with human and insulin analogue to date</li> <li>450 healthcare providers (HCPs) trained in T1D management by RSSDI core committee members to date</li> </ul>
	• Action4Diabetes (A4D)	Partnership with A4D	Up to 21	1 (Myanmar)	August 2023 – July 2026	$\checkmark$		• <b>120</b> young people provided with insulin analogue, reusable pens and other diabetes-related products to date

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	Partners	Initiative	Eligible	Number of	Timeframe	Compo	nents	Initiative
Company			agerange	scope where active		Product delivery*	Capacity building**	
	<ul> <li>A4D</li> <li>Taskforce of healthcare professionals; people living with T1D; parents with a child living with T1D, etc.<sup>20</sup></li> </ul>	HelloType1 programme	No age limit	4***	2023 - 2025		✓	• <b>40,361</b> users reached through the online platform to date
	<ul> <li>Industry partners<sup>+</sup>: Abbott Diagnostics; embecta<sup>+</sup>; i-SENS; LifeScan; Medtronic Diabetes Europe; Roche Diagnostics; Siemens Healthineers; Trividia Health</li> <li>NGOs and Foundations (the Leona M. and Harry B. Helmsley Charitable Trust, Breakthrough T1D, Direct Relief, International Society for Pediatric and Adolescent Diabetes (ISPAD), Insulin for Life, #dedoc<sup>o</sup>, Caring &amp; Living As Neighbours (CLAN), Foundation for Innovative New Diagnostics (FIND), A4D)</li> <li>Research institutions (e.g., Barbara Davis Center, Children's Hospital Oakland Research Institute, London School of Hygiene and Tropical Medicine)<sup>21</sup></li> </ul>	Life for a Child	• Up to 26 • Up to 30 in 17 LMICs	52	2009 <sup>§</sup> – no end date reported∥	•	~	<ul> <li>58,900 children and young people supported in 2024<sup>22</sup></li> <li>54,304 children and young people reached with human insulin, or a combination of human insulin and insulin analogue in 2024<sup>22</sup></li> <li>8.1 million vials and cartridges of insulin provided to date<sup>8</sup></li> </ul>
<b>LILLY</b>	<ul> <li>Breakthrough T1D</li> <li>Community and clinical partners (e.g., the Impact Network)</li> <li>Research institutions (the Research Society for the Study of Diabetes in India, the Indian Society for Paediatric and Adolescent Endocrinology, the Endocrine Society of India)</li> <li>William J. Clinton Foundation (WJCF)</li> <li>The Leona M. and Harry B. Helmsley Charitable Trust<sup>23</sup></li> </ul>	Partnership with Breakthrough T1D (formerly JDRF)	Up to 30	1 (India)	December 2023 – no end date reported <sup>  </sup>		<b>√</b>	• Established <b>12</b> T1D clinics in Rajasthan, India
	<ul> <li>UNICEF</li> <li>LMIC governments and other partners, such as health facilities<sup>24</sup></li> </ul>	Partnership with UNICEF	Up to 19 <sup>25</sup>	6	2022 - 2025¶ 2024 - 2030		✓	<ul> <li>Over 900,000 individuals reached with awareness messages on NCD prevention between 2022 and 2023</li> <li>More than 12,000 health and community workers trained on NCD prevention and management between 2022 and 2023</li> <li>Hundreds of children screened for NCDs to date</li> </ul>
	• A4D • Direct Relief	Product donations to A4D (Laos)	Up to 25	1 (Laos)	2023 - 2030	✓		• 71 young people provided with human and insulin analogue in cartridges and reusable pens to date

>> the table continues on the next page

	Partners	Initiative	Eligible	Number of	Timeframe	Compo	onents	Initiative
Company			age range	LMICs in scope where active		Product delivery*	Capacity building**	reach and impact
NOVO NORDISK	<ul> <li>Roche Diagnostics</li> <li>ISPAD</li> <li>World Diabetes Foundation (WDF)</li> <li>National ministries of health in partner countries</li> <li>Implementing partners (e.g., local diabetes associations, NGOs, health facilities, faith-based organisations, international organisatons and other organisa- tions involved in diabetes care)</li> <li>Academic and research institutions (Health System Innovation Lab at the Harvard T.H. Chan School of Public Health)</li> <li>T1D Registry</li> </ul>	Changing Diabetes® in Children (CDiC)	Up to 25	29	2009 – no end date reported <sup>  </sup>			<ul> <li>64,743 children and young people reached with diabetes care, which can include insulin, blood glucose monitoring equipment and medical supplies, to date<sup>26</sup></li> <li>Over 3.8 million vials of insulin donated to date</li> <li>55,448 children currently enrolled to date<sup>26</sup></li> <li>Over 228,000 education sessions for children and young people conducted to date</li> <li>Over 12,000 children attended diabetes camps to date</li> <li>28,000 HCPs trained to date<sup>26</sup></li> <li>586 clinics refur- bished to date<sup>26</sup></li> </ul>
	• A4D	Novo Nordisk Pharma (Thailand) partnership with A4D	No age limit	1	2023 - 2025		$\checkmark$	<ul> <li>Digital content received 525 views to date</li> <li>3 children received the ASPIRE scholarship to date</li> </ul>
	<ul> <li>International Diabetes Federation (IDF)</li> <li>ISPAD</li> <li>LMIC governments, health facilities, NGOs etc.</li> </ul>	Kids and Diabetes in Schools (KiDS)	6-14	11#	2013 – no end date reported		$\checkmark$	• 687,000 children, 27,000 teachers and other school staff trained to the end of 2024
SANOFI	• A4D	ThriveT1D	No age limit	3	2023 - 2025	<b>√</b>	~	<ul> <li>Four T1D Family Camps reached over</li> <li>330 children and young people and their caregivers in</li> <li>Laos and Cambodia to date<sup>27</sup></li> <li>608 HCPs trained to date</li> </ul>

- Product delivery components may include not only insulin but also delivery devices (such as syringes and pens), glucose monitoring devices and related commodities (e.g., test strips, lancets, pen needles and needles).
- \*\* Capacity building components may include education, advocacy and awareness-raising for children and adolescents living with T1D and their support networks, training for healthcare providers and infrastructure development.
- \*\*\* The initiative will expand to three more LMICs in scope (Indonesia, Laos and the Philippines) by the end of 2025.
- <sup>+</sup> The companies listed provided support during the period of analysis for this report, but some may have ceased their support since then.
- Following the spin-off of embecta as a separate company, embecta's continued support for Life for a Child from 2025 onward has yet to be confirmed.

- § The programme launched in 2000, with Lilly contributing since 2009.
- II Although no end date has been reported, the initiatives have set patient reach targets for 2030.
- I The initiative is active in Bangladesh, Malawi, Nepal, the Philippines and Zimbabwe from 2022 to 2025. In India, the initiative runs from 2024 to 2030. The reach and impact numbers are applicable for all countries, excluding India.
- # Number of LMICs in scope where a structured version of the initiative is currently operating or has been implemented in schools. Additionally, ad-hoc sessions have been conducted in over 45 countries.<sup>28</sup>

## Analysis of 11 company-supported initiatives specifically targeting children and young people

### Country coverage

Encouragingly, more than half (71/113) of the LMICs in scope are covered by at least one of the 11 initiatives targeting children and young people (CYP) living with type 1 diabetes (T1D). Notably, this includes 21 low-income countries (LICs),\* such as Syria, Somalia and Sudan, where T1D prevalence among CYP under the age of 20 is more than twice the average across the 113 countries in scope.<sup>29</sup>



1 - 2 initiatives reach this country
 3 - 4 initiatives reach this country
 5 - 6 initiatives reach this country
 None/not in scope

Despite this wide reach, significant gaps in diabetes care persist, even in the countries supported by these initiatives.<sup>2</sup> Of the 11 initiatives analysed, six are delivering essential diabetes care products to CYP living with T1D in LMICs; five of these initiatives report the number of CYP who receive insulin and supplies through their efforts. This data shows that, despite their valuable support, the initiatives are realistically able to reach only a small portion of CYP living with T1D in the countries they cover. In 2023, for example, there were an estimated 825,000 CYP living with T1D residing in the countries covered by the initiatives. During that year, the five

\*When analysing the country coverage of the company-supported initiatives, the use of LMIC refers to lower-middle-income countries as per the World Bank income groups classification. Likewise, the terms LIC and UMIC refer to low-income countries and upper-middle-income countries. initiatives were able to collectively reach only around 8% – or roughly 70,000 – of the CYP in need with diabetes care products. The actual gap in care was likely even larger, as limited data and undiagnosed cases mean many CYP living with T1D are left unaccounted for.

This underscores the scale of the problem and the need for urgent action, especially as T1D cases continue to rise globally. While companies alone are not responsible for closing these gaps, scaling up support in lower-middle-income countries and LICs in particular is critical. These regions often have the largest disparities in diagnosis and access to care, making increased efforts essential to ensuring lifesaving treatment reaches those most in need.

# Which diabetes care products do children and young people in low-and middle-income countries receive via initiatives?

Of the 11 initiatives targeting children and young people (CYP), six supply insulin and/or other diabetes care products needed for the treatment of T1D. As set out in the table below, all four companies – Biocon, Lilly, Novo Nordisk and Sanofi – supply products or provide funds to purchase products to at least one of these initiatives, primarily through donations.

### TABLE 2 Insulin and other essential diabetes-related products supplied by the four companies in scope

The table provides an overview of diabetes-related products and financial contributions that companies provide to the six initiatives, which, in turn, supply them to children and young people. The range of products supplied through these initiatives may vary over time, depending on factors such as country-specific needs and a country's ability to procure products. Other companies, including device manufacturers, also supply diabetes-related products to these initiatives. Their contributions are summarised in Appendix III on p.28.

Company	Initiative	Products supplied
Biocon	Biocon & RSSDI Initiative for Diabetes Knowledge in Type 1 patients (BRIDGE-1)	<ul> <li>Human insulin – in vials (donation)</li> <li>» Short-acting</li> <li>Insulin analogue – in vials (donation)</li> <li>» Long-acting, insulin glargine (Basalog<sup>®</sup>)</li> </ul>
	Partnership with Action4Diabetes (A4D)	<ul> <li>Insulin analogue – cartridges (discounted price) » Long-acting, insulin glargine (Insunova-G®)</li> <li>Reusable insulin pens (Insupen®) (donation)</li> <li>Financial contributions to buy syringes</li> <li>Financial contributions to buy pen needles</li> <li>Financial contributions to cover disease management costs (e.g., to purchase test strips, lancets)</li> </ul>
Lilly	Life for a Child	<ul> <li>Human insulin – cartridges (donation) <ul> <li>Short-acting (Humulin<sup>®</sup>)</li> <li>Intermediate-acting, isophane human insulin (Humulin N<sup>®</sup>)</li> <li>Intermediate-acting/short-acting, isophane human insulin/human insulin (Humulin 70/30<sup>®</sup>)</li> </ul> </li> <li>Insulin analogue – cartridges (donation) <ul> <li>Long-acting, insulin glargine (Basaglar<sup>®</sup>)</li> </ul> </li> <li>Reusable insulin pens (donation) <ul> <li>Financial contributions to cover packing and shipping costs</li> </ul> </li> </ul>
	Product donations to A4D	<ul> <li>Human insulin – in cartridges and reusable pens (donation) <ul> <li>Intermediate-acting/short-acting, isophane human insulin/human insulin (Humulin 70/30<sup>®</sup>)</li> </ul> </li> <li>Insulin analogue – in cartridges and reusable pens (donation) <ul> <li>Rapid-acting, insulin lispro (Humalog<sup>®</sup>)</li> <li>Long-acting, insulin glargine (Basaglar<sup>®</sup>)</li> </ul> </li> <li>Reusable insulin pens (donation)</li> </ul>

\*To calculate this percentage, it was assumed that every child or young person reached via Life for a Child and CDiC

>> the table continues on the next page

14 received insulin. However, in some LMICs where the government already provides insulin, these initiatives may not supply it, leading to a potential overestimate of insulin coverage. Furthermore, the age range used from prevalence data provided by the Type 1 Diabetes Index does not precisely align with the target age range of the initiatives, potentially leading to an overestimate of the number of CYP reached. In addition, the companies in scope may be reaching more CYP living with T1D via their broader access initiatives. However, these do not specifically target CYP.

Company	Initiative	Products supplied
Novo Nordisk	Changing Diabetes in Children® (CDiC)	<ul> <li>Human insulin - in vials or pens (donation) <ul> <li>Short-acting (Actrapid<sup>®</sup>)</li> <li>Intermediate-acting, isophane human insulin (Insulatard<sup>®</sup>)</li> <li>Intermediate-acting/short-acting, isophane human insulin/human insulin (Mixtard<sup>®</sup>)</li> </ul> </li> <li>Insulin analogue - in pens (donation) <ul> <li>Rapid acting, insulin aspart (Novorapid<sup>®</sup>)</li> <li>Intermediate acting/rapid-acting, biphasic insulin aspart (NovoMix<sup>®</sup>)</li> <li>Long-acting, insulin detemir (Levemir<sup>®</sup>)</li> <li>Ultra-long acting, insulin degludec (Tresiba<sup>®</sup>)</li> </ul> </li> <li>Insulin pens (donation)</li> <li>Syringes (donation)</li> <li>Financial contributions to purchase HbA1c devices</li> </ul>
Sanofi	ThriveT1D	• Financial contributions for A4D to buy SMBGs, test strips and lancets

## SOME INITIATIVES SUPPLY INSULIN ANALOGUES, BUT THERE IS POTENTIAL FOR BROADER REACH

In LMICs, access to human insulins is already a significant challenge. Insulin analogues, costing up to seven times more than human insulins in LMICs, are even more unattainable.<sup>30</sup> Meanwhile, in high-income countries, these have become the standard of care for managing diabetes.

This highlights a stark disparity in treatment access: while those in wealthier regions often have a choice of insulin types, many in LMICs struggle to access any insulin at all. This is despite insulin analogues being added to the World Health Organization's (WHO) Essential Medicines List (EML) and Essential List for Children (EMLC) in 2021.<sup>31,32</sup> In 2025, analogues were also included in the African Union Development Agency-NEPAD (AUDA-NEPAD)'s list of 24 priority medical products for regional manufacturing in Africa, acknowledging their importance in expanding treatment options globally.<sup>33</sup>

Traditionally, initiatives in LMICs targeting CYP have primarily provided human insulins. However, this product scope has expanded over recent years with Biocon, Lilly and Novo Nordisk broadening their offerings to include analogues, which are currently supplied through A4D, the BRIDGE-1 programme, CDiC and Life for a Child.

These efforts are relatively recent, with the earliest initiatives beginning in 2021 with BRIDGE-1 and Life for a Child. As such, the number of countries and clinics receiving insulin analogues through the initiatives remains somewhat limited. Still, the gradual provision of insulin analogues through initiatives is an important development, as insulin analogues – particularly rapid-acting and long-acting types – offer significant advantages for people living with T1D (see box-out). Beyond these targeted efforts, the companies also contribute analogues through broader initiatives, as outlined on the next page.

#### Why is it important for children and young people living with T1D to have a choice of insulin products, including analogues?

Compared to traditional human insulins, analogues provide better blood sugar control, fewer complications and improved quality of life.<sup>34, 35, 36</sup> A recent study on young people living with type 1 diabetes (PLWT1D) in Mali demonstrated this with marked improvements in blood glucose levels, fewer episodes of diabetic ketoacidosis and increased self-reported satisfaction among those using insulin analogues compared to those on human insulin.30 These types of advantages are critical as children often have unpredictable eating habits and engage in a variety of physical activities, such as playing with friends or participating in school sports. In low-income countries (LICs), the situation is even more complex, as children may not have consistent carbohydrate content in their meals, making diabetes management more challenging. All of this, combined with the fact that human insulin administered at night tends to cause a greater drop in glucose levels compared to insulin analogues, puts children in LICs at a higher risk of hypoglycemia (dangerously low blood sugar) and its serious complications. Insulin analogues help address these issues, enabling children to manage their condition more effectively and lead healthier, more active lives.

## Other avenues through which companies are supplying some of their insulin analogues

Aside from the initiatives analysed in this report, Biocon, Lilly, Novo Nordisk and Sanofi provide insulin analogues in a wider range of LMICs through their commercial operations and other initiatives. However, these initiatives do not specifically target CYP.

- Biocon has partnered with Insulin for Life, a US not-forprofit organisation providing insulin and diabetes management supplies free of charge, since 2023. Through this partnership, Biocon donates insulin glargine (bGlargine), along with pens and vials. Insulin for Life selects recipient countries and works with local partners in more than 20 countries across South America, Africa and the Asia-Pacific region to ensure equitable distribution among partner clinics and hospitals serving people living with different types of diabetes.
- Lilly donates the rapid-acting insulin analogue, insulin lispro (Humalog®) through the Academic Model Providing Access to Healthcare (AMPATH) initiative. This programme is currently active in Kenya, Mexico and Ghana. In addition, the first batch of insulin analogue – insulin glargine injection – produced by EVA Pharma via its collaboration with Lilly was released in December 2024.<sup>10</sup>
- Among the insulin analogues in its portfolio analysed in the 2024 Access to Medicine Index, Novo Nordisk

supplies insulin degludec (Tresiba®) in 29 LMICs. The company offers discounted prices for this insulin analogue to people living with diabetes (PLWD) via patient assistant programmes, including in Mexico and Egypt. It also supplies insulin degludec (Tresiba®), insulin detemir (Levemir®), insulin aspart (Novorapid®), biphasic insulin aspart (Novomix®), and insulin degludec/insulin aspart (Ryzodeg®) via its model, iCARE, which covers 46 sub-Saharan African countries in scope of the report as well as Indonesia.\*

**Sanofi** supplies insulin glulisine (Apidra<sup>®</sup>) in 49 LMICs and insulin glargine (Lantus® or Impact SoloStar®) in 69 LMICs. Of these, 6 and 17 countries, respectively, are currently supplied through its Global Health Unit (GHU). In 12 LMICs,\*\* Sanofi supplies its second brand, insulin glargine (Impact SoloStar® pens), through the GHU. To date, the company has reached 51,000 PLWD with insulin analogues in pre-filled pens across 25 countries via this model.<sup>37</sup> In upper-middle-income countries not covered by the GHU, Sanofi offers some discounts to PLWD through patient support programmes. Additionally, through its AccesS Diabetes programme, Sanofi provides insulin glargine in Ghana and the Delta State in Nigeria with the aim of improving its accessibility through public channels with full reimbursement. In Ghana, this is currently pending approval by the National Health Insurance Scheme.

### SUPPLY OF DELIVERY DEVICES THROUGH INITIATIVES IS INCONSISTENT

Since 2022, three companies have started to supply insulin pens to initiatives, which can greatly improve the daily management of diabetes, especially for CYP (see box-out). In 2021, Lilly began providing all insulin in cartridge form through Life for a Child, and in 2022, the company also started supplying reusable pens. Meanwhile, Novo Nordisk, via CDiC began supplying human insulin in vials to insulin pens in ten countries. As of 2023, Lilly and Biocon began providing reusable insulin pens in Laos and Myanmar through Action4Diabetes (A4D) (also see Table 2 on p.14).

While this is encouraging, these products are not yet available in all countries within scope, and even if they are, they may not always be widely accessible within those countries. Even where insulin pens are stocked, the supply of pen needles is often inconsistent. Since pen needles are required in higher volumes than the pens themselves, this supply imbalance creates a significant barrier to effective diabetes management. Even more concerning, basic insulin syringes are also not reliably available, forcing many to ration supplies or reuse syringes – further complicating safe and consistent diabetes care.

Moreover, changes in companies' product portfolios could increase disruptions in the supply of these essential products to CYP-focused initiatives, potentially exacerbating access issues in countries where diabetes care is already limited and/or unaffordable, or leaving people without the critical resources they rely on. For instance, Novo Nordisk's recent announcement to phase out human insulin pens globally is likely to affect the availability of these devices for CYP-focused initiatives in LMICs, forcing children to switch to vials and syringes, which are far less user-friendly (see box-out).<sup>39</sup> This situation highlights the vulnerability of initiatives that depend on Why are insulin pens more beneficial for children and young people living with T1D than insulin vials and syringes?

- Insulin pens are more portable and durable than glass vials, making them especially useful for children and young people at school, university, work, or while traveling.
- They offer better protection against light and heat – key in low- and middle-income countries.
- Pens enable more accurate dosing.
- Their design helps reduce injection fear in young children and lessens social stigma.
- Both cartridges and pre-filled pens are included on the WHO Essential Medicines List (EML) and the Essential Medicines List for Children.<sup>31,32,38</sup>

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<sup>\*\*</sup>Countries include Benin, Djibouti, Kyrgyzstan, Malawi, Maldives, Mozambique, Papua New Guinea, Rwanda, Sierra Leone, Somalia, Tanzania and Turkmenistan.

industry support and donations. It also risks deepening the gap in care, where people in LMICs continue to lack access to the same standard of care available in high-income countries.

### AVAILABILITY OF MONITORING DEVICES AND OTHER DIABETES CARE COMMODITIES REMAINS A PREVALENT PROBLEM IN LMICS

Despite self-monitoring blood glucose (SMBG) devices and test strips being included on WHO's 2023 Essential Diagnostics List (EDL), limited supply and high costs (see infographic) continue to make access to monitoring devices and other commodities, such as test strips and lancets, challenging for CYP living in LMICs.40,41,42 All four companies are supporting initiatives that are working to improve access to diabetes monitoring tools, particularly SMBG devices and in some cases HbA1c testing devices, which are used to measure average blood sugar levels over time (see table in Appendix III on p.28).

While these efforts help CYP access supplies they otherwise could not afford or have access to, the quantity of SMBGs, lancets, and test strips provided by device manufacturers is often insufficient, forcing families to either ration supplies or try to find the financial means to purchase more.43 Experts consulted for this study highlighted that, for example, the number of test strips provided to children and their families is often limited, posing serious challenges. This is particularly concerning for young children who fall ill or those under five years of age who cannot effectively communicate their symptoms to caregivers. Without sufficient test strips to monitor and manage blood sugar levels, these children face a heightened risk of complications and death. In addition, glucometers are not always available at clinics supported by the initiatives.43,44

This situation in LMICs, where even basic blood glucose monitoring tools like SMBGs are difficult to access, stands in stark contrast to high-income countries. There, continuous glucose monitoring (CGM) devices, which can also offer a range of benefits to CYP living with T1D, are rapidly becoming the standard of care (see box-out).<sup>46</sup> In LMICs, CGMs remain largely unavailable, with access limited to certain clinics or through specific insurance schemes, primarily through research studies.

#### How can continuous glucose monitoring devices make blood monitoring easier for children and young people?

- Continuous glucose monitors (CGMs) provide real-time glucose tracking for more accurate insulin dosing and early detection of blood sugar changes.
- They support improved glycaemic control.
- · Unlike fingerstick testing with self-monitoring blood glucose devices, CGMs reduce the need for painful pricks making monitoring easier, especially for children.45
- Wider access to CGMs, even for periodic use in clinics, can help children and caregivers better understand blood sugar patterns and manage the condition more effectively.

### THE FINANCIAL BARRIERS TO GLUCOSE SELF-MONITORING

### **COST FACTORS**



The cost of glucose selfmonitoring is often more than the cost of human insulin.42

Even if self-monitoring blood glucose (SMBG) devices are free, children



and young people are then locked into buying specific test strips, which are not interchangeable between brands.41



Median prices can range from USD 0.27 to USD 0.56 per test strip. For individuals using at least four test strips daily, this translates to an annual cost

### 17 of USD 394.20 to USD 817.60.42

### CONSEQUENCES OF COST FACTORS

Families face significant financial strain and may not be able to afford proper diabetes care.



#### IMPACT ON MONITORING

Reduced blood sugar monitoring.



The reuse of supplies raising the risk of infection.

Complete avoidance of monitoring.



## What other support do initiatives provide to strengthen diabetes care for children and young people?

In addition to getting access to diabetes care products, it is critical that children and young people (CYP) living with type 1 diabetes (T1D), as well as their families, are adequately equipped and supported to effectively and sustainably manage this chronic condition. However, in LMICs, local healthcare capacity is often underdeveloped or constrained, hindering care. Barriers such as limited T1D education for CYP and their families, ill-equipped clinics, a lack of trained healthcare providers (HCPs) and long waiting times make accessing care especially challenging.<sup>47,48,49</sup>

Of the 11 initiatives analysed in this report, nine engage in capacity building (refer to Table 1 on p.10 earlier in this report) that focuses on areas such as supporting the awareness, advocacy and education of children, young people and their families; building healthcare professional capacity by training them on T1D; and investing in local healthcare infrastructure (see figure below). Across the nine initiatives, the four companies provide financial contributions, resources and other types of support to strengthen local capacity, with financial contributions being the most common.

## FIGURE 2 What capacity-building areas do company-supported initiatives target?



## INITIATIVES AIMING TO REACH UNDERSERVED COMMUNITIES AND SETTINGS WITH T1D EDUCATION

Eight of the initiatives involved in strengthening local capacity focus on building awareness, advancing advocacy efforts and T1D education (see visual on far left). These efforts are crucial as they not only expand knowledge of T1D within the community and encourage local prioritisation and investment in T1D care, but also equip individuals with the skills needed to manage a condition that can be far more complex than other NCDs. For instance, those affected must not only learn to manage their condition but also balance nutrition and physical activity to prevent complications like hypoglycemia. For CYP, this challenge extends beyond the home to include school settings, requiring caregivers, teachers and school staff to understand how to manage T1D. **KiDS**, which is co-led by Sanofi, is the only initiative that aims to specifically address this need, educating not only children, their peers and families but also teachers and school staff on diabetes. By focusing on schools, this promotes comprehensive support for CYP.

Another challenge in T1D education is reaching CYP and their families in remote or underserved areas. In some cases, the nearest clinic with T1D expertise may be

hundreds of kilometres away, making access to essential guidance and support extremely difficult. This is especially concerning for young children who may not have caregivers available to actively assist them in their daily care. Some companysupported initiatives are helping to address this through innovative solutions, such as leveraging technology to expand their audience. This is especially critical in these areas where educational materials have typically only been available in clinics and are often paper based, making access limited. For example:

- HelloType1, financially supported by Lilly, is a digital education platform that provides content translated into local languages, tailored to cultural contexts, and features social media groups.<sup>20,50</sup>
- In 2024, **CDiC** launched the T1D Bot, an AI chatbot on WhatsApp, offering instant answers to diabetes-related questions for CYP, families, healthcare providers and policymakers.<sup>51</sup>

Given the considerable unmet burden of T1D in rural areas and low-resource settings, companies can align their efforts with broader initiatives already operating in such settings to ensure their effectiveness (see Recommendation 1 on p.24).

## HEALTHCARE PROFESSIONAL TRAINING TARGETS LACK OF SPECIALISED SUPPORT

In LMICs, many CYP are misdiagnosed or remain undiagnosed due to a lack of specialised care.<sup>52</sup> To address this critical gap, seven initiatives focus on equipping HCPs with the skills needed to effectively diagnose, treat and monitor T1D. For instance, to date, **BRIDGE-1**, **CDiC** and **Thrive T1D** have collectively trained approximately 29,058 HCPs. Efforts like this can improve care at the community level and overall help to ensure better long-term management for CYP living with T1D in these regions.

## INFRASTRUCTURE IMPROVEMENTS HELP BRING CARE CLOSER TO CHILDREN AND YOUNG PEOPLE

Infrastructure improvements are another critical way these initiatives address the on-the-ground needs of CYP in LMICs. Without proper facilities and equipment, providing safe and effective diabetes care becomes nearly impossible, especially in rural and remote areas. Four initiatives are currently focused on strengthening infrastructure to ensure CYP have better access to essential diabetes care and reducing the need for long travel to clinics. For instance:

- Since its inception, **CDiC** has helped to establish or refurbish clinics in 29 countries, including in at least 25 LMICs in scope of this report, with a focus on rural and remote areas.<sup>26</sup>
- In 2023, Direct Relief provided 151 refrigerators to Life for a Child partner facilities, with support from Lilly, across 18 countries.<sup>54</sup>
- The **Partnership with Breakthrough T1D**, financially supported by Lilly, has implemented a framework to monitor the stock of T1D-related products in the state of Chhattisgarh, India, to ensure better oversight and availability of essential supplies.

## How can access and continuity of care for children and young people be ensured?

CYP-focused initiatives play a crucial role and, in many cases, serve as the only means for CYP living with T1D to access life-sustaining treatment and support. However, as previously highlighted, these initiatives are unable to reach every child in need. Far too many CYP in LMICs still lack access to essential diabetes care products, let alone the standard of care available to their counterparts in high-income countries. This underscores the need for continued efforts from the companies that



In 2021, an estimated **63% of all T1D death**s in individuals under the age of 25 in sub-Saharan Africa were attributed to non-diagnosis.<sup>53</sup> manufacture and supply these products to help ensure their sustained availability. Critically, the future and stability of critical initiatives to support CYP are uncertain. Most initiatives – apart from KiDS – have set end dates or specific goals, with several scheduled to conclude before or by 2030. While this does not necessarily mean they will end their support, it does reiterate the reality that CYP may not be guaranteed sustained access over the long term if they rely solely on these initiatives. Even when children can access these diabetes care initiatives, they eventually age out, highlighting the need for systems that ensure continued support as they grow older.

While the significant support from companies – whether through product provisions or other support – is meaningful, many of these initiatives rely heavily on donations and voluntary contributions from industry partners. This model does not guarantee continued financial support or long-term access to affordable diabetes care for CYP and their families.<sup>5,55</sup> For example, in November 2024, when Life for a Child announced that one of its industry partners could no longer supply glucometers or test strips, this unexpected loss created a USD 300,000 shortfall in the initiative's budget – equivalent to a year's worth of supplies for 3,000 CYP.<sup>56</sup>

Without more affordable products being widely available via companies' commercial operations and sustainable access strategies, CYP in LMICs will continue to rely on these initiatives and will remain without the care they need when they transition into adulthood and no longer qualify for this support.

### CUSTOMISING SUPPORT IN COUNTRIES TO SUPPORT GOVERNMENT OWNERSHIP OF DIABETES CARE IN THE LONG TERM

Examples of initiatives that are taking steps toward improving sustainability of T1D care include CDiC, backed by Novo Nordisk, and Life for a Child, supported by Lilly. These initiatives are tailoring their support based on local healthcare system capacity. This can enable governments to gradually take ownership of T1D care, working towards ensuring long-term, affordable T1D support for their citizens. It also helps reduce reliance on external funding and partners – an increasingly critical step as the global funding landscape shifts and external support becomes less predictable.

For Life for a Child, support is customised based on each country's needs. In nine LMICs, including Brazil and South Africa, the programme does not donate insulin as governments may already supply it, but rather focuses on research (e.g., studies on T1D incidence, mortality and access to care) and other support.<sup>22</sup> In addition, the programme conducts health systems research on the integration of T1D services into national Universal Health Coverage (UHC) structures.<sup>57</sup>

Similarly, Novo Nordisk, via CDiC, adjusts its model based on insulin reimbursement policies. In 20 LMICs where insulin is not reimbursed by the government or health insurance, CDiC donates insulin directly. In ten countries where reimbursement exists, nine of which are LMICs in scope of this report, CDiC transitions from donations to focusing on reinforcing the healthcare system's ability to sustain T1D care independently.

### SUPPORTING YOUNG PEOPLE AS THEY AGE OUT OF INITIATIVES

Lilly and Sanofi work with initiatives that aim to support young people ageing out of programmes to improve continuity of care. In May 2023, Life for a Child launched Extend 30, raising its age limit from 26 to 30 in 14 LICs and three lower-middle-income countries.<sup>22</sup> Similarly, via the KiDS programme supported by Sanofi, the International Diabetes Federation (IDF) is developing a graphic novel about diabetes for individuals aged 14 to 18, set to launch at the end of 2025. This expansion broadens its eligible age range from children aged six to 14 to include adolescents.

Experts consulted for this report also noted that, to address the issue of ageing out, some initiatives occasionally choose to not strictly enforce age cut-offs and extend support as much as possible. For example, the age limit for the product donations from Lilly to A4D in Laos is typically up to 25 years old. However, the How Novo Nordisk's CDiC model is tailored by country: Donations vs. reimbursement-based efforts

- LMICs supported through reimbursement-based models:
   Bangladesh, China, Colombia, Ghana, India, Indonesia, Morocco, Tunisia, Vietnam
- LMICs supported via donation-based models:

Cambodia, Cameroon, Côte D'Ivoire, Democratic Republic of Congo, Ethiopia, Guinea, Kenya, Malawi, Mozambique, Myanmar, Niger, Nigeria, Pakistan, Peru, Philippines, Rwanda, Senegal, Sudan, Tanzania, Uganda support offered by this initiative is sometimes extended to young people over the age of 25 if they are facing financial difficulties. This type of measure is a temporary way to support young people who suddenly have limited access to the essential T1D care they had been receiving for years but is not a sustainable solution.

## AFFORDABILITY OF DIABETES PRODUCTS REMAINS A CRITICAL BARRIER THAT REQUIRES COMPANY ACTION

Efforts to scale and sustain access to diabetes care will not be futureproof if the issue of cost is not addressed. Some governments have started to take ownership of some elements of diabetes care by, for example, partially or fully subsidising certain diabetes care products. However, continued high costs makes it challenging for governments to expand these efforts to ensure they can help make the wide range of diabetes care products consistently available.

In Bangladesh, for example, the government began offering free insulin in 2023 – a significant step, as T1D is fatal without it. However, people in the country still face the burden of paying high out-of-pocket prices for associated products like monitoring tools, which are also critical for effective T1D management.<sup>58</sup> Similarly, in Uganda, the government provides one vial of insulin per person per month for free, which is an important move to support those in need.<sup>59</sup> However, individuals requiring more insulin must pay for additional vials themselves, at the high prices set by manufacturers.

Moreover, experts consulted for this report suggested that, in some settings where governments take over T1D care – particularly in countries with limited healthcare budgets – decisions about which insulin products to provide may be influenced by cost considerations. In these cases, the higher prices of insulin analogues might lead governments to prioritise more affordable options, such as human insulin, to ensure broader access to care for more people. As a result, people, including CYP, who previously received analogues through company-supported initiatives may need to switch to human insulins or use vials and syringes, potentially disrupting blood sugar management and complicating treatment routines. Similarly, when children age out of CYP-focused initiatives and need to access products via the public or private sector, the sheer cost of lifesaving diabetes products from companies are often too expensive for those living with diabetes in LMICs.<sup>47</sup>

When national health systems in these regions cannot reimburse these essential products or provide them at a subsidised price, individuals are left to pay out of pocket.<sup>60</sup> This makes managing T1D nearly impossible, forcing CYP and their families to ration supplies, struggle with treatment adherence or even forgo care altogether – leading to serious and preventable health complications.

By supplying their products at more affordable prices, which take the payer's (e.g., a public health system's) ability to pay into account, companies can help government efforts to provide diabetes care. Indeed, beyond supporting CYP-focused initiatives through product donations, for example, Novo Nordisk and Sanofi are addressing access to diabetes care in LMICs, including affordability, (see box-out) within their models, iCARE and the Global Health Unit (GHU), respectively (also see p.8-9 earlier in this report). These efforts are not specifically targeting CYP, but it stands to reason that addressing the cost of insulin, as Novo Nordisk and Sanofi do, for example, will benefit CYP. Likewise, the entrance of quality-assured biosimilar insulins into the market has the potential to significantly improve the scale-up of access to insulin in LMICs by promoting competition with originator products, ultimately lowering prices.<sup>61</sup>

However, until diabetes products become more affordable across the board, efforts to provide long-term, sustainable access to care beyond company-supported CYP initiatives will remain challenging.

### \*iCARE also operates in Djibouti, which, according to the World Bank's classification, is not considered part of sub-Saharan Africa.

21 \*\*There are additional products included in the model, but these products were not in scope of the 2024 Access to Medicine Index analysis.

### How Novo Nordisk and Sanofi address affordability through their models

Novo Nordisk's iCARE covers 46 sub-Saharan African countries in scope of this report\* as well as Indonesia, and addresses four pillars, including one focused on affordability. To improve affordability, the company develops affordability plans for insulins for vulnerable populations and offers three reduced-cost diabetes products. Affordability is addressed primarily through partnerships with governments.

Sanofi's Global Health Unit (GHU) covers 40 LMICs offering 29\*\* products in scope of the Access to Medicine Index, including diabetes, at affordable access prices. Via the GHU, Sanofi ensures affordable prices by implementing product access strategies (e.g., its second brand: Impact®), through market shaping, partnering across the value chain and by aiming to reduce supply chain mark-ups. This non-profit unit also reinvests its margins back into the model to fund its operations.

### Main findings

The Foundation's evaluation of the 11 company-supported initiatives targeting children and young people (CYP) living with type 1 diabetes (T1D) show that these initiatives address access to diabetes care at various stages of the care continuum. While some focus on building local capacity to strengthen diabetes care, others target the delivery of essential diabetes care products to CYP, and some combine these two approaches. In many cases, these initiatives are the only ones that follow the entirety of a child's journey.

Five main findings from this assessment highlight positive developments in expanding access to diabetes care for CYP living with T1D in low- and middle-income countries (LMICs), while also identifying critical areas of improvement for companies moving forward.

### 1. WHILE OVER 50% OF LMICS IN SCOPE ARE BEING COVERED BY COMPANY-SUPPORTED INITIATIVES, ONLY A LIMITED NUMBER OF CYP ARE BEING REACHED ACROSS THESE COUNTRIES

More than half (71/113) of the LMICs in scope of the report are covered by at least one of the 11 company-supported initiatives targeting CYP living with T1D. While this represents impressive coverage, and the initiatives are offering critical support, many CYP in LMICs – both in the countries not covered and even in those that are – still lack access to diabetes care. Of the 11 initiatives analysed, six are delivering essential diabetes care products to CYP living with T1D in LMICs. For many CYP, these initiatives remain the only way to access treatment, with five of these initiatives reporting how many CYP receive insulin and supplies through their efforts. In 2023, these collectively reached only about 8% of the estimated 825,000 CYP in need across the 71 countries covered. Given that a significant proportion of CYP with diabetes in LMICs remain undiagnosed, it is highly likely that this represents an even smaller portion of CYP who need access to insulin.

This underscores the immense challenge of ensuring access to diabetes care, including lifesaving insulin, for CYP in LMICs. The public sector does cover the cost of insulin in some LMICs – either directly or through reimbursement. However, approximately 34% of people in LMICs still pay out of pocket for health-care, and in many African nations, individuals cover the full costs themselves.<sup>62</sup> The need for support remains overwhelming, and for those who are unable to access CYP initiatives, access to the lifesaving care they need remains out of reach.

### 2. THREE COMPANIES ARE TAKING STEPS TO BROADEN THE TYPES OF PRODUCTS THEY PROVIDE TO INITIATIVES, INCLUDING THE PROVISION OF INSULIN ANALOGUES AND PENS IN CERTAIN LMICS

To address the critical gap in diabetes care for vulnerable CYP in LMICs, companies' initiatives have historically focused on providing human insulin in vials. But as the standard of care has evolved over time, companies that supply or donate insulin to these initiatives have started to offer a broader range of products. For instance, Biocon, Lilly and Novo Nordisk now provide insulin analogues as well as insulin pens through at least one CYP-focused initiative. Partnerships with device manufacturers have also made some diabetes monitoring tools more accessible via these initiatives in certain regions. However, these changes are still relatively new, and only a limited number of CYP have access to these products so far. Thus, the reality is that many CYP in LMICs still struggle to access even the most basic treatments, monitoring tools and commodities for managing T1D, let alone have the option to choose the products that best suit their needs. This situation highlights the significant gap between what is accessible in LMICs and the higher standard of diabetes care available in wealthier nations.

### 3. ALL FOUR COMPANIES CONTRIBUTE TO CAPACITY BUILDING INITIATIVES – INCLUDING EDUCATIONAL EFFORTS – WITHIN THE CYP-FOCUSED INITIATIVES THEY SUPPORT

Most initiatives backed by these companies integrate multiple elements of capacity building to help the diverse needs of CYP with T1D and their families, ensuring more comprehensive support. These include educational efforts, such as T1D management programmes in schools and the use of technology to provide information to hard-to-reach communities (eight initiatives). Sanofi's KiDS stands out as the only programme educating not just children and families, but also teachers and school staff. Additionally, there is a focus on training healthcare professionals to tackle, for instance, the high rates of misdiagnosis and undiagnosed T1D in LMICs (seven initiatives). Notably, Lilly and Novo Nordisk support investments in infrastructure and equipment, ensuring CYP have better access to care in areas where resources have long been limited.

### 4. ALL FOUR COMPANIES PROVIDE DONATIONS TO AT LEAST ONE OF THE 11 INITIATIVES, WHICH CAN POSE RISKS TO THE LONG-TERM CERTAINTY OF AN INITIATIVE

All four companies analysed provide product donations or financial contributions to at least one of the 11 initiatives. While these contributions are meaningful and vital to the success of the initiatives, the heavy reliance on donations from industry partners creates a long-term uncertainty. The lives of CYP depend on these initiatives, and any reduction or withdrawal of support could result in a sudden loss of access to critical products for hundreds of thousands of CYP. Compounding this issue, ten of the 11 initiatives have set end dates or specific goals, with several scheduled to conclude by or before 2030. While this does not necessarily mean they will end, it underscores the uncertainty of sustained access. CYP who rely solely on these initiatives face the risk of losing access to diabetes care over the long term if additional, more sustainable support structures are not put in place.

### 5. CYP'S ACCESS TO LONG-TERM, AFFORDABLE DIABETES CARE REMAINS A CRITICAL CHALLENGE

To ensure continuity of care for CYP living with T1D in LMICs, Lilly and Novo Nordisk are backing initiatives that are working to adapt their models to better align with local needs and are collaborating with partners to transition T1D care towards government ownership. Notably, although still in the early stages of implementation, Lilly and Life for a Child are working on improving the continuity of care for young people who age out of initiatives by extending age eligibility for support in specific countries. Despite these developments, efforts to scale and sustain access to diabetes care will not be futureproof if the issue of cost is not addressed. Without more affordable diabetes care products, countless CYP living with T1D will continue to face barriers to sustainable diabetes care, leaving them without the lifesaving treatments and products they need.

### Recommendations

### HOW TO SCALE AND SUSTAIN ACCESS

As outlined in this report, children and young people (CYP) living with type 1 diabetes (T1D) are receiving vital support through company-backed initiatives that bridge gaps in access to treatment, monitoring devices, essential supplies and diabetes education, while also strengthening local healthcare systems in low- and middle-income countries (LMICs). However, despite their meaningful impact, the reality is that these programmes alone cannot support the CYP who remain in desperate need of diabetes care.

While companies are collaborating with partners to enhance initiatives and strengthen their sustainability, a fundamental shift is required to truly scale up access and reach CYP with unmet needs. Companies must move beyond the donation-based models that largely define diabetes care access efforts focused on CYP in LMICs. By taking actions to address affordability and product availability, companies can help facilitate the successful transition to government owned T1D care in LMICs. This way, all CYP, regardless of where they live, can have access to lifesaving diabetes care products.

### SCALE EXISTING INITIATIVES STRATEGICALLY TO REACH MORE CYP IN NEED

Companies should work closely with partners to scale up initiatives for CYP beyond the 8% currently reached and expand access to underserved regions. Companies can prioritise countries where CYP initiatives are currently absent, access to care is severely limited and the burden of T1D is high. Engaging local governments, diabetes organisations and people living with T1D in LMICs is essential for identifying priority communities and directing resources where they are needed most. Furthermore, companies should enhance the sustainability of their efforts by aligning with broader initiatives like PEN-Plus, which integrates care for non-communicable diseases (NCDs), including T1D, in rural LMIC settings. By strategically combining partner-ship-driven expansion, local insights and alignment with existing CYP-focused initiatives, companies can maximise both reach and long-term impact.

### 2

## ENSURE CHOICE AND ACCESS TO A BROADER RANGE OF PRODUCTS

Companies should broaden the range of insulin products and delivery devices supplied in LMICs to meet the diverse needs of CYP living with T1D and ensure they receive the same standard of care as those in high-income countries. Companies must engage with local stakeholders and PLWD to understand local needs, preferences and resources and tailor their product supplies accordingly. This could involve scaling access to analogue insulins and pens within initiatives, providing more CYP with more treatment options. Additionally, companies can engage in cross-sector partnerships to improve access to a wider range of diabetes care products for CYP in LMICs. For example, partnering with glucose monitoring device companies could improve the accessibility of glucose monitoring devices and their related commodities, including continuous glucose monitors, alongside insulin. Such partnerships can also be leveraged to bundle various diabetes products including insulin, delivery devices, glucose monitoring tools, and educational materials together in national public healthcare packages, which would provide CYP with broader access to the full continuum of diabetes care.

### 3

### IMPROVE THE SUSTAINABILITY OF T1D CARE FOR CYP

To improve the sustainability and continuity of diabetes care for CYP living with T1D, companies should be clear about how long their support will last, setting clear commitments, to help governments plan and allocate resources effectively. In parallel, companies can support governments as they prepare to transition to sustainable national diabetes programmes. This involves aligning initiatives with national health priorities, sharing relevant data and insights, supporting local capacity building and helping develop exit strategies for donation-based programmes. Ultimately, to ensure long-term access, companies must make their products affordable and available through commercial operations and sustainable access strategies, enabling CYP and governments to access care independently of donations.

### ADDRESS THE AVAILABILITY AND AFFORDABILITY GAP BEYOND CYP-FOCUSED INITIATIVES

Many CYP living with T1D still lack access to basic diabetes care. To improve the availability of lifesaving products, insulin manufacturing companies, including biosimilar manufacturers, should expand product registration with national regulatory authorities and engage with frameworks like World Health Organization (WHO) prequalification for eligible products to speed up this process. Investing in technology transfers and local production could also help improve availability and reach. Just as importantly, these approaches can contribute to greater affordability, which should go hand in hand with product availability to ensure CYP living with T1D can access the care they need. To further improve affordability, companies can implement pricing strategies that account for the ability to pay of all local stakeholders and apply them across a broader range of diabetes care products.

### STRENGTHEN DATA-DRIVEN APPROACHES FOR T1D ACCESS AND POLICY

Many company-supported initiatives collect on-the-ground data on the number of CYP reached and the outcomes of their efforts. This helps identify gaps in access and generate missing evidence on the burden of T1D in LMICs, including key metrics such as the number of undiagnosed CYP living with T1D. Companies should continue to make this a priority, working with local partners who play a crucial role in capturing, collating and reporting this information. By doing so, companies can support the enhancement of key data sources, like national registries and the T1D Index, which provide governments and organisations with a clearer understanding of T1D's impact. This, in turn, allows for better resource allocation, the prioritisation of local financing for T1D, and more effective diabetes care strategies.

### Appendices

### APPENDIX I

### METHODOLOGY

This study was developed according to the methodology described below.

### Data collection

- Data submitted to the 2024 Access to Medicine Index (Lilly, Novo Nordisk, Sanofi)
- Supplementary data request (Biocon)
- Publicly available information (including annual reports, peer-reviewed literature, global health and policy reports, databases for global health statistics etc.)
- Estimates on the burden of type 1 diabetes (T1D) were sourced from the Type 1 Diabetes Index<sup>2</sup>

### Stakeholder consultations

• Targeted consultation process including ten experts working in diabetes care. This included six experts from LMICs in scope.

### Amsterdam Sessions on diabetes care

Insights and recommendations from Amsterdam Sessions hosted by the Access to Medicine Foundation, as part of its Diabetes Care Programme.

- 'Closing the gaps in access to diabetes care in low- and middle-income countries', 7 July 2022
- 'From insulin to glucose self-monitoring devices: ramping up access along the diabetes continuum of care', 27 July 2023
- 'Securing worldwide access to diabetes care by 2030: Spotlight on strategies and solutions to close the equity gap', 9 April 2024

Initiatives implemented or supported by the four companies which include diabetes in their scope were assessed. Those that met all four criteria below were analysed in this report. Eleven initiatives which met these criteria were identified.

- Initiatives active in at least one of the 113 low- and middle-income countries in scope of the report.
- Initiatives active during the report period of analysis (31 July 2022-30 September 2024)
- Initiatives that are explicitly or likely to include T1D in their scope. All initiatives were included, whether they focused on product delivery or capacity building, or both.
- Initiatives that are either specifically designed or include a focus on addressing the needs of children and young people (CYP) up to the age of 30. To meet this criterion, the initiative's description must explicitly reference or establish a clear link to this population.

Insights used to identify current challenges, priorities in expanding access to diabetes care for CYP, as well as experiences of implementation of company-supported initiatives, in LMICs.

Expert representatives from insulin and glucose device manufacturers, global health organisations, procurement agencies and government bodies as well as people living with diabetes met to discuss practices and solutions for closing the gaps in access to diabetes care in LMICs.

### APPENDIX II

### **GEOGRAPHIC SCOPE**

### List of countries included in the 2024 Access to Medicine Index

East Asia & Pacific		Middle East & North Africa		Mali		LIC
Cambodia	LMIC	Algeria	LMIC	Maurita	inia	I MIC
China	UMIC	Djibouti	LMIC	Mozam	bique	
Indonesia	UMIC	Egypt	LMIC	Namibi	2.445	UMIC
Kiribati	LMIC	Iran	LMIC	Niger	u -	
Korea, Dem. People's Rep.	LIC	Iraq	UMIC	Nigeria		
Lao PDR	LMIC	Jordan	LMIC	Pwanda		
Marshall Islands	UMIC	Lebanon	LMIC	São To	mé and Príncine	
Micronesia, Fed. Sts.	LMIC	Morocco	LMIC	Sanaga	le and i fincipe	
Mongolia	LMIC	Palestine, State of/West Bank Gaza	UMIC	Siorral	eone	
Myanmar	LMIC	Syrian Arab Republic	LIC	Somali		
Papua New Guinea	LMIC	Tunisia	LMIC	South /	a Nfrica	
Philippines	LMIC	Yemen, Rep.	LIC	South	Sudan	
Samoa	LMIC	•		Sudan	buudii	
Solomon Islands	LMIC			Tanzan	ia	
Thailand	UMIC	South Asia			ld	LIMIC
Timor-Leste	LMIC	Afghanistan	LIC	Togo		LIC
Tonga	UMIC	Bangladesh	LMIC		l	LIC
Tuvalu	UMIC	Bhutan	LMIC	Zambia		LMIC
Vanuatu	I MIC	India	LMIC	Zimbab	owe	LMIC
Vietnam		Maldives	UMIC			
Vietnam	Line	Nepal	LMIC			
		Pakistan	LMIC			
Europe & Central Asia		Sri Lanka	LMIC			
Armenia	UMIC					
Kosovo	UMIC			LIC	Low-income country	
Kyrgyzstan	LMIC	Sub-Sanaran Africa		LMIC	LMIC Lower-middle-income country	
Moldova	UMIC	Angola	LMIC	UMIC	Upper-middle-income country**	
Taiikistan	LMIC	Benin	LMIC	HIC	High-income country**	
Turkmenistan	UMIC	Botswana	UMIC	World Ba	k Income classifications (FY2024)	
Ukraine	LMIC	Burkina Faso	LIC			
Uzbekistan	LMIC	Burundi	LIC			
		Cabo Verde	LMIC			
		Cameroon	LMIC			
Latin America & Caribbean		Central African Republic	LIC			
Belize	UMIC	Chad	LIC			
Bolivia	LMIC	Comoros	LMIC			
Brazil	UMIC	Congo, Dem. Rep.	LIC			
Colombia	UMIC	Congo, Rep.	LMIC			
Dominican Republic	UMIC	Côte d'Ivoire	LMIC			
Ecuador	UMIC	Equatorial Guinea	UMIC			
El Salvador	UMIC	Eritrea	LIC			
Guatemala	UMIC	Eswatini	LMIC			
Guvana*	HIC	Ethiopia	LIC			
Haiti	LMIC	Gabon	UMIC			
Honduras	I MIC	Gambia	LIC			
Jamaica	UMIC	Ghana	LMIC			
Mexico	UMIC	Guinea	LMIC			
Nicaragua	L MIC	Guinea-Bissau	LIC			
Paraguay	UMIC	Kenya	LMIC			
Peru		Lesotho	LMIC			
Saint Lucia		Liberia	LIC			
Suriname		Madagascar	LIC			
Venezuela	Unclassified	Malawi	LIC			
VCHCZUCIA	Unclassified					

\*Per the 2024 Index Methodology, Guyana is included despite recently 27 receiving HIC classification. It will be retained for six years, after which it will be excluded from the country scope if it

does not meet other inclusion criteria.

\*\*All UMICs and HICs in a low or medium UNDP Human Development Index group or with a low inequality-adjusted Human Development Index were included.

### APPENDIX III

### Diabetes-related products provided by companies to support the 11 initiatives analysed

Initiative	Company	Products supplied
Life for a Child*	Abbott Diagnostics	<ul><li>HbA1c devices (discounted price)</li><li>Microalbuminuria tests (discounted price)</li></ul>
	embecta**	<ul><li>Syringes (donation)</li><li>Pen needles (donation)</li></ul>
	i-SENS	<ul><li>Self-Monitoring Blood Glucose devices (discounted price)</li><li>Test strips (discounted price)</li></ul>
	LifeScan	<ul> <li>Self-Monitoring Blood Glucose devices (donation)</li> <li>Test strips (donation)</li> <li>Lancets (donation)</li> </ul>
	Medtronic Diabetes Europe	Financial contributions via the Blue Balloon Challenge in 2022 and 2023
	Roche Diagnostics	<ul> <li>Self-Monitoring Blood Glucose devices (discounted price)</li> <li>Test strips (discounted price)</li> <li>Lancets (discounted price)</li> </ul>
	Trividia Health	<ul><li>Test strips (discounted price)</li><li>Lancets (discounted price)</li></ul>
	Siemens Healthineers	<ul><li>HbA1c devices (discounted price)</li><li>Microalbuminuria tests (discounted price)</li></ul>
Changing Diabetes in Children® (CDiC)	Roche Diagnostics	<ul><li>Self-Monitoring Blood Glucose devices (donation)</li><li>Test strips (donation)</li></ul>

 $^{*}$ The companies listed provided support during the period of analysis for this report, but some may have ceased their support since then.

\*\*Becton Dickinson provided support to Life for a Child prior to 2024. Following the spin-off of embecta as a

separate company, embecta's continued support for Life for a Child from 2025 onward has yet to be confirmed.

### APPENDIX IV

### Definitions

### **Biosimilar insulin**

A biosimilar is a biological medicine that is highly similar to an already approved reference biological medicine in terms of its quality, safety and efficacy.

### Continuous blood glucose monitoring device

A wearable device that tracks blood sugar levels in real-time, providing continuous data.

## Glucometers/Self-blood glucose monitoring device

Portable devices used to measure the level of glucose in a drop of blood.

### Human insulin

A synthetic form of insulin that is designed to be identical to the insulin produced naturally by the human pancreas.

### Hyperglycaemia

A condition where blood sugar levels are higher than normal, causing symptoms like increased thirst, frequent urination, fatigue, and if prolonged, other serious complications.

### Hypoglycaemia

A condition where blood sugar levels are lower than normal, causing symptoms like sweating, confusion, or even loss of consciousness.

### Initiative focused specifically on the needs of children and young people Any access-related initiative implemented or supported by one of the four companies in scope, that meets all four of the criteria outlined in Appendix I.

### Insulin analogues

A type of insulin that has been modified to mimic the body's natural insulin production more closely than human insulin.

### Insulin prefilled pens

Disposable devices pre-loaded with a set amount of insulin, designed for easy and accurate delivery without the need for a separate cartridge.

### Insulin pumps

Small, wearable devices that continuously deliver a steady amount of insulin through a catheter under the skin allowing the more accurate blood sugar management.

### Insulin reuseable pens

Devices designed to deliver insulin easily and accurately, resembling a pen and equipped with a cartridge of insulin.

### Lancet

A small, sharp needle used to prick the skin on the fingertip to obtain a drop of blood for glucose testing.

### Test strip

A small, disposable strip used with a glucometer to measure blood glucose levels by analysing a drop of blood applied to it.

### APPENDIX V

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