

for treatment of patients with heart failure and for renoprotection, even in the absence of diabetes. As such, the inclusion of SGLT2 inhibitors in the Model List of Essential Medicines is expected to affect a wider group of patients than do insulin analogues. Previous experience from India suggests that once the cost barrier is ameliorated, SGLT2 inhibitors can be widely adopted and used by patients.⁴

In an Article published in *The Lancet Diabetes & Endocrinology*, the Global Health & Population Project on Access to Care for Cardiometabolic Diseases⁵ calculated that basal insulin analogues need a cost reduction of 31.0% and SGLT2 inhibitors need a reduction of 17.4% to achieve cost-effectiveness targets for inclusion in national drug formularies. Notably, in many countries (including India), cost reductions of this magnitude have already occurred, making these therapies available to patients who would otherwise have been deprived of them.⁶ Inclusion of SGLT2 inhibitors and basal insulin analogues in the WHO Model List of Essential Medicines should hopefully drive further negotiations between governments, drug manufacturers, and insurers so as to improve access to these agents for the widest possible section of the population with diabetes.

We declare no competing interests.

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Médecins Sans Frontières welcomes the addition of insulin analogues and SGLT2 inhibitors to the 22nd WHO Model List of Essential Medicines¹ as an opportunity to improve diabetes care globally.

Médecins Sans Frontières is a medical humanitarian organisation working in over 70 countries worldwide. We are increasingly assisting people with diabetes care needs, since complex humanitarian emergencies have become protracted crises in settings with high diabetes prevalence and high undiagnosed burden. We are creating programmes for diabetes and other non-communicable diseases in addition to integrating care into existing HIV, tuberculosis, and primary health-care programmes, as we move towards people-centred care with participatory service design.

Médecins Sans Frontières fix diabetes formularies for procurement and clinical protocols to provide effective care while factoring in training, supply, cost, and other contextual issues. The mainstays of these protocols are metformin, sulfonylureas, and human insulin in phials for injection with syringes and needles; but knowing that people are subject to unstable living conditions (ie, making the use of syringes difficult) and food insecurity (ie, increasing the risk of hypoglycaemia), we have added more costly insulin analogue pens to promote adherence, reduce hypoglycaemia risk, and improve quality of life in some programmes, particularly for people with type 1

diabetes. We are evaluating potential for total cost reduction with insulin analogue pens when all logistics (ie, cold chain; shipping volumes for human insulin phials, syringes, needles, and sharps containers; and medical and plastic waste disposal) are considered. We are also reviewing type 2 diabetes protocols for insulin-sparing options that can benefit people with cardiovascular, renal, or overweight or obesity comorbidities, noting the difficulty in addressing these comorbidities and further complications in low-resource settings where we work.

Human insulin is often used in low-resource settings despite the potential advantages of insulin analogues and SGLT2 inhibitors and their use in high-income countries. The addition of insulin analogues and SGLT2 inhibitors, which are included in WHO diabetes guidance,² to the Model List of Essential Medicines has the potential to reduce prices and address clinical and operational challenges in low-resource settings (eg, treatment complexity, cold-chain supply, and price barriers).

Insulin prices are kept high by industry oligopoly, but an initial cost of production analysis indicated that treatment could be rendered financially feasible (ie, US\$72–133 per person per year for human insulin and analogues respectively).³ The addition of insulin analogues to the Model List of Essential Medicines aligns with calls for price reductions through increased competition, with facilitated regulatory processes and market entry for biosimilars supported by the WHO prequalification scheme. Prequalification should be extended to pen and cartridge devices so that improved procurement options can be defined, ideally with bundling of all commodities that are needed (ie, insulin, injection device, and glucose monitoring). Increased product choice should be supported by thermostability data to reduce barriers to home use, following an initial study showing that human and analogue insulins can be

used in some circumstances without refrigeration.⁴

The addition of SGLT2 inhibitors to the Model List of Essential Medicines aims to catalyse price reductions in this medication class, which can serve people with type 2 diabetes who would usually be given insulin after poor response to metformin and sulfonylurea treatment. Addition of insulin to treatment often makes weight control more difficult, negatively affecting self-management ability and wellbeing. If the cost of SGLT2 inhibitors can be lowered, then the additional treatment choice could potentially allow health-care programmes to improve their capacity for type 2 diabetes care.

As diabetes prevalence is increasing globally, we need a concerted effort to improve access to options for safe and effective treatment for all who need it.

I declare no competing interests.

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Insulin was discovered 100 years ago—a groundbreaking finding that would earn Frederick Grant Banting

and John James Rickard Macleod the Nobel Prize and radically change clinical outcomes and life expectancies for people with diabetes.¹

In the Americas alone, approximately 62 million people have diabetes—and diabetes prevalence is increasing in the region and worldwide.² Although many people are managing their conditions appropriately and living healthy lives, millions of people with diabetes still do not have access to insulin.³

For too many people, where they live and how much money they have can determine whether they have access to insulin and other tools to manage their diabetes. These tools are often unavailable at pharmacies and primary health centres, and even when they are, high prices often prevent people from accessing them.

In October, 2021, WHO published the new edition of its Model List of Essential Medicines, which included insulin analogues for the first time.⁴ Its inclusion has the potential to expand treatment options for people with diabetes, but only if two persistent challenges can be resolved: high prices and low access.

Today, just a handful of companies manage most of the global insulin supply, controlling the supply chain and driving up prices.

The good news is that WHO is developing an innovative programme that could offer new incentives to bring additional manufacturers on board to produce insulin at prices that countries can afford and make them eligible for WHO prequalification.

WHO prequalification is crucial as it allows UN agencies, and mechanisms such as the Pan American Health Organization's strategic fund, to purchase these diabetes medicines

on behalf of countries. By pooling demand, the strategic fund can secure products that are quality assured at lower prices than if countries were to purchase them individually, helping them to maximise their resources and reach more people who need insulin and other essential medications and technologies.

To make diabetes care and products, such as insulin, available to a wide population close to their homes, countries should integrate diabetes services within the first level of care. It is equally important to include insulin and other diabetes medicines and devices within health insurance schemes, so that people with diabetes can afford the care that they need.

As the legacy of the discovery of insulin is honoured worldwide, countries in the Americas should be challenged to turn the potential for insulin to improve lives into a reality for everyone with diabetes in the region.

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