This summary offers guidance on insulin use from a clinical perspective, intended for the health care sectors of the global community. It is based on the ACCISS Tool, [Review of the Evidence on Insulin and Its Use in Diabetes](), available at: www.accisstoolkit.haiweb.org

INTRODUCTION

Insulin is a life-saving medicine for the millions of people worldwide living with type 1 or type 2 diabetes. Despite the fact that it has been almost 100 years since this medicine was first used clinically, half of all those who need insulin still face challenges accessing it (1).

The innovative global study, Addressing the Challenge and Constraints of Insulin Sources and Supply (ACCISS), sets out to identify the causes of poor availability and high insulin prices, and develop policies and interventions to improve access to insulin, particularly in low- and middle-income countries (LMICs).

OVERVIEW

This evidence review addresses a key barrier to global access to insulin, specifically the limited available guidance for national policy-makers on how and when to prescribe and provide insulin to individuals in need. Within this review, four clinical topics were explored in detail and from a clinical perspective: clinical outcomes of human versus analogue insulin; clinical outcomes of pen delivery systems versus syringe and vial; indications for the use of insulin in type 2 diabetes; and the interchangeability of common insulins.

RECOMMENDATIONS FOR CLINICAL PRACTICE

1. For people living with diabetes requiring insulin in low-resource settings, human insulin should remain first-line therapy. Analogue insulin, particularly basal insulin, should be available, but only for a small subset of people with severe insulin deficiency for whom all risk factors for hypoglycaemia have been addressed, yet who continue to exhibit recurrent severe hypoglycaemia.

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2. Although pen devices appear to be preferable in terms of treatment adherence and persistence, as well as quality of life, the data to support improved clinical outcomes is lacking. Therefore, in settings where resources are limited, the use of the more affordable vial and syringe is encouraged and justified.

3. The decision to use insulin in non-type 1 diabetes depends on the degree of insulin deficiency of the individual and the effectiveness (or lack thereof) of the available non-insulin agents. The decision of when to add insulin to non-insulin agent(s) depends on the individual glycaemic target, the hypoglycaemia risk, and individual/system-level affordability. To assist with this decision-making, a conceptual framework was developed to guide the use of insulin in type 2 diabetes, using medications included in the 2017 World Health Organization Model List of Essential Medicines (see report for more information).

4. Given the variations in the manufacturing process and the differences in regulatory assessments, it is safer to assume that biosimilar insulins are not automatically interchangeable, unless specifically stated. Therefore, caution is needed when switching from one insulin to another. Glucose monitoring, follow up, and comprehensive diabetes education (for both patients and clinicians) remain the cornerstones of safe and effective insulin treatment.

REFERENCES

1. Beran D, Yudkin JS. Looking beyond the issue of access to insulin: what is needed for proper diabetes care in resource poor settings. *Diabetes Research and Clinical Practice* 2010; 88(3): 217-21 2017; 5(3): 158-9.