

Questions:

- 1. Baseline profile of healthcare professionals (13 questions):** this section aims to assess providers' personal demographics and work profile.

Q1. Are you a prescribing practitioner?

- a) Yes
- b) No

Q2. What is your age?

- a) Under 30
- b) 30 to 40
- c) 41 to 50
- d) 51 to 60
- e) Over 60

Q3. What is your gender?

- a) Female
- b) Male
- c) Other, please specify: _____

Q4. In what country do you work? (LIST OF OPTIONS)

Q5. Do you belong to a minority racial/ethnic group in your country of service?

- a) Yes
- b) No

Q6. What is your main clinical role?

- a) Resident
- b) Primary care practitioner, pediatrician, family doctor, or an internal medicine doctor
- c) Pediatric endocrinology fellow
- d) Pediatric endocrinologist/diabetologist
- e) Adult Endocrinology fellow
- f) Adult endocrinologist/diabetologist
- g) Nurse practitioner or a registered nurse
- h) Other (please, specify): _____

Q7. How long have you been in practice since completing your training?

- a) Less than 3 years
- b) 3 to 5 years

- c) 5 to 10 years
- d) More than 10 years

Q8. Where is your main practice setting? (You can choose more than one option)

- a) Private hospital/outpatient clinic
- b) Public or governmental hospital/outpatient clinic
- c) University or academic hospital/outpatient clinic
- d) Primary care center
- e) General practitioner office
- f) Other, please specify: _____

Q9. If you are not an endocrinologist/diabetologist, do you have access to one as a consultant?

- a) Yes
- b) No
- c) I am an endocrinologist/diabetologist

Q10. How many patients with type 1 diabetes are followed in your clinic?

- a) Less than 100
- b) 100 to 200
- c) 201 to 500
- d) More than 500

Q11. Does your country/region have universal health care insurance/coverage for the use of insulin pump and/or the CGM systems?

- a) Yes
- b) No
- c) Partially

Q12. In your country/region, do private insurance companies cover/reimburse for insulin pump and/or CGM systems?

- a) Yes
- b) No
- c) Partially

Q13. Are you an International Society for Pediatric and Adolescent Diabetes (ISPAD) member?

- a) Yes
- b) No

2. Regarding the use of insulin pumps (10 questions): this section aims to assess personal thoughts when providers prescribe or refuse insulin pump.

Q14. Are insulin pumps available in your practice setting?

- a) Yes
- b) No

Q15. Is there more than one insulin pump brand available in your practice setting?

- a) Yes
- b) No

Q16. What is the percentage of patients on insulin pump in your center?

- a) Less than 10%
- b) Between 10 to 30%
- c) Between 30 to 50%
- d) More than 50%

Q17. What percentages of patients counselled by you agree/consent to start on insulin pump therapy?

- a) Less than 25%
- b) Between 25 to 50%
- c) Between 50 to 75%
- d) More than 75%

Q18. What is your opinion on the reasons why patients and caregivers turn down technology after being offered it? (multiple choice)

- a) Unawareness
- b) Fear
- c) Shame
- d) Patient does not want to wear something on its body
- e) Parents cannot afford and/or maintain therapy
- f) Reduced diabetes literacy
- g) Family preference for keeping on injections and fingerstick
- h) Other, please specify: _____

Q19. Do you agree with the statement **“All patients, regardless of circumstance, should be offered insulin pump therapy”**?

- a) Totally agree
- b) Agree

- c) Partially agree
- d) Disagree
- e) Totally disagree

Q20. Do you agree with the statement “**No patient, regardless of circumstance, should be offered insulin pump therapy**”?

- a) Totally agree
- b) Agree
- c) Partially agree
- d) Disagree
- e) Totally disagree

Q21. On a scale from 1 (not all relevant) to 5 (extremely relevant), what is the importance you give for the following indications to start a patient on insulin pump therapy? (MATRIX/RATING SCALE: 1 – not all relevant; 2- slightly relevant; 3 – relevant; 4 – fairly relevant; 5 – extremely relevant)

- a) Patient age
- b) History of severe hypoglycemia (values of glycemia <54 mg/dL (<3.0 mmol/L), or severe cognitive impairment, including coma and convulsions, requiring external assistance by another person to actively administer carbohydrates, glucagon, or take other corrective actions) or hypoglycemia unawareness
- c) Suboptimal glycemic control despite good compliance
- d) Patient or caregiver’s preference
- e) Requirement of small doses of insulin

Q22. On a scale from 1 (not at all a contraindication) to 3 (an absolute contraindication), what is the importance you give when decide to start a patient on insulin pump therapy? (MATRIX/RATING SCALE: 1-not all a contraindication; 1- relative contraindication; 2- absolute contraindication).

- a) Age less than three years old
- b) History of infrequent blood glucose monitoring (less than three a day) or not on CGM
- c) One or more episodes of diabetic ketoacidosis
- d) Inadequate parental/caregiver supervision
- e) Infrequent follow-up

Q23. Do you consider relevant the following socioeconomic factors when you prescribe insulin pumps? (MATRIX/RATING SCALE: 1 – totally irrelevant; 2 – irrelevant; 3 – indifferent; 4 – relevant; 4 – totally relevant)

Factors of socio-economic health determinants	1	2	3	4	5
i. Place of residence: Rural versus urban					
ii. Race, ethnicity or citizenship					

iii. Family/patient speaks/comprehend different language than diabetes team					
iv. Parental affordability to maintain the therapy or provision by insurance coverage					
v. Gender					
vi. Religious affiliation					
vii. Parental educational level					
viii. Family income					
ix. Family social networking: belonging to social support groups					

3. Regarding the use of continuous glucose monitoring (CGM) systems (4 questions): this section aims to assess personal thoughts when providers prescribe or refuse CGM.

Q24. Are there any CGM systems available in your practice setting?

- a) Yes
- b) No

Q25. Is there more than one CGM system brand available in your practice setting?

- a) Yes
- b) No

Q26. What is the percentage of patients on CGM in your unit?

- a) Less than 10%
- b) Between 10 to 30%
- c) Between 30 to 50%
- d) More than 50%

Q27. What percentages of patients counselled by you agree/consent to start on CGM?

- a) Less than 25%
- b) Between 25 to 50%
- c) Between 50 to 75%
- d) More than 75%

4. According to the following vignettes would you recommend insulin pump, CGM, both or neither of them? In all the scenarios, patients have type 1 diabetes and have been already introduced to diabetes education regarding the use of technological devices. (6 questions)

Infant and toddlers:

Q28. One-year-old girl, during her partial remission phase, receiving 2.5 IU/day of basal long-acting analog insulin, and doing corrections with rapid-acting analogs when needed, has faced two **severe hypoglycemia episodes**, one of them with seizures. She has a **single mother, unemployed**, and they live in a country where there is **universal coverage** for CSII and CGM.

- i. I would recommend insulin pump for this girl
- ii. I would recommend CGM for this girl
- iii. I would recommend both insulin pump and CGM for this girl
- iv. I would not recommend either of them

Q29. One-year-old girl, during her partial remission phase, receiving 2.5 IU/day of basal long-acting analog insulin, and doing corrections with rapid-acting analogs when needed, has faced two **severe hypoglycemia episodes**, one of them with seizures. She **lives with her parents in a wealthy village four-hour away from nearest diabetes center**, and **family has full insurance coverage** for CSII and CGM.

- i. I would recommend insulin pump for this girl
- ii. I would recommend CGM for this girl
- iii. I would recommend both insulin pump and CGM for this girl
- iv. I would not recommend either of them

School Age:

Q30. A 6-year-old girl has been suffering **blood sugar fluctuations** which include one episode of **diabetic ketoacidosis** last month. Her parents are facing a **difficult economic situation** because both are **unemployed and do not have insurance coverage for diabetes suppliers**. The **young parents have not completed their secondary studies**, and **family lives in a deprived area of a big city**.

- i. I would recommend insulin pump for this girl
- ii. I would recommend CGM for this girl
- iii. I would recommend both insulin pump and CGM for this girl
- iv. I would not recommend either of them

Q31. A 6-year-old girl has been suffering **blood sugar fluctuations** which include one episode of **diabetic ketoacidosis** last month. The family recently moved to a **new country** where there is **universal healthcare and coverage for CSII and CGM**. The **family belongs to a minority religion** and has **low language comprehension** in their new country.

- i. I would recommend insulin pump for this girl
- ii. I would recommend CGM for this girl
- iii. I would recommend both insulin pump and CGM for this girl
- iv. I would not recommend either of them

Adolescent

Q32. An adolescent **boy**, from a **racial/ethnic minority group**, diagnosed eight years ago, lives with his grandmother who **works as a nurse** and is his **only guardian**. Their health insurance recently approved him the provision of an intermittent CGM (Libre flash). He has suffered **uncontrolled blood glucose**, despite been on MDI with intensive basal-bolus requiring 1.8 IU/kg/day. Every year he **participates in a regional diabetes camp**.

- i. I would recommend insulin pump for this boy
- ii. I would recommend insulin pump for this boy after having blood glucose controlled
- iii. I would recommend keeping this boy only on CGM and focusing on glucose control
- iv. I would recommend both insulin pump and CGM for this boy
- v. I would not recommend either of them

Q33. A Caucasian adolescent **girl**, belonging to a major racial/ethnic group, diagnosed eight years ago, lives with **her grandparents who are retired**. Their health insurance recently approved her the provision of an intermittent CGM (Libre flash). She has been suffering **uncontrolled blood glucose**, despite been on MDI with intensive basal-bolus requiring 1.8 IU/kg/day. In the village where they live, there are **lacking of social support and counselling**.

- i. I would recommend insulin pump for this girl
- ii. I would recommend insulin pump for this girl after having blood glucose controlled
- iii. I would recommend keeping this girl only on CGM and focusing on glucose control
- iv. I would recommend both insulin pump and CGM for this girl
- v. I would not recommend either of them