

Supplementary File 1

Quantitative Survey – Providers

1. Based on your experience of using Continuous Glucose Monitoring (CGM) in your practice, please select the **facilitators** of CGM use in managing patients with type 2 diabetes under the PTEC DM Programme: (Please select all that apply)

Domain of i-PARiHS	Facilitators	Response
a) Innovation characteristics: CGM as a technology	1) Comprehensive continuous data capture & transmission to enable clinical decision making 2) Real-time blood glucose values facilitate behaviour change 3) Reduction of serious hypoglycaemia episodes	1) (Y/N) 2) (Y/N) 3) (Y/N)
b) Context	1) Patient empowerment and shared decision making 2) Improved patient understanding of impact of dietary habits, activity and medications	1) (Y/N) 2) (Y/N)
c) Recipients (individual & collective)	1) Improved clinical decision-making 2) Ability to safely personalize therapeutic recommendations	1) (Y/N) 2) (Y/N)
d) Implementation Facilitation	1) Improved visit structure	1) (Y/N)
e) Others: Please specify	Please share any facilitators that you encountered that are not listed above	(open-ended)

2. Based on your experience of using Continuous Glucose Monitoring (CGM) in your practice, please select the **barriers** to CGM use in managing patients with type 2 diabetes under PTEC DM Programme: (Please select/tick all that apply)

Domain of i-PARiHS	Barriers	Response
a) Innovation characteristics: CGM as a technology	1) Cost of CGM and associated supplies 2) Technical issues and sensor failures, 3) Alarm fatigue 4) Lack of inter-operability among different devices 5) Large volume of data to process	1) (Y/N) 2) (Y/N) 3) (Y/N) 4) (Y/N) 5) (Y/N)
b) Context	1) Inadequate financing coverage for CGM 2) Challenging and time-consuming to include in the usual consultation 3) Limited guidance for including CGM into routine clinical workflow 4) Inefficient process to download and access CGM data 5) Limited time and resources for patient training and education 6) Difficult to integrate CGM into Electronic Health Records (EHR)	1) (Y/N) 2) (Y/N) 3) (Y/N) 4) (Y/N) 5) (Y/N) 6) (Y/N)

c) Recipients (individual & collective)	1) Non-standardized training in CGM data interpretation or new device features	1) (Y/N)
d) Implementation Facilitation	1) Variation among different healthcare providers/clinics 2) Lack of prioritization by health system leadership (?)	1) (Y/N) 2) (Y/N)
e) Others: Please specify	Please share any barriers that you encountered that are not listed above	(open-ended)

3. What did you like or dislike about using CGM in your practice in managing patients with type 2 diabetes under PTEC DM Programme? (open-ended)

4. According to your experience, what are some of the clinical indications you would recommend using CGM in management of patients with diabetes: (open-ended)

5. Please share your experience of using multiple modes (e.g., SMBG, home HbA1c testing and CGM) of monitoring patients glycaemic control remotely under the PTEC DM Programme. (open-ended)

6. Was the CGM training conducted earlier helpful in managing patients with diabetes in your care setting?

 a. Yes -> Please elaborate

 b. No -> Please elaborate

Quantitative Survey – Patients

1. Please indicate which continuous glucose monitor you are using:

- a. Dexcom G6
- b. Freestyle Libre

2. Please indicate how much you agree or disagree with the following statements about your **experience** using the continuous glucose monitor (CGM).

The CGM

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
a. Is easy to use.	()	()	()	()	()	()
b. It is comfortable to use (<i>e.g., it doesn't hurt using it</i>).	()	()	()	()	()	()
c. Provides meaningful information.	()	()	()	()	()	()
d. Provides accurate information.	()	()	()	()	()	()
e. Is reliable (<i>e.g., it doesn't go down often or have many glitches or "bugs"</i>).	()	()	()	()	()	()
f. Fits well enough with my daily life and lifestyle.	()	()	()	()	()	()

3. Please indicate how much you agree or disagree with the following statements about **possible impact** from using the continuous glucose monitor (CGM).

As a result of using the CGM

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Don't Know
a. I have a better understanding of my diabetes and things that affect my sugars.	()	()	()	()	()	()
b. I feel more confident in my ability to take good care of my health with diabetes.	()	()	()	()	()	()
c. I am more consistent about checking my sugars enough.	()	()	()	()	()	()
d. I am more consistent about adjusting my insulin dosages effectively.	()	()	()	()	()	()
e. I am more consistent about adjusting my eating based on my sugars.	()	()	()	()	()	()
f. I am more consistent overall in doing things that will help me take good care of my health with diabetes (<i>e.g., getting enough exercise, eating a healthy diet</i>).	()	()	()	()	()	()
g. My sugars are consistently at better	()	()	()	()	()	()

levels (<i>i.e.</i> , more “ <i>in control</i> ”).						
h. My overall health is better in some meaningful way.	()	()	()	()	()	()
i. My overall life or quality of life is better in some meaningful way.	()	()	()	()	()	()
j. I feel more confident that I can avoid major health problems in the future.	()	()	()	()	()	()
k. I feel better about the support I'm receiving from my health care team.	()	()	()	()	()	()

16. Please choose the option most applicable to you for the following questions related to **challenges of using CGM:**

	Question	Options
6.1	What issues, if any, did you have with the CGM	a) Skin irritation b) Pain at sensor site c) Discomfort at sensor site d) Infection at sensor site e) Limited my activities f) Remembering to enter blood sugars, meals, exercise into monitor g) Alarms h) Difficulty understanding the information (e.g., graphs etc.) presented
6.2	How much difficulty did you experience when showering with the CGM?	a) None b) Small c) Moderate d) Large
6.3	How much difficulty did you experience when sleeping with the CGM?	a) None b) Small c) Moderate d) Large
6.4	How much difficulty did you experience while wearing the CGM during the daytime?	a) None b) Small c) Moderate d) Large
6.5	Would you wear the CGM again?	a) Yes b) No c) Don't know

17. Do you feel you received the **training you've needed** on how to effectively use the continuous glucose monitor?

- a. Yes
- b. No

18. Have you discussed your continuous glucose monitoring data with a health care provider?

- a. Yes
- b. No

19. What do you like and dislike about using CGM for managing your diabetes? (open-ended)

20. Based on your experience using CGM to monitor your diabetes, will you be willing to pay for this service of CGM along with tele-consult with your care team in future?
- Yes
 - No
 - Don't Know

Interview Guide – Providers

Thank you very much for participating in this research. We want to again assure you that your responses will be kept completely confidential. All your responses will be summarized in a report without including your name. If you are ready, I will start the audio recording for this session

Questions

1. Could you share about your experience managing patients with diabetes in your clinical practice?
2. What kind of diabetic patients do you manage in your clinical practice?
 - a. *Probe: poorly controlled, newly diagnosed, well-controlled*
 - b. *Probe: how do you determine which patient will benefit from different modes of blood glucose monitoring, e.g., SMBG, home HbA1c testing, CGM?*
3. Could you share about your experience using continuous glucose monitoring in managing patients with diabetes in your clinical practice?
 - a. *Probe: Please share about CGM data review frequency*
 - b. *Probe: How did you incorporate use of CGM data in your usual consultation of a patient with diabetes?*
 - c. *Probe: Please share how you involved patients in the data review and interpretation of CGM data.*
4. Could you share any barriers to using continuous glucose monitoring in managing patients with diabetes in your clinical practice?
 - a. *Probe: process of obtaining and viewing the CGM data during a typical scheduled in-clinic visit or tele-consult*
 - b. *Probe: interpreting the high volume of data*
 - c. *Probe: adequacy of training and knowledge to use CGM confidently in clinical decision making*
5. Could you share any facilitators of using continuous glucose monitoring in managing patients with diabetes in your clinical practice?
6. What did you like about using CGM in your practice in managing patients with type 2 diabetes under PTEC DM Programme?
7. What has been most frustrating in your use of continuous glucose monitoring in managing patients with diabetes in your clinical practice?
 - a. *Probe: How have you coped with this frustration?*

8. According to your experience, what are some of the clinical indications you would recommend using CGM in management of patients with diabetes:
9. Please share your experience of using multiple modes (e.g., SMBG, home HbA1c testing and CGM) of monitoring patients glycaemic control remotely under the PTEC DM Programme.
10. How was your experience managing both hypertension and diabetes using telehealth to complement the usual care while on PTEC DM Programme?
11. If PTEC DM Programme will be offered to other patients with diabetes and hypertension in future at polyclinics, could you share some improvements or changes we can include so that more patients may benefit from this programme?
12. Anything else you would like to add which we have not covered yet?

Thank you very much for your time and sharing.

Interview Guide – Patients

We would like to know more about your using the [CGM device] in managing your diabetes. It will take about 60 mins to complete the interview. Would you be willing to answer a few questions?

[If yes] Thank you very much for participating in this research. We want to again assure you that your responses will be kept completely confidential. All your responses will be summarized in a report without including your name. If you are ready, I will start the audio recording for this session.

Questions

We would first like to spend a little time learning about your experience overall with diabetes.

1. About how long have you had diabetes? Prompt as needed: When were you first diagnosed?
2. How has diabetes affected your life and the quality of your life?
3. What sorts of things have you been asked to do, or are aware you can do, to manage your diabetes or otherwise take good care of your health with diabetes?
4. What would your healthiest life possible with diabetes look like? How would that differ, if at all, from your life now?
5. What additional or different types of support would you want to help you live your healthiest life possible with diabetes?

Now, we would like to learn about your experience specifically with the continuous glucose monitor

6. About how long have you used, or how long did you use, the continuous glucose monitor?
7. How has your experience been with the continuous glucose monitor?
 - a. What have you liked about it?
 - b. What haven't you liked so much about it?
8. What impact, if any, has using the continuous glucose monitor had on you and your health?
 - a. Any impact on how you manage or take care of your health/diabetes?
9. How consistently have you used (or did you use) the continuous glucose monitor over the time since it was first prescribed or ordered for you?
 - a. What has helped or encouraged you to use it consistently?

- b. What has hindered or gotten in the way of you using it consistently?
- 10. What, if anything, could improve your experience with, and impact from, using the continuous glucose monitor?
- 11. How does your spouse/significant other/caregiver interact with your continuous glucose monitoring?
 - a. *Probe: What role do they play*
 - b. *Probe: Are they supportive, non-supportive? How does it affect you?*
- 12. **[Only ask in interview 2]** How has the experience been of using CGM the second time after having completed the first round?
 - a. What was different during this second time of using CGM?
 - b. What was similar during both times using CGM?
 - c. Is there any value in using the CGM more than once in managing your diabetes? Please elaborate.

We would like to learn about your experience using multiple devices while on PTEC DM Programme.

- 13. What are some of the other devices you have been using while on PTEC DM Programme?
 - a. *Probe: BP machine, glucose monitor, home HbA1c test etc.*
- 14. How has your experience been of using these devices (like blood sugar monitor, home HbA1c test etc.)?
 - a. *Probe: managing different devices together, self-managing multiple chronic conditions, workload.*
- 15. Could you share what you liked about using multiple devices/self-managing multiple chronic conditions?
- 16. Could you share what you disliked about using multiple devices/self-managing multiple chronic conditions?
- 17. If PTEC DM will be offered to other patients with diabetes with/without hypertension in future at polyclinics, could you share some improvements or changes we can include so that more patients may benefit from this program?
- 18. Anything else you would like to add which we have not covered yet?

Thank you very much for your time and sharing.