

Supplementary Exhibit 5 – Neurologists Interviews’ Guide

Title:

Attitudes Towards the Adoption of Remote Patient Monitoring and Artificial Intelligence in Parkinson's Disease Management: Perspectives of Patients and Neurologists

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Interview guide – Neurologists (PD)

Part 1 - Introduction to AICCELERATE

We are building an intelligent digital platform aimed to detect and forecast patients' progression to the advanced phase of PD. The platform will make these evaluations collecting and analyzing data from EHR and wearables (remote monitoring). To identify neurologists' preferences to employ remote monitoring and AI in the assessment of Parkinson's disease we are targeting neurologists that assist PD patients but don't work in specialized centers/ambulatories. Their involvement, along with the involvement of patients, is useful for developing our platform.

Part 2 – Socio-demographic information

1. What is your age?
2. What is your gender?
3. What is your institutional role?
4. What is your clinical specialization?
5. How many years of experience do you have in diagnosing and treating PD?
6. How many PD patients do you see on an average week?

Part 3 - Questions regarding the current clinical assessment for Parkinson's disease

1. Starting from your experience, could you describe the possible ways through which Parkinson's disease can progress?
2. How do you diagnose advanced PD?
 - a. What is the role of your physical exam and history taking?
 - b. Do you use recommendations from (national) guidelines to guide your decision-making?
 - c. What is the role of standardized instruments?
Probes: Do you use Hoehn and Yahr (HY) or Unified Parkinson's Disease Rating Scale (UPDRS)?
3. How do you currently follow PD patients' disease progression over time?
Probes: Do you recommend other treatments? Make other recommendations?
 - a. Is it important for you to recognize advanced PD in a timely manner? If yes, why?
 - b. How do you gather information about the patient to monitor the disease progression?
 - c. How often do you interact with a patient?
 - d. What is the role of technology?
Probes: Are any devices used? Online communication? EHR?
 - e. What is the role of caregivers?

- f. What is the role of other professionals (e.g. specialists in PD, Social workers, physiotherapists, occupational therapists, neuropsychologists)
- g. What are possible reasons for you to be dissatisfied with this process?
Probes: Uncertainty about diagnosis? Delay in diagnosis?

Part 2 - Questions regarding remote monitoring and AI for Parkinson's disease

1. What is your opinion about monitoring patients' conditions/severity at home using a wearable device to monitor motor and non-motor symptoms?
Probes: e.g., video monitoring, phones with interactive games, activity tracking, Fitbit
 - a. What would you consider advantages and disadvantages (both for patients and clinicians)?
Probes: Trustworthy? Ethical? Data sharing? Discrimination?
 - b. Do you think patients will engage with this technology and wear such devices?
Probes: What kind of barriers do you expect?
2. What kind of data or information would you like to obtain from the wearable device?
Probes: Movement data, gait data, sleeping data, heart rate, respiration, blood pressure.
 - a. How often should the patients wear the devices?
Probes: Everyday, 24/7, everyday for one week per month.
 - b. Do you think other neurologists would implement and use the technology in daily practice? Why/why not?
1. How would you feel about using artificial intelligence-based technologies for remote monitoring?
If necessary, provide definition: Artificial intelligence (AI) is the term used to describe the use of computers and technology that mimic human intelligence. AI can be applied to collect large amounts of complex health data, analyze it, and find patterns to come up with predictions or tailor-made advice or actions.
 - a. How do you feel about using AI to automatically detect deterioration of PD?
 - b. Do you have any concerns about using AI based remote monitoring in your clinical practice?
Probes: Concerns for the patients? Concerns for clinicians? Implementation barriers? Trustworthy? Ethical? Data sharing? Discrimination?

Part 3 - Closing

1. Does the second attending interviewer have any questions?
2. Is there anything else you would like to share with us about what we have discussed?
Do you have any questions?
3. Can we contact you for follow-up questions if they arise? (If yes: note email address)