

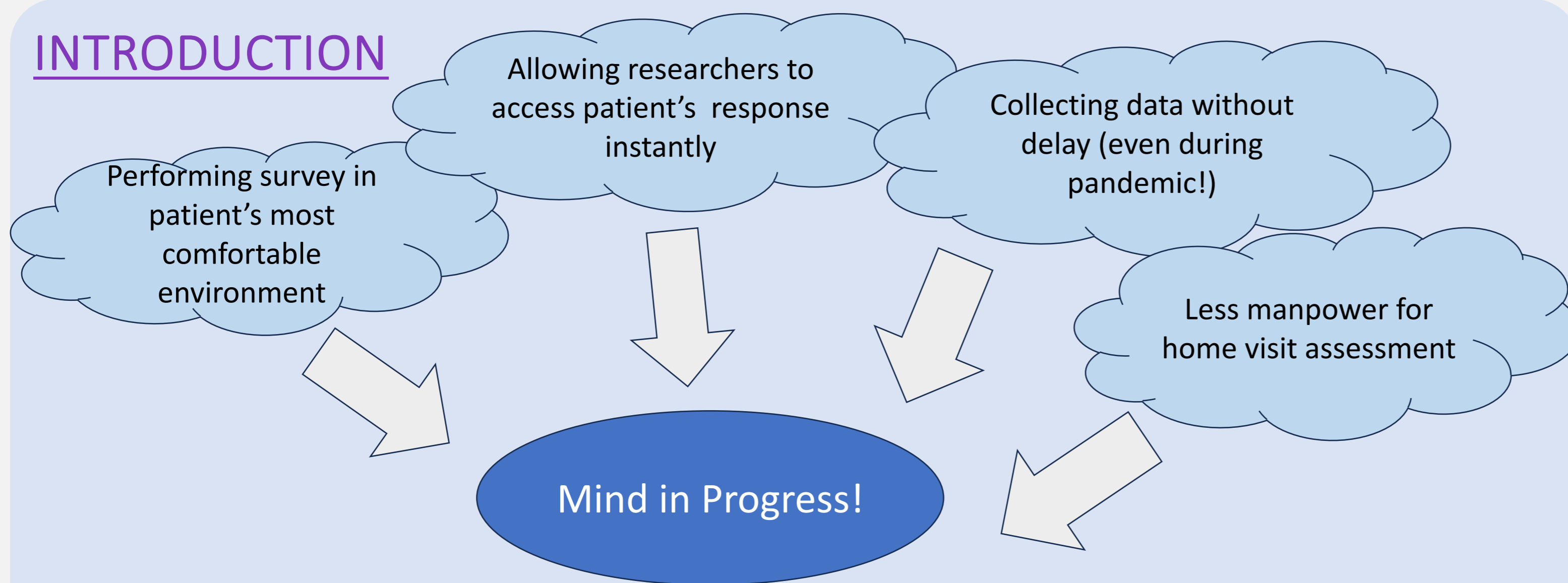
Mind in Progress: A Comparative Study Between Traditional and Mobile Application Version of MoCA

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INTRODUCTION



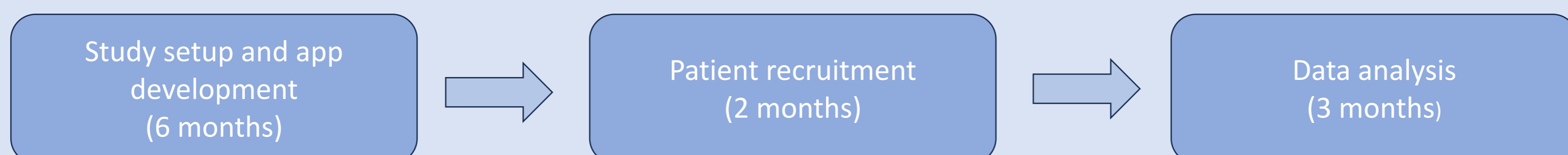
- An app called Mind in Progress is developed. In this pilot programme, Montreal Cognitive Assessment (MoCA) is selected to be the first survey available in the app.

APP LOGO



METHODOLOGY

- Target group: patients in neurosurgery of the Princes of Wales Hospital
- Timeline:



- Patient's demographical information are collected to judge the validity and feasibility of our proposed data collection methods on different groups of patients.
- Patient will be categorised into two groups, with one who have conducted a MoCA and the other who have not.
- A guideline will be provided to the patient and caregiver. The guideline will include details of how to access the online surveys and the method of attempting the survey. A paper-based survey will be performed after the online survey for comparison to assess the accuracy of the online version. This survey is to assess the efficacy of our app Mind in Progress, for the comparison over traditional form of MoCA.
- Patients will continue to do the online version of the survey in the app. Data could be collected to compare the efficacy of traditional form of MoCA and Mind in Progress.



RESULTS

<p>MoCA 請由1連線到10</p> <p>Visuospatial and Executive ability</p>	<p>MoCA 請畫出一個十一點十分的時鐘</p> <p>Visuospatial and Executive ability</p>	<p>MoCA 請複製以下圖形</p> <p>Visuospatial and Executive ability</p>	<p>MoCA 這是什麼動物? 請大聲朗讀或輸入答案</p> <p>答案: _____</p> <p>Naming ability</p>
<p>MoCA 請回憶第一個詞語 提示: 身體的一部分</p> <p>長按圖形以錄音</p> <p>Memory ability</p>	<p>MoCA 請由100開始連續減7, 並讀出答案:</p> <p>長按圖形以錄音</p> <p>Attention ability</p>	<p>MoCA 請重複以下句字:</p> <p>姨丈買魚腸</p> <p>長按圖形以錄音</p> <p>Language ability</p>	<p>MoCA 請填寫以下空格:</p> <p>今日是 ____ 月 ____ 日</p> <p>今年是 ____ 年</p> <p>今天是星期 ____</p> <p>我現在身處 ____</p> <p>Orientation ability</p>

CONCLUSION

- In this equation, n is the estimated number of patients to be recruited, γ is the confidence and π is the probability for a problem to occur. To make sure the app is user-friendly enough for SAH patients, a confidence level of 95% is aimed to be achieved and according to the equation, with $\gamma = 0.95$ and $\pi = 0.05$, $n = 59$. Therefore, 60 SAH patients, who have conducted a MoCA, will be recruited.
- Patients are invited to comment on the app design (i.e., layout, instructions) for any potential modifications in the future for better user experience. These commentaries are to be kept in record for research purpose.

$$n = \frac{\ln(1 - \gamma)}{\ln(1 - \pi)}$$

- It is envisioned that Mind in Progress is of high feasibility when it comes to evaluating the extent of cognitive impairment or the recovery progress of patients who has neurological pathologies that could affect cognition. Compared to traditional version, patients have high incentive to conduct MoCA with Mind in Progress. It does not only spare manpower for giving instructions of MoCA (which generally requires 15 minutes), but also allows doctor to allocate more time to deciding on management of patients based on the MoCA results. Therefore, it is hoped that in the near future, after several trials and modifications of the app, it can be widely used in different clinical scenarios.

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