**DIGITAL HEALTH SPECIALISATION PROJECT**

**The proposed evaluation plan to assess the effectiveness and feasibility of digital monitoring system through a six-month pilot roll-out in the Accident and Emergency Department of the hospital, and rationale as to why you have chosen specific methodologies**

**(400 words)**

To assess the effectiveness and feasibility of the digital monitoring system in the Accident and Emergency Department, we propose a mixed-methods approach that combines quantitative and qualitative data collection methods. The following are the specific methodologies we recommend:

* Pre- and post-implementation surveys: We will administer surveys to patients, caregivers, and healthcare providers in the Accident and Emergency Department to assess their perceptions of the monitoring system before and after its implementation. These surveys will capture information on usability, acceptability, and satisfaction with the system. We will also collect demographic data to explore potential differences in perceptions across subgroups.
* Quantitative data analysis: We will analyze administrative data from the Accident and Emergency Department to assess changes in key outcomes, such as length of stay, mortality, and readmissions, before and after the implementation of the monitoring system. We will use statistical methods to control for potential confounding variables, such as patient demographics and clinical acuity.
* Qualitative data collection and analysis: We will conduct in-depth interviews with a purposive sample of patients, caregivers, and healthcare providers to explore their experiences with the monitoring system in more detail. We will use thematic analysis to identify common themes and patterns in the data.
* Process evaluation: We will also collect data on the implementation process itself, such as the time and resources required to implement the system, and any issues or challenges encountered during the pilot. This information will help us to identify areas for improvement and to inform the scaling-up of the monitoring system to other departments within the hospital.

We believe that this mixed-methods approach will allow us to capture a comprehensive picture of the effectiveness and feasibility of the digital monitoring system in the Accident and Emergency Department, and to identify potential areas for improvement.

**The potential challenges that might be encountered with the evaluation strategy in this context.**

**(100 words)**

The potential challenges could be:

* Patient and staff acceptance: Patients and staff may be resistant to the implementation of a new technology, or may have concerns about privacy and data security.
* Data quality: We may encounter challenges in obtaining high-quality data from the monitoring system, particularly if the system is not fully integrated with existing hospital systems.
* Generalizability: The results of the pilot may not be generalizable to other departments or hospitals, particularly if the Accident and Emergency Department is not representative of the wider hospital population.

**How the potential challenges would be mitigated or overcome?**

**(101 words)**

To address these challenges, following recommendation are made:

* Patient and staff engagement: We will work closely with patients and staff to address any concerns they may have about the monitoring system and to ensure that they feel comfortable using it.
* Data validation and cleaning: We will conduct thorough data validation and cleaning procedures to ensure that we are working with high-quality data.
* Sampling strategy: We will use a purposive sampling strategy to ensure that we recruit participants who are representative of the wider hospital population, and we will carefully document the characteristics of our sample to enable us to assess generalizability.