



Virtual assistant for pre & post Surgery calls (LISA)

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Background

A voicebot (VB) is an Automated Artificial Intelligence (AI) software that allows callers to navigate with an interactive voice response system. In SNEC, approximately 100 pre-surgical and 60 post-surgical calls were done daily by pre surgery services & day ward nurses respectively. Two Nurses are required to complete the calls daily within 8 hours. With a VB, critical nursing resources can be redeployed to perform higher functional duties, thereby value-adding to patients.

Aim(s)

We aim to enhance the patient experience using VB service and improve nurses' productivity by automation and digitalization and enable the nurses to perform more "value added" services.

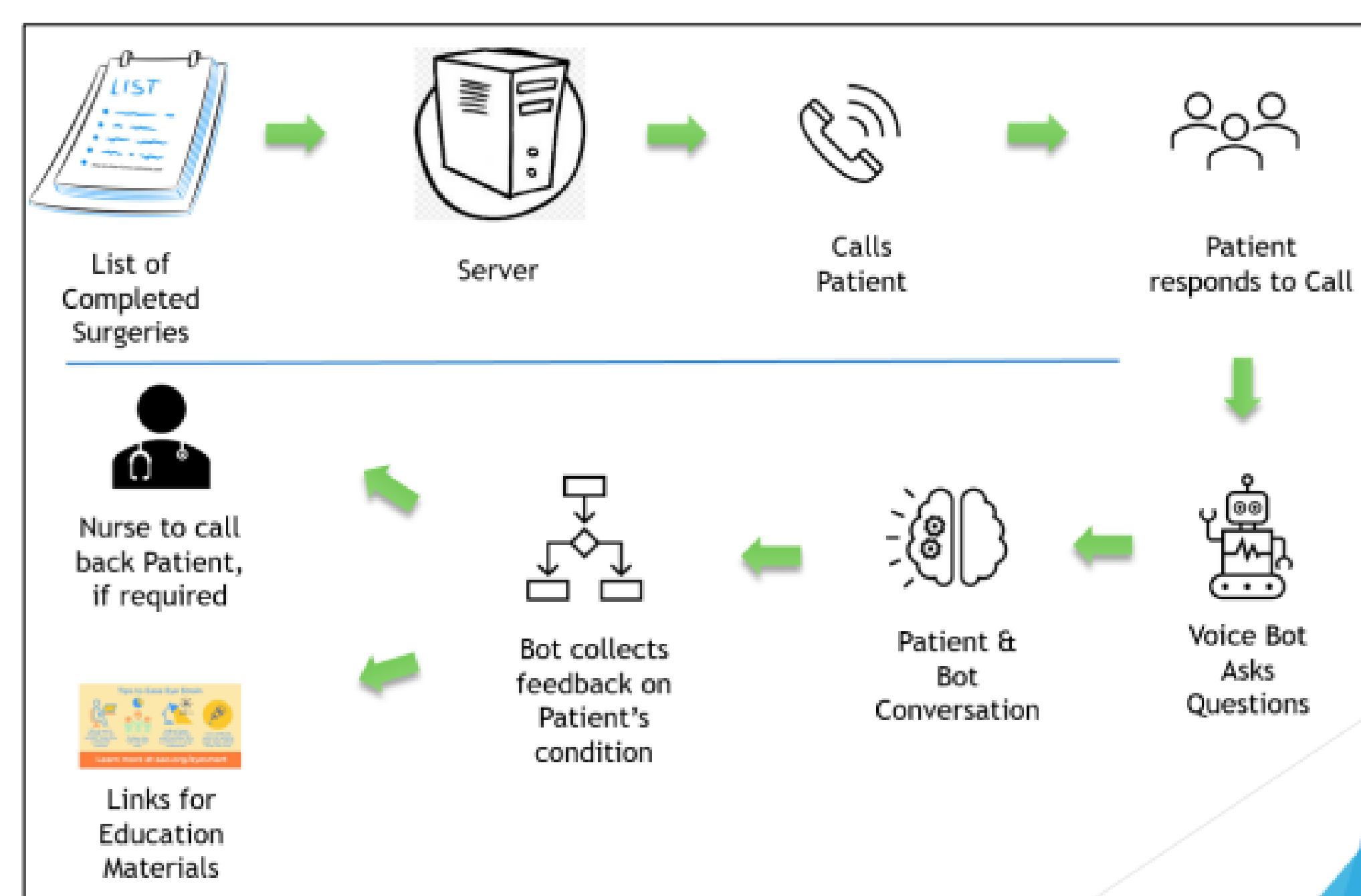
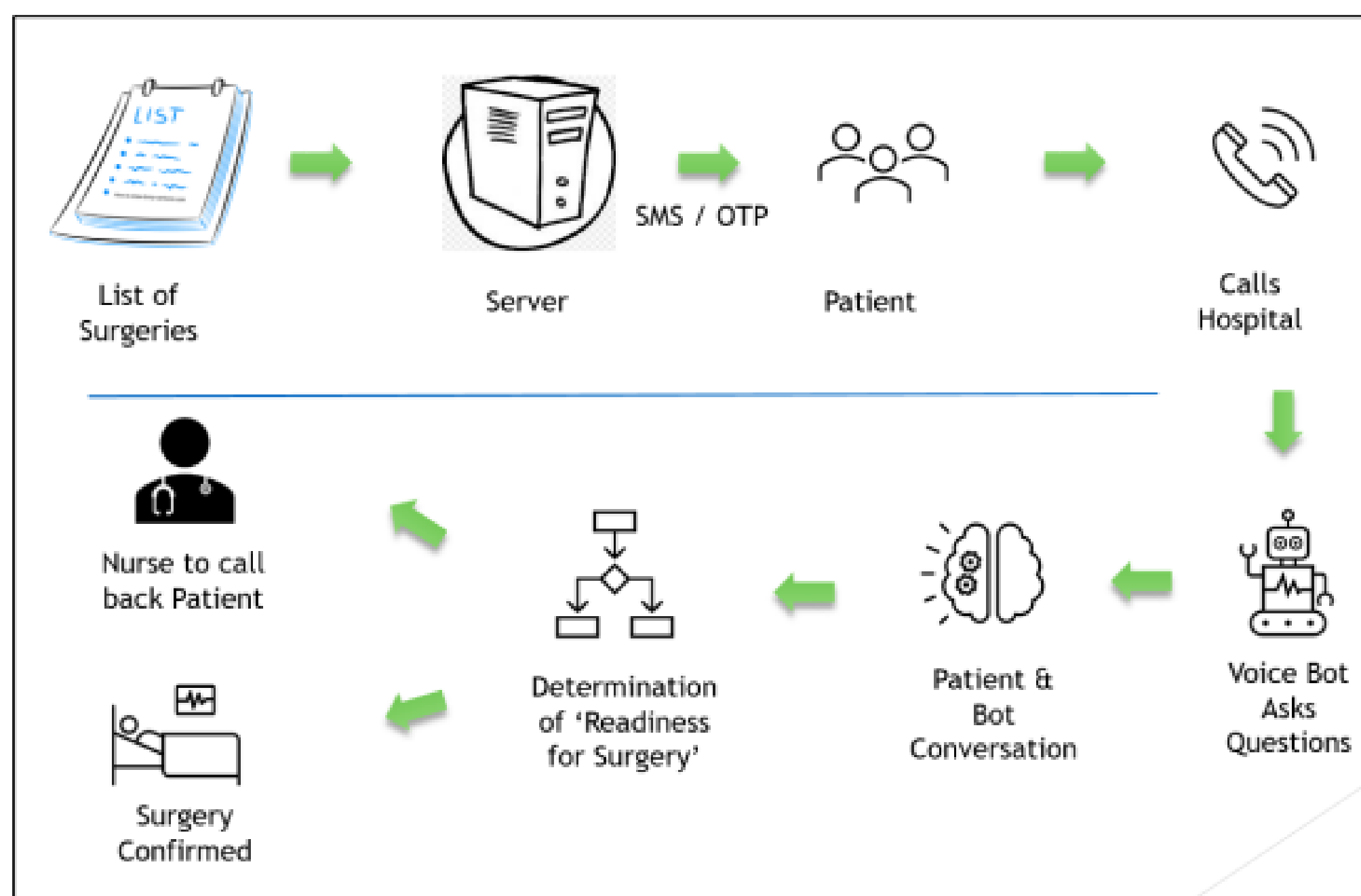
Methodology

For the proof of concept, we performed 237 pre-op calls and 85 post-op calls. The VB was programmed to ask a series of questions to simulate a manual call. For pre-op calls, a list of test patient data was uploaded. An SMS was sent to the tester to call the hotline within 2 days of scheduled surgery. The tester replied to a series of questions and recorded their acceptability towards the VB.

Similarly, post op calls were tested in the same method but the voicebot was programmed to call the tester. Other factors on user experience (e.g. flow of conversation) were also assessed.

Patient satisfaction survey is currently underway and we hope to enhance the voicebot system through patient's feedback.

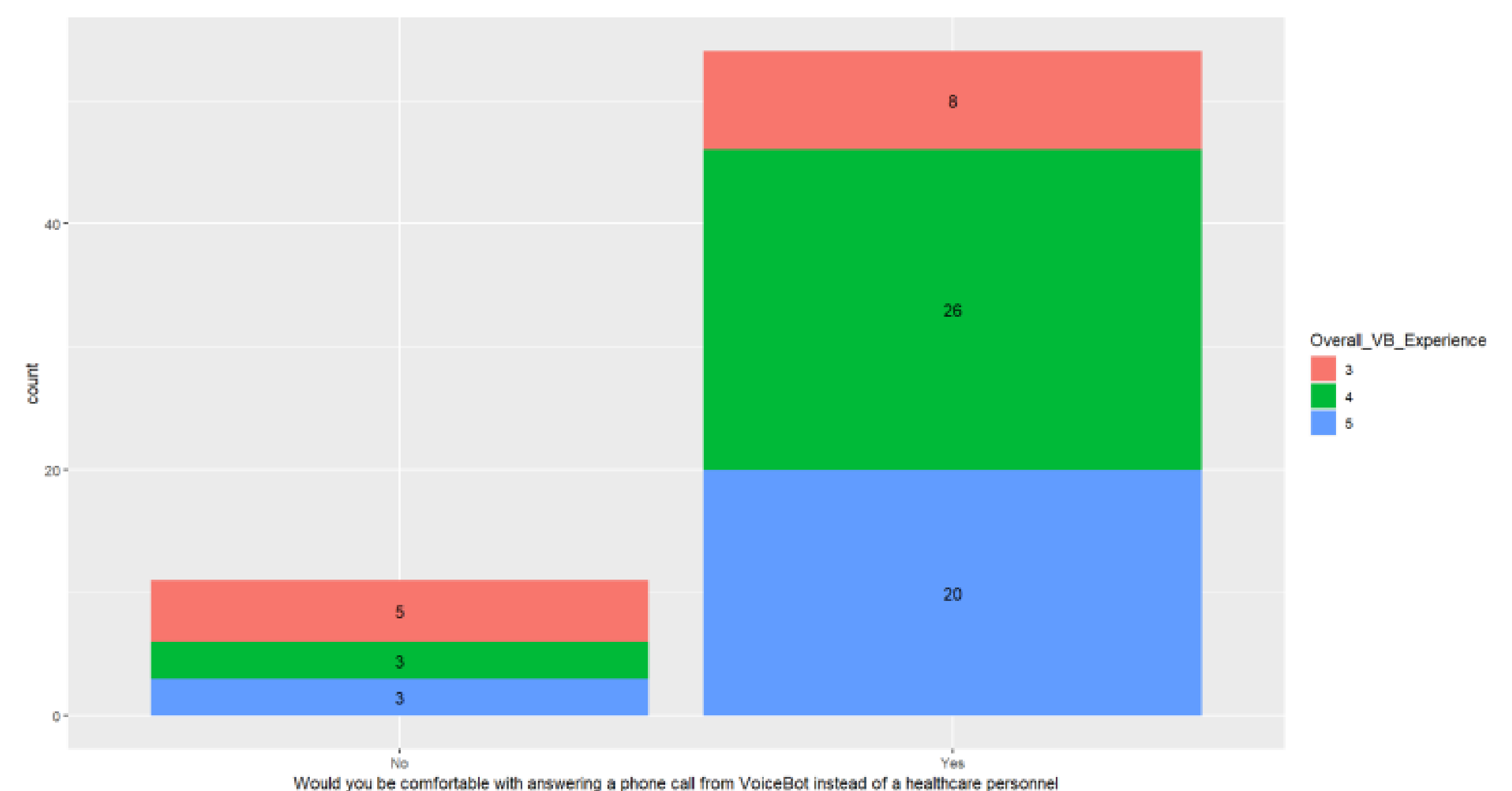
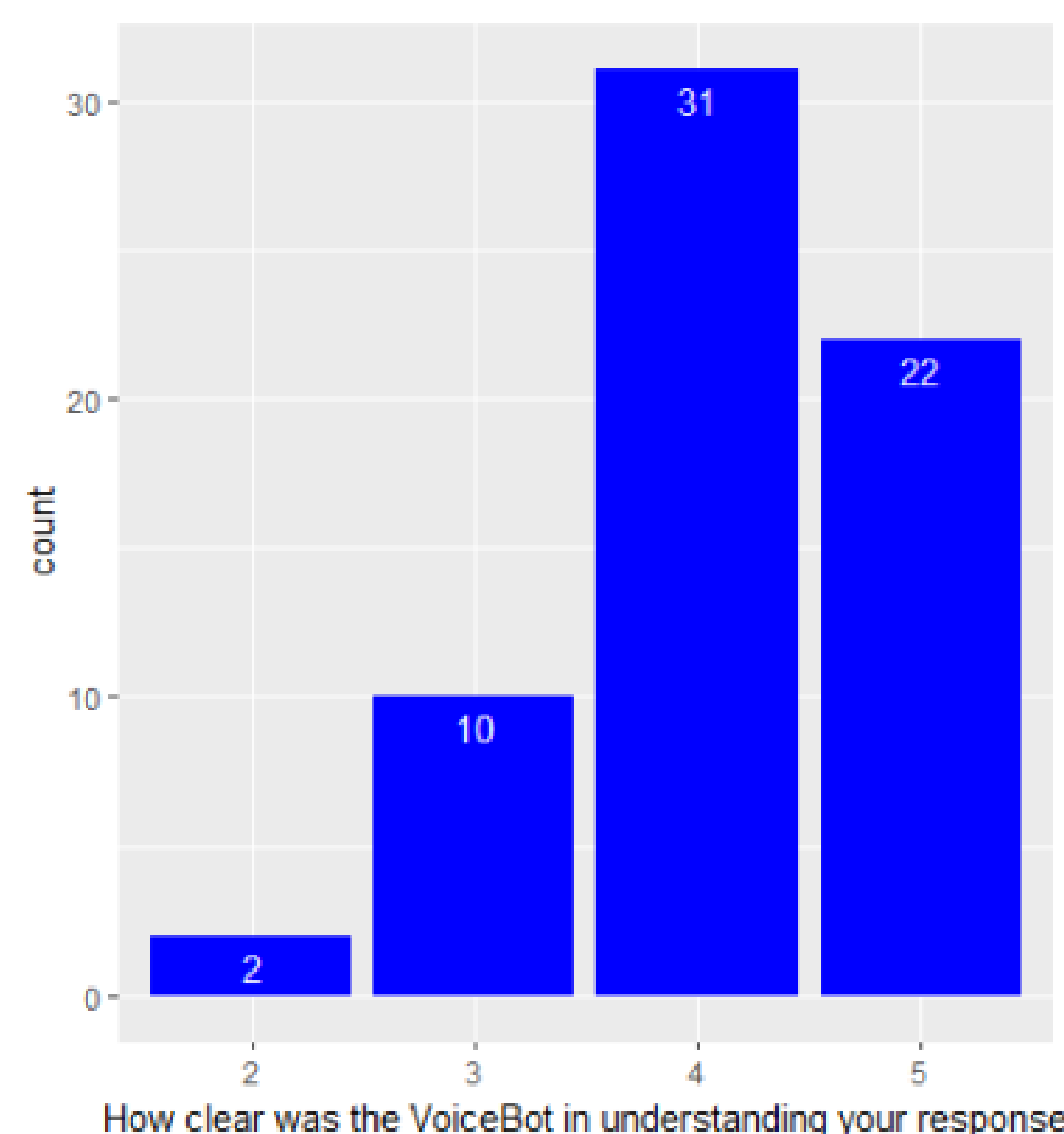
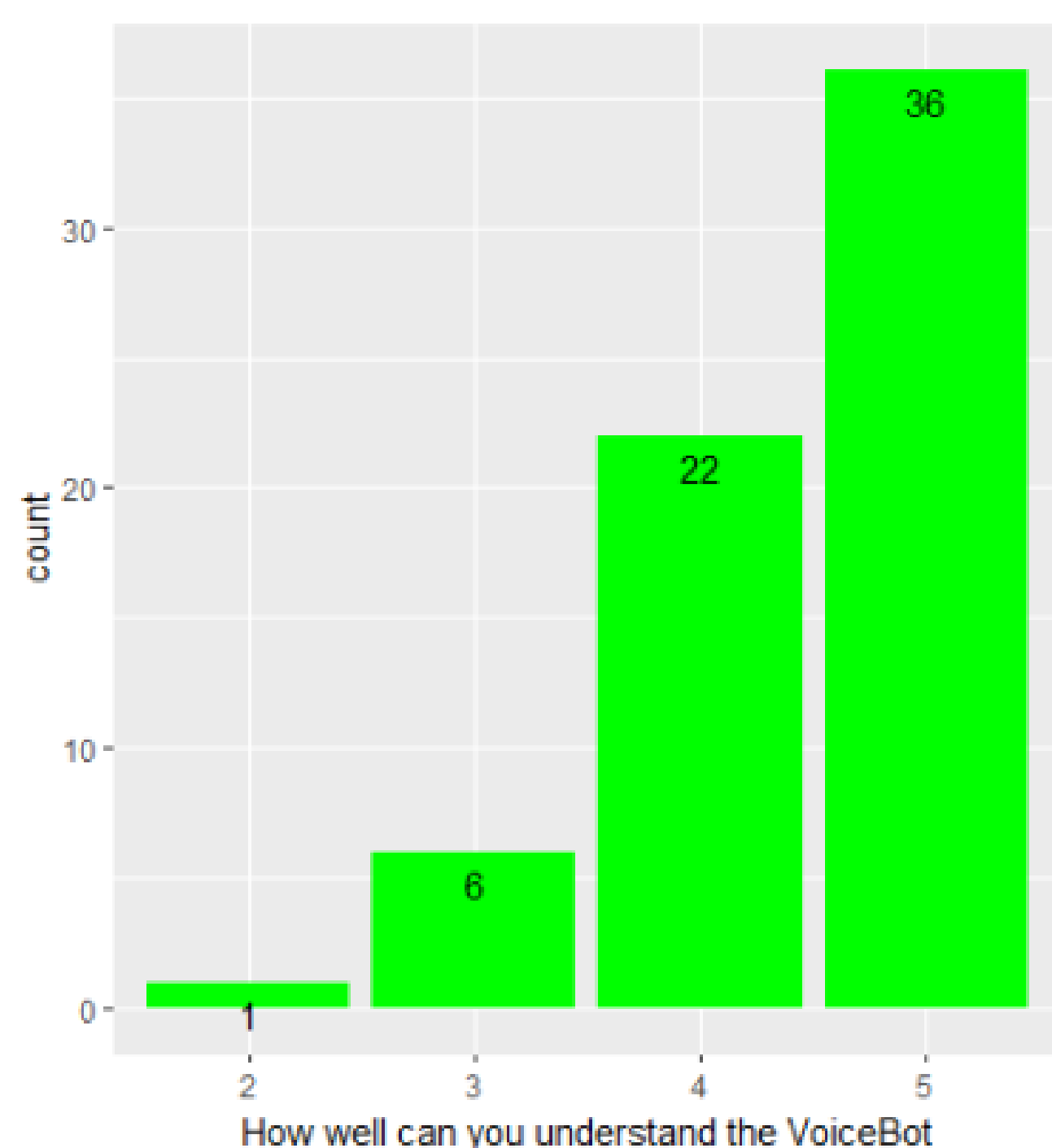
It is estimated that a set of pre-op and post-op call will take about 22minutes. With the estimated patient load of about 24k per year in FY2024 (based on calculations from FY2021 figures, with 3% year-on-year growth assumed), it could save more than 2 headcount's worth of effort even with 50% of failed calls assumed.



Result

Our study showed high acceptability rate amongst testers. 73.3% of the testers rated the pre-op call to be "Satisfied" or better, while 83% rated the post-op call to be "Satisfied" or better.

Based on the current statistics on a patient satisfaction survey which we have conducted, approximately 89.2% and 81.5% of patients surveyed responded with 4 and 5 stars, out of 5 stars, for the clarity of the voicebot and how well the voicebot is able to pick up their responses, respectively. In terms of patient's willingness to use the voicebot (as compared to manual calls by nurses/healthcare professionals), 83.1% have stated that they are comfortable with picking up automated calls from the voicebot.



Conclusion

Our results showed that the voicebot has high potential to replace the manual calls performed by trained nurses. as the voicebot can be understood and able to provide correct responses, according to the workflow designed. Therefore, the voicebot usage can be further explored to other functions where repetitive calls are required to allow re-allocation of trained manpower to other high touch point areas.