

Evaluation of patient comprehension of pre-operative diabetes medication changes in a telehealth preadmission clinic



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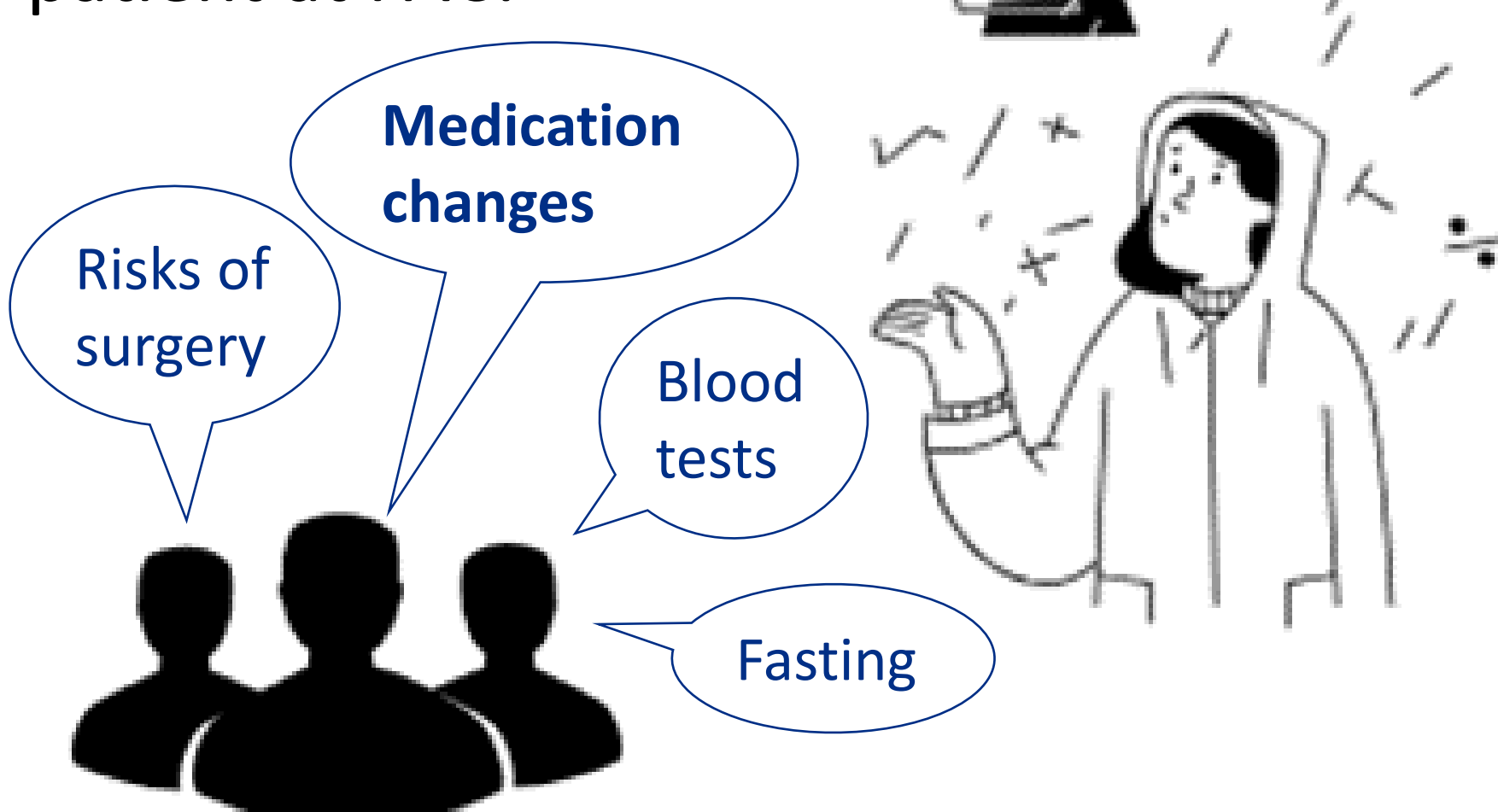
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Background:

The preadmission clinic (PAC) at Eastern Health (EH) is a team of nurses, junior doctors and anaesthetists.

A range of information is conveyed to the patient at PAC:

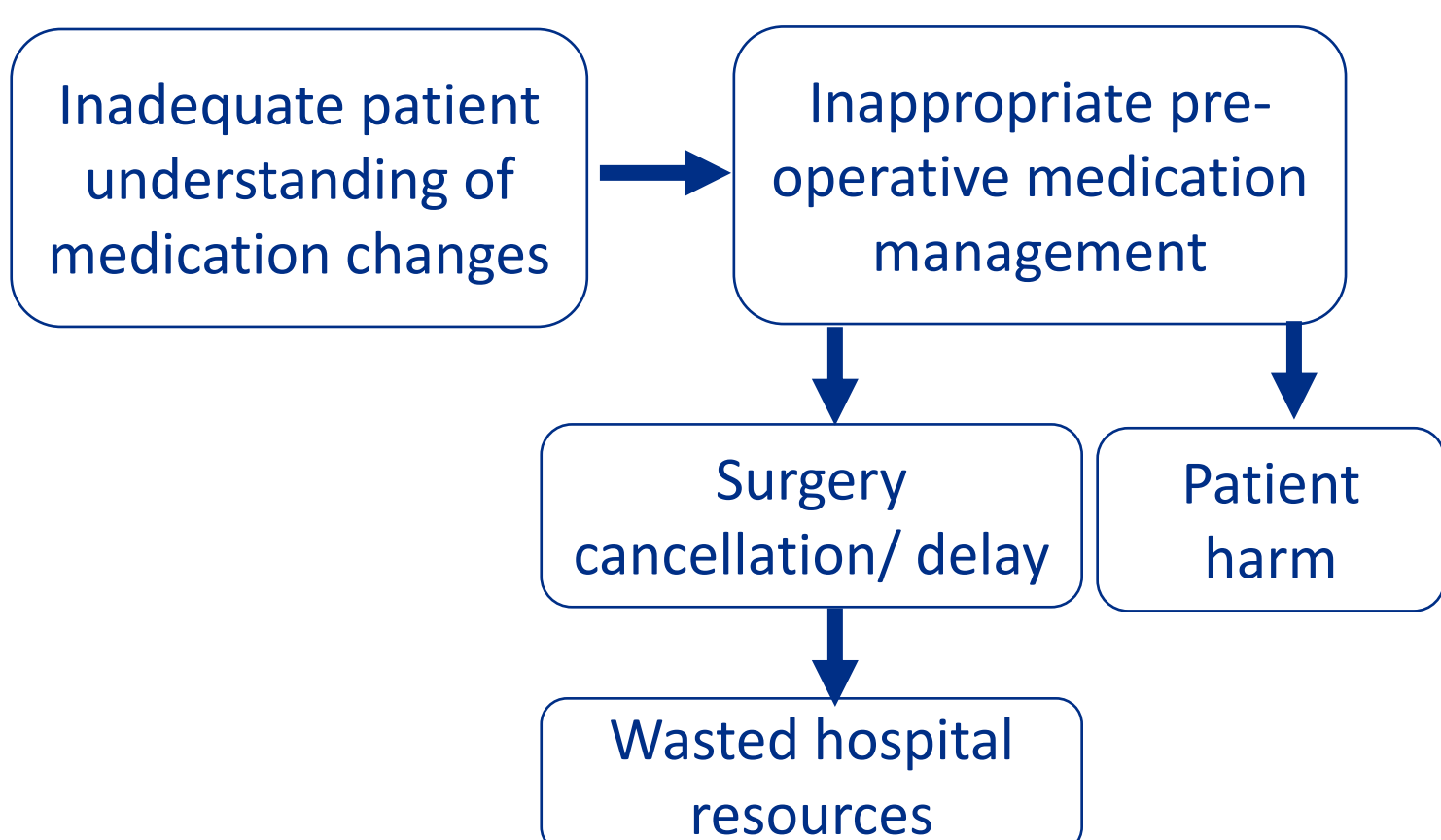


Pre-operative diabetes management is complex:

- ↑ risk of perioperative morbidity and mortality in these patients¹
- Large range of medications used in diabetes treatment
- Variability in dosing and pre-operative management



The lack of visual cues in a PAC telephone consult can make it difficult to gauge patient comprehension.



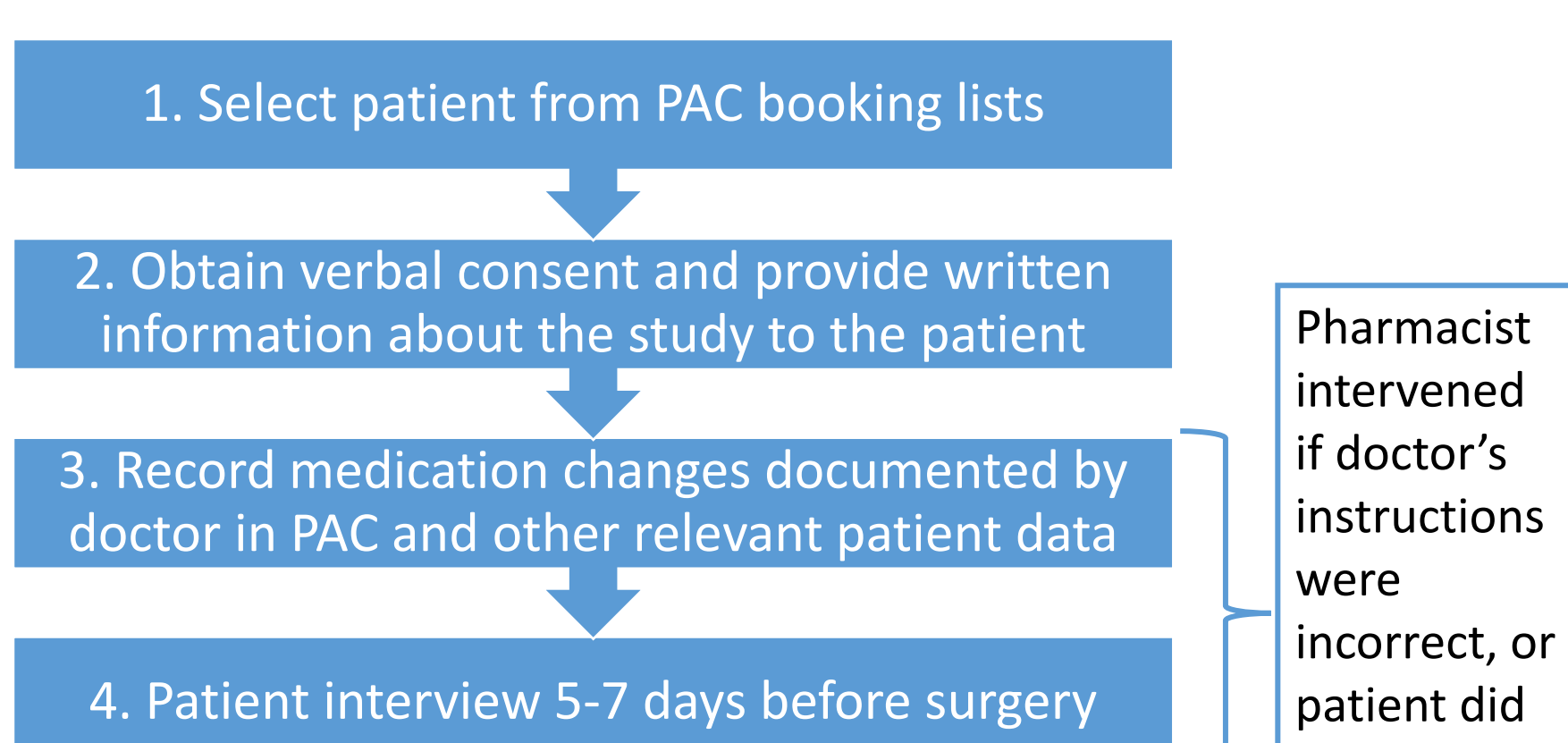
Aim/Objectives:

To assess the comprehension of pre-operative diabetes-related medication changes communicated during telehealth PAC and identify associations with the mode of communication and number of diabetes medications taken.

Method:

- Mixed methods: Retrospective audit and semi-structured interview
- EH ethics approval granted in February 2022 (Reference no.: LR21-049-81690)
- Data collection period: March 2022 – June 2023

Figure 1: Flow chart of the study method



Inclusion criteria

- ✓ Planned for general surgery
- ✓ Taking ≥ 1 diabetes medication
- ✓ Aged ≥ 18 years

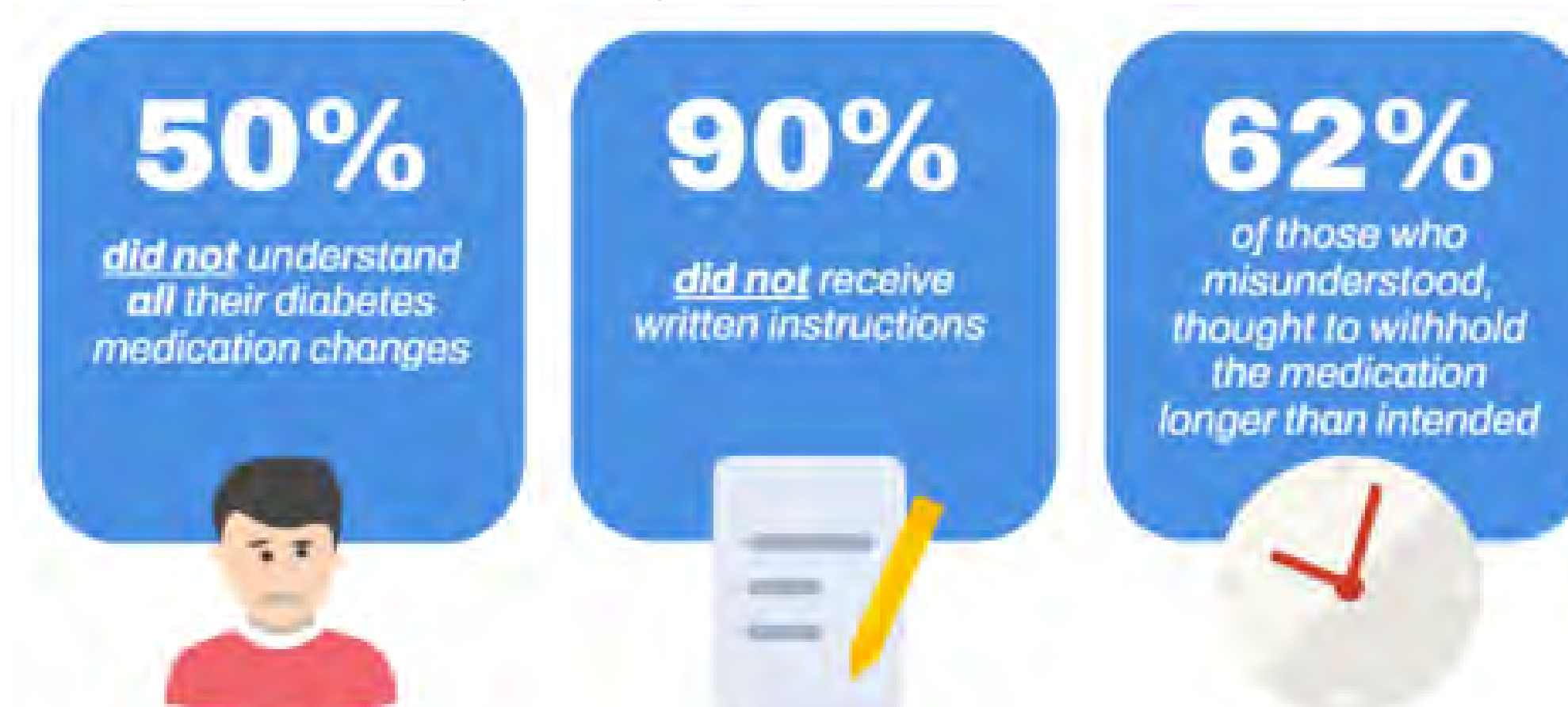
Exclusion criteria

- ✗ Patients requiring an interpreter
- ✗ Those who do not manage their own medications

Pharmacist intervened if doctor's instructions were incorrect, or patient did not understand them

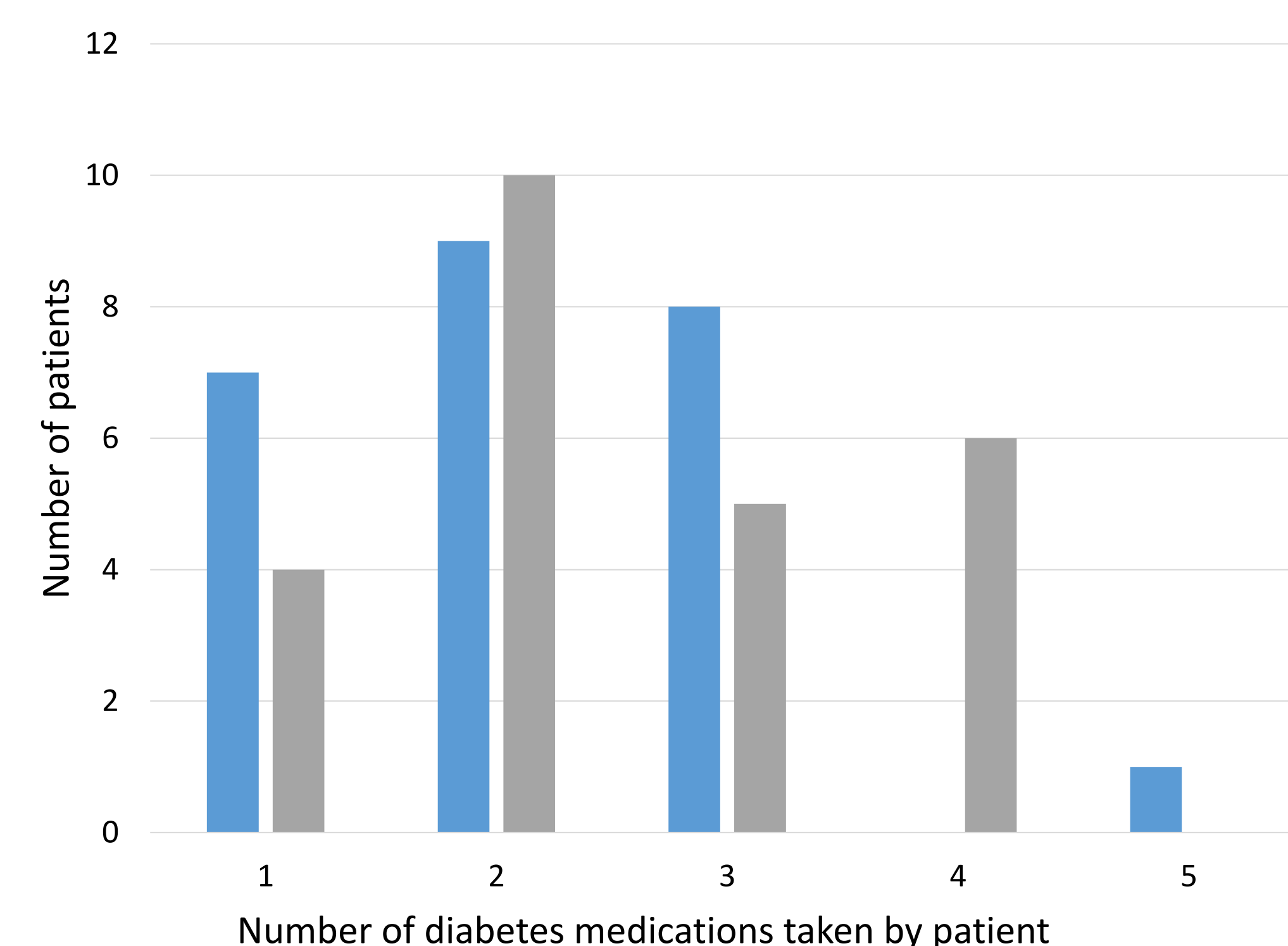
Results:

Out of the 50 participants recruited:



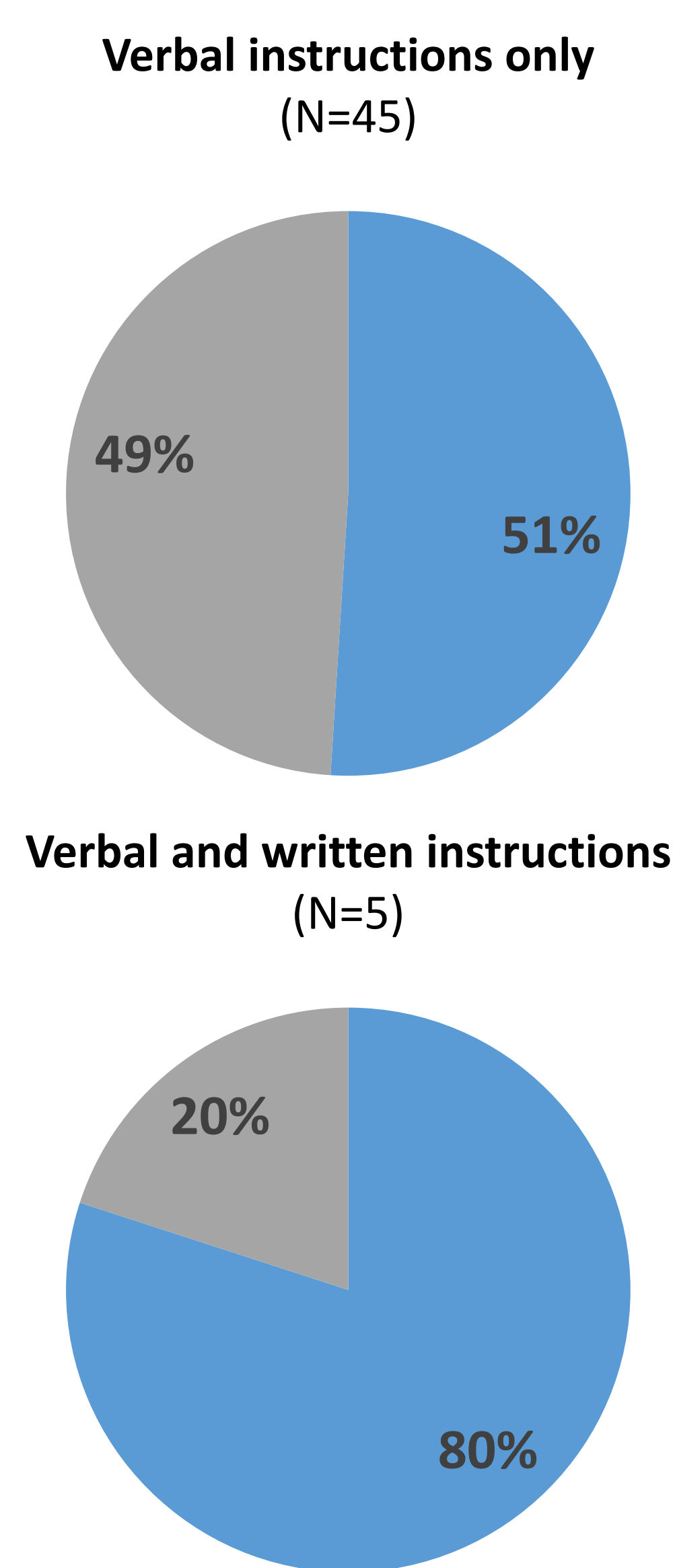
- 78% of participants were taking > 1 diabetes medication.
- Comprehension of pre-operative medication changes was better in patients taking up to 3 medications (see figure 2)

Figure 2: Comparison of patient comprehension with the number of diabetes medications taken



- Patients' comprehension of all their diabetes medication changes was higher where written instructions were given in addition to verbal via email (see figure 3).

Figure 3: Comparison of patient comprehension of medication changes with verbal instructions only or with additional written instructions



- Patients who understood all their diabetes medication changes
- Patients who **did not** understand all their diabetes medication changes

Discussion:

- Comprehension was poorer in those:
 - Taking more than one diabetes medication (except in one patient taking five diabetes medications)
 - Given only verbal instructions
- Only 5 patients were given written instructions
- Where patients misunderstood the direction to withhold, most planned to withhold it **for longer than necessary**
 - Impact on glycaemic control pre-operatively?
- The patient interview was an opportunity for timely pharmacist intervention in the week prior to surgery
 - Reviewed pre-operative medication changes instructed by the doctor
 - Ensured patient understanding and retention of information
- Assessed patient comprehension of medical information conveyed via telephone

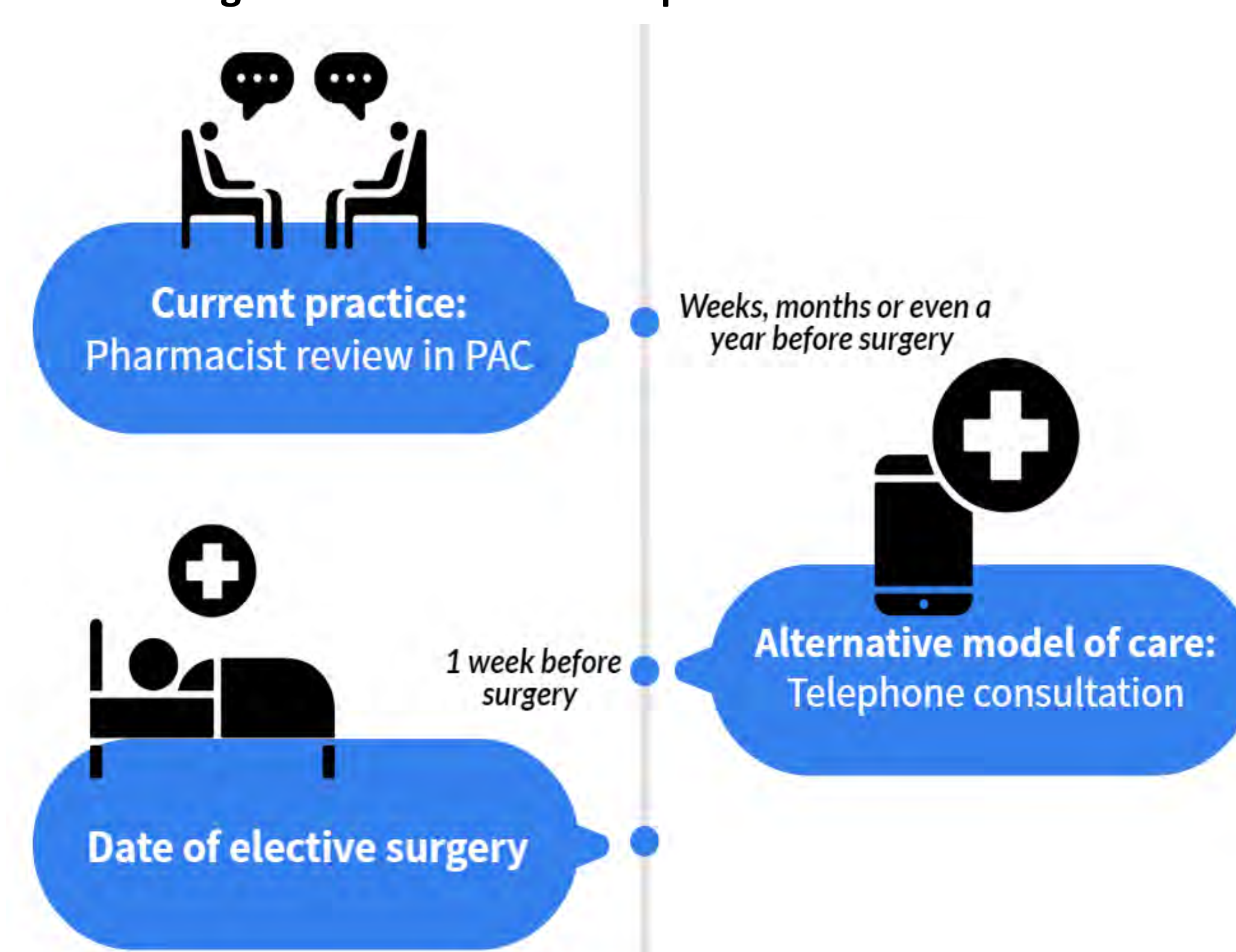
Limitations

- Overall complexity of patient's medication regimen not considered
- Health literacy data not collected
- Comparison to face-to-face consultations not done

Conclusion:

- Inadequate comprehension of pre-operative medication changes was identified in 50% of patients in this study
- EH PAC may benefit from:
 - Providing standardised written medication instructions to all patients
 - Implementing a pharmacy service to provide adequate patient counselling
- In hospitals with established PAC pharmacist roles, an alternative model of care (see figure 4) may be considered to:
 - obtain a more recent medication history
 - ensure patient comprehension and compliance with medication changes

Figure 4: Alternative PAC pharmacist model of care



References:

1. (ADS) ADS. Peri-operative diabetes management guidelines Sydney ADS; 2012 [updated 2022 Nov] Available from: <https://www.diabetessociety.com.au/guideline/ads-anzca-perioperativediabetes-and-hyperglycaemia-guidelines-adults-november-2022/>