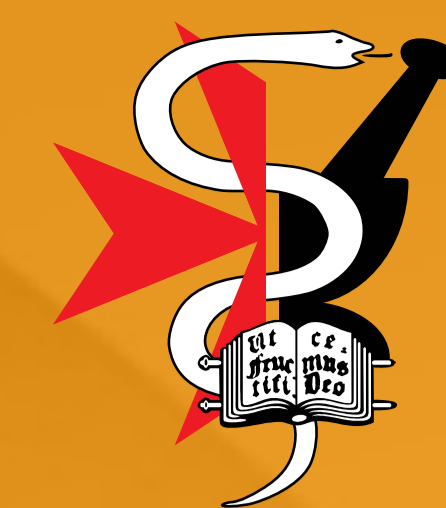
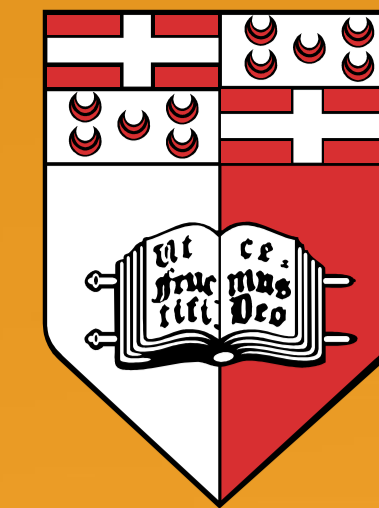


# RISKS IN MEDICATION RECONCILIATION DURING HOSPITAL ADMISSION

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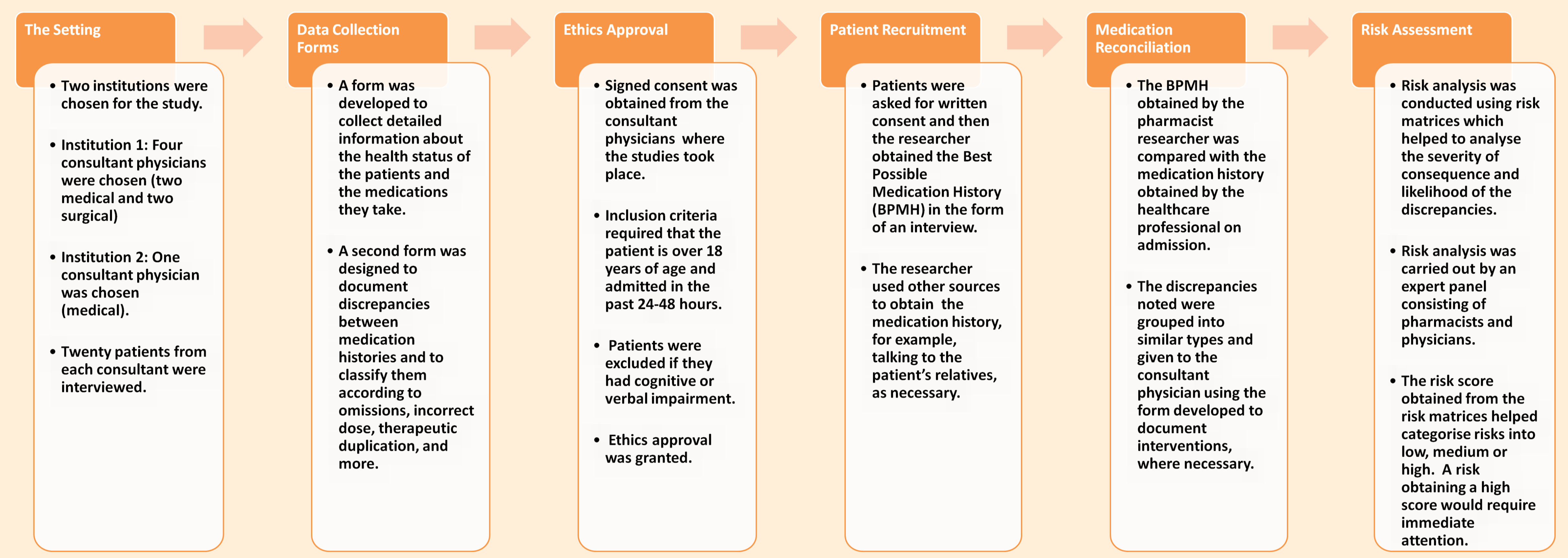
## INTRODUCTION

Medication reconciliation may be defined as "the formal process of checking the full, accurate list of a patient's previous medication and comparing it with the medication prescriptions after a transition of care."<sup>1</sup> After undergoing medication reconciliation, the amount of errors decreases and hence there would be better management of resources due to less readmission of patients to hospital.<sup>2</sup> Since medications usually change on admission, medication reconciliation and pharmacist intervention are relevant criteria to reduce medication errors.<sup>3</sup> Risk assessment plays an important role in prioritising the attention patients require according to the severity of consequences a possible risk might bring.

## AIMS

- To observe the intervention of the pharmacist in patient history-taking and whether the pharmacist is better suited to take medication history than other healthcare professionals.
- To carry out medication reconciliation between the medication history obtained by the pharmacist and by the other healthcare professional to identify any changes in the medications patients take.
- To analyse clinical significance of discrepancies using risk matrices in order to determine the severity of consequences the patient could have undergone.

## METHOD



## RESULTS

- 100 patients had their medication histories taken, 66 patients were male and 34 were female, having a mean age of 62 years. The average duration of the interview for medication history-taking was 14 minutes.
- Total number of medications identified was 649 medications (average 6.5 medications per patient). Patients make use of chronic medications the most, which had a leading frequency of 408 medications. This was followed by the 'other medications' group, with 87 medications. This group incorporates medications which do not have an oral route of administration, for example, injections, eye drops, creams.
- The pharmacist identified more medications than the non-pharmacist from each medication group (17% more overall). (Figure 1)
- With regards to discrepancies between medication histories, 124 discrepancies were found in 100 patients. The most common discrepancy was omission, making up 90% of all discrepancies (Figure 2).
- A statistically significant correlation was found between the number of medications patients take and the number of discrepancies found in each patient ( $p$ -value = 0.043).
- Out of 100 patients, 15 patients were chosen in order to rate their discrepancies, this amounting to 55 risk matrices. A Shapiro-Wilk test was carried out on each risk factor obtained from risk matrices, followed by an independent t-test or a Mann-Whitney test as appropriate. Pharmacists and physicians making up the expert panel agreed on all risk matrices except for 3, with regards to severity of outcomes. When taking the average of all risk scores obtained from all the 9 experts for the 55 risk matrices, none of the risk scores had an average that obtained a high risk score, that is, requiring immediate attention.

Figure 1: Number of Medications identified by the Pharmacist and by the Non-Pharmacist (n=100)

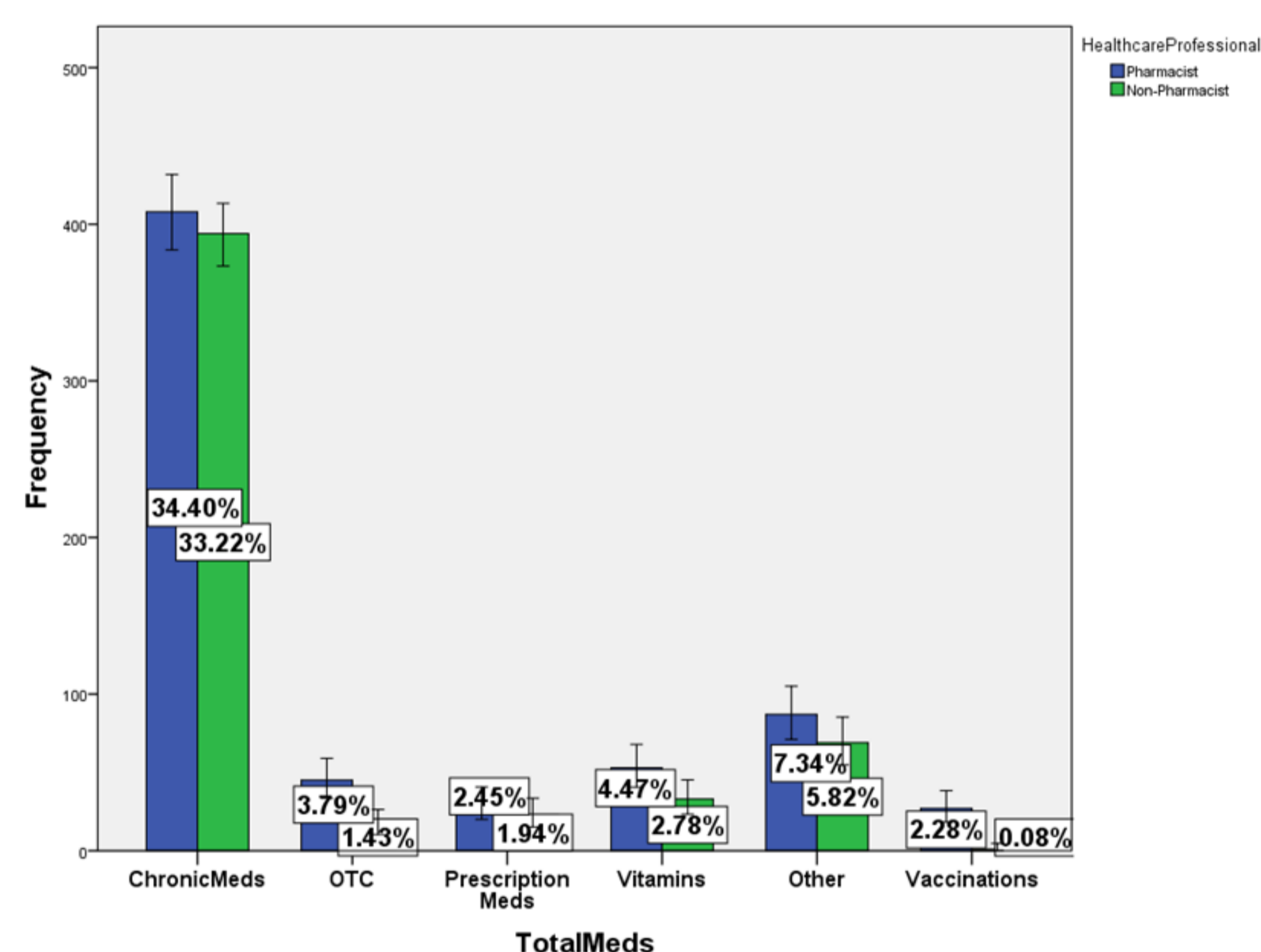
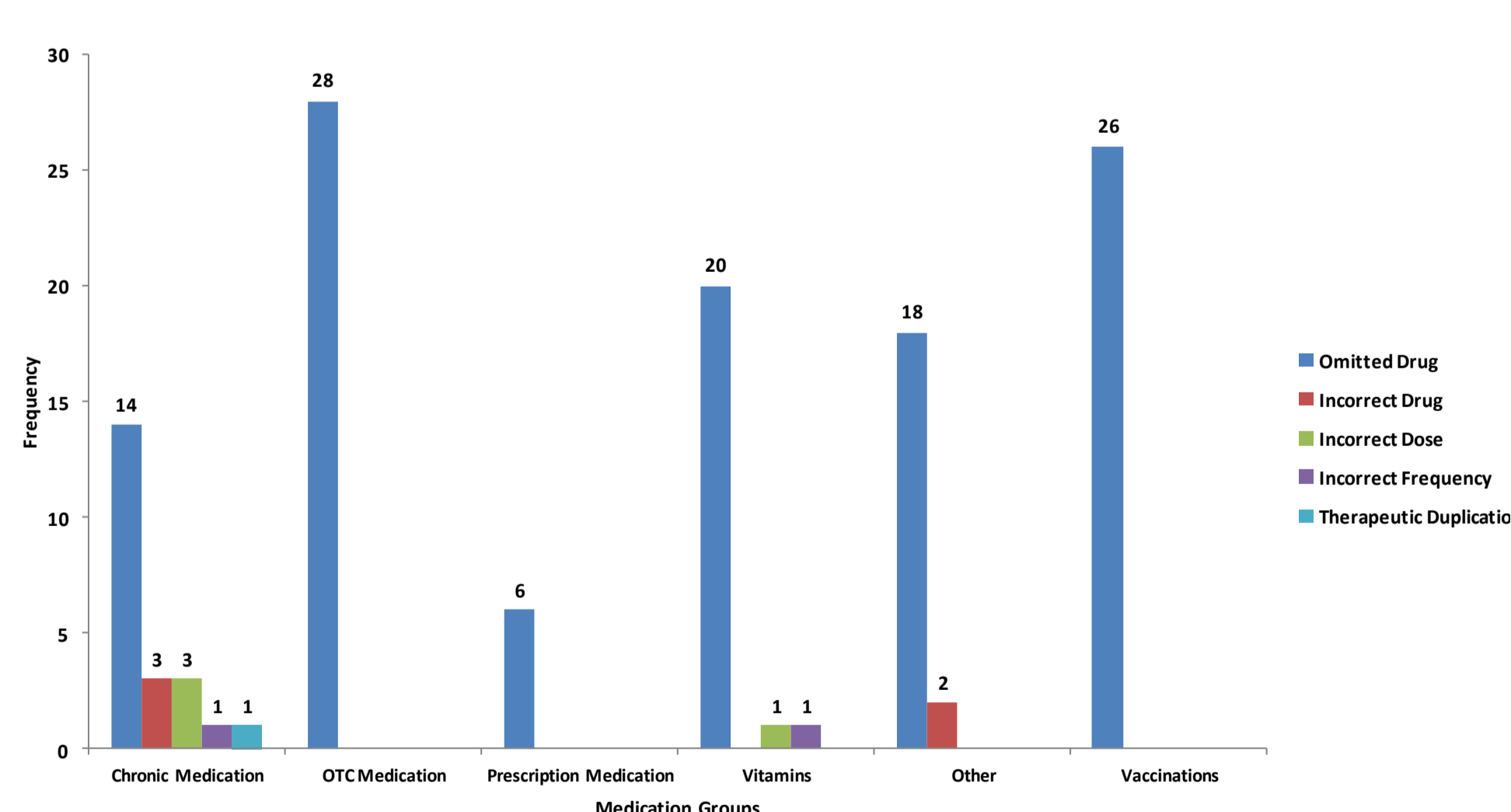


Figure 2: Types of Discrepancies in different medications (n=649)



## CONCLUSION

The BPMH was achieved by consulting more than one source to obtain medication history in 57% of patients. Discrepancies between the two medication histories amounted to 124 in 100 medication histories compared, which is reflected in other studies.<sup>4,5</sup> More detailed medication histories together with discrepancies identified and more identification of medications taken by each patient leads to the fact that the pharmacist is the best healthcare professional to take medication histories, having invested more time during interviews and to double-check data. Risk matrices are a relatively new concept in healthcare, however they have been a useful tool in analysing the relative risk of each discrepancy. The risk score obtained from each discrepancy indicates the severity of the discrepancy. The fact that the physicians and pharmacists agreed with regards to severity indicates that a multidisciplinary team approach could be implemented with acceptable results since the same patients can be prioritised. Subjectivity was the most significant drawback of using risk matrices, since the specific consequences of the discrepancy were not suggested, meaning that the rating could have been given with different consequences in mind.

In conclusion, pharmacists are better suited to obtain the best possible medication history, since the pharmacist identified 17% more medications than the other healthcare professionals. Whilst assessing the risk of the discrepancies found, some were rated by the experts as requiring immediate attention or further investigations. Therefore, even though somewhat novel to the medical world, the risk assessment exercise plays an important role in prioritising which discrepancies required the most attention and highlighted that medication reconciliation is a crucial exercise in any healthcare setting since it is able to detect discrepancies and evade serious medication errors.

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