

Healthcare Providers' Perspectives on Medication Adherence Management in New Zealand

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Introduction

- Medication adherence (MA) refers to the timely intake of medication by a patient as prescribed by a healthcare provider.
- MA leads to an out-of-control epidemics that not only affects the individual patient but also disrupts the entire healthcare system¹.
- In New Zealand 21% acknowledged poor adherence due to carelessness, 28% of patients forget to refill their Rx as scheduled, and 43% admitted missing taking their medication.
- An estimate of NZ\$700 million is caused by unplanned and avoidable hospitalisation mainly due to non-adherence.

Objectives

The present study aims to explore MA from the perspectives of healthcare professionals and health technology designers. The contributions of this study are as follows:

- It captures healthcare professionals' understanding of the multifaceted dilemma of MA.
- It provides insights on how mHealth could be used to improve collaboration among the members of healthcare delivery teams and the patient.

Material and Methods

We conducted online and face-to-face semi-structured interviews with healthcare professionals and health technology designers. We used purposeful sampling to select participants. We utilized the Grounded Theory (GT) to analyze the data as a qualitative methodology [Figure 1]. GT has both the process of category identification and integration (as a method) and its product (as theory)². GT as a method provides us with guidelines on how to make links between categories and how to establish relationships between them.

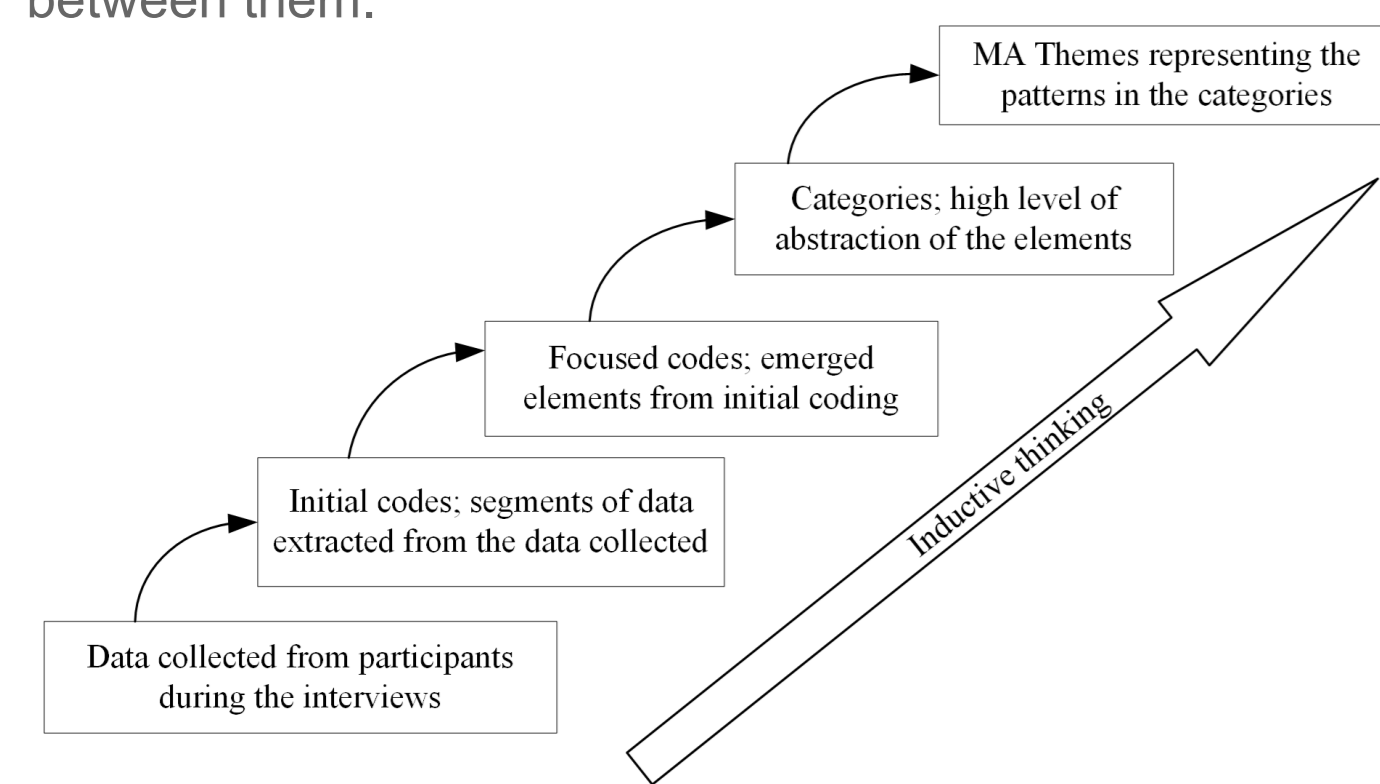


Figure 1 Coding procedure adapted from Glaser

Results and Discussion

Twenty-two participants showed an interest in the topic. Seventeen healthcare provider, four health technology designer and one health informatics researcher. Several initial codes were identified for each interview question during the analysis phase. As more codes emerged, the data were clustered into focused codes [Figure 3 and Figure 4], which led to more generalized categories. With theory building in mind, the categories were organized as themes.

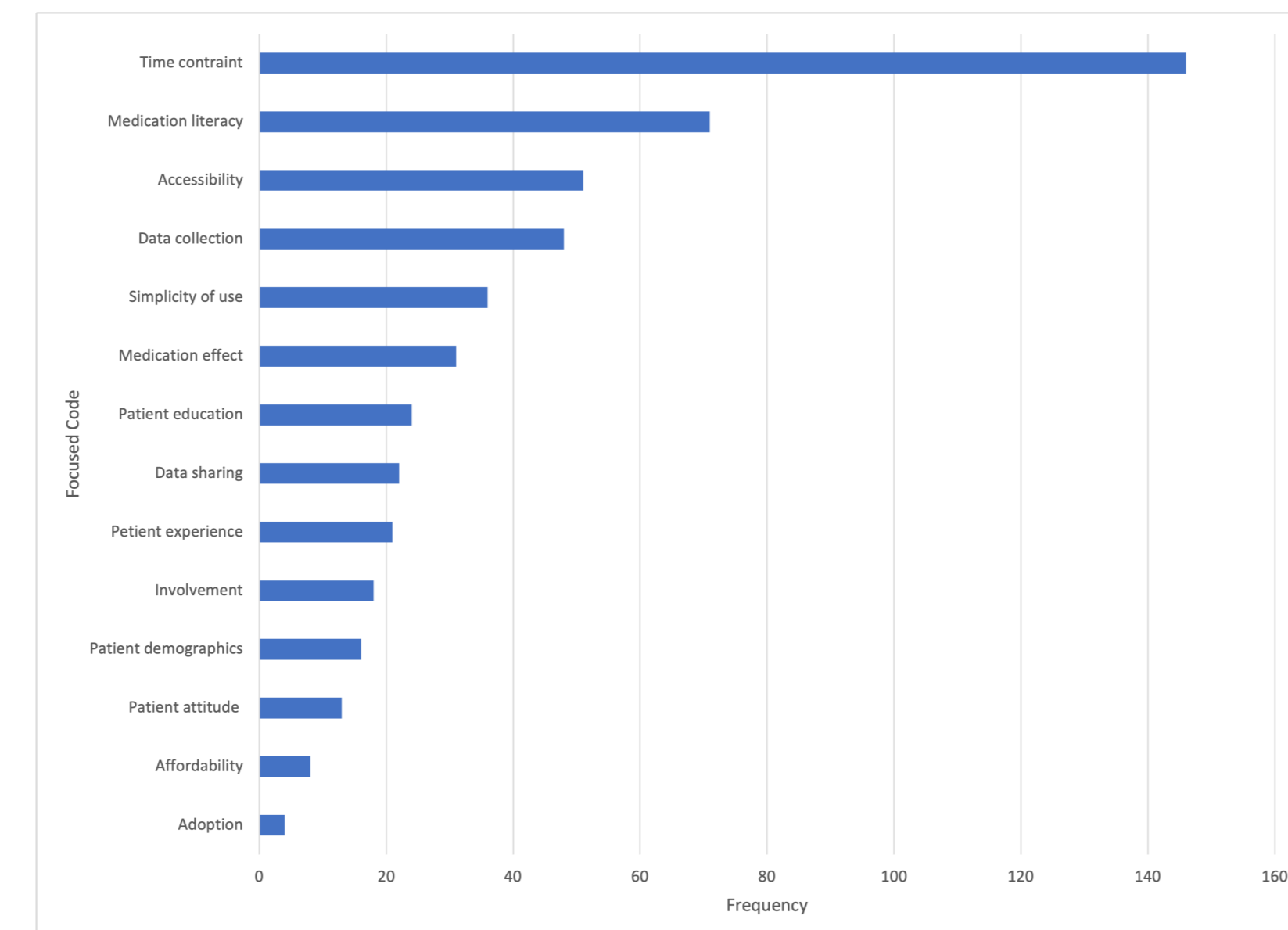


Figure 2 Focused code frequency

From the main themes, the theoretical relationships were mapped out [Figure 4]. The main four themes were:

- Patient ability:** This category is related directly to the patient, and it involves patient education, patient attitude, adoption, affordability. Studies proved significant disparities in the intensity of adherence to medication between women and men, and their likelihood of receiving guideline-based therapy for using their medication³. However, unexpectedly, the gender factor was not mentioned in the interviews by any of the participants.
- Collaboration:** This category represents the collaboration of family members and carers in the healthcare circle, while considering the patient as being at the centre of the circle with the privilege of empowerment to take charge of their treatment. A related study found that patient-driven healthcare can be characterised as having an increased level of information flow, customisation, collaboration and responsibility-taking, as well as predictive and preventive facets.

- Medication use:** This category represents what is related to medication literacy, medication effect and patient experiences with medication. According to Health Consultants, the medication regimen is complex, and advanced interventions are needed to support patients with their medication. However, they were certain that results depend on lifestyle when it comes to young people, as the age factor contributes heavily to adherence.
- Use of technology:** This category covers the patients and healthcare teams' use of technology, which represents its ease of accessibility by all the circle members and its compatibility with the available systems used, and also the simplicity aspect, so the technology needs to be simple to use, and acceptable to the end-user. Then, there is the time constraint which is part of any software development process or any new project and the treatment time, which also affects the results of the technology use or the treatment outcome.

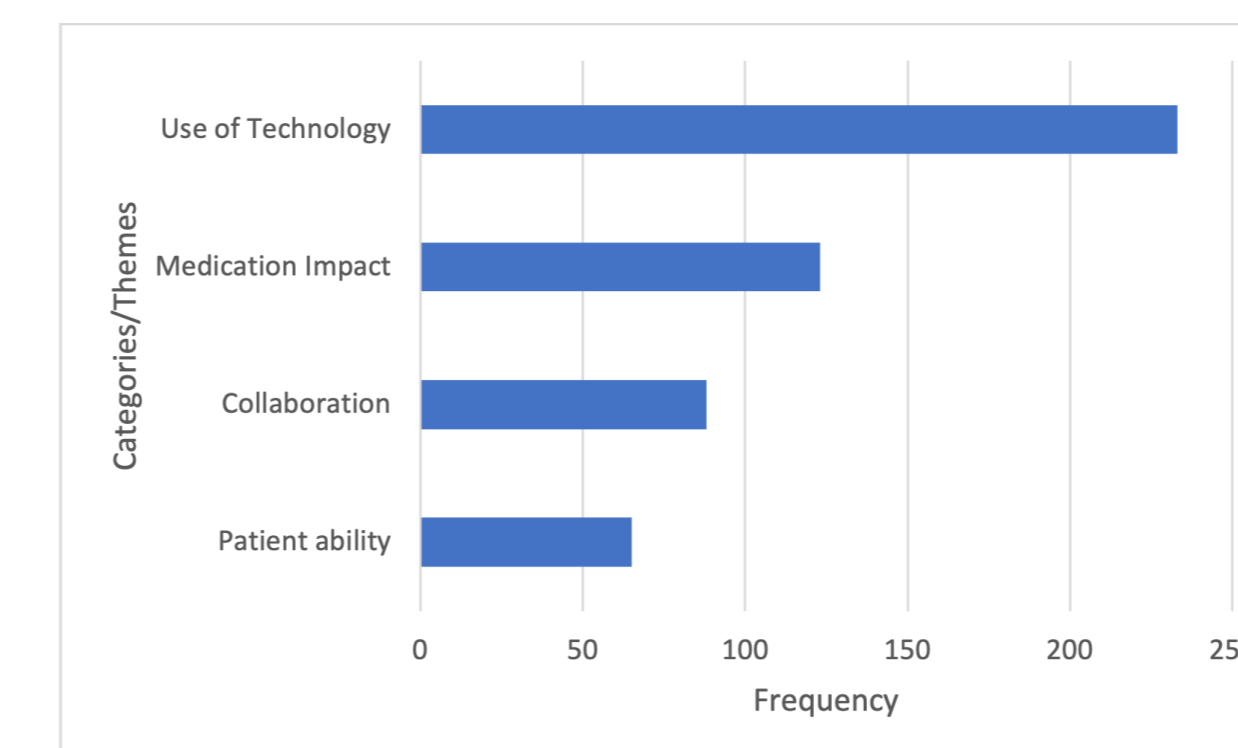


Figure 3 Quantified categories and focused codes

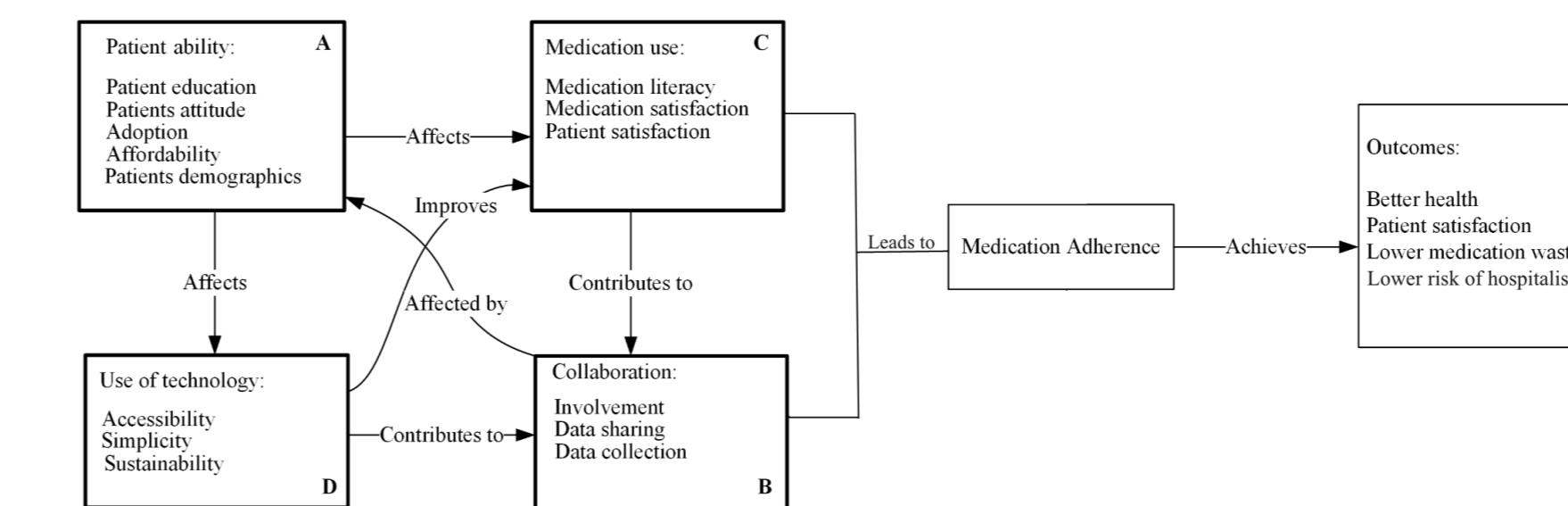


Figure 4 Detailed conceptual model of patients MA dynamics

Conclusion

In this project, we developed a conceptual model based on healthcare professionals' and health technology designers' insights into poor MA and a method for improving it by using mHealth. The healthcare professionals expressed concerns about the consequences of not taking medication as prescribed and the resulting risk of failing to achieve the expected improvements in health outcomes within a specific period. The pharmacists stressed on having patients fill in prescriptions on time and prevent wastage of medication through medication literacy. The technology designers and researchers were interested in utilising technology to solve some of the problems related to time constraints, human errors, and accessibility. The interviewees suggested many ideas to mitigate the problems caused by a lack of MA. A few key insights include the patients' ability to engage in their courses of treatment, collaboration among members of healthcare teams, placement of patients at the centre of the healthcare circle, explanation of the potential effectiveness and side effects of prescribed medications, and acceptance and simplicity of technology usage.

These findings will contribute to improving our understanding of the complexity of MA. In the future work, MA will be investigated from the perspective of patients. Moreover, mHealth can be developed to address concerns pertaining to MA through improved and secure communication between patients and healthcare teams.

Acknowledgment

- We gratefully acknowledge the study participants.
- This project was approved by AUT Ethics Committee (AUTEU 17/372)

References

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