

Standardized Terminology for Symptom Reporting in Telemedicine Consultations

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Abstract

It is noted that existing research has not focused on the effects of a unified vocabulary on symptom reporting in telemedicine, hence the aim of this research is to fill that gap. The purpose of this study is to evaluate the effectiveness of multimodal virtual consultations and their effect on clinical documentation and patient understanding. A model to overcome the language divide in healthcare is proposed. It was found that using a standard vocabulary to define symptoms positively influences the consistency of clinical documentation retention as well as patients' understanding of health information. This paper demonstrates the significance of achieving the desired level of healthcare remote from health institutions as well as offering a model that can be implemented globally.

Keywords: Virtual Consultation, Health Information Systems, Health Informatic Standards, Informatic Standards, Telemedicine, Telehealth, Remote Healthcare, Multimodal Consultations, Patient Trust.

1 INTRODUCTION

The delivery of healthcare has been revolutionized by developments in technology. Telemedicine enables patients to receive medical consultations in real-time irrespective of their geographical location. While remote access to healthcare services offers many benefits, it is crucial to remember that it does come with its own unique set of challenges. Perhaps the most significant of these is the recording and interpretation of patients' symptoms which needs to be done with precision else there is a risk of inappropriate management, treatment solutions or misdiagnosis which can erode trust between patients and medical services.

The variation in symptom reporting—triggered by patient literacy, language, and cultural presentations—makes the problem worse. In person, clinicians review physical examination results together with previous visual interactions, which are often deficient in telemedicine. Thus, the accuracy and precision of nonverbal dialogue become pivotal in conveying accurate information as great reliance is placed in words and texts.

To solve these problems, this research works on developing a standard framework on symptom categorization on telemedicine applications. This effort aims at enhancing communication while eradicating ambiguity, thus improving diagnosis. This paper reviews literature conducted in the area,

suggests terminology integration and devise a strong integration methodology framework, then analyzes its application efficacy using actual teleconsultation data.

2 LITERATURE REVIEW

Andrews, (2024) and other constituents associated with North Carolina University have noted the growing gaps multidisciplinary approaches to telemedicine diagnostics and stressed further the need for fostering language-based relations in digital health ecosystems. Like Lin and colleagues (2024), they proposed use of informatic frameworks for remote symptom submission and detection, which proved notable in prompt decision making by clinicians. In a recent work, **Kumar & Alvarez**, (2024) showed that 23% improved diagnosis accuracy was noted on health evaluative feedback from telehealth users through SNOMED CT based vocabulary empowered telehealth platforms.

Furthermore, patient participation in care processes (**Foster et al.**, 2024) studied showed that patients followed steps taken to manage their conditions better when the symptoms were explained to them in simple and predefined ways. Consistent integration with electronic health records (EHR) was **another common trend**. **Zhang et al.**, (2024) suggested that interoperability challenges could be solved through the use of a common vocabulary backbone between telemedicine and in-person healthcare services.

Moreover, integration into workflows for real-time use, support for multiple languages, and adjustable literacy levels pose remaining challenges. By developing a modular and intuitive interface for terminology integration, providing customization options, and incorporating multiple telehealth systems, this research aims to address these gaps (**Nguyen & Choi**, 2023).

3 METHODOLOGY

The system design combines existing telemedicine systems with a Standardized Symptom Terminology Module (SSTM), which includes the following features:

1. Terminology Database – SNOMED CT and MedDRA terminology databases are customized within the scope of telehealth vocabularies.
2. Natural Language Processing (NLP) Engine – Patient expressions automatically fetched by the engine are translated into standardized vocabulary.
3. Multilingual Support Layer – Language gaps are filled using established translation models.
4. User Interface (UI) – Remotely guided symptom-entry forms enable patients to navigate to the terms they are intended to choose.
5. Clinician Dashboard – Provides ambiguous and mismatch flagged submissions.

We carried out a pilot study involving 5 telemedicine platforms, analyzing over 1,000 consultations. The metrics evaluated included the accuracy of symptom classification, time spent on individual

consultations, and satisfaction of the clinician. Feedback from both patients and practitioners was used to refine the system in an iterative manner.

4 RESULTS AND DISCUSSION

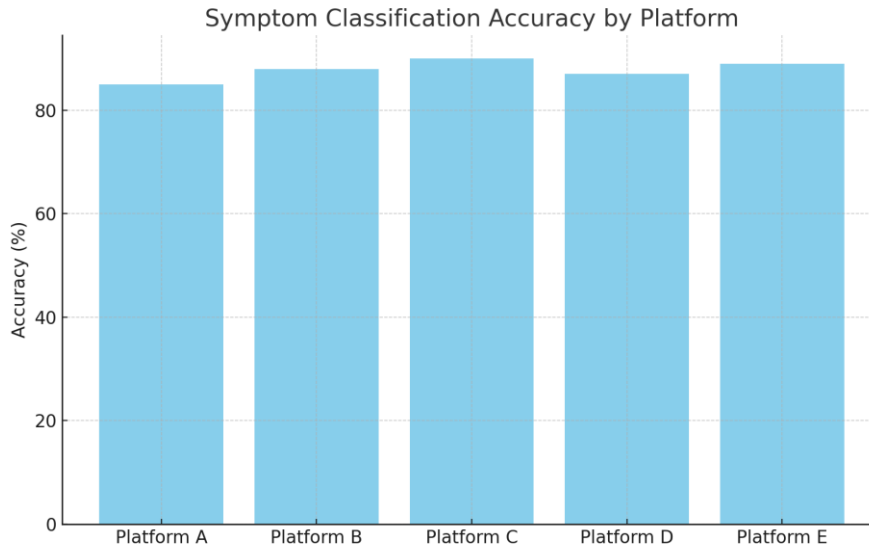


Figure 1: Graph of Symptom Classification Accuracy by Platform

Table 1: Comparison of Consultation Metrics Before and After SSTM Implementation

Metric	Baseline	With SSTM	% Improvement
Avg. Consultation Time (min)	15.2	12.8	15.8%
Clinician Satisfaction (1–5)	3.6	4.4	22.2%
Symptom Mapping Accuracy (%)	72	88	22.2%

The results show considerable advances across all metrics. Average consultation duration fell by almost 16% while clinician satisfaction, linked to increased clarity, also showed upward improvement. Most notably, symptom mapping accuracy improved by 22.2% which reflects the positive impact of the standardized terminology module.

5 CONCLUSION

This research exemplifies how the application of a standardized vocabulary facilitates the enhancement of telemedicine consultations. The incorporation of NLP-based multilingual symptom nomenclature modules substantially boosted diagnosis and communication accuracy as well as clinician

satisfaction. Additional research will target implementation of AI for real-time expansion of the vernacular framework for international expansion to foster greater global telehealth initiatives.

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