201910 Enhancing SNOMED CT Based Clinical Data Entry via Doctor Desk LITE: A Case Study on Indian HMIS

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Summary

We present a case study which establishes the role of effective UI design in facilitating clinical data entry via SNOMED CT. The presentation discusses the salient aspects of this implementation, challenges faced in migration during deployment and how it has enabled clinical data analytics.

Audience

Technical , Application developers and designers for health informatics systems.

Learning Objectives

1. We present a case study demonstrating how system interfaces design enhances the clinical data entry for Health Information systems in India.
2. Challenges involved in designing and implementing responsive and user-friendly interfaces for clinicians are discussed.
3. Findings of live case study.

Abstract

Audience

The intended audience of this presentation includes system designers and developers who develop User Interfaces (UI) for clinical data entry, including SNOMED CT and other standards. We quantitatively establish the role of user interface design in enabling clinical data entry and prospectively facilitating clinical data analytics.

Objectives:

SNOMED International
Leading healthcare terminology, worldwide

The primary challenges faced in large-scale adoption of clinical terminology in Hospital Management Information Systems (HMIS) include high patient loads and lack of adequate training to clinicians, particularly in developing countries. Clinicians are confounded by complex data entry interfaces present in systems, and often refrain from using them persistently. There is a need for simple and effective UI elements in design which is seamlessly accessible on multiple platforms (including mobiles and tablets). To this end, we present a case study which establishes the role of effective UI design in facilitating clinical data entry via SNOMED CT.

Abstract:

This organization's HMIS was deployed in two superspeciality hospitals in India, with a Doctor Desk module which was fairly comprehensive in terms of data entry fields. These hospitals had usual Out-Patient loads of almost 2000 patients/day across departments. However, the user interfaces were not responsive (hence could only be used on desktops), and the UI elements appeared crowded in the display. As such, clinical data entry in terms of SNOMED CT was roughly 2-5% for Hospital A.

With an objective of increasing clinical data entry, the Doctor Desk module was redesigned to make it responsive and structured based on clinicians' inputs, while also enforcing standards compliance. The old and new UI are shown. The revamped design integrates SNOMED CT for chief complaint, diagnosis (with ICD-10 switch), procedures, clinical notes and CCD export for interoperability. We have also provided a lab test results trends view for analytics, and the interfaces can also be used on mobile devices and tablets, which aids clinician mobility.

With the improved Doctor DeskLITE interface, we have obtained clinical data entry of 95% in Hospital B, while that of Hospital A increased to 80%. The presentation discusses the salient aspects of this implementation, challenges faced in migration during deployment and how it has enabled clinical data analytics.