

CONFERENCE ABSTRACT

The opportunity to evaluate the impact of our changing health care system through archetypes and reinforced use of medical coding

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Meghan Bradway^{1,2}, Rune Pedersen¹, Alain Giordanengo¹, Paolo Zanaboni¹, Eirik Årsand^{1,2}

1: Norwegian Centre for E-health Research, University Hospital of North Norway (UNN), Tromsø, Norway

2: UiT The Arctic University of Norway, Department of Clinical Medicine, Tromsø, Norway

Correspondence to: Meghan Bradway, Phone: +4791193393, email: meghan.bradway@ehealthresearch.no

Intro: We address two major problems related to electronic health record (EHR) systems in Norway: 1) a disconnect between health care personnel when using separate systems, and 2) a difficulty to accurately and easily track the financial and clinical impact of new treatment plans and even health system changes in general. The Full Flow project (Norwegian Research Council-funded project# 247974/O70) aims to develop a multi-directional communication of health data between patient-operated devices and primary and secondary EHR systems. Regular involvement of a variety of stakeholders, including feedback from EHR system vendors, medical personnel, patients and archetype developers will enable us to use an iterative design process to improve upon tested systems as they are developed.

Proposed solution:

Concept of archetypes: Archetypes systematize how health and observational data is entered and formatted within EHRs as a “common language”, enabling health professionals to utilize data for their different purposes. National archetypes are currently developed and stored in a repository in Norway governed by the National Editorial Group for Archetypes (NRUA).

Concept of medical codes: Medical codes, on the other hand, act as standardized packages of procedural, resource and diagnosis details, e.g. Current Procedural Terminologies (CPT), International Classification of Disease (ICD-10), and Diagnosis Related Groups (DRGs). These codes were created to track and ensure the appropriate use of resources, medical spending and decision-making for each type of medical case. These codes are typically assigned manually and directly affect reimbursement.

Combining concepts: Together, archetypes and medical codes have the potential to promise a more comprehensive description of medical processes and a better understanding of how innovations and health systems in general impact health and financial outcomes. Medical codes could be assigned automatically to a patient case based on procedures performed, archetype, and health values (e.g. blood pressure) entered into a health record on behalf of the patient, see Figure 1 for an example.

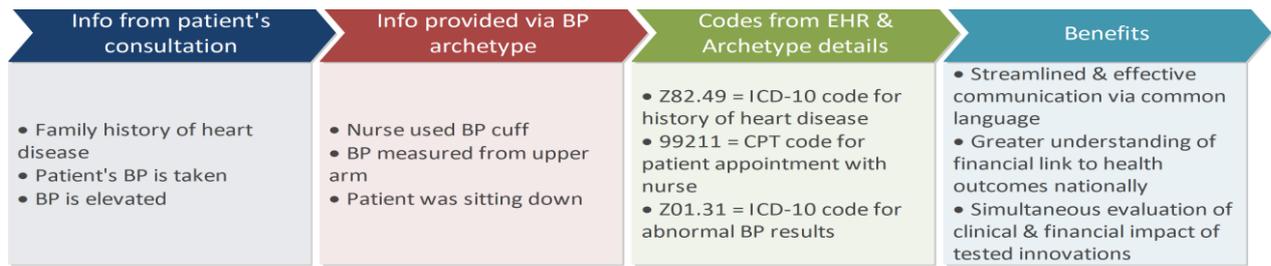


Figure 1: Demonstration of how procedural and health data can be coded, enabling financial and health outcomes to be easily tracked and assessed without manual review.

Methods & Conclusion: In cooperation with the NRUA, the Full Flow project will utilize both nationally defined archetypes in a pilot study, as well as our own simplified versions of archetypes for diabetes-related parameters, e.g. blood glucose, in clinical trials through the University Hospital of North Norway and local GP practices. Analysis will take place on both EHR and patient-gathered data, which will be entered into our own defined templates to test presentation of such data. By testing and evaluating this concept on a smaller, more iteratively reactive scale, we can inform the NRUA, and related organizations, of the potential clinical, financial and operational impacts of integrating medical codes and archetypes.

Keywords: semantic interoperability; HER; archetypes; ICD-10; DRG
