

Preserved in translation

In the 2003 movie "Lost in translation", Bill Murray portrays the challenges of collaboration and communication.

Collaboration, information exchange and communication are vital aspects of modern health care. Few decades ago, a clinical decision was based on the decision of an experienced individual – today it is the result of multi-professional collaboration. Communication is an essential and integral part of this collaboration. In order to convey meaning, it is not sufficient that data are received unchanged – the communicating parties must also share a common understanding of the domain, concepts and terms used.

Information and Communication Technology (ICT) is often used to support communication. Standards of both technical and clinical nature are essential to enable this. While the technical standards aim at preserving the integrity of the data, the clinical oriented standards aim at preserving the meaning. Typically, the clinical concepts implemented in the communicating systems are not identical but rather carefully selected for usefulness in the specific setting. Communication standards are used as a sort of translator; The sending system converts information from its internal structure to the language of the standard – the receiving system converts the language of the standard to its internal structure. Through careful evolution of the standards as well as translation between the systems and the standard, the risk of translation errors of clinical significance may be reduced. A reduction does however not necessarily make them negligible. Sometimes, the meaning is "lost in translation".

HL7 FHIR® is an example of a standard used to define exchangeable information. Through intensive work, major involvement of users and a pragmatic view on what the most important clinical need might be, the standard has become a significant success. HL7-FHIR®-protocols are used increasingly to convey information between systems and between caregivers. Even so, the translation process still remains, and even the best communication standard cannot compensate for insufficient information models in the sending or receiving system.

CAPABLE is an R&D project supported by the Norwegian Research Council involving national as well as international participants – including HL7



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Europe. The objective of CAPABLE is to enable citizens to actively utilize clinical and personal health information, starting with functionality to manage medication, improve nutrition, and facilitate health services coordination. Using HL7-FHIR® protocols, we are creating a personalized and universally designed digital tool to enable the user to utilize their health information in a structured, understandable, accessible and active way. The R&D challenges includes usability & accessibility, digital health literacy, interoperability, privacy, security, trust and technical infrastructure, and their reasonable trade-offs.

As one of its strategies to maintain information quality and integrity, the CAPABLE project explores how and to what extent the definitions in the various HL7-FHIR® resources and profiles can be implemented directly into the data base. Of course, the resources and profiles are made to support communication, not data storage. Using the same concepts in all parts of the communication – including in the dialogue between a server and a client, may significantly reduce any translation errors. On the other hand, standards are mostly made to represent the state of a specific process at a given point in time rather than represent the whole process. When persons may have several roles, it is the specific role in the given context that is of importance rather than the generic properties. For example, a drug may be changed in a medication treatment process, but the medication-request protocol in HL7-FHIR® describes only what drug is to be dispensed, not what drug it replaces.

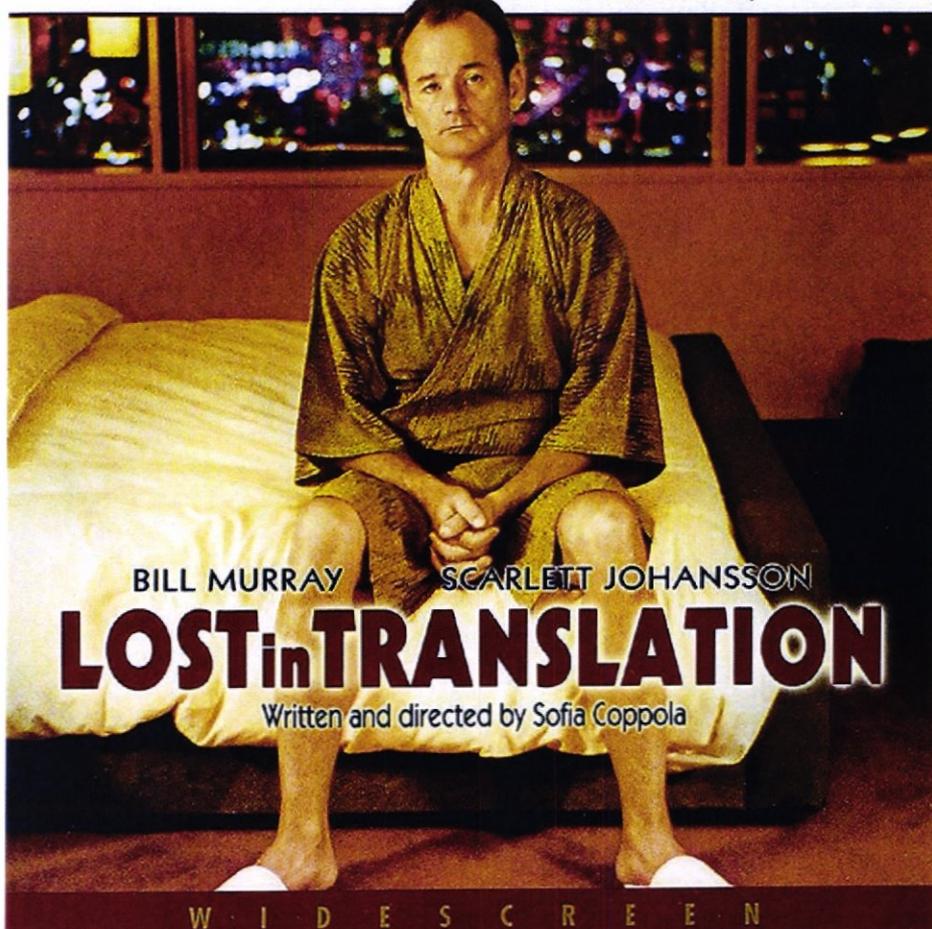
CAPABLE will explore the possibilities and limitations of such use of the HL7-FHIR® standard in the area of information sharing and communication, as well as suggest additions and/or modifications to the HL7-FHIR® starting with medication, nutrition and health services coordination. The aim is that data, information and meaning are preserved in translation. We will continue to share our experiences with the international community.

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For more information:

- Lost in Translation
<https://www.imdb.com/title/tt0335266/>
- CAPABLE project:
<https://www.med.uio.no/helsam/english/research/projects/capable/index.html>

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