Health Care Process and Workflow in Continuity of Care

François MENNERAT a,1, Karl-Henrik LUNDELL a, Magnus FOGELBERG a, Jacob HOFDIJK a,b, Silviu BRAGA c

a CEN TC 251 “Health Informatics”, Working Group 2 “Terminology and Knowledge Representation”, Task Force ‘CONTsys’
b DBC Onderhoud, Utrecht, The Netherlands
c Medicognos, Liège, Belgium

Abstract. Basically, the workshop aims to raise and collect input to Part 2 (“Health care process and workflow”), currently under development, of the European standard EN 13940 “Health informatics – System of concepts to support continuity of care”, the general objective of which is to enable communication at the semantic level between information systems in health care in the perspective of continuity of care. Its scope encompasses identifying the various processes and process objects involved, taking into consideration resource management aspects, responsibilities of health care providers, and means for patients’ participation. While the process description and concept system model is meant as a tool for the development of information systems, it may also be used for enterprise analysis and form the basis for organizational decisions and more widely organizational developments that are not inherently tied to the use of ICT.

Keywords. continuity of care, health care process, health care workflow

1. Introduction

Definitely managing the provision of health care in the perspective of continuity is currently universally acknowledged as a crucial issue and a major step towards both the quality of care and the containment of expenditures: continuity of care is considered a prerequisite to improve at the same time efficacy, effectiveness and efficiency of health care.

In this view, clinicians, private and public health care providers, health managers, and funding organizations need to base their decisions, in terms of re-organization of services, on a good understanding of the concepts involved.

The management of health information supports continuity of care in several perspectives:
– the local management of information about a subject of care, at the site of care provision;
– the information flows between different and successive health care providers;

1 Corresponding Author: Francois Mennerat, MD, PhD, 26 avenue Ledru-Rollin, FR-75012 Paris, France; Phone: +33.685335595; E-mail: francois@mennerat.eu.
-- the timely access to reference knowledge bases to strengthen the decision processes.

The development of those aspects depends on the effective transfer and linkage of data and information about or in relation to both the clinical situation and the health care provided to a subject of care, between different parties involved in a health care process, within the framework of ethical, professional and legal rules.

The description and formalization of continuity of care in information systems implies that the related concepts and descriptive terms be defined, so establishing a common conceptual framework across national, cultural and professional barriers.

2. General Objective

The general objective of this so-called “CONTsys” two-part European Standard is to enable communication at the semantic level between information systems in health care. Part 2 complements and extends the scope of Part 1, with a specific purpose, which is to define a system of concepts that represent in a generic way the phenomena that occur in the process of health care concerning an individual subject of care, defined as a person being a health care party with the potential capacity to take active part in activities having the purpose to influence her or his health condition. Health self-care activities are those health care activities that the subject of care performs on her- or himself.

This “CONTsys” Standard identifies those processes which relate to the continuity of health care and provides the terminology for planning, delivery and follow-up of those activities that form the overall process. It thus addresses such topics as:

- organizational principles of health care;
- health care actors, health care parties, subjects of care, health care providers, provider organizations, health care professionals and third parties;
- health issues and their management;
- time-related concepts: contacts, encounters, episodes of care and periods of care;
- concepts related to decision support, use of clinical knowledge, and activity: activities, protocols, programs of care, care plans, care pathways;
- concepts related to responsibility and information flows within the clinical process: health mandates and their notification;
- concepts related to health data management.

The standard uses a process modeling technique to identify the objects processed, the nested processes and activities, taking into consideration decision processes, quality control, resource management, responsibilities of health care providers, and means for patients’ participation. It so enables the management, including communication, of the necessary information about the process of health care provision to an individual subject of care and the corresponding workflow, so as to support its continuity.

---

2 Actually, the two-part EN 13940 “Health informatics – System of concepts to support continuity of care” European Standard. Evolving from a pre-standard dating back to 1998, Part 1 (Basic concepts) has been adopted and published in 2007, while Part 2 (Health care process and workflow) is currently being drafted. This standard is concomitantly addressed in ISO to become an International Standard.

3 It is noteworthy that if the standard defines a set of concepts that represent phenomena in the process of health care concerning an individual subject of care, the focus is not the subject of care her- or himself, but her or his health condition.
This harmonized system of concepts (and describing terms) is designed to support the management of health care related information over time, especially considering patient-centered continuity of care, shared care and seamless care, to facilitate clinical and administrative decision making, to enhance the relations between health care professionals and their patients, and eventually improve the delivery of health care by the different actors who may be involved in coordinated interventions, including primary care professionals and teams, health care funding organizations, managers, patients, secondary and tertiary health care providers, and community care teams.

While the process description and concept system model is meant as a tool for the development of information systems, it may also be used for enterprise analysis and form the basis for organizational decisions and more widely in organizational developments that are not inherently tied to the use of ICT.

Among many possible applications, this will prove of utmost importance, for instance, during the development of well designed integrated clinical networks, either at regional – possibly cross-border –, or at local level, either including hospital settings or not; it will help the correct management of personal health data, and of Electronic Health Record systems in that context. CONTsys thus provides a structured conceptual framework to establish the terms of reference of health information systems, to be used for tenders.

3. Topics Outside the Scope of the CONTsys Standard

The limits within which this standard is to be seen are the following:

- On a strictly technical ground, it does not prescribe a specific method or language for process modeling.
- This Standard does not mean to be prescriptive with regard to the performance or not of any health care activities or to the content of the process of health care. It is intended neither to define how processes should be performed in a particular health care framework, nor to seek any regulatory impact on the actual delivery of health care.

Indeed, the scope of this European Standard definitely encompasses those concepts that support continuity of health care. However, even if the acknowledged definition of health by WHO establishes the social well-being as one among several determinants of health in general, social welfare deliberately lies out of the scope of this European Standard. Whenever continuity of health care delivery implies social interventions as part of, or in support to, the process towards health recovery, these are to be mentioned wherever relevant in the process and workflow; but addressing those social interventions in depth is not part of the scope of this standard. If certain concepts it addresses may be felt useful for other kinds of care provision than health care, it is not recommended to use them there without carefully re-appraising their specific relevance to these distinct uses. Nevertheless, and as a matter of fact, this could form the topic for other future specific standards.

The communication or sharing of personal health data between health care parties imply that such requirements as confidentiality, privacy protection, and security are properly covered by an adequate set of relevant policies. However, while this Standard addresses the transfer of responsibilities between subjects of care and health care providers, which by the use of mandates includes some aspects of the assignment of access rights, it does not address those policies.
The specific management of prescriptions for drug therapy and of laboratory tests and their results are not part of this Standard.

It does not either define other aspects of the health care process, such as security, act specific management, the life cycle of acts, terminology and classification, or the financing mechanism of health care delivery.

And while it can help managing the logistics of health care delivery, particularly with its Part 2 (“Health care process and workflow”), it does not intend to refer specifically to the issue of the origin of the resources needed in the provision of health care activities, that are generally in relation to the health system implemented nationally in any specific country.

4. Presentation of the Workshop

This Workshop aims to raise and collect comments and suggestions from a wide audience covering a variety of stake holders (“Health Care Parties”), to be used as a valuable input to the work currently undertaken to finalize Part 2 of the “CONTsys” standard “Health informatics – System of concepts to support continuity of care – Part 2: Health care process and workflow”.

Relevant excerpts of the latest draft, in the form it has at the time of the workshop, will be circulated among participants, and several specific issues will be raised. Just as an instance, the following definitions have been proposed so far for the “process” and “workflow” concepts:

**process**
set of interrelated or interacting activities which transforms inputs into outputs [ISO 9000:2005]

**workflow**
depiction of the actual sequence of the activities in a process

NOTE 1 A workflow is an application of a process and reflects actors, roles and the successive activities and decisions of that process

NOTE 2 A workflow reflects cooperation between actors and continuity of the activities of the process

How much do they match the needs and the reality of health care provision? How should the notion of “added-value” apply to health care? Those are questions, among many others, that need to be answered to.

In order to trigger an active participation of the audience, the workshop includes a series of introductory presentations covering a wide range of approaches to the subject addressed:

François Mennerat  Introduction – Processes and workflow as a system of concepts for continuity of care.
Karl-Henrik Lundell  Traceability of clinical concepts – process and workflow models.
Magnus Fogelberg  SAMBA – Structured business modelling in health care.
Jacob Hofdijk  Requirements for the Continuity of Care standard from the Integrated Chronic Care management.
Silviu Braga  Development of a health care process management platform, with built-in quality and safety management tools, for health care networks integration, clinical decision support and chronic disease management
It is intended that the outcome of the workshop gives way to a specific report, stressing the major items in the discussion.

References

