

Supporting Teamwork Along the Dynamic Multi-disciplinary Care Pathway

Hessah Al-Salamah^a, Alysia Skilton^a, Alex Gray^a, Omnia Allam^a, Dave Morrey^b

^a Cardiff School of Computer Science, Cardiff University, United Kingdom

^b Clinical Information Unit and Trust, Velindre NHS Trust, Cardiff, United Kingdom

Abstract

Teamwork, collaboration and coordination are key aspects of the patient-centric approach taken by modern healthcare. Adequate support for these aspects has yet to be achieved. This paper proposes using associations between patients, practitioners, care teams, professional roles, and the integrated care pathway to provide improved support for practitioners as individuals and as members of integrated care teams. It proposes context-based access to patient information, automated notifications and alerts, and change management support as the patient passes along the care pathway.

Keywords:

ICP, Medical records systems, Patient care team, WFMS

Introduction

Although teamwork has been a priority in modern healthcare, it is not yet adequately supported by healthcare information systems [1]. We consider the requirements of health and care practitioners beyond the unified EPR and traditional decision support and knowledge management systems. We believe that this problem can be addressed by taking into account the activities of practitioners as members of a dynamic team handling the treatment of a patient and linking this team to the flow of a patient's treatment(s) and the processes involved.

Approach

The proposal uses the concept of virtual organisations to better support communication and coordination between health and care practitioners working in care teams by tracking relationships relating to the team, patient, and the patient's care pathway. A care team is defined to be all practitioners working with the patient. To support the team's work, relationships with each patient, his or her care team(s), team members, professional roles, and the tasks and information requirements associated with each role are tracked using a Coordination database. By accessing these associations, the system can provide each user an appropriate view of the patient record based on that user's professional role in the patient's care [2]. At the same time, the guidelines of the ICPs are mapped into a workflow management system, which tracks, manages, and controls the patient's treatment flow along the entire treatment

pathway [3]. An ICP resembles a workflow with elements such as: processes represented by diagnoses and treatments, paths by the flow of treatments, routing decisions by clinical decisions on treatment and diagnosis (change points) and finally the multi-professionals represented by their roles. The processes of the ICP are associated with relevant professional roles, providing a link between the team-based unified EPR and the workflow management system. As a patient passes through the processes of the ICP, the associated role(s) are linked to the patient through the Coordination database. This allows the system to provide support for each practitioner taking into account the practitioner's role, the patient, and the treatment stage. To identify changes requiring action, controls are embedded into the processes along the care pathway. Additionally, all entries into the patient record are analysed for possible un-planned changes.

Discussion

The automation of workflow management limits necessary maintenance. It also identifies occurrences of change and how to manage it. At the communication level, decision making is supported by change management policies, including sending automatic summaries, notifications and alerts. A proof of concept prototype is in development and initial feedback is positive. Future work involves expanding the system to include a wider range of care pathways and professional roles, tasks, and policies as well as improving its processes. The evaluation shows there are many potential benefits to this approach; however, there are also still many challenges to be addressed.

References

- [1] Informing Healthcare. Informing Healthcare. [cited 1/10/2008]; Available from: www.wales.nhs.uk/IHC/.
- [2] Skilton, A., et al., Role-Based Access in a Unified Electronic Patient Record, in ISHIMR. 2009: Kalammar, Sweden.
- [3] Al-Salamah, H., et al., Change Management Along the Integrated Care Pathway (ICP), in ISHIMR. 2009: Kalammar, Sweden.