Case Management versus Workflow Systems in Healthcare

Michael OLAND and Virginia NICULESCU*

"Babeş-Bolyai" University, Faculty of Mathematics and Computer Science, M. Kogalniceanu Str., no. 1, Cluj-Napoca Romania
E-mails: michael.oland@ubbcluj.ro; virginia.niculescu@ubbcluj.ro

* Author to whom correspondence should be addressed

Abstract

As healthcare and care management is a people-centric endeavor, the processes and workflow involved are ripe for efficiency gains. One historic business approach to streamlining processes is using workflow or business process management systems and techniques. A process is defined as a set of steps, or tasks, that are undertaken to get something done [1,2]. In business, processes are typically divided into core and support processes with core processes being the primary value creation processes while support processes are there to allow the primary processes to complete. In health care, there is a similar division of processes: organizational and medical treatment [3]. Within these classifications are several subcategories of processes that tend to split along complexity and repeatability lines. Business process management has a similar division of processes, called production processes and knowledge intensive processes [4,5]. Over time, two different approaches to handling these types of processes have evolved: workflow management systems and adaptive or dynamic case management [6,7]. Given how the split in business processes parallels the split in health care processes, we argue that workflow and case management techniques and tools can be used to efficiently solve similar problems in the health care domain. This paper provides a comparative analysis of the classical workflow-systems versus case-management techniques, and in order to illustrates in a practical way their specific advantages, we demonstrate how they can or have been applied to sample processes, such as radiology, telehealth management [8], and care coordination [9].

Keywords: Workflow systems; Case-management; Healthcare

References

1. Feiler PH, Humphrey WS. Software process development and enactment: concepts and definitions. In: [1993] Proceedings of the Second International Conference on the Software Process-Continuous Software Process Improvement. Berlin, Germany: IEEE Comput. Soc. Press; 1993 p. 28–40.
2. Sharp A, McDermott P. Workflow modeling: tools for process improvement and applications development. 2nd ed. Boston: Artech House; 2009. 449 p.
3. Hofstede AHM, Aalst WMP, Adams M, Russell N, editors. Modern Business Process Automation [Internet]. Berlin, Heidelberg: Springer Berlin Heidelberg; 2010 [cited 2021 Jul 9]. Available from: http://link.springer.com/10.1007/978-3-642-03121-2
4. Mccready S. There's More Than One Kind of Workflow Software. Computerworld. 1992;26(44):85–90.
5. Caetano A, Pereira C, Sousa P. Generation of Business Process Model Views. Procedia Technology. 2012;5:378–87.
6. Hollingsworth D, Hampshire U. Workflow management coalition: The workflow reference model. Document Number TC00-1003. 1995;19.
7. van der Aalst WMP, Berens PJS. Beyond workflow management: Product-driven case handling. In: Proceedings of the 2001 international ACM SIGGROUP conference on supporting group work New York, NY, USA: Association for Computing Machinery; 2001, p. 42–51
8. Nishiki M. IBM Case Manager for Telehealth Monitoring (Home Health) [Internet]. [cited 2021 Jul 9]. Available from: https://www.youtube.com/watch?v=RisYyT3YUNE&list=PLLKI-Ty9cCDDCdKdJ3pXBlYj_R6RO3UF4&index=1
9. Nishiki.M. IBM Case Manager for Patient Navigators [Internet]. [cited 2021 Jul 9]. Available from: https://www.youtube.com/watch?v=Fk8JxWMRdpw&list=PLLKI