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Achieving security-oriented workflows for clinical collaboration

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Workflows have grown in popularity within a broad range of domains and typically provide automated support that enables an organization to efficiently control and coordinate routine processes. With an increasing emphasis on clinical research promoting collaborative (interdisciplinary) studies, it is evident that clinical research workflows nowadays are not necessarily bound to a single organization, but rather across multiple organisations and/or domains whereby access can be given to autonomous services/resources within a workflow. For the purpose of this paper, clinical research workflows refer to a collection of clinical executable web services, which follow an orchestrated or choreographed process to produce an outcome. The focus of this paper is on achieving security-oriented workflows in the clinical domain. For this, a number of patterns have been conceptualised and theorised to address different challenges and risks associated with, for example, security-oriented enactment and the different models that can be used to deliver security information; linkage of data sets across multiple organisations and automation of clinical research workflows. Whilst it is the case that each pattern aims to address one or more challenges, the core contribution of this work is to produce an integrated collection of patterns that can be tested and applied to real clinical projects.

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Nothing about me without me: An interpretative review of patient accessible Electronic health records

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Patient accessible electronic health records (PAEHRs) enable patients to access and manage personal clinical information that is made available to them by their healthcare providers (HCPs). It is thought that the shared-management nature of medical record access improves patient outcomes and improves patient satisfaction. However, recent reviews have found that this is not the case. Furthermore, little research has focused on PAEHRs from the HCP viewpoint. Here, we provide a systematic review of reviews of the impact of giving patients record access from both a patient and HCP point of view. The review covers a broad range of outcome measures, including patient safety, patient satisfaction and privacy and security. A systematic search was conducted to identify review articles on the impact of PAEHRs (n=73) of which eight fulfilled the inclusion criteria. These reviews went through a novel scoring system analysis whereby we calculated how many positive outcomes were reported per every outcome measure investigated. This provided a way to quantify the impact of PAEHRs. We found mixed outcomes across both patient and HCP groups, with approximately half of the reviews showing positive changes with record access. Patients believe that record access increases their perception of control, however this still remains unanswered. Nurses are more likely than physicians to gain time efficiencies by using a PAEHR system with the main concern from physicians being the security of the PAEHRs. There is currently insufficient evidence about the effect of PAEHRs on health outcomes for patients or HCPs.

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