



The influence of electronic health record use on collaboration among medical specialties

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Since published in *BMC Health Services Research*, 20 (no: 676).





Collaboration among medical specialists

“a complex phenomenon that brings together two or more individuals, often from different professional disciplines, who work to achieve shared aims and objectives”

Crucial in person-centred care and an ageing society and an important factor in ‘new professionalism’

- Multidisciplinary
- Interdisciplinary





Research Question and Design

- › *How do the collaborative affordances of an EHR facilitate or constrain actual multidisciplinary collaboration?*
- › Electronic health records should help such collaboration
- › Inconclusive findings thusfar
- › Affordance lens → unravel what clinicians are experiencing
- › Design: Single embedded interpretative case study; 5 outpatient clinics
- › Method: 27+ 2 interviews; rich contextual data; feedback



Affordance lens (Strong, Volkoff, Johnson, Pelletier, Tulu, Bar-On, 2014)

Potentials for behaviors arising from the relationship between an artefact (*here, an EHR*) and goal-oriented actors (*here, medical specialists*) to achieve specific outcomes (*here, multidisciplinary collaboration*).

- › Bardram and Houben (2018) - four collaborative EHR affordances: *Portability, Co-located Access, Shared Overview, Mutual Awareness*.
- › Benefits will depend on **whether actors perceive** and **how they actualize the affordances**.



Portability

EHR facilitates

- › ... accessibility of patient data, independent of location and context.
- › ... integration of patient data from different specialties, resulting in a comprehensive overview.

EHR constrains

- › ...digital sharing of patient data with health providers outside the hospital.
- › ...mutual understanding of patient data because of specialty- and discipline-specific interfaces.





Co-located access

EHR facilitates

- › actors synchronously viewing the same data from different locations



EHR constrains

- › ... different actors modifying health records and entering orders simultaneously
- › ... a comprehensive overview during multidisciplinary meetings (because of a lack of desktops)



Shared overview

EHR facilitates

- › ... integration + availability of patient information: avoids multiple data sources and handwritten notes.
- › ... registration at the source and full activity registration (orders).



EHR constrains

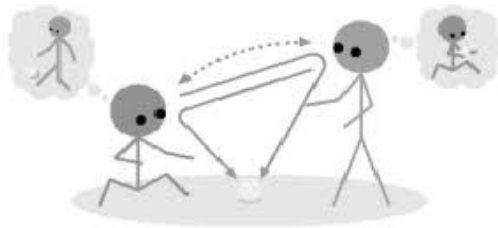
- › ...cognitively processing the overview. Information overload.
- › generating a cross-specialty overview. Diverse interfaces and uses of medical history and problem lists.



Mutual awareness

EHR facilitates

- ›hospital-wide working processes.
- › ... notification of results, quick updates.



EHR constrains

- › ...an easy-to-use overview (see before).
- › ... shared awareness because patient data models are specialty- and department- specific.



Messaging

EHR facilitates

- › ... discussing patients with other specialties without referrals
- › ...uniform forms of communication (e.g. replaces other systems)



EHR constrains

- › ...face-to-face communication by its reduced need for it
- › ...saves time but experienced as reducing collective responsibility for smooth workflows
- › ... getting the message across due to message overload

"The disadvantage is that the EHR takes away the interaction between people and I think that is actually a drawback: interactions between people are often more useful than the parametric recording of data. We have to make sure that we don't reduce this interaction too much." - [D-MS3].



Orchestrating

EHR facilitates

- › ... efficient and shared working processes
- › ... the systematic registration of results



EHR constrains

- › ...strict authorizations constrain flexible task distribution
- › ... process efficiency due to a strict focus on orders → not trust-based
- › enforces system-supported forms of collaboration at the expense of ad hoc forms → not all MD consultations are supported

As a consequence, one of outpatient clinic A's specialties was in debt for organizing these consultations



Conclusion

- › In the way EHR affordances are being actualized they concurrently and unintendedly constrain collaboration in other ways.
- › Hurdles are:
 - Retrieving
 - Understanding
 - Trusting each other's information:

Can you rely on colleagues' appropriate and timely use of the system?

Diapositiva 11

ju3

Misschien kun je de beide laatste slides combineren. De vraag weg, of die in de header

janita vos; 22/10/2020



Recommendation

For multidisciplinary collaboration

- › trust needs to gradually (re-)develop → invest in shared routinization
- › hospital-wide policies → stimulate coordinated EHR use
- › formal recognition of positive workarounds → limit or solve constraints

Future research into organizational, technical, and behavioral adaptations that can solve the constraining influences.