

Guest Editorial

Special issue: **Connecting practices: ICT infrastructures to support integrated care**

Good communication across organizational and professional boundaries is arguably the most crucial aspect to successful integrated care programs. Effective integration of care requires (as a minimum) that health care professionals share information about – and with – patients at appropriate points in the care or treatment process. This, however, will only be possible if the necessary infrastructural arrangements – such as shared patient records, regional collaboration, and a clear, transparent incentive structure are in place. Consequently, the integration of care calls for investments in supporting infrastructures, and it is increasingly hard to imagine integrative initiatives without a strong ICT (information and communication technology) component.

Information systems for health care such as electronic patient records (EPR) have so far primarily been developed to support the computerization of patients' records and work flows *within* individual health care organizations. Opposed to this, the development of ICT systems to facilitate integrated care must support communication in highly heterogeneous networks of healthcare professionals, home care workers and patients – *across institutional, organizational and professional boundaries*. Research on organizational communication has consistently shown that working *across* functional boundaries and sharing knowledge is extremely difficult, because knowledge is always localized, embedded and invested in practice [1, 2, 3]. The boundaries within healthcare are a result of an increasing specialization essential for ensuring high quality work. They have evolved over time and cannot simply be eliminated or done away with. Thus, the development of successful information and communication systems for integrated care inevitably requires attending to the rationales of existing boundaries and practices, and it requires focusing on the extra work it takes to implement ICT to span specialized domains of practice.

There are many reasons for failure when implementing ICT in and across healthcare organizations. One of them relates to the confidentiality of patient information, another to the fact that ICT-systems introduce new ways of working at all levels of an organization; after all the paper records in use today have

co-evolved with working practices over many years. Politicians, technology designers, and managers often underestimate the time and effort it takes to successfully adapt and incorporate a new technology into the existing “information ecology,” i.e. the existing system of people, practices, terminologies, and information and communication technologies in the local environment. Successful implementation is difficult to achieve, because information ecologies are diverse, continually evolving, and there are “strong interrelationships and dependencies among [the] different parts” [4]. For instance, communication media, documentation standards, incentive structures and local work practices are interrelated and fit together in complex and subtle ways.

The ecology metaphor draws attention to the fact that changes in communication patterns and organizational practices have systemic effects that are difficult to predict. Changing one element sometimes can have self-reinforcing effects that can be felt throughout the whole system, but in other instances, if the changes are incompatible with the rest of the system, they may disappear without a trace. For instance, studies have shown that when a new electronic medium is introduced in an organization, it sometimes transforms the entire organization and the ways in which work is conducted, whereas in other cases it may have only marginal impact or fail completely.

Moreover, the development of infrastructures to support integrated care takes us beyond the “microcosm of particular organizations” into the heterogeneous institutional context of the entire healthcare field. This field is highly institutionalized, highly specialized and highly politicized. It manifests several competing and contradictory logics or rationalities – e.g. public service, professional/scientific, and managerial/economic – which greatly complicates endeavours to develop new interorganizational infrastructures and systems [5, 6].

The conclusion is twofold. First, developing new infrastructures for organizations that deliver sub-optimal quality is a process in which ICT systems, existing organizational practices, roles and identities are mutually transformed and entirely new practices are created simultaneously, e.g. related to boundary spanning or infrastructure maintenance. Second, as new work

tasks are created and core competences of organizations change in the process of ICT development and implementation, developing infrastructures for integrated care requires not only technical, but also organizational expertise, as well as insight into the specific organizational, cultural, economic and political processes that shape the healthcare field. Thus, a necessary (but unfortunately not always sufficient) prerequisite for success is that technology experts, organizational experts, and healthcare specialists are

involved in the development and implementation of these infrastructures. Cross-disciplinary collaboration, however, is only effective if there is a close dialogue within the organizations in which the ICT infrastructures will be put to work.

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