Electronic information in health and social care – promises and pitfalls

In the last decade, major developments have taken place in England in the delivery of electronic information systems in both health care and social care. In the National Health Service (NHS), for example, the National Programme for Information Technology (NPfIT) set out to create electronic patient records that could be shared by all the agencies providing health care. In social care, in the wake of inquiries into the deaths of children, new information systems were put in place to improve the care provided by children’s social workers. This special edition contains five articles that report research into the impact of these systems. They explore the promises of the systems and the pitfalls encountered in their delivery. They also report on the drivers for these innovations and the design processes by which they were implemented. As a consequence, they provide insights into the links between design methods and the adoption or non-adoptions of systems when they are implemented in complex organisational settings.

In the first article, Keen examines the political and institutional setting within which electronic information systems in the NHS have been developed from the 1960s and concludes that the dominant approach has been a centralised data processing strategy, the last manifestation of which is the NPfIT. He concludes that this approach is becoming increasingly ill-matched to the networked way in which health services are being delivered, where the emphasis is not upon reporting upwards but on coordinating care between the agencies and disciplines delivering care. However, far from seeing a move to electronic information systems that support frontline coordination of care, Keen identifies a continuing institutional logic that reinforces the centralised data processing model. Among the forces retaining this logic is the move to Open Data which requires the collection of standardised data that can be aggregated for planners and policy makers, sustaining the need for centralised definitions of systems.

Dent and Tutt also adopt an institutional perspective and take further the question of how electronic health systems support health-care pathways in the NHS. They identify health-care pathways as a dominant form of institutional logic serving the integration agenda, that is, the need for the many agencies providing health and social care to be better coordinated in their care of patients. As a result of studies in the Electronic Patient Information Crossing Organisational Boundaries (EPICOg) project, they show how, in two local health communities, health-care pathways are being developed as electronic Integrated Care Pathways (eICPs) because electronic information systems are seen as essential to the sharing of patient information between the agencies involved in delivering health and social care. However, the authors point out that in practice, these developments have to use centrally developed electronic information systems that are not working effectively across organisational boundaries. As a result, health-care staff play vital roles in ensuring that coordination takes place, for example, finding other ways of sharing information across organisational boundaries and progress chasing when patients get lost in the system.
Eason and Waterson provide a second article from the EPICOg project in which they ask for whose purposes the electronic health record systems are designed. Focusing mainly on an electronic system designed to support a stroke care pathway, they demonstrate that the system utilises structured and coded data that facilitate aggregation across records and that this provides evidence of systems performance suitable for a wide range of management functions. What it does not do is facilitate the detailed and unique recording of information about individual patients to support the sharing of information by frontline staff responsible for the day-to-day care of patients. The authors review the design strategy by which this system was developed and conclude that it was driven by a top-down process that privileged management information needs. No analysis of the requirements of frontline staff was made in the design process. They argue for a design process that is ‘middle out’ in that it begins with an analysis of the needs of the frontline staff in all the agencies contributing to a health-care process and goes on to create a system that supports sharing where it is vital to the coordination of care.

Takian et al. also focus on the design methods used to implement electronic health systems in the NHS. They report two case studies of the implementation of a standard detailed care record system being ‘rolled out’ as part of the NPfIT. In the first case, the project was approached as the installation of a technical system and it ran into a wide array of difficulties and delays. In the second case, the project was treated as an organisational learning exercise in which users of all kinds examined the implications of the new system for their working practices before it was implemented. As a result, the adoption of the new system went comparatively smoothly. The authors argue that when a technical system is implemented into a complex organisation, it needs to be treated as a process of organisational learning in which users are given the time and space to customise the system for local use and to develop the local working practices that will enable benefits to be obtained from the new technological capability.

Focusing on social care, Wastell and White report evaluations of Integrated Children’s Systems (ICS) in statutory children’s services. They conclude that the ICS are systems for form-filling and micro-managing professional practice that have vastly increased the bureaucratic load on social workers and squeezed out discretion from their work. The authors demonstrate that there are ways in which electronic systems can be used to support the professional work of social workers by reporting four vignettes of systems designed on sociotechnical principles. User participation and co-design have been major features of these developments, and the result is technical systems that support the often complex and messy reality of shared, professional practice in social care.

A sixth article relevant to this Special Issue is that of Pope et al. who evaluated the impact of a different kind of system in the NHS, the computerised decision support system (CDSS) used by non-clinical staff dealing with emergency (999) and urgent care (out of hours) telephone calls. The system, in this case, included algorithms based on clinical expertise, and the task of the non-clinical operators was to collect the required information to enable the system to decide the appropriate course of action. It is a system where professional judgement is vested in the technology. The authors demonstrate that the operators do not in fact play a passive role but have to actively engage in social interaction with callers in a way that uses their own expertise in order to manage each call effectively. They conclude that we need a ‘cyborg’ understanding of this kind of human–technology cooperation: an understanding that recognises the expertise that each party brings to the task in hand. This article is to be found in HIJ 20(2).

There is a strong shared theme in these articles: that in our health and social care institutions, there is a very powerful tradition of centralised, bureaucratic electronic information systems development and that while the resultant systems may serve the purposes of many stakeholders, they do
not serve those of the frontline professionals delivering care. There are examples here of systems that do offer support for shared professional practice, but the participative, local, sociotechnical and learning-based practices that are necessary to develop such systems do not sit easily within the dominant preference for large-scale standardised systems.

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