From polyformacy to formacology

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In this issue, Redley and Raggatt[1] report on the use of risk assessment tools in the care of older people in Victoria, Australia. Concern with healthcare quality and safety has precipitated widespread use of a range of such seemingly simple interventions. Checklists, pathways, algorithms are a tempting way for organisations and healthcare professionals to signal to the outside world that they are making a good faith effort to ensure service quality. Yet the popularity of these everyday tools has not been matched by their systematic and critical analysis, leading to concern about the potential impact of a growing epidemic of 'polyformacy' on healthcare systems. Redley and Raggatt draw into view specific insights about risk management in older people, but their research highlights issues of wider relevance about the use of everyday technologies for healthcare quality and safety that merit further reflection.

A key finding from the study was the sheer volume of tools identified in the 11 health services—52 in total—and the associated burdens for staff and patients. Healthcare work has always involved charts and documents of one kind or another, but over the last three decades the patient record has been transformed from a loosely structured narrative description produced for educational purposes[2] to a highly complex account of any aspect of treatment that has official status.[3] In a context in which trust in professionals has been replaced by trust in auditable systems, documentation has become important evidence of organisational and professional performance.[4] Far from serving as a straightforward catalogue of care, the patient record comprises multiple documents with a variety of purposes. Synthesising and making sense of this assorted information is a demanding task[5] which, as Redley and Raggatt report, can lead to further complexity through duplication.

In the study by Redley and Raggatt, an important driver for the selection of assessment forms, and the rationale for using multiple specific but overlapping tools, was accreditation with Australia's National Safety Quality Health Service Standards. It has become increasingly common for external agencies to impose such requirements on organisations. Of course, the danger with such an approach is that the form is taken as a proxy for actual activity. Redley and Raggatt report that although quality assurance processes incentivised compliance with the risk assessment documentation, their completion did not necessarily result in action to mitigate risk.

This decoupling of formal organisational processes from actual operational practices was first observed by Meyer and Rowan,[6] who argued that many elements of organisational life are not driven by efficiency or function, but by the need to secure organisational legitimacy through the adoption of accepted models for the attainment of desirable ends. Thus, many organisational structures stem not from the demands of the work, but are highly institutionalised myths depicting accepted cultural pressures about the appropriate way of acting. According to Meyer and Rowan, 'formal structures that celebrate institutionalised myths differ from structures that act efficiently' (p. 355). Organisations accommodate these tensions by routinely decoupling arrangements produced in order to achieve legitimacy from those necessary to support concrete work activity. These observations have been contentious, partly because of their connotations of deception and partly because they did not rest well with the empirical experiences of scholars. As the study by Redley and Raggatt shows, however, in healthcare certainly, formal rules and procedures *do* impact on delivery processes, but their consequences and not necessarily in line with their intended effects.[7]

I have a longstanding interest in everyday technologies in healthcare, beginning with the use of nursing care plans[8] through the politics of integrated care

pathway development[9-14] to ongoing work on escalation pathways and transfers of care. My analyses have drawn on a body of social sciences research that underscores the role of everyday technologies in organisational life.[15] While deprecatingly describing itself as 'The Society of People Interested in Boring Things',[16] the work is practically very useful and its application to healthcare quality and safety long overdue. There is a pressing need for everyday technologies to be taken seriously in improvement initiatives. Here, I outline briefly some key considerations for progressing such an agenda.

First, a necessary prerequisite for advancing this field is to treat everyday technologies as 'actors' that *do* things in healthcare processes, rather than inanimate objects. There is plenty of evidence that tools have value in supporting human activity or bringing about behavioural change,[17] but healthcare has a poor record of being explicit about these mechanisms and understanding how they are influenced by the context in which they are used. In one study, the nursing process, a system for documenting patient assessment and individualised care planning, worked well as an intervention to support nurse education, but was impractical to implement in the workplace.[8] Similarly, integrated care pathways are effective in coordinating action in the acute phase of stroke, but less so for rehabilitation purposes where there is a need for greater flexibility in addressing individual need.[18]

Second, recognition of everyday technologies as 'actors' in healthcare processes directs attention to their 'affordances'. The concept of affordances comes from the psychology of perception, and refers to how humans orient to objects in terms of the possibilities they offer for action.[19] When people interact with or through, technologies, it is necessary for them to find ways of managing the constraints and the possibilities for action that emerge from a technology's affordances.[17] This has important implications when one technology or actor is replaced with another. Research on the invisible organising work of hospital nurses has revealed the limitations of Patient Status at a Glance Whiteboards when those tools were compared with the functioning of nurses themselves in mediating information flows.[14]

Third, closely related to affordances is the notion of 'scripts'. This directs attention to the assumptions that are embedded in a tool about the world in which it is to be implemented. Thus, a door presupposes that a human actor will open and shut it if it is to do its job of closing a hole in the wall.[20] Similarly, an early warning score presupposes that key vital signs will be measured correctly at the appropriate intervals and that the various items can be added together accurately if it is to identify patients at risk of deterioration. If the equipment, skills or resources are not available for observations to be taken when required, or the users of the tool are unable to calculate the scores, then the tool cannot function as intended.

Fourth, taking everyday technologies seriously focuses critical attention on the content of such interventions. This can lead to errors of commission or omission. Despite the wide range of assessment tools in use, the study by Redley and Raggatt revealed gaps in assessment processes according to best practice. The perceived lack of evidence underpinning tool content can act as a powerful disincentive for their use, seriously undermining their value as a multidisciplinary tool.[13]

Finally, systematic engagement with everyday technologies requires attending to the relationship *between* artefacts in a clinical microsystem. All too often new forms are added to an already oversaturated field, without consideration for these issues. As Redley and Raggatt show, meeting the National Safety Quality Health Service Standards produced duplication of content in multiple forms.

Redley and Raggatt offer important insights into the use of risk assessment tools in the care of older people in Australia. Wider consideration of the use of everyday technologies in healthcare may lead to call to arms for a new subfield of improvement—we might call it formacology!—that addresses systematically and critically the content, form and use of checklists, pro forma and their like.

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