Consistency or efficiency?
A dilemma for designers

In this issue of the journal, Russ et al. present a discussion of our paper. In our study, we found that prescribers were not utilizing all e-prescribing system functions, despite the functions’ potential to improve efficiency of work, and a consequence of this was the generation of clinically unnecessary alerts.

In their response, ‘When technically preventable’ alerts occur, the design—not the prescriber—has failed.’ Russ et al. suggest that we have diagnosed the problem correctly (a discordance between prescribers
and system design) but do not appropriately highlight the best remedy. They argue that our paper includes an over-emphasis on the role of training while underplaying the role of system design.

In our paper, we suggest three potential reasons for suboptimal use of the e-prescribing system: (1) the efficient strategies are not known to users, (2) the system design features are poor, and (3) the functions are not viewed by users as beneficial or consistent with preferred prescribing practice. We do not indicate which of these is most likely to be responsible for the suboptimal use we observed but do dedicate a large proportion of our discussion to the third of these factors (not to the first, and so to additional training). We believe Russ et al have misunderstood the main point of our discussion. Our take-home message was not that doctors should be trained more, but that designers are faced with a real and difficult dilemma: should systems be designed that replicate the paper-based processes and so integrate quickly into clinical practice or should designers harness the advantages of technology and design tasks to be completed in more efficient ways but which require a change in work and cognitive processes which necessitate a greater level of training?

Russ et al propose an interpretation of our findings based on human factors science, but we make reference to human factors principles throughout our manuscript (eg, ‘one of the most important principles of user-centered design is consistency’). Russ et al highlight that attempting to alter intrinsic cognitive processes (eg, memory, information processing) has limited effectiveness. Our findings suggest that to achieve more efficiency in tasks like prescribing, users may be required to think about and do things differently. Consistency between old and new systems can only take us so far. New ways of assisting prescribers beyond standard ‘approaches’ may be needed for real progress to be made.

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