

Indications-based prescribing: A challenge for hospital prescribers

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Clinicians, patients, administrators and researchers have become increasingly frustrated by the lack of indication (i.e. problem) information included in prescriptions, despite the obvious benefit this would provide to patients and other healthcare providers [1]. Medication indications are not routinely documented by prescribers, both in inpatient and outpatient settings.[2, 3] Calls have been made to introduce a sixth 'right' into the medication management process, whereby the right patient is given the right drug and dose at the right time via the right route for the *right indication* [4]. Indications-based prescribing has recently gained traction as a potential way forward to facilitate indication documentation [4, 5]. Indications-based prescribing, not currently supported by most electronic prescribing systems (EPSs), describes the scenario where prescribers initially select an indication, not a medication, and the EPS presents the user with suggested medications for addressing the problem. There are clear advantages with this approach, including those associated with guided prescribing (e.g. more appropriate drug selections) and with indication documentation (e.g. improved communication between providers), prompting work to begin on developing EPS functionality in the US to support indications-based prescribing. In a recent usability evaluation of a prototype of this functionality, indications-based prescribing was more efficient to use, resulted in fewer medication errors and in higher usability scores than the traditional EPS functionality [6].

Prescribing in hospitals – A challenging context of use

Although the focus of renewed efforts, indications-based prescribing is not new, and has formed the basis of many EPSs for antimicrobial prescribing. In reflecting on the lessons learnt from those implementations, a particular challenge comes to mind, one that relates to the context of use. The recent usability evaluation [6] was undertaken in an ambulatory care setting where diagnosis represents a core activity of users of the EPS. But in thinking about how hospital work is done, users of the EPS are rarely diagnosticians and a large proportion of prescribing work is in fact transcribing work undertaken by junior doctors. Observational studies in the UK and Australia have shown that users of hospital EPSs are rarely the decision-makers [7, 8]. Our discussions with hospital prescribers about the possibility of introducing indications-based prescribing prompted some interesting responses from junior doctors and highlight some of the practical difficulties associated with indications-based prescribing. For example, a doctor said: *“You don't really think about it like, this patient has heart failure and therefore I am going to prescribe this medication. I know it should be that way but it doesn't really happen. If you are a GP (General Practitioner) and a patient comes in with a complaint, absolutely, you know that would be a great system for GPs but in the hospital. . . As a junior doctor, I have to stress this, junior doctors, they are the least experienced but they are the ones that are charting the majority of medications, I would argue. So, we get a lot of our advice and a lot of the things we have to chart, we are not charting them because we think it is a good idea, we are charting them because our consultant or our registrar thinks it's a good idea, so it would be a nightmare to have to type in a disease profile and then have to find a medication”*[9].

One of the main impetuses for redesigning EPSs to support indications-based prescribing is that current systems are viewed to be cumbersome, requiring users to enter or select an indication from a drop-down menu after-the-fact, which deters users from documenting an indication. There is good evidence to show that when a computerised system prevents users from doing their job, or doing their job quickly, workarounds transpire, a potential consequence of which is inaccurate documentation of indications. Audit studies have shown that indication documentation in hospital EPSs is often inaccurate, with one study, for example, reporting that accurate documentation of indications for off-label use of medications was as low as 29% for some drug classes [10]. The flow-on effects of inaccurate indication documentation in a hospital EPS can be more widespread than a single setting or organisation. The inaccurate indication can follow the patient out of hospital (via discharge scripts, patient medication lists and medication labels), potentially resulting in confusion and misinterpretation by the patient and their healthcare providers. In one study, when questioned why some indications recorded in a hospital EPS did not reflect true indications, doctors reported the EPS was “a barrier” to giving patients the right medications [3]. We would argue that indications are not documented by hospital prescribers in many cases because the indication is not known by the EPS user. In an Australian study which explored hospital prescribers’ perspectives on recording indications, a key barrier to indication documentation was identified to be prescriber knowledge of the indication: “*I think that [recording indications] would be really beneficial only if the person doing it knew what they were doing. I can just remember as an intern, you know, you just copy whatever they are usually on, and sometimes you don’t know why they are on this rather than something else*” [9]. Doctors were also concerned about the additional work associated with identifying indications (i.e. contacting patients’ general practitioners or pharmacists), because hospitalised patients, often acutely unwell, are not always able to provide an accurate list of medications and their indications. Thus, the time savings that may be achieved with indications-based prescribing in ambulatory care would unlikely be realised in a hospital setting.

Indications-based prescribing represents an ambitious attempt to improve patient safety, not only because it requires a significant redesign of EPS but because it requires an enormous shift in prescriber thinking and practices. Occasionally, designing information technology to *misalign* with current work practices is needed, particularly to achieve transformation in healthcare. Whether hospital doctors, both senior and junior, are ready to be ‘transformed’, well, only time will tell.

Conflicts of interest

None

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Availability of data

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