LETTERS

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Digital health: dashboards, dashboards, everywhere

The editorial on digital health and prescribing effectively highlights the potential for digital innovation, including the visual representation of analytics, to assist with current healthcare challenges.[1] Digital dashboards, in the correct circumstances, can display evidence-based key performance indicators (such as for stroke),[2] and improve outcomes.[3] However, dashboards can also misdirect attention and resources. As they become evermore ubiquitous, it is necessary to be mindful of dashboard shortcomings.

With increasingly user-friendly data systems accompanying electronic medical records (EMR), and software such as Microsoft Power BI, there will be a democratisation of data access and the ability to create dashboards. However, while they may be created quickly, the time required to view dashboards, and how else that time could be used, needs to be considered.[4] Furthermore, while *data* may be more widely available and *displayed*, this does not necessarily equate to *information dissemination*.[5]

Dashboards derived from EMR data do not encapsulate all of health care. As in the contemporary book *The Tyranny of Metrics*, attention may be drawn away from unmeasured areas of importance, such as quality of life, to only those that are reflected in an EMR.[6]

Not all dashboards are created equal. The creation of dashboards should be evidence-based, and low-value dashboards actively discouraged. Gratuitous dashboard generation could negatively impact healthcare systems. Just as one can spend too long looking at a computer rather than the patient in clinic, so too can ineffective dashboards divert time and attention away from what matters.

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Jodie Austin, Michael Barras and Clair Sullivan, the authors of the editorial, comment:

Adopting any new intervention in health care, from drugs to dashboards, involves weighing up the potential positive and negative outcomes. As mentioned in our editorial, many challenges surround the uptake of clinical analytics, including increased cognitive load on clinicians and the potential for bias in the way information is displayed.[1] However, health care without visibility of real-time data is increasingly unsustainable. As healthcare organisations continue their journey along the horizons of digital transformation, incorporation of co-design methodologies and implementation science are gaining momentum.[2,3] This suggests an awareness that clinical dashboards are not purely an information technology intervention, but are sociotechnical in nature, and consideration of clinician acceptance and adoption, and sustainability are paramount. Not all healthcare organisations have the capacity to incorporate robust research designs into clinical analytics implementation, but at the very least they should be following a checklist or framework.[4,5] We acknowledge more work needs to be done to understand the impact of dashboards on patient care outcomes.[6,7] The goal should always be to provide evidence-based information at the point of care. We agree that not all dashboards are created equal and healthcare organisations need strong governance structures in place to ensure any bespoke dashboard generation is clinically sound and delivered in an ethically appropriate manner.

An interesting approach to clinical review of dashboards in the literature to overcome 'misdirected attention' by busy clinicians is to design dashboards for use by a targeted clinical team[8-11] (e.g. rapid response team) or dedicated team member (e.g. quality team nurse).[11] No doubt

the sociotechnical barriers to not just clinical dashboards but the multifaceted digital health strategies at large will continue to unfold in this digital era. Healthcare providers and clinicians must continue to make judgements as to whether the positives outweigh the negatives for every proposed intervention, dashboards included.

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