Patient ergonomics: The next macroergonomic frontier

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Patient ergonomics is the 'science of patient work', and can be defined as the application of human factors and ergonomics (human factors) or a related discipline (for example, human-computer interaction, usability engineering) to study or improve patients' and other non-professionals' performance of effortful work activities in pursuit of health goals (Holden and Valdez, 2018, p.466). Patient ergonomics begins with the assumption that patients, families, and others without formal healthcare training nevertheless perform activities that constitute work (Valdez et al., 2015); work is here defined as "any form of human effort or activity, including recreation and leisure pursuits" (Hendrick, 2002, p.1). If patients and other non-professionals perform work, human factors experts and macroergonomists in particular have the tools, training, and obligation to study and improve their work systems, processes, and outcomes (Holden et al., 2013).

We will begin by presenting results from our ten-year mapping review of the field of patient ergonomics in the US, reporting the major activities, focus areas, and methods of patient ergonomics research and practice (Holden et al., 2020). We will then briefly review the theoretical underpinnings of patient ergonomics, including patient work systems and the application of distributed cognition to understand patient work (Holden et al., 2015, 2017). We will also briefly illustrate methods we and others have used to study patient work and, importantly, adaptations we have had to make to traditional methods. Throughout, we will present select findings from our studies showing the factors that shape patient work systems and processes as well as opportunities for participatory and human-centred design of interventions to improve patient work. We will conclude with remarks and discussion on the future of macroergonomics research and practice in the area of patient ergonomics.

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