Author's declarative title: Children and young people should be involved in the development of health technologies.

Commentary on: Court RJ, et al. Arch Dis Child 2024;109:826–835. doi:10.1136/archdischild-2023-326044

Commentary

Implications for Practice and Research

- When developing and testing technology for CYP, the unique and expert views of CYP should be considered.
- Future research could co-develop a framework to support consistent and appropriate involvement of CYP when new health technology is designed, developed and tested.

Context: Technology is increasingly used to support patients with the self-management of long-term conditions (LTCs). Technological interventions are generally well-accepted by children and young people (CYP) [1], but prior research suggests that CYPs views are not always being meaningfully considered in designing, developing, evaluating and implementing health technologies [2]. This is important, since CYP may have specific preferences about the type of health technologies which they interact or engage with, their design and functionality, that may influence their decision to engage with the technologies. The aim of this review [3] was to identify studies that included CYP's preferences about health technologies to self-manage LTCs.

Methods: A scoping review was undertaken following established guidance [4]. In July 2021, three databases were searched: MEDLINE, PsycINFO and CINAHL, for papers published between January 2015 and July 2021. The population was CYP with physical and/or mental LTCs aged up to and including 18 years. LTCs were defined as 'those conditions for which there is currently no cure, and which are managed with drugs and other treatments'. The focus was on health technologies that CYP engage with or use to manage LTCs. Two reviewers were involved in screening the full texts. Qualitative content analysis was undertaken, and data were categorised into four overarching themes. A Patient and Public Involvement (PPI) Advisory Group of 12 CYP with LTCs attended online workshops at key time points through the study, with members helping to support the review design, interpretation of findings and development of recommendations.

Findings: 161 journal articles were included, involving CYP aged 2-18 years with diverse physical and mental health conditions. Technologies included internet, social media, mobile health, telehealth, devices and immersive/machine-led technologies, or a combination. Most studies were undertaken in high-income countries. The main preferences and needs of CYP related to design and functionality; privacy and sharing; customisation and personalisation of the technology; and interaction options within the technology.

Commentary: Technology is highly accessed by CYP [5] and is commonly used to support self-management of LTCs, but user engagement can be variable. Involving CYP

in the design and development of healthcare technologies may influence technology engagement. This review highlights the importance of understanding CYP preferences and involving CYP in the design and implementation of technologies. This is not a particularly novel recommendation, as it aligns with prior research advocating that technology design should include CYP and parents in all stages of development [6]. While the value of user involvement is already well established, guidance on how this should be achieved has been lacking. This review addresses this evidence gap by identifying the specific preferences of CYP about health technologies to self-manage LTCs. These identified preferences are, of course, based on included studies which have their limitations; inconsistent reporting of sample characteristics, a lack of ethnic and gender diversity among participants, and a focus on single LTCs which does not represent the views of CYP with multimorbidity. While further studies are needed to adequately reflect CYPs preferences across a more diverse population, the review does offer new insights. Notably, the review identified heterogeneity in the quality of reporting about CYP involvement in the scoping, design and/or evaluation of the technology. Not all studies defined their involvement adequately, and the methods of engagement were not always well explained. A useful outcome of this review is co-produced recommendations providing clear guidance for technology developers about how to involve CYP in the development process.

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Competing interests
None to declare.