

**Table 1** Sixteen digital health technologies that a literature review suggested were new or emerging.

Technology		Explanation	Examples	Key references
1	Swallowables	Technology that can be ingested	Local drug delivery (Goffredo et al., 2016), Imaging (Intzes & Meng, 2016), Diagnostics (Schmidt et al., 2019); General healthcare applications (Olano, 2019)	(Kalantar-Zadeh & Ward, 2019)
2	Mail-order prescription	Self-ordering pharmaceuticals online or using an online intermediary for clinician-prescribed pharmaceuticals	Amazon's acquisition of PillsPacks; Capsule; NowRx	Centralised system (Kappenman et al., 2019); Adherence in mail-order and community pharmacies (Farley et al., 2019; Schwab et al., 2019)
3	Neural implants and interfaces	Embedded or surface devices sensitive to neural potentials that are used to inform or operate action	Neuralink; DARPA; Kernel; Facebook	An introduction (Fekete & Pongrácz, 2017); Challenges (Das et al., 2020; Koch et al., 2019)
4	Loneliness and social isolation	Any digital technology intended to reduce loneliness or social isolation	Geriatric (Poscia et al., 2018); General healthcare examples (Chen & Schulz, 2016)	Review of problems (Stojanovic et al., 2017); Planned review and meta-analysis of the effectiveness of digital interventions (Shah et al., 2019)
5	Blockchain	Open, decentralised, cryptographic ledgers	Prescribing (Seitz & Wickramasinghe, 2020); General healthcare examples (Agbo et al., 2019; Hölbl et al., 2018)	Challenges (McGhin et al., 2019)
6	Biohacking	D.I.Y., citizen-science, biological investigations and interventions	General healthcare examples (Zettler et al., 2019)	An introduction (Yetisen, 2018)
7	Digital Twin	<i>"a digital representation of a physical item or assembly using integrated simulations and service data"</i> (Vrabič et al., 2018)	General healthcare example (Angulo et al., 2019)	The technology, its applications, and the challenges (Fuller et al., 2019)

8	Omics	High-dimensional and high-throughput analytics.	Deep-learning example (Chaudhary et al., 2018); Attempt to combine large datasets (Karczewski & Snyder, 2018)	Technical review of methods (Bersanelli et al., 2016); Challenges (Cambiaghi et al., 2017; Gomez-Cabrero et al., 2014); Problems (Lay et al., 2006)
9	Conversational A.I.	<i>“systems that mimic human conversation using text or spoken language”</i> (Laranjo et al., 2018)	Apple’s Siri; Google Now; Microsoft Cortana; Amazon Alexa prize (Ram et al., 2018); Geriatrics (Fadhil, 2018b); Medication adherence (Fadhil, 2018a)	Perspectives on evaluation (Jadeja & Varia, 2017); A technical review (Gao et al., 2019); Review of applications in healthcare (Laranjo et al., 2018)
10	Commercial telemedicine	Remote provision of medical advice by commercial providers	Amazon.care; Apple’s AC Wellness; Diabetes (Garg & Parkin, 2019); Teledoc (Uscher-Pines et al., 2016)	General resource (Darkins & Cary, 2000)
11	Wearables	Sensors that are worn on the body in clothing or directly attached or imbedded.	Fitbit for heart rate monitoring (Benedetto et al., 2018); Actiwatch for sleep tracking (Danzig et al., 2020); Eating, activity and sleep (Crimarco et al., 2018)	Review for healthcare (Erdmier et al., 2016); Accuracy and metrological characteristics (Cosoli & Scalise, 2019)
12	Immersive technology, a.k.a. Virtual, Augmented and Mixed Reality	<i>“technologies that interact with, or leverage, the neuroscience of the human brain”</i> via computer-generated visualisations (Bremner et al., 2020)	Decision making (Kobayashi et al., 2018; Li et al., 2020); Neurology (K. H. Kim, 2016); Urology (Hamacher et al., 2016); Mental health (Freeman et al., 2017)	Reviews as applied healthcare (Bremner et al., 2020; John & Wickramasinghe, 2020);
13	Internet of Things an Industry Internet of Things	<i>“a network of devices all embedded with electronics, software, sensors, and connectivity to enable them to connect, interconnect, and exchange data”</i> (Wickramasinghe & Bodendorf, 2020)	Smart Continuous Glucose Monitors (Facchinetti, 2016); Parkinson’s disease monitoring via Apply Watch (Bot et al., 2016)	Managing the risks of IoT (Paxton & Branca, 2020)
14	A.I.-assisted clinical decision support	Any software that informs a clinical decision or prompts clinical action.	Sepsis (Komorowski et al., 2018 with critique by Habli et al., 2020)	Opinion on AI for CDS (Shortliffe & Sepúlveda, 2018); Methodological appraisal of A.I.

approaches for suitability to CDS (Abbasi & Kashiyaendi, 2006; Aljaaf et al., 2015)

15	Drones	<i>"devices which are capable of sustained flight, which do not have a human on board, and are under sufficient control to perform useful functions"</i> (Scott & Scott, 2020)	Chronic disease in rural areas (S. J. Kim et al., 2017)	Review of drone-delivery models for healthcare (Scott & Scott, 2020); Review of drones in healthcare (Wulfovich et al., 2018); Challenges and opportunities of drones in healthcare (Amukele, 2019)
16	Mobile health app's and Patient Portals	Clinicians' mobile access to electronic healthcare records, and patient access to their own electronic healthcare record.	Pharmacist-facing, medication-review app (Lu et al., 2017); Patient portal (McAlearney et al., 2016)	Gaps in mobile patient portal service to enable patient-centred care (Noteboom & Abdel-Rahman, 2020)