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| **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 | “*a digital representation of a physical item or assembly using integrated simulations and service data*” (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. | “*systems that mimic human conversation using text or spoken language*” (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 | “*technologies that interact with, or leverage, the neuroscience of the human brain*” 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 | “*a network of devices all embedded with electronics, software, sensors, and connectivity to enable them to connect, interconnect, and exchange data*” (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 & Kashiyarndi, 2006; Aljaaf et al., 2015) |
| 15 | Drones | “*devices which are capable of sustained flight, which do not have a human on board, and are under sufficient control to perform useful functions*” (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) |