



VA



U.S. Department
of Veterans Affairs

The Playbook: Digital Healthcare

A curated library of additional resources





Navigating the library

- AI/ML
- AR/VR/MR
- Connected Sensor Technology
- Digital Therapeutics
- Electronic health records
- Mobile health applications
- Engagement and social media
- Virtual Care
- General



AI/ML

A curated library of peer-reviewed literature and resources



Resources

- ▶ [FDA action plan](#): *AI/ML in software as a medical device*
- ▶ [AHA report](#) on *how hospitals and health systems can use artificial intelligence to build the health care workforce of the future*
- ▶ [WHO guidance](#) *principles of ethics and governance of AI in health by identifying the ethical challenges and risks with the use of artificial intelligence of health*
- ▶ [HHS AI Strategy](#) to *prioritize the application and development of AI across common enterprise mission areas*

Literature

- ▶ [Article](#) on *“AI in health and medicine”*
- ▶ [Forbes](#) piece on *why developing decision intelligence and support is the crucial next step for AI in healthcare*
- ▶ Literature by disease type: [Radiology](#), [Cardiology](#), [Oncology](#), [Ophthalmology](#)
- ▶ [Article](#) on a *governance model for the application of AI in healthcare*
- ▶ [STAT](#) piece on *“AI gone astray: How subtle shifts in patient data send popular algorithms reeling, undermining patient safety”*



AR/VR/MR

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Resources

- ▶ [FDA public workshop](#) on the best evaluation practices for VR/AR in Medicine
- ▶ [Exponential medicine talk](#) future of AR/VR in healthcare by world's first surgeon to use google lens during live surgery
- ▶ [Virtual human interaction lab](#) by Stanford is building solutions to bring empathy and curb disparities in healthcare
- ▶ [Medical Extended Reality Program](#) at FDA conducts regulatory science research to help ensure patient access to innovative extended reality-based devices that are safe and effective.

Literature

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- ▶ [Case study](#) of NHS Trust using mixed reality in the fight against COVID-19
 - ▶ [Forbes](#) piece on the next frontier for healthcare: AR, VR, and The Metaverse
 - ▶ [Article](#) on how can businesses and governments guide augmented reality development
 - ▶ [9 use cases](#) on AR apps of improving patient experience
 - ▶ [Research](#) on how VR is helping cancer patients better understand about their diagnosis



Connected Sensor Technology

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Resources

- ▶ [The Playbook](#) is the essential guide for using connected sensor technology in clinical care
- ▶ [Clinical dossier](#) outlines 7 fundamentals of connected technology for practicing clinicians
- ▶ [Guide](#) to “How do I pick right technology for my needs that also meets the patients’ needs?”
- ▶ [US Digital services](#) play #11 checklist to manage security and privacy
- ▶ [Sensor data integration](#) to power patient care
- ▶ [Connected HIPAA](#) piece on “What is Considered PHI Under HIPAA?”

Literature

- ▶ [V3 framework](#) is the foundation to determine fit-for-purpose nature of the digital tool
- ▶ [Nature](#) piece on modernizing and designing evaluation frameworks for sensor technologies
- ▶ [EVIDENCE checklist](#) to ensure quality reporting in evidence evaluating the performance of connected sensor products
- ▶ [World economic forum](#) highlights the use of consumer wearables to try to improve health outcomes during pandemics
- ▶ [Guardian article](#) on fitness tracking app that gives away location of secret US army bases



Digital therapeutics (DTx)

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Resources

- ▶ [FDA pre-cert program](#) is the *digital health software Precertification (Pre-Cert) program for efficient regulatory oversight of software-based medical devices (SaMDs)*
- ▶ [DTx products library](#) *highlight evidence-based innovative DTx products*
- ▶ [2021 trends report](#) *on DTx innovation, evidence, regulation, and adoption*
- ▶ [DTx regulatory pathways](#) *highlighting how DTx products are recognized and regulated*

Literature

- ▶ [Forbes](#) *piece where SaMD and DTx are headed In 2022 and beyond*
- ▶ [Health Affairs](#) *piece on should digital therapeutics be regulated with gold-standard evidence?*
- ▶ Research studies in:
 - [Cardiovascular](#), [Diabetes](#), [Neurology](#), [Pulmonary](#)
- ▶ [STAT piece](#) *on 3 missing pieces of DTX sector that needs to succeed in 2022*
- ▶ [Article](#) *on the role of digital therapeutics and the changing future of healthcare*



Electronic health records

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Resources

- ▶ [HHS report](#) and [guide](#) on *privacy, security and electronic health records*
- ▶ [FDA guidance](#) on the *use of EHR Data in clinical investigations*
- ▶ [MyData](#) is a *human-centric approach to personal health data for a fair data economy*
- ▶ [HealthIT Playbook](#) is a *tool for administrators, physician practice owners, clinicians and practitioners, practice staff, etc to learn to optimize the safety and use of EHR*

Literature

- ▶ [JAMA piece](#) on *should EHR vendors share Health IT patient safety responsibility?*
- ▶ [Article](#) on *privacy-minded consumers more likely to share health data if transparency and altruistic use are guaranteed*
- ▶ [Article](#) highlighting inequity where *21 Million Americans Still Lack Broadband Connectivity*
- ▶ [STAT](#) piece on *creating a digital Hippocratic oath for the 21st century*
- ▶ [Article](#) on the *“EHR Integration: Achieving this Digital Health Imperative”*
- ▶ [Article](#) suggesting *first challenge for ARPA-H should be electronic health record migration*



mHealth

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Resources

- ▶ [DoD practice guide](#) on the mobile health practice for clinicians to understand how these tools are used for patient monitoring, education and treatment
- ▶ [HL7 framework](#) for consumer mobile health application functions
- ▶ [FTC best practices](#) for design and development of the mhealth applications
- ▶ [DBDP](#) is an open source software platform for the development of digital biomarkers of mHealth and wearables developed by the Big Ideas Lab at Duke University
- ▶ [VA guide](#) on mobile health in clinical practice

Literature

- ▶ [Article](#) on collecting and analyzing millions of mHealth data streams
- ▶ [Guidance](#) on ethical considerations and policy recommendations when using mHealth application
- ▶ [JMIR](#) piece to propose criteria for mobile-health related apps
- ▶ [Blog](#) on the nuances of health technology that can hurt patients
- ▶ [STAT](#) piece on wonky data standards and how it will affect health systems and patients



Consumer engagement and social media

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Resources

- ▶ [FDA guidances](#) on the cybersecurity considerations for safety and effectiveness
- ▶ [Consumer report](#) on the *risk of medical identity theft*
- ▶ [Report](#) against “one-size-fits-all” approach for healthcare consumer engagement
- ▶ [Perspective](#) on importance of engaging clinicians in digital health
- ▶ [Insights](#) on direct-to-consumer digital health
- ▶ [Priorities](#) and roadmap for protecting privacy and security of consumer health information

Literature

- ▶ [WSJ](#) piece on “The ‘Internet of Bodies’ Is Here. Are Courts and Regulators Ready?”
- ▶ [Article](#) on how tracking a decade of social media became a hugely profitable dossier on the health of 270 million Americans
- ▶ [Forbes](#) piece on 1 in 10 American turn to social media for health information
- ▶ [Article](#) highlighting “Do no Harm” when it comes to social media with the warning from the Federation of State Medical Boards
- ▶ [Case](#) piece on the silver lining of patient engagement with No Surprises Act



Virtual Care

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Resources

- ▶ [IMPACT](#) care resources by *virtual-first medical practice collaborative*
- ▶ [Framework](#) for *eliminating health disparities using telehealth*
- ▶ [Playbook](#) on the digital health implementation provides resources, tips, and best practices on designing the workflow
- ▶ [7 Vignettes](#) that outlines *virtual first solutions to improve clinical and health economic outcomes*.
- ▶ [Report](#) on “Return on health” initiative to articulate the value of digitally enabled care

Literature

- ▶ [STAT](#) piece on *breaking the stranglehold of the doctor-patient visit on health care innovation*
- ▶ [Foley's](#) piece highlights the *top 10 Medicare Remote Patient Monitoring FAQs*
- ▶ [Research](#) on the effect of *home-based telemonitoring using mobile phone technology on the outcome of heart failure patients after an episode of acute decompensation*
- ▶ [Article](#) on *as more clinicians are using virtual care technology, raises the questions about inclusivity and usability*
- ▶ [Article](#) on *Virtual-first care is here to stay, but can it fix healthcare?*



General

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Resources

- ▶ [The National Center for Collaborative Healthcare Innovation](#) - collaborates with industry, other government agencies, academia, and throughout VA to create far-reaching positive impact for our Veterans with cutting-edge technologies
- ▶ [AMA Telehealth Immersion Program](#) - comprehensive curriculum and enhanced experience navigating the world of telehealth alongside peers nationwide
- ▶ [National Consortium of Telehealth Resource Centers](#) - provides assistance, education, and information to organizations and individuals who are actively providing or interested in providing health care at a distance

Literature

- ▶ [AMA Privacy & Design Principles](#) - a case for privacy by design in app development
- ▶ [Human-Centered Design](#) - as a powerful tool in healthcare with case studies
- ▶ [Patient Experience Article](#) - improving the patient experience by reducing customer friction points
- ▶ [Digital Transformation Success](#) - piece on what we can learn from other industries
- ▶ [Digital transformation in healthcare](#) - a systematic literature review about the state of the art of digital transformation in healthcare



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