**MEDOC paper literature search**

* This study aimed to identify dimensions used to assess the digital maturity of hospitals through a systematic literature review of peer-reviewed articles published before December 2020. A total of 29 relevant articles representing 27 distinct maturity models were analyzed. The study found and consolidated 7 dimensions for assessing digital maturity: strategy, information technology capability, interoperability, governance and management, patient-centered care, people, skills, and behavior, and data analytics. These dimensions can be evaluated using 24 respective indicators. This framework can be valuable for assessing digital maturity and identifying areas for improvement in hospital settings. (<https://pubmed.ncbi.nlm.nih.gov/35353050/>)
* This study aimed to develop a framework for assessing digital health maturity models used by healthcare organizations to improve patient care through technology. Currently, there are numerous commercially available models for assessing digital health maturity, but there's a lack of evidence-based methods for selecting the most appropriate one for a specific context.

The researchers employed a systematic and consultative approach, involving literature analysis and stakeholder input, to create this framework. They considered factors like healthcare context, feasibility, integrity, completeness, and actionability in their criteria. This framework allows users to objectively compare different models and make informed decisions when selecting a model tailored to their specific needs. (<https://pubmed.ncbi.nlm.nih.gov/36506845/>)

* This study focuses on the digitalization status of German hospitals, recognizing their lag behind the European average in digitalization. The study aims to understand the role of hospital managing directors' perspectives in identifying barriers to digitalization and whether the Hospital Future Act of 2020 has helped overcome these barriers. Two online surveys were conducted in 2019 and 2021.

Key Findings:

* In 2019, 62.5% of hospitals had management responsible for digitalization decisions.
* Approximately 54.9% of managing directors in 2019 desired digitally supported workflows.
* In 2021, 74.7% of managing directors reported increased digitization compared to 2019, with an average increase of 25.4%.
* Statistical analyses (ANOVA, chi-squared test, Pearson's correlation) did not reveal significant relationships among the variables.

Conclusions:

* The study highlights that digitalization strategies in German hospitals are strongly influenced by management attitudes, possibly suggesting a lack of employee acceptance.
* The Hospital Future Act and the COVID-19 pandemic have positively impacted the digital maturity of hospitals. (<https://pubmed.ncbi.nlm.nih.gov/35955066/>)
* In this study, the researchers aimed to investigate the perceived impacts of digital health on healthcare organizations across different levels of digital health maturity. They conducted a mixed methods case study focusing on public healthcare systems in Queensland, Australia. They used the Digital Health Indicator (DHI) self-assessment survey to evaluate the digital health maturity of 16 healthcare systems and then categorized them into three groups based on their DHI scores: high-maturity, intermediate-maturity, and low-maturity.

**Key findings:**

* **Digital Health Maturity:** The DHI scores of the 16 healthcare systems ranged from 78 to 193. The high-maturity category (25%) had DHI scores of ≥166.75, the low-maturity category (25%) had scores of ≤116.75, and the intermediate-maturity category (50%) had scores between 116.75 and 166.75.
* **Perceived Impacts:** The study identified 18 perceived impacts of digital health across healthcare systems. Generally, healthcare systems with higher digital health maturity reported more positive impacts.
* **Patient Experience:** High-maturity systems were associated with maintaining patient health records and tracking patient experience data. Telehealth was reported as beneficial across all maturity levels, enabling greater access and flexibility for patients.
* **Population Health:** High-maturity systems reported positive impacts such as patient journey tracking and clinical risk mitigation. Telehealth also improved healthcare access and efficiency across all maturity levels.
* **Healthcare Costs:** Ongoing investments in digital health and the need for a sustainable skilled workforce were reported as cost burdens across all maturity levels.
* **Provider Experience:** Negative impacts like poor usability and change fatigue were universal among healthcare providers. Network and infrastructure issues were more pronounced in low-maturity systems.
* **Interoperability:** Limited interoperability and organizational factors like strategy, policy, and vision were identified as negative impacts affecting health service delivery across all maturity levels.

**Conclusion:** This study is one of the first to demonstrate differences in the perceived impacts of digital health maturity on healthcare systems at scale. Higher digital health maturity was associated with more positive reported impacts, particularly in achieving positive outcomes for population health. However, challenges such as cost burdens, provider experience issues, and interoperability limitations were still prevalent. (<https://pubmed.ncbi.nlm.nih.gov/37463008/>)

* The shift of clinical laboratories towards digitalization necessitates the enhancement of digital maturity processes. This entails the establishment of connectivity, seamless end-to-end workflows, and the incorporation of advanced analytical technologies and techniques. Central to this transformation are digital technologies, which guide laboratory staff and scientists in redirecting their attention from routine tasks to more intricate and substantial endeavors. This necessitates their empowerment to effectively utilize new instruments and software. While there are hurdles to navigate on the path to digital transformation in clinical laboratories, various models are being devised to surmount these challenges. Among the critical factors in this journey is the crucial role played by interoperability. (<https://pubmed.ncbi.nlm.nih.gov/36628420/>)
* This research aimed to assess the digital health capability across the entire state of Queensland, Australia, in order to inform the region's digital health strategy and investment. The assessment was conducted using the Healthcare Information and Management Systems Society Digital Health Indicator (DHI), which measures four core dimensions of digital health transformation: governance and workforce, interoperability, person-enabled health, and predictive analytics. The DHI questionnaire was completed by 16 healthcare systems in Queensland in 2021.

The results showed variations in DHI scores, indicating different levels of healthcare digitization across the state. The average DHI score across sites was 143, which is comparable to other healthcare systems in the Oceania region and global public systems but falls below the global private sector average. Among the four dimensions, governance and workforce scored the highest (average of 54), followed by interoperability (average of 46), person-enabled health (average of 36), and predictive analytics (average of 30).

These findings were incorporated into Queensland's new digital health strategy, and this assessment is one of the largest simultaneous evaluations of digital health capability globally. The insights gained from this research can be valuable for policymakers and organizational managers as they work towards advancing digital health transformation in their regions. (<https://pubmed.ncbi.nlm.nih.gov/36261114/>)

* Hospitals worldwide are striving to undergo digital transformation to enhance healthcare systems. However, there is no consensus on how to define and evaluate digital excellence in hospitals. This study aimed to establish an international agreement on a set of technological capabilities to assess digital excellence in hospitals.
* Methods: The study employed a two-stage international electronic Delphi (eDelphi) consensus-building approach with 31 participants, including experts from clinical, academic, public, and vendor organizations. Qualitative analysis of free-text responses was conducted.
* Results: The study identified 35 technological capabilities indicative of digital excellence in hospitals, categorized as capabilities within a hospital (20) and capabilities enabling communication with other parts of the healthcare system and patients/carers (15). The analysis of free-text responses emphasized the significance of non-technological factors in digital transformation, such as organizational culture, willingness to change established practices, risk-taking, and having a diverse set of skills in digitization teams.
* Conclusions: This study established criteria for evaluating digital excellence in hospitals, emphasizing the need to shift focus beyond technical functionalities to encompass broader digital transformation capabilities. (<https://pubmed.ncbi.nlm.nih.gov/32808938/>)
* This study aimed to uncover how different organizational practices in US hospitals influence the adoption and use of electronic health records (EHRs) and identify strategies associated with advanced EHR utilization. Data from 451 hospitals were analyzed, revealing three key domains of organizational practices: leadership engagement, human capital, and systems integration. Hospitals with strong leadership engagement were more likely to adopt patient engagement EHR functions, while those with robust systems integration were more likely to embrace patient engagement and EHR data analytics functions. These findings suggest that hospital leaders can enhance EHR outcomes by prioritizing senior leadership involvement and improving connectivity between clinical and administrative systems. (<https://pubmed.ncbi.nlm.nih.gov/33779993/>)
* Patient-generated health data (PGHD), collected outside of clinical settings, is becoming increasingly integrated into electronic health records (EHRs). A study involving interviews and surveys with major ambulatory care EHR vendors in the U.S. market revealed that PGHD use has been on the rise for the past decade, with a boost during the COVID-19 pandemic. Secure pathways for incorporating PGHD into EHRs are expanding. However, challenges such as disparities in EHR systems, devices, and applications exist.

The study highlights the need for supportive policies to further advance PGHD integration into healthcare systems. (<https://pubmed.ncbi.nlm.nih.gov/35854713/>)