

Table 1 Summary of findings from reviewed studies on hospital information systems interoperability

No.	Author (year)	Reference	Country	Publication type	Information system	Key findings
1	Nsaghurwe (2021)	6	United Republic of Tanzania	Report	Tanzania Health Information Exchange	A five-step framework enabled interoperability across 15 systems, improving data sharing and saving time on administrative processes.
2	Lazuardi (2021)	7	Indonesia	Research	Digital maternal and child health systems	18 systems developed by various stakeholders had limited interoperability, mainly restricted to routine reporting .
3	Vasques (2024)	8	Brazil	Research	Unified health system	Implementation of the maturity framework was challenging; however, standards and protocols has established to support coordination and cost reduction.
4	Shrivastava (2021)	9	United States of America	Research	Electronic medical records	Interoperability gaps persisted between single and multi-hospital Electronic medical records systems; policy enhancement needed to enhance data privacy and security.
5	Kadry (2010)	10	United States of America	Report	Health information technology	Lack of integrated standards hampered communication across clinical systems; further development of medical data standards is required.
6	Faulkenberry (2021)	11	United States of America	Report	OpenMRS	Locally-tailored interventions in low-resource settings can mitigate digital health system failures.
7	Azarm (2023)	12	United States of America	Research	System level record sharing	Government-managed SLRS platforms enhanced interoperability, despite contextual, procedural and evidence-sharing challenges.
8	Sasie (2024)	13	Ethiopia	Research	Health information sharing system	Interoperability was hindered by technical, financial, and socio-cultural barriers, as well as system functionality.
9	Juzwishin (2009)	14	Canada	Report	Not specified	Leadership and policy challenges were addressed; interoperability requires integrated health care health care processes and systems across levels of care.
10	Chen (2023)	15	United States of America	Research	Health information exchange	Many-to-many health information exchange models were adopted, but limited use was observed with external entities.
11	Rinty (2021)	16	Bangladesh	Research	Electronic medical records	Poor interoperability remained a primary barrier to eHealth adoption in developing countries.
12	Dixon (2014)	17	United States of America	Commentary	Electronic medical records	Despite standardised processes, semantic interoperability remained limited due to system fragmentation.
13	Bogaert (2021)	18	Belgium	Research	Health information systems	Barriers included data fragmentation and limited reuse, EHR* implementation challenges with EHRs, unclear governance, legal gaps, and staff shortages.
14	Steel (2024)	19	Australia	Research	Information sharing system	Leadership in primary care improved provider confidence in patient-centred information sharing.
15	Mukala (2024)	20	Democratic Republic of the Congo	Research	Not specified	Integration success factors included leadership, mental health awareness, use of protocols, and adequate primary care workforce.
16	Rajagopal (2024)	1	Malaysia	Research	Health information systems	Data security and privacy were the main enablers of interoperability.
17	Gaucher (2024)	21	France	Research	PROSPERO	Interprofessional collaboration was critical for successful interoperability between hospital and community care.
18	Anywar (2024)	22	Germany	Research	Medical data integration centre	Health Level 7 version 2 data conversion presented technical challenges; strong data governance was emphasised.
19	Schmitt (2024)	23	Germany	Report	Integrated health system	System fragmentation led to higher costs, disrupted the continuity of care, and reduced the effectiveness of interventions.
20	Bou-Karroum (2024)	24	Jordan, Lebanon, Uganda	Research	Health information systems	Efficient data management, inclusive governance, and improved national-level integration were highlighted.