

Canvas Category	Framework Category	Related Framework
Focus	Nature of condition or illness	NASSS Framework
	Health problem	MAST Manual
	Disease characteristics	Comprehensive evaluation framework for telemedicine implementation
	Comorbidities	NASSS Framework
	Purpose of the telemedicine application	MAST Manual
	Relevance to existing and growing needs	Khoja–Durrani–Scott Evaluation Framework
Product/ Technology	Material features	NASSS Framework
	Aesthetics	Design and Evaluation of DHI Framework
	User interface	Comprehensive evaluation framework for telemedicine implementation
	System Design	HOPT-FIT
	Well-designed software	Khoja–Durrani–Scott Evaluation Framework
	Format (material design of the layout and display)	CISSM
	Alignment of the role and design of the HIS (Task-technology adaption)	HIS Success Framework
	Technology supply model	NASSS Framework
	Maturity of the application	MAST Manual
	Functionality	Infoway benefits evaluation Framework
	Performance	Infoway benefits evaluation Framework
	Ease of use	Infoway benefits evaluation Framework
	Responsiveness	Infoway benefits evaluation Framework
	Software (Usability)	HITREF
	Functionality	HITREF
	Usability	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
	Ease of use	Design and Evaluation of DHI Framework
	Technical stability	Digi HTA
	Usability	Digi HTA
	Ease of Use	CISSM
	Reliability	CISSM
	Accuracy	CISSM
	Reliability of technology	Comprehensive evaluation framework for telemedicine implementation
	Storage	Comprehensive evaluation framework for telemedicine implementation
	System speed	Comprehensive evaluation framework for telemedicine implementation
	Transmission	Comprehensive evaluation framework for telemedicine implementation

Performance	Digital Health Score Card
Usability (helpful, learnable, likable)	Digital Health Score Card
System quality	DISPA Framework
Preparation of the user requirements	HIS Success Framework
Usability	HIS Success Framework
Balance between flexibility and stability of IT	HIS Success Framework
Reliable technical infrastructure or network	HIS Success Framework
Complexity of the system	HIS Success Framework
Response time (system speed)	HIS Success Framework
Flexibility and adoptability, enabling future functional and technical changes	HIS Success Framework
System Quality (measures of the information processing system itself)	HOPT-FIT
Reliable hardware	Khoja–Durrani–Scott Evaluation Framework
Technical efficiency or fix	Khoja–Durrani–Scott Evaluation Framework
Robust and reliable networking	Khoja–Durrani–Scott Evaluation Framework
User-friendliness/usability	Khoja–Durrani–Scott Evaluation Framework
Usability	The layered telemedicine implementation model
Quality	The layered telemedicine implementation model
Type of data generated Data	NASSS Framework
Description of the application	MAST Manual
Content	Infoway benefits evaluation Framework
Completeness/Correctness of data	HITREF
Content quality (accurate, timely, complete, relevant, and consistent)	Design and Evaluation of DHI Framework
Personalization	Design and Evaluation of DHI Framework
Content Completeness	CISSM
Data quality	Comprehensive evaluation framework for telemedicine implementation
Information quality (relevancy, usefulness, completeness, etc.)	HIS Success Framework
Quality of user documentation	HIS Success Framework
Information Quality (measures of IS output)	HOPT-FIT
Timeliness	Khoja–Durrani–Scott Evaluation Framework
Accuracy	Khoja–Durrani–Scott Evaluation Framework
Efficiency/error rates	Khoja–Durrani–Scott Evaluation Framework
Technical safety (technical reliability)	MAST Manual
Clinical safety (patients and staff)	MAST Manual

Security	Infoway benefits evaluation Framework
Security	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
Safety	Design and Evaluation of DHI Framework
Clinical safety	Digi HTa
Security	Digital Health Score Card
Safety	DISPA Framework
Safety	Health Technology Adoption Framework
System security	HIS Success Framework
Clinical Safety	Khoja–Durrani–Scott Evaluation Framework
Security	Khoja–Durrani–Scott Evaluation Framework
Security	The layered telemedicine implementation model
Technical characteristics (eg.) Infrastructure requirements; Interoperability: Integration needs	MAST Manual
Interoperability	Digi HTA
Interoperability	Comprehensive evaluation framework for telemedicine implementation
Integration with Legacy system	HIS Success Framework
Interoperability and Interconnectivity	HIS Success Framework
Using proper standards, coding and nomenclature	HIS Success Framework
Interoperability and standardization	Khoja–Durrani–Scott Evaluation Framework
Interoperability	Digital Health Score Card
Knowledge needed to use	NASSS Framework
Availability	Infoway benefits evaluation Framework
Product information (detailed information about the product e.g. name, technology readiness or intended use)	Digi HTA
Accessibility	Digi HTA
Accessibility	CISSM
Access	Health Technology Adoption Framework
Sustainability	Health Technology Adoption Framework
Flexibility towards dynamic changes and changes in the organizational context	HIS Success Framework
Flexible (can be modified to suit local cultural/social needs)	Khoja–Durrani–Scott Evaluation Framework
Easily adaptable to different settings (patenting)	Khoja–Durrani–Scott Evaluation Framework
Appropriate in a variety of conditions	Khoja–Durrani–Scott Evaluation Framework
Ability to be incorporated into policy	Khoja–Durrani–Scott Evaluation Framework
Acceptability of e-health	Khoja–Durrani–Scott Evaluation Framework
Objective Value/Effect	Supply-side value (to developer)
	NASSS Framework

Demand-side value (desirability, efficacy, effectiveness)	NASSS Framework
Clinical Effectiveness:	MAST Manual
Effects on mortality	MAST Manual
Effects on morbidity	MAST Manual
Physical health	MAST Manual
Mental health	MAST Manual
Effects on health related quality of life (HRQL)	MAST Manual
Behavioural outcomes (e.g. exercise)	MAST Manual
Utilization of health services	MAST Manual
Quality	Infoway benefits evaluation Framework
Access	Infoway benefits evaluation Framework
Productivity	Infoway benefits evaluation Framework
Patient outcome	HITREF
Patient related knowledge	HITREF
Efficiency	HITREF
Appropriateness of patient care	HITREF
Organizational or social quality	HITREF
Evidence based medicine	The layered telemedicine implementation model
Utility	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
Important outcomes	RE-AIM (expanded)
Quality of life	RE-AIM (expanded)
Long-term effects of a program on outcomes	RE-AIM (expanded)
Time and Efficiency	Adapted nursing care performance framework
Nurses' Practice Environment	Adapted nursing care performance framework
Nursing Processes	Adapted nursing care performance framework
Nursing-Sensitive Outcomes	Adapted nursing care performance framework
Effectiveness	Design and Evaluation of DHI Framework
Effectiveness	Digi HTA
Net Benefits	CISSM
Quality of care	Comprehensive evaluation framework for telemedicine implementation
Efficacy (evidence based medicine, clinical outcomes and quality of life)	Health Technology Adoption Framework
Population health (burden of disease)	Health Technology Adoption Framework
Standard of care	Health Technology Adoption Framework

	Improved DALYs	Khoja–Durrani–Scott Evaluation Framework
	Improved QALYs	Khoja–Durrani–Scott Evaluation Framework
	Direct benefits to users in routine work	Khoja–Durrani–Scott Evaluation Framework
	Benefits in learning	Khoja–Durrani–Scott Evaluation Framework
	Beneficence/nonmaleficence (client, provider, organization)	Khoja–Durrani–Scott Evaluation Framework
	Improved diagnosis and treatment of disease conditions	Khoja–Durrani–Scott Evaluation Framework
	Improved decision support and clinical	Khoja–Durrani–Scott Evaluation Framework
	care and health management	Khoja–Durrani–Scott Evaluation Framework
	Improved access to care	Khoja–Durrani–Scott Evaluation Framework
	Improved quality of care	Khoja–Durrani–Scott Evaluation Framework
	Functional independence among staff	Khoja–Durrani–Scott Evaluation Framework
	Equity of care	Khoja–Durrani–Scott Evaluation Framework
	Stability of services	Khoja–Durrani–Scott Evaluation Framework
	Effects on the delivery of medical care	Khoja–Durrani–Scott Evaluation Framework
	Health impact leading to	Khoja–Durrani–Scott Evaluation Framework
	change in disease status	Khoja–Durrani–Scott Evaluation Framework
	Social impact due to improved access and quality of services	Khoja–Durrani–Scott Evaluation Framework
	Improvement in quality of life	Khoja–Durrani–Scott Evaluation Framework
	Health impact showing change via indicators	Khoja–Durrani–Scott Evaluation Framework
	Unintended Consequences/Benefits	HITREF
	Potential negative effects	RE-AIM (expanded)
	Evidence	Digital Health Score Card
	Added functionality are provided by the HIS, enabling users to provide new or better services	HIS Success Framework
	Verification, analytical validation, and clinical validation	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
Individual	Satisfaction and acceptance	MAST Manual
	User Satisfaction	Infoway benefits evaluation Framework
	Attitude (towards technology)	The layered telemedicine implementation model
	User satisfaction	HITREF
	Patient satisfaction with EHR	HITREF
	Patient satisfaction with care	HITREF
	Professional Satisfaction	Adapted nursing care performance framework
	Nurse Satisfaction	CISSM
	Comfort with Patient communication (provider)	Comprehensive evaluation framework for telemedicine implementation

Comfort with Provider interaction (provider)	Comprehensive evaluation framework for telemedicine implementation
Stakeholder, user and patient satisfaction	HIS Success Framework
Intention to use	Infoway benefits evaluation Framework
Individuals who are willing to participate	RE-AIM (expanded)
Resistance to Change (provider)	Comprehensive evaluation framework for telemedicine implementation
User acceptance (perceived system ease of use, perceived system usefulness)	HIS Success Framework
User acceptance	Khoja–Durrani–Scott Evaluation Framework
Staff (change of role or identity)	NASSS Framework
Patient (simple vs complex input - expectation)	NASSS Framework
Carers (available nature of input - assumptions about them)	NASSS Framework
User habit (patient)	Comprehensive evaluation framework for telemedicine implementation
User involvement	HIS Success Framework
User engagement and commitment	HIS Success Framework
Resistance to changes	HIS Success Framework
Motivational activities	HIS Success Framework
"Involvement" of end user in requirements elicitation phase, selection of vendor, solution, evaluation, features, etc.	Khoja–Durrani–Scott Evaluation Framework
Clinical involvement in HIT Selection, Implementation, Training	HITREF
Use/behaviour pattern	Infoway benefits evaluation Framework
Self-reported use	Infoway benefits evaluation Framework
Clients use	RE-AIM (expanded)
Adherence	Design and Evaluation of DHI Framework
System Use	HOPT-FIT
Adoption/adaptation of technology on a wider Scale	Khoja–Durrani–Scott Evaluation Framework
Wide reach	Khoja–Durrani–Scott Evaluation Framework
Patients Confidence (in the treatment)	MAST Manual
Perceived benefit	Design and Evaluation of DHI Framework
Perceived enjoyment	Design and Evaluation of DHI Framework
Perceived Usefulness	CISSM
Comfort with Work flow	Comprehensive evaluation framework for telemedicine implementation
Location/ travel time (patient)	Comprehensive evaluation framework for telemedicine implementation
Patient awareness (patient)	Comprehensive evaluation framework for telemedicine implementation
Understanding of information	MAST Manual
Ability to use the application	MAST Manual

	Empowerment, self-efficacy	MAST Manual
	Competency	Infoway benefits evaluation Framework
	Perceived Behavioural Control	CISSM
	CIS Use Dependency	
	User knowledge and skills	HIS Success Framework
	Autonomy (client based)	Khoja–Durrani–Scott Evaluation Framework
	Degree of adolescent control (autonomy)	
	Individual readiness to change	Khoja–Durrani–Scott Evaluation Framework
	Expertise on ICT (provider)	Comprehensive evaluation framework for telemedicine implementation
	ICT skills & knowledge (patient)	Comprehensive evaluation framework for telemedicine implementation
Organisation	Work needed to implement change	NASSS Framework
	Organisational Strategy	Infoway benefits evaluation Framework
	Diffusion	HITREF
	Consistency of delivery as intended and the time of the intervention	RE-AIM (expanded)
	Extent to which a program or policy becomes institutionalized or part of the routine organizational practices and policies	RE-AIM (expanded)
	Make implementation a transparent process within the organization	HIS Success Framework
	Consider IT implementation as a change process	HIS Success Framework
	System Implementation	HOPT-FIT
	Penetration/diffusion of innovation (addressing the digital divide)	Khoja–Durrani–Scott Evaluation Framework
	Modification	Khoja–Durrani–Scott Evaluation Framework
	Improvement	Khoja–Durrani–Scott Evaluation Framework
	Customization	Khoja–Durrani–Scott Evaluation Framework
	Policy changes to facilitate broader adoption, implementation, and innovation in e-health	Khoja–Durrani–Scott Evaluation Framework
	Strategy for e-health implementation	Khoja–Durrani–Scott Evaluation Framework
	Capacity to innovate	NASSS Framework
	Readiness for this technology (change)	NASSS Framework
	Nature of adoption (how easy will it be?)	NASSS Framework
	Scope for adaption over time	NASSS Framework
	Organisational resilience	NASSS Framework
	Structure	MAST Framework
	Culture	MAST Framework
	Culture	Infoway benefits evaluation Framework
	Hardware (availability in the organisation)	HITREF

Organizational culture	Comprehensive evaluation framework for telemedicine implementation
ICT infrastructure	Comprehensive evaluation framework for telemedicine implementation
ICT equipment (patient)	Comprehensive evaluation framework for telemedicine implementation
Resources (e.g. time for training, set-up, implementation, and management)	Comprehensive evaluation framework for telemedicine implementation
Knowledge and research	Health Technology Adoption Framework
Organizational stability	HIS Success Framework
Rate of hospital independence and authority	HIS Success Framework
Organizational capacity for changes	HIS Success Framework
Coping with the impact of change	HIS Success Framework
resources (human, financial and physical resources and time)	HIS Success Framework
Structure	HOPT-FIT
Environment	HOPT-FIT
Organisational readiness to change	Khoja–Durrani–Scott Evaluation Framework
Scope for innovations	Khoja–Durrani–Scott Evaluation Framework
Human resource factors (management style, working relationship, communications flow, staff motivation)	Khoja–Durrani–Scott Evaluation Framework
Organizational Support/ Capacity	HITREF
Settings and intervention agents (people who deliver the program) who are willing to initiate a program	RE-AIM (expanded)
Social Support (to use CIS)	CISSM
Service Support	CISSM
Education & Training & Support	Comprehensive evaluation framework for telemedicine implementation
Training	Health Technology Adoption Framework
Sufficient training to make the best out of the daily operation	HIS Success Framework
Sufficient training to provide an understanding of its limitations and future potentials	HIS Success Framework
Training of all staff, including clinical and management staff	Khoja–Durrani–Scott Evaluation Framework
Support	The layered telemedicine implementation model
Training	The layered telemedicine implementation model
(leadership etc.)	NASSS Framework
Management	MAST Framework
Leadership	Comprehensive evaluation framework for telemedicine implementation
Change management	Comprehensive evaluation framework for telemedicine implementation
Participation in decision-making	HIS Success Framework
Support from higher level organizations	HIS Success Framework
Managers commitment	HIS Success Framework

Formulation and expression of a clear vision for the enterprise	HIS Success Framework
showing the HIS as part of it	HIS Success Framework
Setting clear goals and instructions	HIS Success Framework
Flexible planning	HIS Success Framework
Prospective and proactive control	HIS Success Framework
Having a strategy	HIS Success Framework
Handling the diversity within stakeholder goals	HIS Success Framework
Using formal project management methodology	HIS Success Framework
Dedicate, availability and prioritize of competitive hospital	HIS Success Framework
Identify and mitigate risk (risk management)	HIS Success Framework
Understanding socio-technical nature of HIS	HIS Success Framework
Business Process Management	HOPT-FIT
Lean Method	HOPT-FIT
Prioritizing e-health over other issues	Khoja–Durrani–Scott Evaluation Framework
Plan for change management	Khoja–Durrani–Scott Evaluation Framework
Effective change management (preparation and action)	Khoja–Durrani–Scott Evaluation Framework
Effective change management (maintenance)	Khoja–Durrani–Scott Evaluation Framework
Policies for change management	Khoja–Durrani–Scott Evaluation Framework
Limited changes in organizational and national policies to facilitate e-health implementation	Khoja–Durrani–Scott Evaluation Framework
Healthy public policy and organizational practice	Khoja–Durrani–Scott Evaluation Framework
Collaboration	DIPSA Framework
Collaboration and cooperation	HIS Success Framework
Internal communication and clear feedback	HIS Success Framework
Service quality (the support provided by the information department, the support provided by the maintenance company)	HIS Success Framework
Knowledge sharing with other organizations and countries	Khoja–Durrani–Scott Evaluation Framework
Extend of change needed to routines	NASSS Framework
Process	MAST Framework
Business Process	Infoway benefits evaluation Framework
Work flow reengineering	Comprehensive evaluation framework for telemedicine implementation
Procedures	DIPSA Framework
Service coordination	Health Technology Adoption Framework
Work from the workflow	HIS Success Framework
Regular evaluations and using their results at different stages of HIS life cycle	HIS Success Framework

	Clinical Flow/Standard	HOPT-FIT
	Service Quality	HOPT-FIT
	Intramural and extramural work practices	The layered telemedicine implementation model
Societal	Political/ policy	NASSS Framework
	Rules/policy	Comprehensive evaluation framework for telemedicine implementation
	Governmental authority	Comprehensive evaluation framework for telemedicine implementation
	Political games/conflicts	HIS Success Framework
	(political) Willingness towards investment on IT systems	HIS Success Framework
	Legislation and Policy	The layered telemedicine implementation model
	security (patient information) (Legislation)	The layered telemedicine implementation model
	Patient privacy	HITREF
	Privacy & security	Design and Evaluation of DHI Framework
	Data security and protection	Digi HTA
	Information security	Comprehensive evaluation framework for telemedicine implementation
	Regulatory/ legal	NASSS Framework
	Legal issues	MAST Manual
	Data rights and governance	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
	Privacy certification & license	Comprehensive evaluation framework for telemedicine implementation
	Privacy & security rule	Comprehensive evaluation framework for telemedicine implementation
	Interface standards	Comprehensive evaluation framework for telemedicine implementation
	Practice Medical liability	Comprehensive evaluation framework for telemedicine implementation
	Compliance with legal requirements	HIS Success Framework
	Know what the legal constraints/opportunities	HIS Success Framework
	Justice and equity	Khoja–Durrani–Scott Evaluation Framework
	Liability	Khoja–Durrani–Scott Evaluation Framework
	Licesure	Khoja–Durrani–Scott Evaluation Framework
	Standardisation	The layered telemedicine implementation model
	Professional	NASSS Framework
	Socio-cultural	NASSS Framework
	Social issues	MAST Manual
	Society	Comprehensive evaluation framework for telemedicine implementation
	Social norms & values	Comprehensive evaluation framework for telemedicine implementation
	Understand health care as a specific culture	HIS Success Framework

	Understand the local culture (such as attention to cultural differences between public and private hospitals as well as developing and developed countries)	HIS Success Framework
	Preparedness and willingness towards cultural change (professional culture)	HIS Success Framework
	(Cultural) Expectations of users	HIS Success Framework
	Cultural acceptability	Khoja–Durrani–Scott Evaluation Framework
	Environmental viability	Khoja–Durrani–Scott Evaluation Framework
	Gender issue/gender divide	Khoja–Durrani–Scott Evaluation Framework
	Sensitive to sociocultural issues	Khoja–Durrani–Scott Evaluation Framework
	Societal readiness to technology change	Khoja–Durrani–Scott Evaluation Framework
Ethics	Ethical issues	MAST Manual
	Ethics	Design and Evaluation of DHI Framework
	Compliance with existing ethical rules in affairs management	HIS Success Framework
	Privacy and confidentiality	
	Moral consideration	Khoja–Durrani–Scott Evaluation Framework
	Autonomy (client based)	
	Scalability	Khoja–Durrani–Scott Evaluation Framework
Economics	Supply-side value (business case)	NASSS Framework
	Business case (institutional level)	MAST Manual
	Company information	Digi HTA
	Return on investment (material or immaterial)	HIS Success Framework
	Budget (Hospital)	Comprehensive evaluation framework for telemedicine implementation
	Reimbursement	Comprehensive evaluation framework for telemedicine implementation
	3rd party payer	Comprehensive evaluation framework for telemedicine implementation
	Sufficient funding	HIS Success Framework
	Reimbursement	Khoja–Durrani–Scott Evaluation Framework
	Funding support for research	Khoja–Durrani–Scott Evaluation Framework
	Funding decision (organisation)	NASSS Framework
	Costs of information processing	HITREF
	Cost of the intervention	RE-AIM (expanded)
	Cost	Digi HTA
	Productivity (net costs/efficiency)	Infoway benefits evaluation Framework
	Medical costs (out of pocket)	Comprehensive evaluation framework for telemedicine implementation
	Purchasing price	Digital Health Score Card
	Anticipated costs	Digital Health Score Card

	Cost (resources, infrastructure)	Health Technology Adoption Framework
	Development cost, availability, affordability	Khoja–Durrani–Scott Evaluation Framework
	Cost	Khoja–Durrani–Scott Evaluation Framework
	Affordability	Khoja–Durrani–Scott Evaluation Framework
	Cost	The layered telemedicine implementation model
	Demand-side value (cost-effectiveness)	NASSS Framework
	Economic evaluation (societal perspective)	MAST Manual
	Sensitivity analysis (Risk analysis)	MAST Manual
	Relevant alternatives	MAST Manual
	Costs of patient care	HITREF
	Economic feasibility	Evaluation Framework for Fit-For-Purpose Connected Sensor Technologies
	Economic outcomes	RE-AIM (expanded)
	Cost effectiveness	Comprehensive evaluation framework for telemedicine implementation
	Economic analysis (cost-effectiveness, cost-benefit)	Health Technology Adoption Framework
	Justification of increase of costs	HIS Success Framework
	Cost benefit	Khoja–Durrani–Scott Evaluation Framework
	Cost minimization	Khoja–Durrani–Scott Evaluation Framework
	Cost-utility	Khoja–Durrani–Scott Evaluation Framework
	Cost-benefit	Khoja–Durrani–Scott Evaluation Framework
	(Financial) Provider and structure/cost effectiveness	The layered telemedicine implementation model
Strategic	Strategic fit	Health Technology Adoption Framework
	National, regional, organizational (Strategy)	HIS Success Framework
	Accepted also at lower levels	HIS Success Framework
	Alignment between system strategies and hospital strategies	HIS Success Framework
	Reliable external partners	HIS Success Framework
	Strategy for e-health implementation	Khoja–Durrani–Scott Evaluation Framework
	Problem handling	Khoja–Durrani–Scott Evaluation Framework
	Trust	Khoja–Durrani–Scott Evaluation Framework
	Cross-border (transferability)	MAST Manual
	Scalability (of results)	MAST Manual
	Generalizability (of results)	MAST Manual
	Barriers or Facilitators to Adoption	HITREF
	Barriers and facilitators	Khoja–Durrani–Scott Evaluation Framework