

Supplemental Table 1. Stratification of included studies by teledermatology modality

Modality	Studies	Key findings
Asynchronous (store-and-forward)	6, 7, 8, 9, 10, 17, 18, 20, 21, 22, 23, 24, 25, 29	Diagnostic concordance ranged from 31% (GP–dermatologist) to 86% (teledermatologist–histopathology); response times generally <1 h to 48 h; 71% referral reduction (10); 53% cost reduction per patient (24); WhatsApp-based platforms showed high provider satisfaction in low-resource settings
Synchronous (live video)	11, 13, 15	87.5% patient satisfaction (11); lower loss-to-follow-up with video isotretinoin management (15); 52% of sessions had technical glitches requiring audio-only fallback (13); physicians more concerned than patients about inability to perform physical exam
Hybrid (synchronous + asynchronous)	4, 16	Patients more willing to use teledermatology for follow-up (60.8%) than new consultations (21.9%) (16); willingness declined as COVID-19 restrictions eased
AI-enabled / app-based	12, 18, 19	Patients preferred dermatologists over AI apps; medical mistrust increased willingness to use AI; WHO SkinNTDs app scored 4/5 usability among frontline workers (18)
Model development / survey only	5, 26, 27, 28, 30, 31, 32	Moderate awareness but low actual use in Nigeria (26); willingness highest for minor conditions (68.9% patients, 82.2% dermatologists) (28)

Supplemental Table 2. Stratification by setting (urban vs. rural/underserved)

Setting	Studies	Notable differences
Rural / underserved	5, 6, 7, 8, 13, 17, 18, 21, 22, 24, 25, 26, 29	Greater emphasis on access barriers (connectivity, infrastructure, specialist shortage); WhatsApp and low-cost platforms predominated; diagnostic agreement improved over time with education (46.9% → 77.2%, 6); provider education a consistent co-benefit; cost savings more pronounced (77.6% patient cost reduction, 24)
Urban / tertiary	9, 10, 11, 12, 15, 16, 28, 30, 31, 32	Higher baseline technology literacy; concerns centered on diagnostic accuracy, data privacy, and inability to perform physical exam; patient satisfaction generally high but preference for in-person care for severe/new conditions; willingness to use teledermatology declined post-pandemic
Mixed / not specified	3, 4, 19, 20, 23, 27	Narrative and multi-setting studies spanning urban and rural contexts

Supplemental Table 3. Stratification by healthcare system and income context

Context	Region	Studies	Key observations
Low- and middle-income countries (LMICs)	Africa, South/Southeast Asia	5, 6, 7, 8, 13, 18, 26	Informal platforms (WhatsApp) predominated due to cost and familiarity; major barriers included connectivity, infrastructure, and regulatory gaps; provider education a key secondary benefit; consent and data privacy practices inconsistent
High-income countries (HICs) — public/universal systems	UK, Spain, Germany, Belgium, Netherlands, Switzerland, Australia	9, 10, 11, 20, 21, 23, 24, 25, 28, 30	Formal store-and-forward platforms integrated with EHR; focus on referral reduction, cost-utility, and wait time; 62% diagnostic concordance with histopathology (21); teledermatology cost-dominant over face-to-face (24)
High-income countries — mixed/private systems	United States, Singapore, Israel, Lebanon	4, 12, 14, 15, 16, 17, 19, 22, 29, 31	eConsults reached more underserved and minority patients (17); synchronous video reduced attrition (15); AI-acceptance studies showed preference for dermatologists over apps; insurance and reimbursement cited as facilitators

Supplemental Table 4. Stratification by primary outcome domain

Outcome domain	Studies	Summary
Diagnostic accuracy / concordance	2, 6, 7, 9, 21, 22	Concordance 56.7–86% depending on modality and comparator; improved with training over time; 100% sensitivity for melanoma and BCC in one study
Patient / provider satisfaction	7, 8, 10, 11, 13, 16, 28, 29, 30, 32	Patient satisfaction generally high (75–96%); physician satisfaction lower (50–72%); physicians more concerned about exam limitations
Access to care	1, 5, 6, 7, 8, 17, 22	Teledermatology consistently improved access in underserved areas; eConsults reached more minority and Medicaid patients
Cost / economic	10, 20, 24	53–56% cost reduction from public health system perspective; 77.6% patient cost reduction; teledermatology cost-dominant with higher QALYs
Referral reduction / efficiency	10, 21, 23, 25	71% referral reduction (10); 28–50% of teleconsultations still required in-person referral (25)
Education	6, 7, 8, 18, 22	Diagnostic agreement improved from 46.9% to 77.2% over 24 months (6); 83% of providers reported improved knowledge; WHO app scored 4/5 usability (18)
Technology acceptance / adoption	12, 16, 26, 27, 28, 31	Prior telemedicine experience strongest predictor of acceptance; willingness highest for minor/follow-up conditions; medical mistrust increased AI-app acceptance