Teledermatology services: rapid review of diagnostic, clinical management, and economic outcomes

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Record Status
This is a bibliographic record of a published health technology assessment from a member of INAHTA. No evaluation of the quality of this assessment has been made for the HTA database.

Citation

Authors’ conclusions
Teledermatology may be beneficial for geographically isolated patients who would not otherwise be seen by a dermatologist. The largest body of research focuses on the diagnostic reliability of teledermatology. The evidence shows that teledermatology consultations — whether using store-and-forward, live interactive, or hybrid techniques — result in highly reliable diagnoses and management plans that compare favourably with those of conventional clinic-based care.

The evidence that store-and-forward teledermatology or teledermoscopy can be used to accurately predict disease compared to gold standard tests is conflicting. Teleconsultations were statistically significantly less accurate compared with clinic-based care in studies that exclusively used histopathology results as the reference diagnostic standard. This finding is particularly concerning in the field of skin cancer, where a misdiagnosis could lead to significant morbidity and mortality. No recent studies have assessed diagnostic accuracy when using live interactive teledermatology alone. There is consistent evidence that teledermatology improves wait times and decreases the number of unnecessary referrals. Whether this translates into improved health outcomes for patients living in rural areas is unclear. Overall, patient satisfaction did not differ between groups receiving teledermatology or conventional clinic-based care. The concerns that were reported by general practitioners included the complexity of the teledermatology system, a time-consuming process, and an increased workload. Teleconsultant concerns included a lack of patient contact and less confidence in the diagnosis made using teledermatology.

Economic evaluations found store-and-forward teledermatology to be cost-saving from a societal perspective for the management of patients with skin cancer. It is unclear whether the implementation of teledermatology services using existing technologies would be cost-effective based on the specific geographic requirements in rural Canadian settings. There is no evidence to support the cost-effectiveness of live interactive teledermatology. Larger and more comprehensive studies assessing patient outcomes such as harm resulting from missed diagnoses or incorrect treatments in different dermatologic indications will better define the value of teledermatology and guide implementation decisions.

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