Teledermatology…the art of dermatology across a distance

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Telemedicine is a rapidly developing application of clinical medicinein which medical information is transferred via the Internet or anothercommunication network for the purpose of consultations, and sometimesalso for remote medical procedures or examinations. A telemedicinesystem can also be applied to medical education.There is no doubt that telecommunication saves a great deal of timeand expense when exchanging information, and recent technologicaladvances have increased its popularity in business and educationalapplications. Many doctors and medical students could benefit from telementoringand tele-education based on videoconferencing systems.However, telemedicine in general has not yet become popular in clinicalpractice or medical education.TD is essentially “dermatology a distance” dermatology isparticularly suited for Telemedicine, as it is visual in nature TD has beenadopted more for use in the developed world, most often in specificsituations where the medical care delivery systems find it fills a gap inspecialty care and is cost-effective. However, TD offers even morepotential benefits to those in the developing world that lack even basichealth care access.TD can be broken in to 4 main categories:1-Synchronus (video-conference)TD .2-Asynchronus (Store and forward)TD .3-Combined (Hybird Model).4-Mobile TD.Summary and Conclusion109While the concordance of TD and in-person dermatology care fordiagnosis and management of skin conditions was generally acceptable.Data from some studies assessing diagnostic accuracy of TD which refersto whether or not a diagnosis is correct found that SAF is inferior to inpersondermatology care, especially for skin malignancies, an importantand common condition in the veteran population. While several studieshave found diagnostic accuracy of SAF TD to be comparable to in-personconsultations, only one study have found that in-person consultationprovides a significantly greater diagnostic accuracy than SAF TD.Little information exists on the impact of TD on clinical outcomes.studies found similar clinical outcomes of SAF TD compared toconventional care. Patient and provider satisfaction with TD were relativelyhigh though there were individuals who have strong beliefs for a particularapproach. Cost analysis studies were limited in number and relevance tocurrent United States practice. Studies are needed to compare TD withprimary care to better understand the most effective way to deliverdermatology care in areas without reliable access to in-person dermatology(e.g., rural areas).Given the results of this review, the potential benefits of TD (e.g.,decreased patient travel, shorter time to intervention,

primary care providereducation) need to be evaluated in the context of its limitations includinginferior diagnostic accuracy and management accuracy, especially formalignant skin neoplasms.Additional research is needed to determine the long-termeffectiveness, feasibility, satisfaction, and cost-effectiveness of TD,especially store and forward methodology. Standardized reporting ofdiagnostic, management, and outcome accuracy and concordance areSummary and Conclusion110important. Research evaluating clinical outcomes and patient managementare especially needed. Studies that blind the assessor (s) to thepatient/lesion/care method are preferred to reduce bias in outcomeassessment. Additional outcomes could assess the impact of TD on primarycare practitioners' practice, satisfaction, and follow-up patterns. Barriers tosuccessful implementation need to be identified that incorporate differencesin patient populations, skin condition severity, distance traveled,availability of on-site dermatologists, and other clinical setting issues inorder to determine the relative feasibility and effectiveness of different TDstrategies. Research priorities include comparing TD with dermatologiccare by a Veterans Affairs (VA) primary care provider or a dermatologytrained nurse practitioner (rather than a dermatologist), assessing patientand primary care provider (as well as dermatologist) satisfaction with TD,and conducting high quality cost effectiveness studies relevant to VApopulations and care settings.It is fairly obvious that TD would be a wonderful tool in the contextof management of dermatological problems in remote parts of the world.However, as of now, we have come across a number of practical problemswhich need to be addressed before TD can produce a really significantimpact. In fact, the effectiveness of TD as a primary health care tool atpresent is questionable, though it is definitely possible that it may help toprioritize referrals from remote areas.It might be quite a while before TD becomes a common and acceptedtool for primary care dermatology. A number of practical issues have to beaddressed, especially regarding the standardization of telemedicineequipment and procedures. May be a combination of the store-and-forwardsystem with real-time consultation would be the most effective means ofSummary and Conclusion111TD consultation. Along with the development of telemedicine tools, itwould be important to expand the investigative and pharmaceuticalfacilities in the remote hospitals.