

TELEMEDICINE IN DENTISTRY: AN OVERVIEW AND ITS LEGAL CONSIDERATIONS

ACLM 56th Annual Meeting

February 25-28, 2016

The Renaissance Hotel, Austin, Texas

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Outline

- Introduction
- Application
- Evidence of Telemedicine in Dentistry
- Mode of teleconsulting
- Benefits
- Challenges
- Legal Issues

Introduction

- American Telemedicine Association:
Telemedicine is defined as the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status.
- The state of California defined it as the practice of health care delivery, diagnosis, consultation, treatment and education using interactive audio, video, or data communication

Telemedicine in Dentistry (Teledentistry)

- Teledentistry is one of the subspecialty areas in telemedicine that uses electronic health records, telecommunication technology, digital imaging, internet to provide health care to rural or remote areas, education & access to care for underserved
- University of Nebraska Medical Center : The use of information technology for dental consultation, education, public awareness and care.

Teledentistry-Background

- The birth of teledentistry as subspecialist field of telemedicine can be traced back to 1994 of the Unites States Army's Total Dental Access (TDA) Project.
- The goals of this project was to increase patient access to quality dental care and to establish a cost effective telemedicine system.
- It focuses on 3 areas of dentistry: Patient Care (cost saving and travel time); Dental CE; and Dentist-laboratory communications.

- The term of "Teledentistry" was first used in 1997, when Cook defined it as "the practice of using video conferencing technologies to diagnose and to provide advice about the treatment over a distance"

Application

- Consultation
- Education
- Mentoring
- Monitoring

Reports on the use of teledentistry to facilitate collaborative dental care in geographically separated locations

2003

- University of Southern California (USC) demonstrated dentists were able to work with dental hygienist at a remote location, to do preventive works delivered by hygienist at that location, and to facilitate referrals to the USC mobile dental clinic that delivered on-site dental services at a later date.(2003)

2004

- E Sanchez Dils, C Lefebvre and K Abeyta-use of telehealth technologies to foster collaboration between dentist and dental hygienists to reach and improve oral health of underserved populations (2004)
- UOP- Virtual Dental Home Project

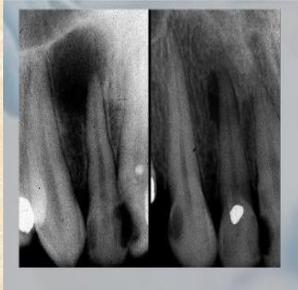
- A 2010 report described the use of teledentistry technologies to triage the need for a referral to a remote oral medicine hospital clinic(Bradley M et al)

Support of Collaborative Dental Hygienists

- 2011; A publication by the Northern Arizona University Dental Hygiene Department described affiliated dental hygiene practice can transmit diagnostic data to distant dentist for diagnosis and patient referral; and hygienists remotely provide preventive service permitted within the scope of their licenses.

Evidence for Teledentistry

There is no difference existed between the ability to diagnose periapical bone lesions using conventional radiographs on view box and interpret same images transmitted on a monitor screen using video teleconferencing (Baker WP..)



Role in Endodontics

- In 2011. A report described the use of teledentistry which enable endodontic specialists to remotely locate the canal orifice to assist general dentists in performing endodontic treatments.(Brullmann D et al)



- Zivkovic D et al, showed that teledentistry based medium can successfully diagnose periapical lesions of the front teeth, reducing costs associated with distant visits and provide urgent help.

Role in Oral Medicine

- Bradley M et al, had proven successfully the use of teledentistry in oral medicine in a community dental service in Belfast, N. Ireland.(Br Dent J 2010;209:399-404)



In Oral and Maxillofacial Surgery

- Duke M. et al, proved diagnostic assessment of the clinical diagnosis of impacted or partial impacted third molars was equal to the real-time assessment in clinical diagnosis (Evaluation of Tele medicine Systems for Impacted third molars diagnosis, 2009)



In Orthodontics

- Minor emergencies such as rubber bands fall off the braces, discomfort and irritation due to wearing appliance or brackets, can be assessed and solved without the need for patient to visits to the clinic (Favero et al, 2009)



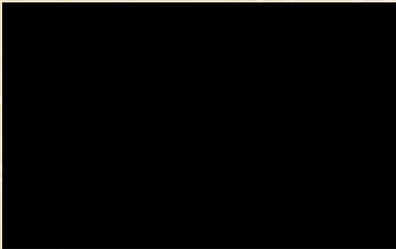
Pediatric Dentistry

- Intraoral camera is a feasible and cost effective alternative to a visual oral examination for early childhood caries screening that was done for preschool children. (Kopycka-Kedzierawski DT al;Pediatr Dent 2008;30:329-33)



Teledentistry at Eastman-youtube

<http://www.youtube.com/watch?v=3hphtoltb5g>



Methods of Teleconsulting

- Real Time Consultation which involves videoconference where dental practitioners and their patients, at different locations, can hear, see and communicate with one another.
- ‘Store and Forward Method’, this involves exchange of clinical information and collected images, which stored by the dental practitioner, can forward them for consultation, treatment planning

Benefits of Teledentistry

- Ability to improve access to oral health care for the underserved areas
- Reduce health care costs
- Improve the delivery of oral health care
- Overcome Shortages Dental Professional (Arizona Department of Health Services)

- Collaboration Health Providers
- Communication/collaboration with specialists
- Save travel time to a remote clinics

Obstacles and Challenges

(Arizona Dept. of Health Services, 2009)

- Reimbursement: Lack of state policies governing reimbursement, i.e. Medicaid patients
- Find alternate ways of being paid for treating uninsured patients
- Lack of base information technology (IT) infrastructure in rural areas
- Initial costs and resistance from primary stakeholders (Hopi Health Care Center on Hopi Reservation)

Other Issues

- Privacy issue
- Technological issue
- Malpractice issue
- Licensure issue
- Jurisdiction issue

Privacy Issue

- Medical information may be subject to differing laws in differing jurisdictions.
- States of Colorado and Minnesota practitioners are required to disclose to the state the sexual partners of HIV-positive whereas states such as California and New York required such information to remain confidential (Golder D et al, JADA 131;734-744)

Technological/Security Issue

- Patients should be informed as to the nature of teledentistry and risk associated with the electronic transfer of information
- It is no longer just only practitioners failure to diagnose and treat, but also the technology failure itself can negatively impact the outcomes of care. (Golder D. et al)

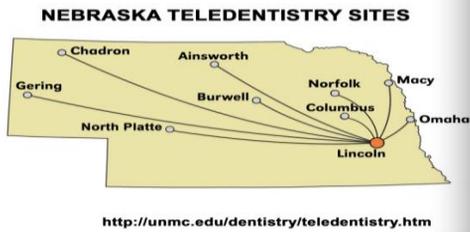
Licensure Issue (Golder D. et al)

- 20 states required dental practitioners to obtain a full license to participate in teledentistry across state lines.
- 3 states (Alabama, California, Oregon) provide a limited license at reduced licensing fee allowing practitioner in good standing in one state of reciprocity with any of these three states
- 27 states and DC have not yet established any law in regard to participate in teledentistry

Jurisdiction Issue

- Jurisdiction >< Licensing Issue
- Electronic consultation across state lines
- Lacking any licenses in those states
- Practice Dentistry without a license

Teledentistry in Nebraska



Reimbursement

- Nebraska Telehealth Act
- Establish rates for transmission cost reimbursement for telehealth

California

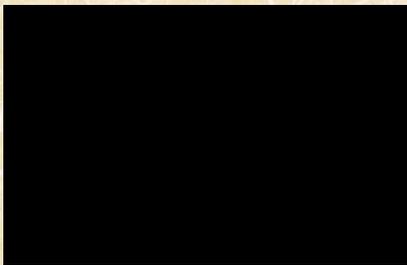
- AB 318, requires California Medicaid (Medi-Ca) to reimburse teledentistry services

Hawaii

- H.B. 2411, and its companion bill, [S.B. 2469](#), have also been introduced in Hawaii. Both bills require reimbursement for services provided through telehealth to be equivalent to reimbursement for the same services provided via face-to-face contact between a health care provider and a patient

Arizona Teledentistry-Youtube

<http://www.youtube.com/v/FimWxhGXkqo>



Thank You?

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Teledentistry Equipments

Telehealth Equipment



Telehealth Cart



Tablet



Web Cam



Microphone

University of Nebraska Medical Center

- Nevada Telehealth Access Equity Act.