

Preventative Dentistry Delivery to Children in Rural Communities in the United States

Lauren K. Dulieu

School of Dental Medicine, University of Connecticut, Farmington, Connecticut, USA

Abstract

New models in the delivery of healthcare such as mobile clinics, retail clinics, and telehealth have helped to bring care to patients who might not otherwise receive care due to geographic limitations. Such alternatives may help to address the need for dental care in rural communities in the United States. In addition to these solutions, dental therapists can increase the available provider base to deliver preventative dental services to children.

Key words: Dental therapists, mobile clinic, preventative dentistry, retail clinic, teledentistry

INTRODUCTION

There are only approximately 5000 practicing pediatric dentists in the United States.^[1] The limited number of pediatric dentists and their high concentration in populated areas often implies that children living outside these areas, i.e., rural areas, encounter barriers in access to even rudimentary and preventative dental care. The most significant of these barriers are the very miles of travel necessary to reach a dental office.^[2] Solving the problem of access for these children should be a priority for organized dentistry because it has been shown that early preventative dental services are highly effective in controlling and preventing tooth decay. In light of the provider shortage and the vast geographic areas that need to be covered, it is crucial to consider innovative options to care for these children. This article will review some novel alternatives to bring preventative dental care closer to children living in rural areas.

MOBILE DENTAL CLINICS

A mobile dental clinic (MDC) is a vehicle, usually a van, outfitted with a complete dental operatory including a dental chair, lights, sterilization equipment, and other equipment to perform dental procedures. The primary goal of an MDC is to provide care to rural communities where dental care may not be readily accessible. Ultimately, the premise is that, if the patient cannot travel to the dental office, the dental office can travel to

the patient. Care providers staffing an MDC often include dentists, hygienists, and dental students who deliver services ranging from restorative to preventative care.^[3] One of the most prominent applications of MDCs is to provide care to school children in rural locations. Vans often supply children with dental supplies and informational brochures with oral hygiene instructions. In addition, children may receive oral exams, cleanings, radiographs, fluoride varnish applications, and sealants as preventative services. By bringing care to school children, mobile dental clinics serve as an innovative method for servicing rural populations in providing both preventative and restorative care.

RETAIL CLINICS

Retail clinics allow patients to “walk in” at any time for care because they are conveniently located and associated with the pharmacies of major retail stores in the United States. Retail clinics serve to bring healthcare to patients who may not have access to a dentist due to geographic barriers. Each medical retail clinic is staffed by physician assistants and nurse practitioners who provide a variety of healthcare services. The scope of practice for these providers includes the diagnosis, treatment,

Address for correspondence: Ms. Lauren Kathryn Dulieu, University of Connecticut School of Dental Medicine, Connecticut, USA.
E-mail: dulieu@uchc.edu

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and prescription for common illnesses; vaccinations, treatment of skin, and musculoskeletal conditions; routine lab tests; and wellness services including counseling and school physical exams. Retail clinics do not currently include dental care, but opening these clinics to involve dental providers could increase access and overall oral healthcare for children living in rural areas. Since retail clinics have gained popularity in medicine and minor health needs are met, primary care physicians will be able to treat more medically complicated conditions.^[4]

TELEDENTISTRY

Like telephones allow people to communicate from two different locations, teledentistry allows dentists and patients to connect over long distances. Telehealth helps to reduce healthcare disparities for rural populations by eliminating distance as a barrier to care. There are currently three different categories of teledentistry, namely, “store and forward,” “real-time consultation,” and “remote monitoring.”^[5] “Store and forward” allows for exchange of clinical information between providers to aid in treatment planning and consults. This method would be useful to ensure that patients in rural communities maintain a virtual record of their care from providers through mobile dental vans or clinics. “Real-time consultation” involves video conferencing between providers such that a provider working in a clinic could directly consult an overseeing dentist at the time of treatment. “Remote monitoring” allows dentists to monitor patients in hospitals or homes situated in remote locations. Remote conferencing would allow patients to consult with distant practicing dentists from their own home. With advances in technology, the development of camera attachments for mobile phones, tablets, and other communication devices could allow consulting dentists to better assess patient needs and create treatment plans. Teledentistry has demonstrated the value of intraoral cameras and teledentistry in pediatrics and preventative dentistry as a means of screening high risk children for caries.^[6] Unfortunately, telehealth still raises concerns from a legal perspective and licensure for both physicians and dentists consulting with patients across state lines. The benefit of telehealth for patients is also great for these concerns to not be addressed in the future.

DENTAL THERAPISTS

Dental therapists provide a level of intermediate care that may include preventative and restorative services that can benefit patients and dentists. Unlike much of the western world, the practice of dentistry by dental therapists in the United States remains controversial. The American Dental Association (ADA) opposes dental therapists performing surgical or irreversible procedures which include drilling or extracting teeth.^[7] Controversy aside, it is estimated that, in the United States, there are roughly 75 million children which equates to approximately 15000 children for every 1 pediatric dentist.^[8] The supply providers is inadequate to meet the demand and dental therapists can fill this unmet need. Even though services of dental therapists may be limited to preventative services that include prophylaxes, fluoride varnish applications, screenings,

radiographs, sealants, and diet counseling. By taking preventative action in early childhood, the overall dental health and hygiene of these individuals would be significantly improved later in life. Therapists could help to triage more complicated cases and consult with either a local dentist overseeing the practice or a distant dentist using teledentistry. In addition, dental therapists could help children become more comfortable with a dental care provider that has the potential to improve cooperation in the dental setting. This would lessen the stress on dentists and may increase care by general dentists when pediatric dentists are not available.

DISCUSSION

A combination of mobile dental clinics, teledentistry, retail clinics, and dental therapists could serve as one of the most promising solutions in addressing the lack of pediatric dental care in rural areas of the United States. Mobile dental clinics and retail clinics through retail pharmacies (such as CVS or Walmart) could provide the opportunity for dental care in rural areas that may not readily have access to dental offices. Dental therapists could then staff either mobile dental clinics or retail clinics. Preventative services could include prophylaxes, fluoride varnish, sealants, diet counseling, and radiographs, which have all been shown to improve the oral health of children. Finally, teledentistry could connect dentists, dental therapists, and patients in offices, retail clinics, or MDCs.

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Conflicts of interest

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