



Dental Public Health Activities & Practices

Practice Number: 38007
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SECTION I: PRACTICE OVERVIEW		
Name of the Dental Public Health Activity: Operating Room Dental Practice for People with Mental Retardation and Developmental Disabilities (MR/DD)		
Public Health Functions: Assurance – Access to Care and Health System Interventions		
Healthy People 2010 Objectives: 21-2 Reduce untreated dental decay in children and adults 21-5b Reduce periodontal disease among adults 21-10 Increase utilization of oral health system 21-11 Increase utilization of dental services for those in long-term facilities 6-10 Increase proportion of health and wellness and treatment programs and facilities that provide full access for people with disabilities.		
State: Ohio	Federal Region: East Region V	Key Words for Searches: Hospital-based, special needs, access to dental care, disabilities, special health care needs
Abstract: <p>This hospital-based dental practice provides access to care for patients with special needs who require general anesthesia to obtain their treatment due to behavioral problems. Many of the patients with special needs have mental retardation, developmental disabilities, or other conditions that make it difficult or impossible for them to be served in typical community-based dental offices. As a result, dental care for these patients is often delayed and their conditions worsen, which may lead to dental pain and/or oral infections. Some do not receive the needed dental care. The number of dentists who can provide dental care in the hospital operating room is limited. Most general dentists have not been trained to provide hospital-based care and few have hospital privileges. The small number of dentists who have hospital privileges generally serve a few of patients in the hospital setting and may limit the number of new patients who require general anesthesia to their practice. It is often difficult for patients who need to be treated under general anesthesia to find a dentist, especially when a patient has Medicaid coverage with low reimbursement rates. To address these issues, Grandview Medical Center, in Dayton, Ohio, created a hospital-based special needs dental program and employed a full-time dentist to treat patients under general anesthesia in the operating room (OR). Approximately 400-500 patients are treated in the OR each year. The program has been operating since 2001 and is self-sustaining with the costs of the program off-set by revenue from dental services and operating room charges.</p>		
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SECTION II: PRACTICE DESCRIPTION

History of the Practice:

A hospital-based dental program at St. Elizabeth Medical Center (later became Franciscan Medical Center) in Dayton, Ohio was staffed by the same dentist/dental director for nearly 25 years, from 1976 to 2000. The program provided outpatient dental care to low-income patients with Medicaid coverage and provided care in the operating room (OR) for patients with special needs and other patients (mostly children) who required general anesthesia. Over the years the dentist assumed more responsibility for OR cases and by 2000, OR cases became a large percentage of his practice. The hospital program was also affiliated with Miami Valley Hospital's General Practice Residency (GPR) program and provided on-site training to residents.

In 2000, Franciscan Medical Center closed and ended its dental program. The dental director approached another hospital in Dayton, Grandview Medical Center, and proposed that a new special needs dental program be established. The program's purpose will be to provide access to dental care delivered in the OR setting. Grandview Medical Center established the dental program in 2001 and hired the dental director to provide dental care services in the OR. The OR program has operated uninterrupted since that time.

Justification of the Practice:

The program is justified due to a great need in many communities for dental services in the OR for individuals with special needs requiring general anesthesia for treatment. Although many patients with special needs are able to be treated in a typical dental office setting, there are some patients with severe cognitive or physical impairments who cannot be managed without general anesthesia. These patients often have extreme difficulty accessing dental care.

The program offers a hospital setting with medical backup services, which may be needed for individuals with complex medical conditions or severe behavioral problems. This adds to the oral health infrastructure that provides other treatment settings such as office-based "surgi-centers" where an anesthesiologist works with the dentist provides deep sedation or general anesthesia and dental offices that provides "sleep dentistry" through oral, intravenous, or intramuscular sedation.

The program is a cost-effective model to provide a high volume of specialized dental care. The program operates out of an OR that is reserved for dental cases, so there is no competition with physicians for limited OR time. Typically, four cases are scheduled each day, 3 days a week. This represents more efficiency and productivity in the OR setting compared to a dentist in private practice who occasionally have an OR case.

Inputs, Activities, Outputs and Outcomes of the Practice:

Inputs

The primary inputs for the program are staff and equipment. Staff includes: a dentist with GPR training in hospital dentistry (a member of the hospital medical staff with OR privileges), a dental assistant with training in hospital procedures, a circulating nurse, and an anesthesiologist. The dental assistant schedules the patients for the OR. Equipment necessary for the OR include a dental chair, X-ray, mobile dental unit, dental hand pieces, and other dental equipment and supplies used in typical dental offices. All necessary staff and equipment are provided by the hospital.

The OR is the only dental treatment facility in the hospital; there is no outpatient dental clinic. If the patient requires pre-op screening or post-op follow-up, the program dentist visits the patients in their community facilities or homes.

Activities

For dental care delivered in the OR, the process begins with scheduling an appointment. The patient or caregiver is given general instructions on the phone and is sent a packet of forms to be

completed. To improve patient compliance with hospital protocols, the packet contains a checklist of all the things the patient must do prior to the appointment, such as obtaining consent for treatment from the family or guardian, completing a history and physical from the physician, obtaining required labs, and providing insurance information. Patients are asked to fax information at least two days prior to the day of OR treatment to assess patient's readiness for treatment.

On the day of OR treatment, the patient is required to report two hours prior to treatment time to assure all paperwork and other preparation are completed. Prior to being taken to the preoperative surgical area, the patient is generally given a sedative before putting in an intravenous (IV) line.

Approximately two hours are reserved for each patient in the OR with the goal to provide all diagnostic and treatment procedures within that period. After treatment is completed, the patient is taken to the recovery room and released when recovery criteria are met. It is rare for a patient to remain in the hospital overnight because of complications. If all treatment cannot be completed in a single OR session, the patient is scheduled for a second session in 2-3 months.

Patients are not routinely re-examination following the OR appointment because most patients' maladaptive behaviors and lack of cooperation would require another OR visit to accomplish the re-examination. Instead, following the OR visit, the caregiver is given instructions about how to observe the patient and to contact the dental program if there are any complications or issues. Annual recall appointments are made to provide a periodic examination, X-rays, prophylaxis, and any treatment required. These recall visits are made under general anesthesia in the OR because the patients referred to this practice are unable to cooperate for treatment.

The OR program provides basic dental services, including a full range of prevention procedures, routine restorative care (many stainless steel crowns), oral surgery (mostly extractions), and simple root canal therapy. Prosthetic services, such as crown and bridge or dentures, are not provided.

Eligibility for treatment in the OR special needs dental program is limited to patients who have MR/DD. Children under age 2 and patients of any age who have major medical complications are referred to Children's Medical Center in Dayton where more specialized services are available.

Outputs

The program typically schedules 4 patients each day. Due to cancellations and other complications, typically 9-11 patients are treated each week. The dental team works approximately 46 weeks per year, serving 400 to 500 new and recall patients annually.

Outcomes

The program builds oral health infrastructure in the community as a facility making specialized dental care available in a hospital OR setting. The program provides a community resource for patients who are the most difficult to treat and are unable to obtain dental care in traditional dental offices dental treatment in the OR.

The program has a high number of referrals. Most of the patients come to the practice through "word of mouth" or are referred by agencies that serve people with disabilities.

There is a high level of satisfaction with the program among patients, families, agencies, and within the hospital itself. Group home administrators, families and caregivers demonstrate their satisfaction by their continuous use of the program to serve their family members and clients. The hospital's satisfaction with the program is evidenced by its continued support of the program year to year since 2001.

The OR program dentist has observed that patients who are seen in subsequent years after initial OR treatment have less unmet dental needs. There has not been a formal analysis of how the program has improved the oral health status of persons with MR/DD.

Budget Estimates and Formulas of the Practice:

Cost and revenue figures for the dental program are not available. Key financial components of the program are identified below.

Program Costs:

Wages represent the most costly budget item. The program requires the following staff:

- A dentist who has training in hospital dentistry and several years of practice experience.
- A dental assistant who has clinical skills and office management skills to schedule appointments, maintain patient charts, order supplies, and manage paperwork so all patients are ready on the day of OR treatment.
- A circulating nurse in the OR who works outside the operative field and support the dentist and dental assistant.
- An anesthesiologist or nurse anesthetist to administer general anesthesia and to monitor the patient while the dentist provides treatment.

Other program costs include maintaining and supplying the operating room, purchasing and maintaining dental equipment, and hospital overhead for administration, billing, etc.

Program Revenue

The revenue generated for each OR case has two components: the dental services provided and the OR charge. Program revenue will vary depending upon the mix of new versus recall patients. In general more revenue is generated for “new” patients who usually have greater treatment needs than recall patients. Revenue from dental services vary depending upon the mix of payment source; public payors such as Medicaid will typically pay less than commercial plans or patients who “self-pay”. A program serving MR/DD patients will have a large proportion of its revenue from Medicaid. Program revenue will also vary according to the extent to which the hospital provides uncompensated care.

There is also revenue from the use of the OR and administration of general anesthesia. Revenue from an OR session will be higher than an outpatient visit in a typical dental office. The length of an OR session is often longer than an outpatient dental visit and will have more dental work completed during a OR visit since the patient is under general anesthesia.

Lessons Learned and/or Plans for Improvement:

Lessons Learned

1. About 20% of scheduled appointments are cancelled at the last minute or do not proceed as planned. Reasons include paperwork is not in order and the patient does not meet general anesthesia guidelines. This represents a major loss of program revenue.
2. The special needs dental program had high utilization immediately after start-up because it was perceived by the community as a continuation of the well-established dental program at St. Elizabeth/Franciscan since the new program had the same dentist. New program not recognized by the community will need to market itself.
3. The program maintains high utilization by “word of mouth.”
4. Dentists practicing in the community appreciate the program as a source of referral for patients they are unable to serve.
5. Because this program is financially self-sufficient and does not require government funding, it could be replicated in many other communities. State oral health programs could work with local communities to help establish these programs to provide this specialized service on a regional basis throughout the state.

Plans for Improvement

1. The program may institute additional protocols to reduce the number of scheduled cases that are unable to proceed to treatment.
2. Plans are being developed to advertise the program and actively recruit patients.

Available Information Resources:

For information about Grandview Medical Center and the Kettering Medical Center Network, visit:

- <http://www.kmcnetwork.org/hospitals/Grandview.cfm>
- <http://www.kmcnetwork.org/>

Professional policies and guidelines for OR dental care:

- ADA Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists. See:
http://www.ada.org/prof/resources/positions/statements/anesthesia_guidelines.pdf
- ADA Policy Statement: The Use of Conscious Sedation, Deep Sedation and General Anesthesia in Dentistry. See:
http://www.ada.org/prof/resources/pubs/adanews/images/anesthesia_policy_statement.pdf
- American Academy of Pediatric Dentistry Dental Care Committee; American Academy of Pediatric Dentistry Council on Clinical Affairs. Policy on hospitalization and operating room access for dental care of infants, children, adolescents, and persons with special health care needs. *Pediatr Dent.* 2005-2006;27(7 Reference Manual):53-4
- Southern Association of Institutional Dentists. Self study course. Module 8; Providing Dental Care to Persons with Severe Disabilities Under General Anesthesia.
http://saiddent.org/modules/16_module8.pdf

Journal articles on access to care for people with special needs:

- Slavkin, H.C. The Surgeon General's Report and special-needs patients: a framework for action for children and their caregivers. *Spec Care Dent.* Vol. 21, No. 3, p. 88, 2001
- Finger ST, Jedrychowski JR. Parents' perception of access to dental care for children with handicapping conditions. *Spec Care Dentist.* 1989 Nov-Dec;9(6):195-9
- Leviton FJ. The willingness of dentists to treat handicapped patients: a summary of eleven surveys. *J Dent Handicapped* 5:13-7, 1980.
- Stiefel DJ, Truelove EL, Jolly DE. The preparedness of dental professionals to treat persons with disabling conditions in a long-term care facility and community settings. *Spec Care Dent* 7:108-13, 1987.
- Burtner P, Jones JS, McNeal DR, Low DW. A survey of the availability of dental services to developmentally disabled persons residing in the community. *Spec Care Dent* 10:182-4, 1990.

Journal articles about hospital dentistry and the use of general anesthesia:

- Douglas BL. Dental care of the special patient in the hospital environment. *Int Dent J.* 1975 Sep;25(3):206-9
- Nick D, Thompson L, Anderson D, Trapp L. The use of general anesthesia to facilitate dental treatment. *Gen Dent.* 2003 Sep-Oct;51(5):464-8
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- Cillo JE Jr. The development of hospital dentistry in America--the first one hundred years (1850-1950). *J Hist Dent.* 1996 Nov;44(3):105-9
- Yagiela JA. Office-based anesthesia in dentistry. Past, present, and future trends. *Dent Clin North Am.* 1999 Apr;43(2):201-15, v. Review
- Yagiela JA. Making patients safe and comfortable for a lifetime of dentistry: frontiers in office-based sedation. *J Dent Educ.* 2001 Dec;65(12):1348-56

SECTION III: PRACTICE EVALUATION INFORMATION

Impact/Effectiveness

How has the practice demonstrated impact, applicability, and benefits to the oral health care and well-being of certain populations or communities (i.e., reference scientific evidence, outcomes of the practice and/or evaluation results)?

This practice provided a needed service for patients with MR/DD who have previously been unable to access dental care in traditional dental offices. Patients come not only from Dayton and its surrounding area, but also from much larger cities such as Columbus (70 miles from Dayton) and Cincinnati (50 miles from Dayton) where there is an inadequate supply of the special OR dental services that are required by many people with severe disabilities. The program has built oral health infrastructure for the community.

Efficiency

How has the practice demonstrated cost and resource efficiency where expenses are appropriate to benefits? How has the practice demonstrated realistic and reasonable staffing and time requirements? Provide unit cost analysis or cost-benefit analysis if appropriate.

This practice represents an efficient way of providing OR dental services because it dedicates a facility and staff specifically for dental care. The dental staff, having to perform 9-11 OR cases every week, are proficient with working in the OR environment and are very productive in delivering treatment. This is in contrast to the more traditional approach to providing OR services, where dentists typically devote a small proportion of their time to OR cases.

Demonstrated Sustainability

How has the practice showed sustainable benefits and/or how has the practice been sustainable within populations/communities and between states/territories? What mechanisms have been built into the practice to assure sustainability?

The program has been in operation since 2001 and is expected to continue. The hospital continues its support of the dental program, covering the cost of the program. The program's financial sustainability does not depend on government funding or philanthropic grants, which may not be reliable sources of funding. The program is sustained with the revenue it generates.

Collaboration/Integration

How has the practice built effective partnerships/collaborations among various organizations and integrated oral health with other health projects and issues? What are the traditional, non-traditional, public and private partnerships/collaborations established by the practice for integration, effectiveness, efficiency and sustainability?

The practice is funded and operated solely by Grandview Medical Center. There are many informal relationships with community organizations that serve people with special needs, such as group homes and social service agencies. These community organizations work closely with the program to facilitate patient referrals and to assist patients and their families to prepare for treatment.

The program demonstrates medical-dental integration in a hospital setting. Since Grandview Medical Center does not have a Department of Dentistry, the program dentist receives his privileges to work in the OR as a member of the hospital staff in the Department of Surgery. He works closely with medical professionals, such as primary care physicians, ophthalmologists, gynecologists, and podiatrists, to coordinate screening examinations and treatment for persons with MR/DD under general anesthesia during an OR session when other health services are delivered.

Objectives/Rationale

How has the practice addressed HP 2010 objectives, met the call to action by the Surgeon General's Report on Oral Health, and/or built basic infrastructure and capacity for state/territorial oral health programs?

This practice addresses the HP 2010 Objectives and the Call to Action of the Surgeon General by creating infrastructure whereby people with the most severe disabilities are better able to access the dental care they need.

Extent of Use Among States

Describe the extent of the practice or aspects of the practice used in other states?

It is not known how many programs exist where a dentist is employed by a hospital for the sole purpose of providing dental care in the OR, when the program is not part of a hospital dental clinic or hospital dental department. There are, however, numerous programs in all states that provide dental care in the OR through various arrangements. They include: hospital dental departments provide OR services in addition to outpatient care, special care programs in dental schools, and private pediatric and general dental practices that are able to provide care in the OR. What sets this practice apart from other models is its organizational simplicity (a dentist employed by a hospital) and its focus (the dentist providing OR services only).