The Delivery of Oral Care Services to Elderly People Living in a Noninstitutionalized Setting

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Abstract

Advances in medical science are enabling people to survive more illness and disability. As people live longer, their mobility and/or ability for self-care often are reduced by physical or mental disability and other chronic diseases. It may become unreasonable or impractical for them to access mainstream dental services. Increasing numbers of dentate elderly people with expectations of oral health higher than earlier cohorts of elderly people are likely to bring increasing demands to the dental profession for their continuing care. Thus, the oral care for disabled elderly people in noninstitutionalized settings may pose a challenge. The oral care options available to this group of people include the dental surgery/operatory, a mobile dental service, home-based or domiciliary dental care, a mix-and-match combination of surgery-based and domiciliary care, and cyberspace. Noninstitutionalized, disabled elderly people may have to rely on domiciliary care services for their oral health care. This paper explores the training implications, the necessary knowledge and skills base, the benefits and limitations to both the service provider and user, the equipment available, and the cost/funding of domiciliary dentistry. Domiciliary dental care services need to be developed by improving pre- and postdoctoral training programs and by establishing realistic remuneration for dental teams providing this care so that noninstitutionalized, disabled elderly people can access oral health care. [J Public Health Dent 2000;60(4):321-25]

Key Words: oral care, disabled, elderly, noninstitutionalized, domiciliary dental care, mobile dental care.

Improvements in sanitation, infant survival, and medical science all have contributed to an increased life expectancy in industrialized and urbanized countries. Consequently, more people are surviving into old age. People born with a disability or acquiring disability early in life are increasingly likely to survive into old age. Also, the longer people live, the more likely they are to develop medical conditions coincidental with or in consequence of old age. An estimated 70 percent of the population over the age of 65 years are functionally independent; 20 percent are frail, having lost some of their independence, but still live in the community with the help of social services; and 10 percent are functionally dependent and either homebound or institutionalized (1,2). While a large proportion of elderly people are functionally independent, the majority of all disabled people are elderly. In the United Kingdom, in 1989, the Office of Population Census and Surveys (3) reported that 60 percent of all disabled people were over the age of 65 years and 20 percent of people over the age of 85 years were either house-bound or bed-bound. Thus, the numbers of frail and medically compromised elderly people are increasing.

Successful aging not only adds years to life, but also adds life to years by improving its quality. Good oral health contributes to successful aging by adding to self-esteem, self-image, appearance, socializing, dietary selection, and nutrition (4,5). Recently, poor oral health (particularly poor periodontal health) has been implicated as a causative factor of heart disease, diabetes, and aspiration pneumonia (6). Thus, good oral health may contribute to successful aging by adding both life to years and years to life. In this way oral health and successful aging become synonymous.

Changes are occurring in the dental demographic picture for elderly people. Studies from many industrialized countries show that more people are surviving into old age with at least some of their natural teeth. The prevalence of edentulousness in people aged 65 or older is about 20 percent in many industrialized countries (1). Periodontal disease is prevalent in this population (particularly in the dependent elderly group) as is root caries (1). Also, treatment needs are higher in disabled than nondisabled elderly people (7). The frequently reported high normative need for dental care (commonly exceeding 70%) has demonstrated the growing requirement for both preventive strategies and complex restorative procedures amongst this sector of the population. As recently as 1998, Lester et al. (8) speculated that the increasing dental expectations of elderly people will lead to an increasing demand for care outside the traditional dental practice. In their study, 52 percent of the elderly people interviewed expressed a preference for dental treatment to be carried out in their own home. This figure increased with age to 75 percent of people over 90 years old preferring home care over other locations.

The literature continues to highlight the barriers to dental care experienced by elderly people generally, and by elderly disabled people in particular (9). On the whole, the barriers to care fall into the "five A's" framework for access to services put forward by Penchansky and Thomas (10): availability, accessibility, accommodation, affordability, and acceptability. Legislation is a strong motivator and, in the

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countries where it has been introduced, it has helped to reduce barriers to access to care for disabled people. For example, in the United Kingdom the provisions of the 1995 Disability Discrimination Act (11), which focus on services provided by small businesses, came into force in October 1999. It means that dentists as service providers have to take "reasonable steps to change any policies, procedures, or practices which make it impossible or unreasonably difficult for disabled people to make use of their services." Where access is difficult, dentists will be expected to make their premises accessible or to provide their service by a "reasonable, alternative method." In due course, this legislation will lead to an increased demand for domiciliary dental care that dentists will be unable to refuse.

With increased life expectancy, mobility and the ability for self-care often are reduced as a result of physical or mental disability and other chronic diseases. Therefore, it may be unreasonable or impractical for some elderly people to attend a dental surgery for treatment and to be accommodated within conventional mainstream services. Is this a problem? After all, research indicates that elderly people's use of dental services decreases with increasing age (12). Not only is perceived need for oral care less likely, but even when perceived need exists, it is less likely to be translated into action and a demand for care (12). Also, older people are more likely to visit the doctor than the dentist when they have an oral problem (12). When they do use dental services, it is more likely to be on an emergency than a routine basis (12).

The combination of all these factors puts elderly disabled people's oral health in jeopardy, particularly noninstitutionalized elderly people who, commonly, live alone or in an entirely elderly household. It is a situation that must be confronted.

Where and How Can Elderly People Access Oral Care?

A search of the literature for the last 10 years suggests the following options for obtaining dental care: the dental surgery/operatory, a mobile dental service, home-based or domiciliary dental care, a mix-and-match combination of surgery-based and domiciliary care, and cyberspace. Any treatment should be based on a philosophy of continuing care and prevention of dental disease. Tailor-made preventive programs developed for elderly people and/or their caregivers need to be supported by an empathic dental team to overcome barriers and achieve motivation and compliance. The remainder of this paper provides a brief description of care provided at the dental surgery, with a mobile service, with a combination of dental surgery and home care, in cyberspace, and an expanded discussion of domiciliary care.

The Dental Surgery. A proportion of disabled elderly people can be transported to, and treated in, the dental surgery provided that physical access to the surgery is adequate. Some practices can do this simply by installing a portable or permanent ramp. Surgeries need to be large enough to accommodate a wheelchair as some people may require treatment in their chair. While this can make the provision of treatment more physically challenging for the operator, all the facilities of the dental surgery remain available to them. Circumstances permitting, this option is the best one for both the dentist and the elderly patient. In some countries, legislation demands that dental and medical practices be accessible to disabled people and, if this cannot be achieved, that the service be provided by a different method such as home-based care (10).

Cyberspace. In this world of increasing technology, it is not surprising to find cyberspace suggested as a method of providing oral care for elderly people. Bounin and Bui (13) point out that the Internet is a popular form of communication being used increasingly by elderly people. They point out that, in 1994, 21 percent of Americans aged 55 and older used a home computer and by 1996 this figure had risen to 28 percent. They suggest that dentists use this technology via a web page to promote both oral health and access to dental services for elderly people. They advocate its use for practice newsletters; asking the dentist questions; making appointments; and providing information on preventing oral disease, recognizing early disease, available technology, and treatment options. Thus, access to oral care might be improved by bringing information directly into the home of at least some, and perhaps a select group of, elderly people.

Mobile Units. Other methods of bringing dentistry into the home were described by Shaver (14) in 1991 and Combs (15) in 1994. They described two types of mobile units. The first is a fully equipped dental vehicle that is essentially a walk-in dental surgery and delivers a service inside the van. The second is an equipment van delivering a complete dental office that can be set up on site in an individual's home. The advantages of these services are that they provide easy access to a conventional dental setting that can supply all types of dental services. Its main disadvantage is the cost of setting up the service. Both the equipment van and the dental vehicle are more likely to visit institutions or day centers for elderly people than housebound individuals because this minimizes difficulties with traveling, parking, setting up, and accessing power sources while maximizing the numbers of patients treated in a defined time period.

Mix-and-match. Fiske and Lewis (16) suggest a "mix-and-match" approach to the oral care of noninstitutionalized elderly people such that complex or risky procedures are performed in the dental surgery in a minimum number of well-planned visits while other procedures are performed in the home. This flexible approach allows, for example, a surgical procedure for a medically compromised patient to be provided in a surgery with full facilities and emergency back-up available, and any follow-up care to be provided at home on a domiciliary basis. Similarly, disabled or medically compromised elderly people who are fit enough to have dental implants inserted would have the surgery carried out in the dental office, but could have their maintenance reviews carried out at home. Experience shows that people generally are prepared to make the effort required to visit the surgery in the knowledge that it is only necessary occasionally. This approach to care for a substantial proportion of disabled people is realistic.

Domiciliary Dental Care

For other people, the physical, emotional, or psychological trauma of being transported to a dental surgery may eclipse any benefits provided by the surgery environment. These people require domiciliary dental

care—i.e., they require a dental service that reaches out to care for them as they cannot reach the service themselves. Elderly people who can benefit from domiciliary dental care include individuals with mobility problems due to physical disabilities or incapacitating medical conditions, as well as individuals with mental illness such as Alzheimer's disease, who, although physically able, become confused and disoriented in an unfamiliar environment.

The benefits of domiciliary dental care are not exclusive to elderly people. It can be particularly useful for the initial assessment of very anxious patients, and may be a considerable asset as a practice-building strategy in this capacity. The sophistication of dental treatment that can be provided on a domiciliary basis depends on the patient's level of cooperation. In the case of a progressive condition, such as Alzheimer's disease or Parkinson's disease, high-quality, low-maintenance dentistry underpinned by preventive regimes and good daily oral hygiene in the early stages of their condition will minimize the need for invasive dentistry later on. The materials and equipment available to the operator also will influence the treatment they are able to provide.

Elderly people who can access the dental office have no special service requirements, although some of them may be unable to transfer from a wheelchair to the dental chair. Those elderly people who are unable to access the surgery more likely to require domiciliary dental care. They may include homebound and institutionalized people, although some residential and nursing homes have their own dental office and can offer mainstream dental services on site. The remainder of this paper explores various aspects of domiciliary dental care.

Patterns of Domiciliary Dental Care Visiting. The literature on domiciliary care provision (published in English) is limited to Canada, the United Kingdom, and the United States. This finding is perhaps indicative that other countries are in the formative stages of developing this service or that they do not provide it other than on an occasional basis. In 1992 a study of general dental practitioners in Scotland used the Scottish Dental Practice Board figures to consider dentists' ages and their domiciliary practicing patterns (17). It found that two-thirds of registered health service dentists in Scotland were under 40 years of age, but only 34 percent of them provided domiciliary care. A significantly larger proportion of dentists over the age of 40 years (46%) provided this service. In 1995 a postal survey of dentists in an urban area of the United Kingdom found that 85 percent of respondents provided domiciliary care (18). However, the 58 percent of their sample who responded to the questionnaire probably were more likely to provide this service than were the nonrespondents; thus, these findings must be interpreted with some caution. Both these studies indicated that the number of elderly people who received domiciliary care was relatively small, with only 2 percent of all treated people over the age of 80 years receiving home care, and an average of 2.9 patients per month per responding dentist treated at home. The majority of visits were made out of regular office hours, either on the way to work or on the way home. This schedule reduces the dentist's time out of the dental office, but increases their chance of the being without a chaperone.

In 1996 a total-sample postal survey of the 238 practicing dentists in Hamilton-Wentworth, Canada, found no significant differences between the year of graduation and the provision of home visits (2). However, they did highlight a desire for continuing education in geriatric dentistry as, on the whole, dentists did not feel adequately prepared or up to date in this area. Of the 180 dentists (78% of the sample) who responded to the questionnaire, 27 percent provided domiciliary care, although a number of them commented that these visits were rare and, often, made only on request. The types of services generally were limited to examinations, hygiene-type services, some denture work, simple extractions, and the placement of glass-ionomer restorations (2,17,18). The difficulty encountered in providing dental care outside the surgery environment was cited as the reason for this limited treatment itinerary. To some extent, it is also a reflection of the equipment and skills available to most practitioners. A significant proportion of dentists undertaking domiciliary care had purchased a rechargeable, battery-operated handpiece (18). However, this equipment was the most sophisticated piece of equipment purchased exclusively for domiciliary care.

In the past, domiciliary dental care has been restricted mainly to elderly people whose treatment needs were limited almost entirely to extractions and complete dentures. This situation placed little demand on the provision of domiciliary equipment. The increasing demand for domiciliary care by dentate people and the advent of portable dental units will change the face of domiciliary dentistry. An increasing range of equipment is available from the rechargeable, battery-operated handpiece to sophisticated portable restorative dental units and even portable chairs. The equipment and materials required depend on the number and types of visits planned and the resources available to purchase them. Restorative dental units will not be purchased lightly, as they cost between US $3,500 and US $14,000 (2,500 and 10,000 pounds sterling). A coalition of several dentists or practices may be required to justify this financial outlay.

Providers of Domiciliary Care. A number of studies have looked into who provides domiciliary care and what, if anything, these dentists have in common. Until the early 1990s, age and experience seemed to be the determining factors with older dentists who are likely to have had more experience and, perhaps, more likely to view old age more positively, providing the majority of domiciliary care. A review of the worldwide literature and a UK survey of undergraduate teaching in geriatric dentistry (19) found that the topics least likely to be taught in dental school related to the care of homebound and institutionalized people. The clinical experiences of undergraduate students were mainly associated with well ambulatory elderly patients being treated in dental schools. Thus, their training was reflected in their postgraduation practice of carrying out few home visits.

Since those studies were done, undergraduate teaching in geriatric dentistry has become more innovative and programs with increased student contact with disabled elderly people have led to increased competence, confidence, and awareness, as well as more positive attitudes (20,21). This training is in accordance with encouraging

dentists to provide domiciliary dental care because it is recognized that dentists with positive attitudes and an awareness of the needs and wishes of patients and caregivers find home visits more clinically rewarding (16). Thus, appropriate training sets up a positive cycle of care provision.

Dentists not providing domiciliary care cite their reasons as insufficient demand for the service, insufficient remuneration, inadequate equipment, and reduced quality of work (22). The influences of financial considerations associated with the disruption of the daily routine and the ability to treat fewer patients are perceived by nonsalaried dentists as the most damaging beliefs with regard to their intention to treat special care patients (22). This finding highlights the issue of remuneration for home dental services as a barrier to its provision.

Benefits and Limitations. Like any service, domiciliary dentistry has benefits and limitations for both the service users and the service providers. These have been outlined by Fiske and Lewis (19) and are based on informal group discussions with dentists and caregivers and one-to-one patient and caregiver interviews.

They describe the benefits of domiciliary dental care to the users as (19) improved access to a service and, somewhat paradoxically, increased independence as they are not reliant on a caregiver or transport service. People feel less anxious and more involved in their dental care when it is provided in the familiar environment of their own home, and they feel more able, or inclined, to disclose personal information to the dental team, or to ask questions of them, as confidentiality is increased. Also, a visitor may be a welcome contact and the fact that the dental team are guests can give the client more control and confidence.In the case of unpaid caregivers, who are often elderly themselves, they too can gain access to dental care without having to leave home or arrange for a sitter for the person they look after.

There are also several benefits for the service providers: it can be a refreshing change of scenery to visit patients out of the surgery environment; the frustrations of failed appointments and waiting for transport to arrive are reduced; the dental team is able to observe the client in their own surroundings, thus gaining the opportunity to provide a holistic approach to care; and the comfort and relaxation bestowed by being in their own surroundings may improve rapport and compliance with treatment and preventive regimens. Liaison with other members of the health and social services teams can facilitate the provision of streamlined services.

The limitations of domiciliary dental care services, from a user's viewpoint, are that they are difficult to find; there can be a longer wait for treatment and a limited choice of providers, as well as a limited scope of dental procedures; the individual may feel vulnerable allowing strangers into their home or see the visit as an invasion of privacy; and it can be a considerable disruption of routine for the client and their caregiver (19). Paradoxically, for some people domiciliary care compounds their sense of isolation because they would welcome the opportunity for an organized outing.

There are also limitations for service providers, and dentists express a number of common anxieties. The concern verbalized most often is the fear of the unknown when visiting a person for the first time. This fear is a role reversal of the usual situation, where this emotion belongs to the patient. Just as some anxious patients are unable to visit the dentist, some dentists find their anxiety so difficult to deal with that they are unable to make domiciliary visits. Dentists often feel a lack of control out of their conventional dental setting. All the requirements and compromises that may have to be made are difficult to anticipate. However, with a little practice, it is easy to take back some control—such as switching off loud televisions or radios and banishing inquisitive pets from the room.

Undoubtedly, domiciliary visits are time consuming. It is more difficult not to become involved with a client's personal life and problems, and on some occasions the problems may have to take priority over the dentistry. Also, by virtue of the fact that you are visiting an individual's home, there is a social element to the visit, as well as a need to respect the person's wishes, property, and culture. A balance has to be reached between the social and the business elements of the visit. Careful organization is required to make home visiting cost effective, but ad hoc visiting can be more time efficient than a dedicated session.

Another anxiety is that some clinical constraints exists in the domiciliary dental setting. Careful treatment planning is required to accommodate these constraints. A major part of this concern is about infection control. The principles for domiciliary care are basically the same as those applied in the surgery. For example, the technique of zoning can be adapted to any environment, instruments should be assembled and organized in a way that clean and dirty instruments never come into contact, and local guidelines for the disposal of medical waste in the home should be complied with (23). Anxieties related to a lack of emergency back-up and potentially increased vulnerability to personal safety are founded in reality, but need to be kept in perspective. Local guidelines on emergency equipment and drugs that need to be carried should be respected. It is recommended that, as a minimum, oral airways (such as Laerdal masks and Guedal airways), portable suction, oxygen, and an Ambu bag to facilitate cardiopulmonary resuscitation be available (16). A third person (preferably a dental nurse) should always be present as a chaperone and the dental team should carry a mobile phone.

Skills. The skills required for the smooth running of a domiciliary dental service are diverse. Although many of them are the same as those required for the smooth running of a surgery-based dental service, they probably are ranked in a different order of priority. The time involved in visiting individuals in their own home decreases the treatment time available; thus, planning and navigation skills are paramount in organizing the domiciliary visiting circuit. Flexibility in one's approach is probably the most important skill for domiciliary visiting because not only are no two patients ever alike, neither are their circumstances or their environments.

Remuneration. The provision of oral care to disabled elderly people is more time consuming than the provision of oral care to elderly people per se. This circumstance means their care comes at a higher cost. This cost is greater when care is provided outside the conventional dental setting, regardless of whether it is via fully equipped dental vehicles, equipment vans, or domiciliary dental care. While

the occasional example exists of a dentist setting up a mobile dental service or dedicating a practice to domiciliary dental care, it is the exception rather than the rule (14,15). Additionally, such services tend to be targeted toward elderly people in residential care, where reasonable numbers of patients can be seen per visit. Individual, house-bound people are not an attractive financial proposition. Indeed, they are often not a viable financial proposition. Dentists cannot be expected to deliver more than the occasional home-based dental visit without financial incentive to do so.

The financial situation begs the question of who should pay for the service. Should it be the government, the local authority, or the elderly individual? The latter would certainly not provide equitable access to oral care. Some countries have partially addressed the problem. For example, in the United Kingdom the salaried Community Dental Service acts as a safety net to provide care for people who cannot access mainstream dentistry. It provides the extra time and expertise required to provide oral care for disabled people in the dental or the home setting. Also, general dental practitioners who work within the National Health Service are paid an additional fee for making a home visit. This additional fee is not the panacea that it might seem. The Community Dental Service is constantly under threat of financial cutbacks; many elderly people are not registered with National Health Service dentists, and therefore are unable to access home care unless they pay privately; and dentists are paid an additional fee per domiciliary circuit, rather than per visit. Until these issues are resolved, disabled elderly people living in nonresidential settings are at risk of being denied access to continuing oral care services.

Conclusions

Elderly people will require greater access to oral health care in the future. They will have greater expectations regarding their treatment options and will make greater demands on dental services including domiciliary services. Given a choice, people generally seek health care at the most sophisticated and well-equipped units. However, noninstitutionalized, disabled elderly people may have to rely on domiciliary care services for dental treatment. Therefore, domiciliary dental care needs to be developed to improve access to dental services for people unable to receive their care in a conventional dental setting, and to make these services acceptable to patients, their caregivers, and their families. To develop domiciliary dental care, further improvement in domiciliary dental care training available to predoctoral (undergraduate) dental students, trainee hygienists, and dental nurses is required, as is the provision of postdoctoral (graduate training) for the dental team. Most importantly, the issue of funding to make domiciliary dental care financially attractive to dental practitioners must be resolved. Only in this way can the barriers to oral care for disabled elderly people in noninstitutionalized settings be resolved.

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