Prepayment for Dental Care: Need and Effect

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ALTHOUGH the first dental prepayment plan was established in the United States as early as 1867 and four others had been created before 1900, prepayment for dental care has shown virtually no growth while coverage for hospital, surgical, and medical expenses has expanded markedly. In 1963, when approximately 145 million persons in the United States had some form of coverage for hospital expenses, 135 million for surgical expenses, and 102 million for regular medical expenses, less than 1.2 million persons were covered by a prepaid dental care program (*1*). And not all the existing dental prepayment plans included coverage for restorative services.

The failure of dental prepayment plans to develop has been attributed mainly to the attitudes of patients: fear of pain, apathy, and ignorance of the importance of regular dental care. Moreover, dental care has not been regarded generally as the sort of financial burden against which one needs insurance, and few of the labor groups that have borne so large a share of responsibility for the growth of other forms of health insurance have been interested in trying to procure coverage of dental care for members (*2*). Perhaps as either a cause or an effect of this general disinterest, only a few insurance companies have been willing to sell insurance for dental care, and dental service corporations offering prepaid care have not increased in number nearly so rapidly as medical service corporations.

Since the late 1950's, new interest has been shown in prepayment for dental care, probably in part because prepayment has become so extensive for other health care services. After almost no growth from the twenties to the fifties, the number of dental prepayment plans increased from 36 in 1950 to 134 in 1960. Between 1960 and 1962, the number of groups covered for dental care increased by approximately 80 percent and the number of persons with coverage by 20 percent (*3*).

Dental service corporations are now operating in 9 States and are being developed in some 20 others. More and more insurance companies are offering dental care coverage, and union leaders have become increasingly interested in obtaining prepayment of dental care for members. Only prepaid group practice units have not shown noticeable growth. Although they continue to have the largest number of beneficiaries, they have grown less than the other two major agencies offering dental prepayment:

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commercial insurance companies and dental service corporations.

The current trend toward expanded prepayment for dental care reflects not merely the fact that other health care coverage has become extensive but also a growing view that it is needed. The report (*4*) submitted to the Governor of Michigan in July 1962 by the Governor's Study Commission on Prepaid Hospital and Medical Care Plans stated: "Since one of the major factors contributing to lack of adequate dental care is financial, it follows that prepaid care offers the best avenue for budgeting the cost of health treatment." The report also stated: "The commission endorses dental prepayment and urges insurance companies and prepayment plans to develop such a program."

A more pointed statement was made recently by Dr. George Mitchell (*5*), special assistant to the chief, Division of Dental Health, Public Health Service: "Dental prepayment plans are growing rapidly and have been shown to be an effective mechanism for extending dental services to more people. Once the economic barrier to dental care is removed, utilization increases and the problem of neglect is reduced."

Examining the Value

Since attempts to encourage the further development of prepayment for dental care will be continued, it might be wise to examine carefully both the need for prepayment and its potential effect on the socially important considerations of availability, use, cost, and quality of dental services. Only when the possible advantages and disadvantages of prepayment for dental care are objectively evaluated can plans be structured to achieve the greatest return for the investment and appropriate steps be taken to meet the dental needs of the entire population.

Would prepayment overcome the current underuse of dental services and particularly of preventive services? What repercussions might prepayment have on the supply and price of dental services? Would the benefits of prepayment be felt equally by all population groups, particularly those who are now most disadvantaged in dental care? Should the labor and management organizations that will largely determine whether prepayment will expand be encouraged to purchase it for the groups they represent?

The money available for the purchase of health care services is not unlimited; it should therefore be spent on services that meet the greatest need and provide the largest return for the expenditure. Waiting in line to compete for the dollars spent on prepayment for dental care are a variety of other health services including hospital and medical services not now adequately covered by prepayment, psychiatric care, pharmaceuticals, and nursing home care. Each person can decide for himself which of these is most important under his particular circumstances.

But in the purchase of plans for groups—and these constitute the bulk of health insurance plans—union leaders ordinarily decide what to demand for the members. And there is sometimes disagreement within the union not only on the benefits to be sought but on the use of funds for fringe benefits rather than for cash increases in wages. It is not without significance that 53 percent of the persons interviewed during a national survey in 1959 preferred to receive cash rather than to have the same amount put into a dental insurance plan, 38 percent preferred the dental insurance, and 9 percent were "undecided or did not know." Seventy percent of these respondents had some form of health insurance coverage, and 30 percent had none, but only slightly more of those with other health coverage thought dental insurance a good idea than did those without any health benefits (43 percent as compared with 37 percent) (*6*).

Prepayment for dental care might first be examined in terms of the classic criteria for insurance against any other contingency. Is the need for dental care so infrequent and unpredictable, and dental services so costly, that dental care cannot be included automatically in the budgets of most families? Insurance traditionally has been intended for risks of this nature, and it is questionable whether dental care fully meets these criteria.

Generally speaking, the need for dental care is more predictable than the need for medical or surgical care. An important part of dental care consists of preventive and diagnostic services, the scheduling and cost of which can easily be predicted if patients follow the standard den-

tal advice to have two general examinations a year and usually one X-ray series a year. The need for preventive services such as prophylaxis and topical fluoride treatments can also be predicted easily. Only the nature and timing of restorative dental services cannot be easily predicted by the individual patient, but even these might be more predictable, and conceivably a smaller part of total dental service, if more people regularly would seek diagnostic and preventive services.

Even though the need for dental care may be relatively predictable so that one classic criteron for insurance coverage is not generally applicable, are dental services so expensive that insurance covering them is necessary? Again it is questionable whether this is generally true. Although expenditures for dental services constitute the fourth largest item in private expenditures for health services, they account for only about 10 percent of the total. Preventive and diagnostic services are not too costly, and although restorative services may be expensive, regular preventive care might well reduce the need for them. Of course, people with very low incomes find even the smallest expenses difficult to meet, as may families with a large number of children, for even a predictable low-cost item when multiplied by a large number of children can be quite costly. Even here, however, the problem is rather one of budgeting for the total cost than of being unable to budget because each service is so costly or unpredictable.

Generally speaking then, in view of the predictability of the need for most dental services and the possibility of scheduling restorative services and payment, dental care seems to be low on the list of financial hazards against which families should carry insurance. In recent years, however, insurance companies have begun to relax their definition of insurable risks to include predictable and frequently used low-cost items, and so the classic criteria are now perhaps less relevant.

Effect on Use

Even though dental care does not wholly fit the definition of a risk against which insurance is ordinarily held, many persons advocate prepayment as a means of overcoming what is widely held to be the underuse of dental services. Only about 40 percent of the population see a dentist in any given year, and many of these persons do not receive all the services they require. In the opinion of many in the dental profession, a greater number of people would seek dental services if the financial barrier were overcome.

Certainly, the financial barrier seems to be currently an important factor in the use of dental services. Families with annual incomes of less than $2,000 use only about one-third as many dental services as families with annual incomes of more than $7,000. Here one must consider not only the income level but the likelihood that families with higher incomes have also attained a higher educational level. The rural population uses significantly fewer dental services than the urban population, which may reflect personal values and the availability of dentists and not merely lower income. Low-paid workers, casual laborers, and agricultural employees and their families use the least dental services. Urban employees with higher incomes use significantly more dental services, about 50 percent seeing a dentist every year and averaging more than two visits a year (*7*). The data on use of dental services improve if the rural population and families with annual incomes of less than $4,000 are excluded from the statistics.

What would be the probable effect on current use patterns of growth in prepayment for dental care? Certainly, use would increase somewhat, but whether it would increase among the groups that need it most is questionable. Growth in prepayment would occur largely through group plans purchased for higher income, urban, unionized employees. The groups who now use the least dental services would not benefit, nor is there any reason to suppose that they would find it more possible or economically feasible to purchase prepayment plans individually than they do now simply because more plans were operating. They are the "have-nots" when hospital, medical, and surgical insurance are considered. They would be the have-nots of dental insurance as well. We cannot anticipate that growth in prepayment would substantially alter the situation of the groups with the lowest use and presumably the greatest need.

It might, nevertheless, be considered desirable

to encourage greater use of dental services by the people who might receive prepaid dental care as a fringe benefit or be able to purchase it individually. Again, however, we are not certain how much prepayment would accomplish in this regard. For example, when dental care insurance was provided to help employees of the Dentists' Supply Company, York, Pa., pay for costlier dental services, dentists reported that their regular patients used more extensive and expensive services but that few new patients took advantage of the financial benefit. In the first year, only half of the eligible beneficiaries used dental services (*8*).

The Labor Health Institute of St. Louis, Mo., found that only 45 percent of eligible families and only 29 percent of eligible individuals sought dental services at their clinic between July 1956 and June 1957. An additional 17 percent of families and 12 percent of eligible individuals received dental care from other sources during the same year. Further investigation revealed that this low use was not related to any widespread ignorance of the dental benefit or its possible cost.

The utilization experience of the Naismith Dental Group (*10*), a voluntary, individual subscription group, 70 percent of whose subscribers were white-collar workers including professional and semiprofessional persons, was quite different. Close to 80 percent of the subscribers used the group's services each year of enrollment. Nevertheless, a study group from the Public Health Service noted: "It is significant, however, that utilization was well below 100 percent even in the face of voluntary membership and a direct and continuing out-of-pocket expense."

Thus even when the financial barrier is lightened or removed, other factors clearly keep people from following the program of dental care that dentists consider essential for dental health. The authors wonder, therefore, whether prepayment would have as much effect on use of services as many people might think.

Whatever its effect or lack of effect on the use of dental care, prepayment might well be considered valuable if it did no more than encourage greater use of preventive services. Whether it did so would depend in part on the structure of the prepaid benefit program.

The British National Health Service arrangement, which requires that the patient pay a flat fee for each visit to a dentist, whatever the reason for the visit, is thought by Dr. J. N. Peacock, secretary of the British Dental Association, to encourage neglect by penalizing patients who seek care regularly (*11*). A similar effect might be predicted for the sort of deductible plan under which the beneficiary pays the first $25 or $50 of the cost each year. This arrangement, which is the type most commercial insurance companies offer, might well operate against the use of preventive and diagnostic services, as beneficiaries may refrain from using dental services except in emergencies or when they feel the services they need will cost more than the initial amount they must pay.

The experience of the dental plan of Astra Pharmaceutical Products, Inc., Worcester, Mass. (unpublished data presented by Lennart Lindberg, assistant to company president, at the New England Conference on Dental Care, Boston, March 1963) is not inconsistent with this theory. Under that plan, which provided that beneficiaries pay the first $25 of cost in any year and then share with a co-insurer the cost above that amount, less than 24 claims per 100 employees were made in 1962, but the average claim was more than $200. In 1961, the first year of the plan, there were 30 claims per 100 employees and the average claim was more than $300. Both use and size of claim were substantially lower for dependents in both years. It seems highly probable that a larger proportion of the beneficiaries would need dental services costing more than $25. The small number of claims and the high average size of the claims warrant the assumption that the vast majority of the beneficiaries sought dental care only when they felt they needed substantial dental work, which probably would be the case only every several years.

On the other hand, we do not know whether a plan that provided solely diagnostic services would materially encourage preventive dental care. Beneficiaries might simply conclude that there was little point in taking advantage of diagnostic services when any restorative services they might need would not be financed. If beneficiaries refrain from seeking dental care because of the cost involved, the provision of

only diagnostic services would be of little help to them. Many dentists think that if patients can be brought into the office, even if only for diagnostic services, they can be persuaded of the value of any needed treatment and helped to budget the cost. Diagnostic services are generally a lower priced benefit than restorative services, and if their provision has the effect of getting nonusers of dental care into a dentist's office and perhaps under treatment, it would undoubtedly serve a useful purpose.

Effect on Cost

Would prepayment for dental care somehow reduce the price of services and result in their wider availability to a broader population or would it increase the price? The question must be examined separately for the three major types of prepayment arrangements: commercial insurance, dental service corporations, and dental group practice.

Under commercial insurance, the patient is reimbursed directly for part or all of the cost of the services covered by the plan. The relationship between the patient and the dentist remains unchanged. The dental service corporation, on the other hand, acts as a representative of the dentist, collecting premiums from the patients and distributing the income to the dentists. In prepaid dental group practice, the dentists are the financial intermediaries, acting as both the providers of service and the prepayment agency. These different patterns are not irrelevant to both the cost and the quality of dental care.

The costs of care provided under commercial insurance and dental service corporation plans would undoubtedly rise. The administrative cost of operating the prepayment agency—about 8 to 10 percent of the total budget for both service corporation and commercial carrier—would have to be absorbed in the total cost. For another reason, the dental service corporation plan would probably lead to higher costs, as the fee schedule might well be set near the highest fees charged by dentists. In 1962 the executive director (12) of the Michigan Dental Service Corporation said: "The currently adopted schedule of fees is equal to or higher than the fees charged by the vast majority of dentists practicing in Michigan, as determined by the 1958 survey." The existence of a service corporation fee schedule with generally higher fees than those set individually by many dentists may prompt dentists to raise their fees, which would result in a higher total cost of dental services in the community.

In prepaid dental group practice, there is at least a possibility of lower costs. The sharing of overhead expenses and the joint use of auxiliary personnel and laboratory and X-ray equipment by members of the group may well result in a lower total cost. Certainly, a group of dentists in one office would have no higher operating expenses than the same number of dentists practicing in separate offices, and probably would have lower expenses. The expenses that the group would incur in administering a prepayment plan would be no higher than those individual members would have for normal billing and collection procedures. Whether lower operating costs would prompt a group of dentists to lower their fees below the general community standard is questionable.

In a different sense all types of prepayment will tend to increase the cost of dental care if general economic experience is any guide. With the shortage of dentists and the recent decline in dentist-population ratio, the increased demand for services that would arise if prepayment were more extensive would result in increased costs for each unit of dental care. This is not an absolute certainty, but almost invariably prices rise when demand is greater and the supply does not increase. Persons who have prepaid dental care benefits would perhaps be relatively unaffected by such a price rise, but the groups who are least likely to be included in prepaid plans—and who are currently the most disadvantaged in dental care—would be in a worse position than they are in today.

Effect on Quality

The possible effect of prepayment on the quality of dental services must also be evaluated separately for the three types of prepayment agencies. Since the commercial carrier has no relationship with the dentist, commercial insurance would have no influence over the quality of dental services. Under plans financed by a commercial insurance company, the only control

over the quality of care is the patient's choice of dentist and freedom to change dentists if he is dissatisfied.

The dental service corporation has at least the potential for influencing the quality of service. A few dental service corporations have attempted to exercise some influence over quality by refusing to accept substandard work. For example, the Washington State Dental Service Corporation terminated or suspended the participation of a number of dentists for inadequate quality of service (*13*). Whether service corporations will ever take steps to elevate standards is another question. Like Blue Shield organizations, which have made few attempts to influence the quality of medical services, dental service corporations may content themselves only with weeding out obviously substandard dental work.

The claim has often been made that prepaid medical group practices generally provide a high quality of care, and it is possible that the same claim might be made for dental group practices. The opportunity that group practice gives dentists of working closely with colleagues and specialists, as well as the greater possibility it offers for the application of quality controls, might have a favorable influence over the quality of care. Data do not exist that would prove or disprove the various theories concerning the higher quality of group practices. All we can say in the absence of evidence is that all forms of prepayment would probably increase the cost of dental services without appreciably altering their quality.

Conclusion

Any broad improvement in the dental health of the population requires that preventive and restorative services be available to all who need them, that they be used as needed, and that they be of high clinical quality. Efficiency and price stability are relevant to the realization of these goals, the first because it expresses the broad economic objective of obtaining the highest possible return for the expenditure, and the second because the price of any service affects the population's ability to purchase it. If dental prices rise, the same service costs more money, and the only person who benefits in the short run from the higher price is the seller—in this instance the dentist.

Prepayment seems to be regarded today as a means of altering the current dental care system so as to increase the use of services, and in turn improve dental health, by removing the financial barrier. Experience has shown, however, that expanded prepayment probably will not have the significant effect on use patterns that some people surmise. The beneficiaries will increase their use of dental services to some extent, but those who most need increased use probably will not benefit from prepayment plans. Equally significant is the fact that prepayment is intended to affect the use of dental care—the demand side—without affecting the availability of dental services—the supply side. Increased demand will result in increased prices unless the supply is also increased. The price increase will not only dilute the advantages of prepayment but will also place dental care even further beyond the reach of the low-income citizen who most needs it. Moreover, the costs of administering a prepayment agency will alone increase the cost of dental care.

Despite the limitations of prepayment, management and labor groups, and the private individual as well, hope to achieve by such plans removal of financial barriers to needed services and greater security for the individual or the family. Additionally, when prepayment is arranged through employment, the employee's contribution is deducted from the pretax dollar, which means that he is receiving greater benefits from his earnings. Finally, prepayment may foster better health education and, in turn, better health. If prepayment is to meet these goals and if prepaid dental plans are to be supported, then considerably more than their mere establishment is required. Steps must be taken both outside and within the structure of prepayment to maximize its advantages and minimize its disadvantages, and the dental profession will have to take the initiative for many of them.

If more people are to obtain dental care, the supply of dental services must be increased and prices kept within reach of most of the population. If the supply of services is to be increased, more dentists must be trained and those now practicing must become more productive by in-

creasing their efficiency or by delegating to ancillaries some of the tasks on which they now spend time. These steps could reduce the unit cost of dental services and permit reductions in price if dentists would lower their fees and not simply increase their incomes.

Within the prepayment structure, whether arranged through a commercial insurance carrier, a dental service corporation, or a direct management-labor plan, certain steps are desirable. Cost increases can be checked if controls over unnecessary use are arranged and if fee or reimbursement schedules are set at levels that will not encourage price inflation. A plan might check price inflation if it provided specified services rather than dollar reimbursement of the patient, set a fee schedule that discounted both the highest and lowest fees charged in the community but took into account the advantage to the dentist of assured fee collection, and guaranteed dentists' acceptance of the fee schedule as full payment.

The benefit covered by prepayment should be structured to encourage preventive care without fostering overuse. This might be accomplished by a plan that covers the total cost of diagnostic and preventive services and a decreasing proportion of the cost of restorative services. Given the limited money available for prepaid dental care, and the existence of other health needs, it does not now seem feasible that a prepaid dental care plan could cover more than a part of the cost of full dental care, particularly if the existence of prepayment increases the use of services.

Controls must exist to insure that the quality of services is maintained or improved. Probably more will be needed than mere nonacceptance of the lowest quality work if union and management are to be satisfied. Management and union leaders view prepaid dental care against the background of 20 years or so of experience with prepaid hospital and medical care—experience that is convincing them more and more that control of use, cost, and quality is essential, and that they cannot count on the profession to provide it. This may be the reason why many of the recently established dental plans are operated directly by union-management groups with salaried dentists. Unless the dental profession cooperates actively with management and union groups in helping them realize their goals for prepaid dental care, it may lose control of the development and nature of prepaid plans. The profession must convince the purchasers of prepayment plans that it is as interested in controlling the quality and cost of dental care as it is in assuring payment for services (*14*).

Experience has shown clearly that whatever its advantages, prepayment alone is not a remedy for the neglect of dental care. An extensive educational effort and perhaps expanded public health dental services for people who find dental care a serious financial burden are needed to convince more people of the importance of regular dental care and to improve the dental health of the U.S. population.

Summary

Prepayment of dental care has grown very little during a 20- to 30-year period when coverage for other health services has expanded markedly. Recently, both providers of dental services, who view prepayment as a way of overcoming the inadequate use of dental services by the public, and purchasers for groups have expressed new interest in prepaid dental care. Insufficient awareness of the importance of dental care and shortages of dentists are probably, however, as significant barriers to increased use as are financial considerations.

Dental services compete with other services not generally covered by prepayment, such as psychiatric care and pharmaceuticals, for inclusion in the group plans that will largely determine whether dental prepayment will grow. The choice of group purchasers will be influenced by experience with the operation of hospital, surgical, and medical benefits, which is making them increasingly concerned with questions regarding control of cost, quality, and use. The future of dental prepayment will probably be significantly affected by the willingness of the dental profession and insuring agents to cooperate in the satisfactory solution of these important questions.

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New Antimalaria Drug

A drug being tested in Vietnam against resistant forms of malaria affecting American servicemen was developed by the University of Chicago-Army Medical Research Project. Called DDS, for diaminodiphenylsulfone, it is considered one of the most promising synthetic drugs available for use against resistant strains of malaria.

For some time DDS has been used as an antileprosy drug. It had been tested earlier as an antimalarial drug and passed over in favor of more active compounds. The effectiveness of DDS against resistant strains of malaria was revealed in a testing program at the Illinois State Penitentiary. Dosages of 25 to 50 milligrams of DDS daily protected 22 of 26 inmate volunteers from infection by strains of resistant falciparum malaria from Southeast Asia.

The new resistant strains of falciparum malaria do not respond to chloroquine treatment. It is not known whether they are the result of recent mutations or have existed a long time.

Quinine, the natural antimalarial drug found in the bark of the cinchona tree, is relatively effective against resistant strains of malaria. However, the side effects of quinine limit its usefulness, and quinine doses not always completely cure malarial infections.