Use of Dental Services in an Urban Area Before Medicaid and an OEO Health Center

ELBERT A. POWELL, DDS, MPH, and KLAUS J. ROGHMANN, PhD

ONLY a small proportion of the U.S. population visits dentists annually or semiannually. For example, in 1961 Kegeles (1), reporting on data summarized from seven studies, indicated that only about 36 percent of the population had seen a dentist during the previous year and about 24 percent of the population studied had visited

Dr. Powell, former director, department of community dental health, Eastman Dental Center, Rochester, N.Y., is now assistant professor and director, community health services, School of Dental Medicine, University of Connecticut. Dr. Roghman is associate professor of sociology and pediatrics, department of pediatrics, School of Medicine, and co-director, Rochester Child Health Study, University of Rochester.

This report is based on data from the Rochester Child Health Studies, which were supported by Children's Bureau grants H-104 and H-148. The studies were directed by Dr. Robert J. Haggerty, professor of pediatrics, University of Rochester School of Medicine.

Tearsheet requests to Dr. Elbert A. Powell, Department of Behavioral Sciences and Community Health, University of Connecticut School of Dental Medicine, 2 Holcomb St., Hartford, Conn. 06112. dentists twice annually. In 1965 Suchman and Rothman (2) reported that only about 43 percent of the population studied in Washington Heights, New York City, received dental care during the 12 months immediately preceding the survey. The National Health Survey of the civilian, noninstitutionalized population of the United States for July 1963–June 1964 (3, 4) reported that only about 42 percent of the population had made at least one dental visit within 12 months preceding the interview. According to these two reports, "approximately 16 percent of the population had never seen a dentist."

Not only does a small percentage of the population receive dental care annually or semiannually, an even smaller proportion receives preventive care. Kegeles (5) noted that "about 15–20 percent of the population visits dentists on a regular periodic basis for the purpose of examination or prophylaxis in the absence of symptoms during any 1-year period." In 1965, the National Health Survey (4) reported that the distribution of dental visits in the U.S. population (all ages) for examination and prophylaxis was 21.1 and 13.6 percent, respectively. Although there has been an increase in the proportion of the population receiving preventive dental care during the last decade, as reported by Moen and Poetsch (6), a large number of people still do not receive preventive care.

All of the available data seem to indicate that the use of dental services as reflected by the frequency of dental visits, the nature of these visits, and the type of facilities where such visits are made correlate with socioeconomic status.

For example, Suchman and Rothman (2) reported that people of higher socioeconomic levels used dental services more frequently than people of lower socioeconomic levels. In 1964 James (7) noted that in families with annual incomes under \$2,000, about two-thirds of the children had never visited a dentist. When the family income was \$7,000 or more, less than 10 percent of the children had never been to a dentist.

In 1960 Kriesberg and Treiman (8) observed a high relationship between going to the dentist for preventive care and treatment and socioeconomic status. Data reported from the National Health Survey for 1958, 1963–64, and 1968 (3, 4, 9) indicate that the rate of dental visits and the type of services sought are positively correlated with family income and level of education of the head of the household.

In 1968 Leverett and Jong (10) found an apparent shift from clinic to private practice by low income families who reported a regular source of dental care. They concluded that this change may have been the result, in part at least, of Medicaid (title XIX) program benefits which removed the financial barrier to private office care for low income families.

The purpose of this paper is to present findings on the pattern of use of dental health services by children and their mothers in a reasonably large U.S. metropolitan community before innovations in the delivery of dental care such as Medicaid and an Office of Economic Opportunity health center delivering comprehensive dental care, primarily to children and mothers. The results provide baseline data to evaluate subsequent changes. Implications of the findings in the light of contemporary national health philosophy and policy will be discussed.

Study Information

The sample. The 1966-67 Baseline Household Surveys of the Rochester Child Health Studies provided the data for this report (11). The' study selected a 1 percent probability sample of all families with children under 18 years of age residing in Monroe County, N.Y., for a house-hold interview.

Demographic description. Located in western upstate New York, Monroe County encompasses the city of Rochester and 19 suburban towns. Its population was then about 650,000; about 300,000 resided in the city of Rochester. The city's residential population is heterogeneous in both ethnic composition and income level. The nonwhite population, which had been expanding rapidly in the late sixties, dwell predominantly in two low income areas. In 1967 about 13 percent of the city population was black; by 1971 the proportion had risen to 20 percent.

The suburban towns are basically homogeneous in ethnic composition (white population) with some degree of heterogeneity in income levels. However, the median family income of suburban residents (about \$11,500 in 1967) is higher than that of city residents (about \$8,000) and of nonwhite city residents in particular (about \$6,300).

Community dental health care resources. There are eight dental clinics in Monroe County; all are located in the city of Rochester. Five are in hospitals, one is in a neighborhood service center, one was recently established in the Rochester Neighborhood Health Center, and the most important one, the Eastman Dental Center, was established over 50 years ago. The clinics in hospitals and the neighborhood service center provided diagnostic, prophylaxis, operative, surgical, endodontic, and limited prosthodontic services. The neighborhood health center now provides comprehensive care to adults and children, and the Eastman Dental Center provides comprehensive care, primarily to children.

In addition to the clinic services, about 425 dentists practice privately; the largest proportion (80 percent) have offices in the city. The overall dentist-population ratio in the county is about 1:1,500; in the city this ratio is about 1:1,000. Nationally, the dentist-population ratio is approximately 1:1,700 (12). Thus Monroe County's population has family incomes and dental health manpower resources above national levels.

Study Method

The 1 percent probability sample provided about 1,000 families with at least one child under 18 years of age. If the family included more than two children, only two randomly selected children from the same family were participants in the

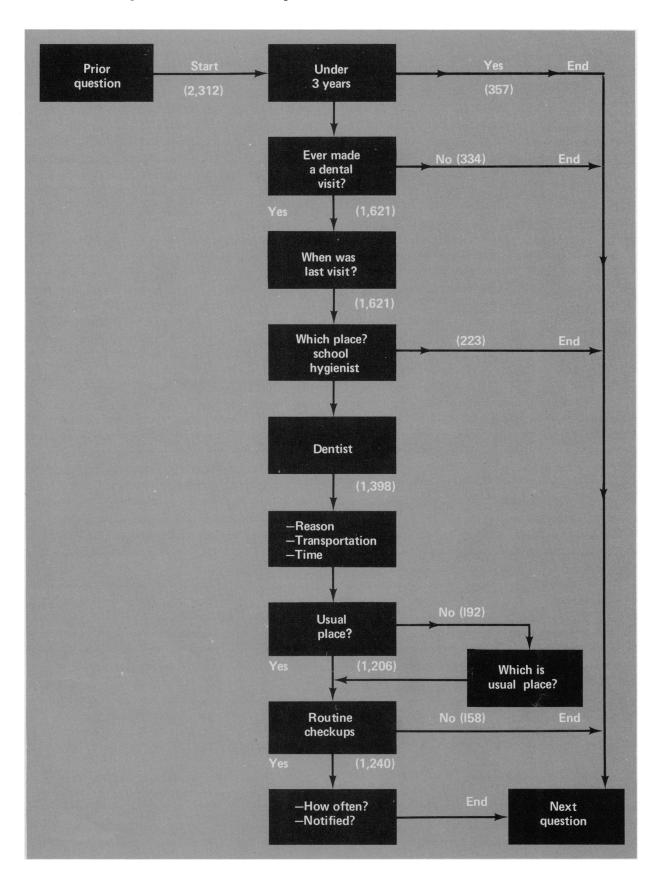


Figure 1. Question No. 6, questionnaire about child, main survey, 1967

sample. Listings of housing units provided the sampling frame for the city; the latest school census listings provided the sampling frame for the suburban towns. Because of the various sampling frames and the varying sampling fractions within families, complicated weighting procedures had to be used, thereby inflating the frequency figures (11).

The survey was planned to obtain information on the general health and illness behavior of children and mothers by asking a number of specific questions. To collect this information, a household interviewer used several questionnaires, especially the "child questionnaire" and the "mother questionnaire," a duplicate of the first with additional questions about health beliefs, attitudes, and knowledge. The respondent for both sections was the mother or an acceptable proxy respondent (father or grandmother).

Dental information on the child was obtained by a question (No. 6 in the questionnaire about child) with the structure outlined in figure 1. Of the 2,312 children in the sample, 357 were under 3 years old and were excluded. Of the remaining 1,955 children, 334 had never been examined by a dentist and were also excluded from further data collection. For the remaining 1,621 children, 223 had their last dental contact at school, and these children also were excluded from further data gathering. Thus the base for computing percentages in our tables will vary, depending at what stage in question 6 the relevant data were collected.

The dental information on the mother was obtained by a question (No. 2 in the questionnaire about mother) with the structure outlined in figure 2. The mother's data were attached to each child's data set (13). To avoid counting a mother several times when we interviewed her about more than one of her children, only the interview associated with the first child was selected, giving 1,335 mothers. Of these, 499 were excluded for most of our data collection because they had not visited a dentist in the past year.

The independent variable used for this analysis is socioeconomic area. Census tracts were ordered on a 5-point scale ranging from highest to lowest socioeconomic rating. Median value of houses, median rent, percentage with occupation not classified as "worker," median years of education,

Table 1. Time interval since last dental visit, by socioeconomic area, Monroe County, N.Y., 1967

Testamual airean lant visit	Hi	ghest	н	ligh	Me	dium	L	ow	Lo	owest	То	tal
Interval since last visit	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent		- Per- cent	Number 590 351 251 114 160 201 86 334 48 1,955 406 215 157 57 109 41 328	Per- cent
	Children											
Under 3 months. 3-6 months. 6-9 months. 9-12 months. 12-18 months. 2 years plus. Never or can't remember. Not ascertained. Total.	82 26 12 15 2 3 11 1	41.8 31.4 10.0 4.6 5.8 .8 1.2 4.2 .4 100.2	188 121 92 34 45 4 34 98 10 626	30.0 19.3 14.7 5.4 7.2 .6 5.4 15.7 1.6 99.9	216 108 92 51 63 10 26 96 16 678	31.9 15.9 13.6 7.5 9.3 1.5 3.8 14.2 2.4 100.1	42 30 24 12 30 3 18 71 16 246	17.1 12.2 9.8 4.9 12.2 1.2 7.3 28.9 6.5	35 10 17 5 7 2 5 59 5 145	24.1 6.9 11.7 3.5 4.8 1.4 3.5 40.7 3.5 100.1	351 251 114 160 21 86 334 48	30.2 18.0 12.8 5.8 8.2 1.1 4.4 17.1 2.5 100.1
						М	others					
Under 3 months	3 8 5 16 0	44.8 25.6 11.6 1.7 4.7 2.9 9.3	141 75 52 16 31 11 78 2 0	34.6 18.4 12.8 3.9 7.6 2.7 19.2 .5	139 67 61 30 39 14 122 2 . 3	29.2 14.1 12.8 6.3 8.2 2.9 25.6 .4 .6	27 21 18 4 22 4 80 6 3	14.6 11.4 9.8 2.2 12.0 2.2 43.5 3.3 1.6	22 10 8 4 9 7 32 5 1	22.5 10.2 8.2 4.1 9.2 7.1 32.7 5.1 1.0	215 157 57 109 41	30.4 16.1 11.1 4.2 8.6 3.1 24.6 1.1 .5
Total	173	100.6	406	99.7	477	100.1	185	100.6	98	100.1	1,335	99.7

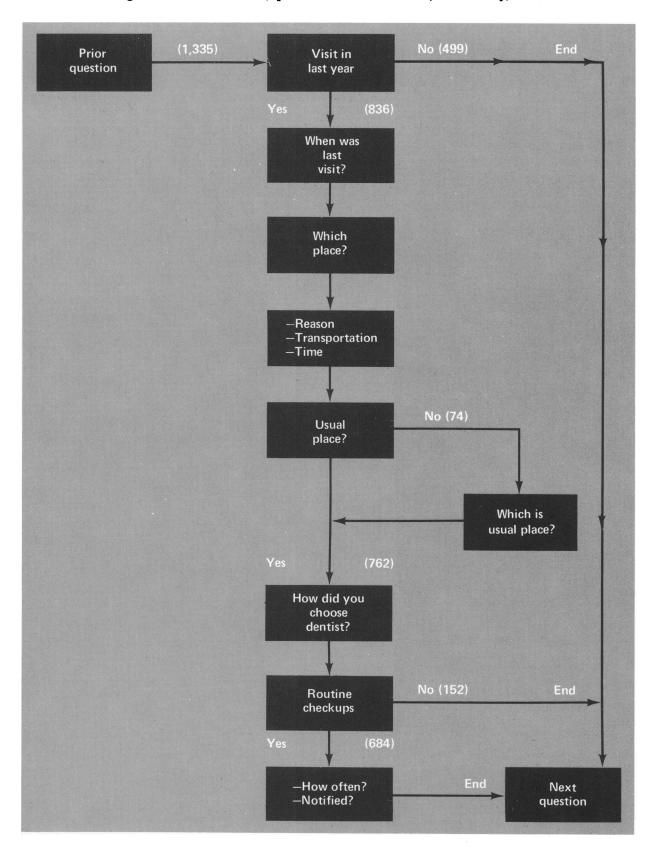


Figure 2. Question No. 2, questionnaire about mother, main survey, 1967

and percentage of sound dwelling units were used to rank the 142 census tracts of the county and develop a composite index.

This five-part index was developed by Morton O. Wagenfeld (personal correspondence) and Charles V. Willie (mimeographed description, March 1966). They used tract data from the 1960 Census for the city of Rochester, converting each of the five dimensions into a standard score with an assigned mean of 50 and an assigned standard deviation of 10. The composite score for each tract, then, is the average of the five dimension scores. Cutting points for the distribution were chosen to have areas 1 and 5 each include 10 percent of all tracts, areas 2 and 4 each include 20 percent, and area 3 include 40 percent of all tracts. The same scoring was later applied to suburban tracts as well. The distribution of the county population over the five areas in 1967 differed markedly from the pattern in 1960 because the population shifted into the suburbs, where census tracts may now be two or three times the size of city tracts.

Findings

Time interval since last visit. Table 1 presents data on dental visits made by respondents over defined time intervals. The distribution of these visits showed a similar trend for children and

mothers. The average percentage of all dental visits made during the 12-month period just before the survey (about 67 percent for children, 62 percent for mothers) is considerably higher than the rates previously reported (35-45 percent) (1-4). Some of the differences could be caused by sampling different universes, but they are probably the result of the higher socioeconomic standing of this community.

Table 1 shows a strong relationship between the time interval since respondents' last dental visits and socioeconomic area both for children and for mothers. A larger proportion of higher socioeconomic respondents had visited dentists more recently than had lower socioeconomic respondents. Although slight irregularities in this relationship are observed in a few categories (see the low and lowest socioeconomic groups for the 3 months or less time interval), it is remarkable how consistent and strong the relationship is. These data confirm the findings of Suchman and Rothman (2), James (7), and Kriesberg and Treiman (8) and data from the National Health Surveys (3, 4, 9).

Type of facility. Data in table 2 indicate that more than 70 percent of the children visited private offices on their most recent dental visit, about 14 percent saw the school hygienist, and only 3.2percent went to public clinics. There was a high

Place of last visit	Hi	ghest	H	ligh	Me	dium	L	.ow	Lo	west	Тс	otal
Flace of last visit	Num- ber	Per- cent	Num- ber 223 42 10 1,068 108	Per- cent								
	Children											
School hygienist	7	2.8	62	11.8	85	14.6	53	30.5	16	18.4	223	13.8
Eastman Dental	. 1	.4	11	2.1	6	1.0		5.8	14	16.1		2.6
Other clinics		•••••	. 0		. 3	.5	3	1.7	4	4.6		.6
General dentist	200	79.4	369	70.0	392	67.5	86	49.4	21	24.1	1.068	65.9
Specialist		13.9	35	6.6	37	6.4	1	.6	0.			6.7
Can't remember or not ascertained	9	3.6	50	9.5	58	10.0	21	12.1	32	36.8	170	10.5
Total	252	100.1	527	100.0	581	100.0	174	100.1	87	100.0	1,621	100.1
						M	others					
School hygienist	0		0		0		0		0.		0	
Eastman Dental	0		5	1.8	4	1.4	0		Ó.			1.1
Other clinics	0		0.		5	1.7	1	1.4	•			.7
General dentist	138	97.2	259	90.6	260	87.8	62	88.6	26	57.8	745	88.9
Specialist		2.1	12	4.2	13	4.4	2	2.9	2	4.4		3.8
Can't remember or not ascertained	1	.7	10	3.5	14	4.7	5	7.1	17	37.8	47	5.6
Total	142	100.0	286	100.1	296	100.0	70	100.0	45	100.0	839	100.1

Table 2. Place of last dental visit by socioeconomic area, Monroe County, N.Y., 1967

correlation between type of facility used by children and socioeconomic area. For example, 93 percent of the children (for whom place of visit was reported) from the highest socioeconomic area, as compared with about 24 percent from the lowest socioeconomic area, used private offices. The greatest degree of variation in the type of facilities used by mothers was observed between the lowest and all other socioeconomic areas (table 2).

Reason for last visit. Reason for last visit was divided into the following categories.

- 1. Preventive services
- 2. Regular treatment
- 3. Emergency treatment

Table 3 indicates that a large proportion of respondents' most recent dental visits were for preventive services. For example, about two-thirds of all children and approximately 50 percent of all mothers who went for dental care received preventive services.

Further analysis of these data showed a close relationship between the proportion of preventive visits and socioeconomic area. About three-fourths of the children from the highest socioeconomic area as compared with slightly more than one-half from the lowest socioeconomic area received preventive services on their last dental visit.

For mothers who recalled why they last visited a dentist, an even stronger relationship was observed. In this group, 61 percent of mothers in the highest socioeconomic area, compared with only 16 percent in the lowest socioeconomic area, reported preventive services on their last dental visit preceding this survey. A general reversed relationship can be seen for emergency visits the lower the socioeconomic ranking of the residential area, the higher the proportion of emergency visits.

These observed relationships support the findings of Kriesberg and Treiman (8) as well as other findings cited previously. Kriesberg and Treiman reported that only a small proportion of respondents (8 percent) with grade school education or less and with annual incomes less than \$2,000 made preventive dental visits. However, 70 percent of respondents who had attended college and earned annual incomes of \$7,500 and more made such visits.

Routine checkup examinations. The number of persons who received routine checkup examinations is shown in table 4. Of those respondents who were not yet excluded from the analysis through the decisions of the question structure, most, that is, about 90 percent of children and 80 percent of mothers, went for routine checkups. However, the figure still shows a strong relationship with socioeconomic area, and the correlation was again stronger for mothers than for children.

Information on the notification of respondents for routine checkup visits is also shown in table 4. Persons from higher socioeconomic areas are more likely to receive routine checkup visit notices

Reason for last visit	Hi	ghest	н	igh	Me	dium	L	ow	Lo	west	Тс	otal
	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber 913 381 104 . 0 1,398 402 316 95 23	Per- cent
	Children											
Preventive	49 15	73.9 20.0 6.1	295 141 27 0	63.7 30.5 5.8	29	65.3 28.9 5.8	71 31 18 0	59.2 25.8 15.0	16 15	56.3 22.5 21.2	381 104	65.3 27.3 7.4
Total	245	100.0	463	100.0	499	100.0	120	100.0	71	100.0	1,398	100.0
						M	others					
Preventive. Regular treatment Emergency Not ascertained	48 6	61.3 33.8 4.2 .7	152 105 22 6	53.3 36.8 7.7 2.1	136 119 35 5	46.1 40.3 11.9 1.7	20 27 21 2	28.6 38.6 30.0 2.8	17	15.9 38.6 25.0 20.5	316 95	48.1 37.8 11.4 2.7
Total	142	100.0	285	99.9	295	100.0	70	100.0	44	100.0	836	100.0

Table 3. Reasons for last visit by socioeconomic area, Monroe County, N.Y., 1967

than are persons from lower socioeconomic areas.

Frequency of routine checkups. In addition to the observed relationship between socioeconomic area and respondents' most recent dental visits, type of care received, and source of care, the frequency of routine checkup visits also showed such relation. Results in table 5 indicate that respondents from higher socioeconomic areas visited dentists for routine examinations more frequently than respondents from lower socioeconomic areas.

Another remarkable finding in this study was

Table 4. Routine checkups and notification for routine checkups by socioeconomic area, Monroe County,
N.Y., 1967

	Hi	ghest	Н	igh	Me	dium	L	ow	Lo	west	То	tal
Circumstances of checkups	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent	Num- ber	Per- cent
						Cł	nildren					
Routine checkups No routine checkups		94.3 5.7	415 48	89.6 10.4	445 54	89.2 10.8	90 30	75.0 25.0		83.1 16.9	1,240 158	88.7 11.3
Total	. 245	100.0	463	100.0	499	100.0	120	100.0	71	100.0	1,398	100.0
Notified Not notified Not ascertained	. 63	71.4 27.3 1.3		66.5 23.4 10.1	287 102 56	64.5 22.9 12.6		31.1 40.0 28.9		37.3 18.6 44.1	778 309 153	62.7 24.9 12.4
Total	. 231	100.0	415	100.0	445	100.0	90	100.0	59	100.0	1,240	100.0
						М	others					
Routine checkups No routine checkups		94.4 5.6		90.2 9.8	239 57	80.7 19.3	33 37	47.1 52.9	22 22	50.0 50.0	684 152	81.8 18.2
Total	. 142	100.0	285	100.0	296	100.0	70	100.0	44	100.0	836	100.0
Notified Not notified Not ascertained	. 20	85.1 14.9	52	79.8 20.2	53	77.8 22.2	15	54.6 45.4	12	45.5 54.5	532 152 0	77.8 22.2
Total	134	100.0	257	100.0	239	100.0	33	100.0	22	100.0	684	100.0

Table 5. Frequency of routine checkups by socioeconomic area, Monroe County, N.Y., 1967

• . • • . • •	Hig	ghest	Н	igh	Me	dium	L	ow	Lo	west	Num- ber 92 657 222 80 189 1,240 70	tal
Interval since last checkup	Num- ber	Per- cent	-	Per- cent								
	Children											
Under 6 months		12.6	28 223	6.8 53.7	34	7.6	1 33	1.1	03			7.4
6–12 months	158	68.4 10.0	223 92	22.2	240 80	18.0		15.6	-	22.0		17.9
2 years plus		3.0	13	3.1	31	7.0		11.1	19	32.2		6.5
Can't remember or not ascertained		6.0	59	14.2	60	13.5	32	35.5	24	40.7	189	15.2
Total	231	100.0	415	100.0	445	100.0	90	100.1	59	100.0	1,240	100.0
						М	others					
Under 6 months	24	17.9	25	9.8	18	7.5	2	5.7	0		70	10.2
6–12 months	. 89	66.4	146	57.0		56.1	18	51.4		20.0	390	57.0
12–24 months	. 19	14.2	66	25.8	70	29.3	11	31.4		55.0	177	25.9
2 years plus Can't remember or not ascertained		.8 .8	16 3	6.3 1.2	16 1	6.7 .4	4 0	11.4 	-	25.0	42 5	6.1 .7
Total	134	100.1	256	100.1	239	100.0	35	99.9	20	100.0	684	99.9

the small proportion of respondents (about 10 percent of mothers and 7 percent of children) who reported having routine checkups within 6-month intervals. There was complete absence of routine checkup visits within 6-month intervals for children and mothers from the lowest socioeconomic area. If such visits were reported at all, they were most likely to occur in intervals of 12 months to 2 years and over.

Discussion

Use of dental services in Monroe County, N.Y., is considerably higher than among the general U.S. population. However, this level of use is not equally distributed among residents in the several socioeconomic areas. For example, nearly 70 percent of the total study population (children and mothers) made dental visits during the 1-year period preceding the interview, but only about 40 percent from the two lower socioeconomic areas made such visits. Thus, in this northeast geographic region, which ranks highest among regions in the U.S. in dental visits per person annually (4), the socioeconomic factor determines dental service use.

Dental visits made to private offices rather than to public clinics are generally thought to be strongly associated with socioeconomic status; that is, higher status enables the greater rate of use of private offices and vice versa. Although findings in this study support this hypotheses for children. they do not support a similar relationship for mothers. This situation resulted from the very limited dental clinic facilities that were available to adults in Monroe County in 1967. Therefore, the similarity in the source of care for mothers from diverse socioeconomic areas probably reflects the saturation point of use of the community clinics as noted by Leverett and Jong (10) rather than complete absence of the expected influence of social class structure.

Several findings on the frequency of routine checkup visits were of particular interest. First, a smaller proportion of the study population (about 10 percent) than was reported for the general U.S. population (15–20 percent) made routine checkup visits within 6 months preceding the interview. However, during the same period about 50 percent made dental visits of all types, including checkups. Second, a large proportion of the total study population made checkup visits within 1 year preceding the interview (about 60 percent for children and 67 percent for mothers) compared with less than 20 percent in the general population. Third, respondents from the lowest socioeconomic area reported having made no visits for a checkup during the 6 months and only a small percentage of such visits during the 1-year period preceding the interview.

Implications of Findings

The finding that persons in Monroe County, N.Y., who are in the lower socioeconomic group receive less dental care than those in higher socioeconomic circumstances was not unexpected. The reason that this phenomenon has been explored in detail in this paper is that children and mothers are a target population for supplying dental care in such a way that the basic philosophy underlying the principle of "good health care as a right of all and not merely a privilege of a few" becomes a reality.

To bring about this reality requires changes in attitudes, in commitment, and in the will of the dental profession, the public, and the Federal Government. These changes must of necessity relate to (a) the availability and accessibility of care, (b) new mechanisms for financing the cost of care, and (c) new methods for the delivery of care. Shortly after this survey was completed, the Medicaid program had enrolled most eligibles, and a health center was established as a new way of delivering dental care to the poor.

A detailed description of the impact of these changes is beyond the scope of this report. Many factors are involved, such as geographic setting, professional fees, impersonal service, convenience of office or clinic hours, consumer participation, and other circumstances that act as barriers to receiving dental care. These barriers are generally more easily manipulated by persons in the upper socioeconomic levels than others on the lower rungs of the socioeconomic ladder. The objectives of the new programs are to (a) permit all people equal access and relatively easy entry into the changing dental health care delivery system and (b) provide high quality dental care to all people once they are in the system. The obvious goal of effecting such changes is to improve the level of dental health in the population.

If these proposed changes are as effective for improving the level of dental health as anticipated, it seems rational to ask, "Within what time period is it realistic to expect such changes to take place?" There is, perhaps, no definitive answer to this question at the moment. However, local and national trends on health and health-related matters provide a basis for some rational speculation.

First, recent recommendations of the American Dental Association's (ADA) Task Force on National Health Programs and the Association's board of trustees' report to its house of delegates (14), plus ADA's policy on national dental care programs, indicate, to some degree, a philosophical readiness of organized dentistry to accept change leading to improved dental health of the population. Such change will require an overall new professional perspective.

Second, it is a basic philosophy of a democracy to permit discussion, agreement, and dissent. Although there continues to be considerable discussion by certain organizations and individuals on contemporary health care issues, there are perhaps more people in favor of, than in opposition to, an equitable comprehensive health insurance plan.

Some indication of this feeling can be noted among the ranks of organized labor, a traditional power base for political action and health care policy formulation. The Committee for National Health Insurance (15), originally chaired by the late Walter P. Reuther, has been influential in gaining public support and commitment for a national health insurance plan. These kinds of commitments, plus the high level of public concern and dissatisfaction with the status of health care delivery, suggest not only the public's readiness for change but its willingness to consider acceptance of the accompanying financial responsibility.

Third, during the last 3 years, the Federal Government has given strong evidence of concern about the state of the nation's health. During this time, the Kennedy national health insurance (NHI) bill, the Nixon Administration NHI bill, and several other similar bills have emerged in the Congress. Not all of these bills have dental components; however, the Kennedy bill does. The important point is that the Federal Government is exhibiting a growing interest in health care and that its chief areas of concern are (a) methods of health care financing, (b) provisions for quality of care, and (c) methods for delivery of care. Thus, Government appears to be ready to consider the changes and to commit the resources necessary to implement new programs through a restructuring of its national priorities for improving the overall health of the nation, including dental health.

Since the baseline data reported upon in this paper were gathered, these forces have begun to change the dental care system of Monroe County. Followup surveys in 1969 and in 1971 were designed to measure effects of different ways of financing and delivering care. Only a careful analysis of the situation before these changes took effect will permit us to evaluate their impact.

REFERENCES

- Kegeles, S. S.: Why people seek dental care: A review of present knowledge. Am J Public Health 51: 1306-1311, September 1961.
- (2) Suchman, E. A., and Rothman, A.: The u⁺ilization of dental services. NY State Dent J 31: 151-158, April 1965.
- (3) National Center for Health Statistics: Dental visits: Time interval since last visit, United States, July 1963-June 1964. PHS Publication No. 1000, Ser. 10, No. 29. U.S. Government Printing Office, Washington, D.C., 1966.
- (4) National Center for Health Statistics: Volume of dental visits, United States, July 1963-June 1964.
 PHS Publication No. 1000, Ser. 10, No. 23. U.S. Government Printing Office, Washington, D.C., 1965.
- (5) Kegeles, S. S.: Some changes required to increase the public's utilization of preventive dentistry. J Public Health Dent 28: 19-26, winter 1968.
- (6) Moen, B. D., and Poetsch, W. E.: More preventive care, less tooth repair. J Am Dent Assoc 81: 35, 36 (1970).
- (7) James, G.: Poverty as an obstacle to health progress in our cities. Am J Public Health 55: 1757-1771 (1965).
- (8) Kriesberg, L., and Treiman, B. R.: Socioeconomic status and the utilization of dentists' services. J Am Coll Dent 27: 147-165 (1960).
- (9) National Center for Health Statistics: Children and youth: Selected health characteristics, United States, 1958 and 1968. PHS Publication No. 1000, Ser. 10, No. 62. U.S. Government Printing Office, Washington, D.C., 1971, pp. 38-43.
- (10) Leverett, D. H., and Jong, A.: Variations in use of dental care facilities by low-income white and black urban populations. J Am Dent Assoc 80: 137-140 (1970).
- (11) Roghmann, K. J., and Haggerty, R. J.: Rochester child health surveys I: Objectives, organization, and methods. Med Care 8: 47-59, January-February 1970.
- (12) Bureau of Economic Research and Statistics: Facts about States for the dentist seeking a location. American Dental Association, Chicago, December 1970, p. 6.
- (13) Roghmann, K. J., and Haggerty, R. J.: Mini-dataarchives. The Rochester child health studies masterfiles. Inquiry 9: 66-71, March 1972.

- (14) Task Force on National Health Programs: Comments on the report from the board of trustees to the house of delegates. J Am Dent Assoc 83: 763-770 (1971).
- (15) Kennedy, E. M.: Comprehensive national health insurance. In Congressional Record, U.S. Senate, Oct. 23, 1969. U.S. Government Printing Office, Washington, D.C., pp. 31328-31332.

POWELL, ELBERT A. (University of Connecticut School of Dental Medicine), and ROGH-MANN, KLAUS J.: Use of dental services in an urban area before Medicaid and an OEO health center. Health Services Reports, Vol. 88, March 1973, pp. 260–270.

The pattern of use of dental health services in Rochester and the surrounding suburbs in Monroe County, N.Y., was investigated by collecting data in 1966-67 on a countywide basis from household interviews of a 1 percent probability sample of all families with children under 18 years of age. Generally, findings in this study were in agreement with those of previous studies cited. with some exceptions noted, which showed a direct relationship between socioeconomic status and the pattern of use of dental health services.

These study results showed that (a) approximately three-fifths of all respondents visited dentists during the 12-month period preceding the survey interview, compared with less than 45 percent in the general U.S. population who make such visits; (b) about two-thirds of all children and 50 percent of all mothers received preventive services on their most recent dental visits preceding the survey, compared with less than 25 percent in the general population who received such services; (c) a substantial majority of all respondents' dental visits were made to private offices rather than to clinics; (d) less than 10 percent of the study population made checkup visits every 6 months while 55 percent made such visits every 12 months, and these visits were strongly associated with socioeconomic status; and (e) more than 70 percent of all respondents having routine checkups received some type of notification. Although no definite association was established between receiving checkup visit notices and going to dentists for preventive services, the data suggested a trend in that direction.

These findings suggest mandates for action by the dental profession, for the public, and for Government to develop ways of providing equal access to and delivery of high quality dental care for all of the population regardless of socioeconomic status. Contemporary philosophy and policy within these three groups point to efforts in this direction. The impact of these efforts on the community studied will be the subject of a separate report.