Urban Dental Expenditures

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Out-of-pocket dental expenditures of the urban population amounted to about $10 per person in 1950. They accounted for about 15 cents of each $1 of total out-of-pocket medical care expenditures. The average urban family spends about $30 a year for dental care as compared with $197 for all medical and health services.

Dental expenditures are highly concentrated. Almost half of the more than $900 million spent on dental care by urban families in 1950 represents the spending of less than 5 percent of the city population. About 48 percent of urban families reported no dental outlays.

Dental expenses take a larger share of the medical care dollar at ages 6–18 years than at other ages. About 28 percent of all medical spending for children of these ages goes for dental care. In contrast, only 7 percent of the medical care expenditures of those 65 years or over goes for dentistry. Dental bills of $100 or more, however, take a larger share of the dental dollar of the middle and older age groups.

DATA COLLECTED from families surveyed by the Bureau of Labor Statistics in its 1950 study of spending habits among city families provide a basis for analyzing some aspects of the dental expenditure patterns in urban areas, where dental resources and facilities are relatively more ample than they are in rural places (*1*). They provide information on the concentration of dental expenses, which other surveys have by and large neglected, but which may throw some light on the financial problem of prepayment of dental services.

The design and coverage of the Bureau of Labor Statistics survey were outlined in an earlier article (*2*). In summary, the Bureau of Labor Statistics interviewers obtained complete and useful information on family income and spending habits for 12,489 families, including single-person consumer units.

As a basis for a study of medical care spending variations by age groups, the Public Health Service drew a random subsample of the Bureau of Labor Statistics schedules and tabulated the information reported by the families on expenditures of individual family members. In selecting the subsample the interview schedules were stratified by the amount of total medical care expenditures. The subsample included all schedules reporting expenditures of $1,000 or more, 50 percent of those reporting $400 to $1,000, 20 percent of those reporting $200 to $400, and 10 percent of those reporting some medical care expenditures but in amounts less than $200. To provide a basis for evaluating medical care received by public beneficiaries, such as public assistance recipients, 50 percent of the schedules reporting no medical care expenditures were also included in the subsample. A total of 2,414 consumer units composed of about 7,639 persons were included in the subsample.

Data on family expenditures are based on tabulations of 12,489 consumer units interviewed by the Bureau of Labor Statistics. Data on individual expenditures are based on the subsample of 2,414 consumer units.

Dental expenses reported in the survey represent out-of-pocket charges incurred by members of the family for the broad range of

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Table 1. Average out-of-pocket expenditures per family for dental care and for direct medical care, by income group, urban population, 1950

Income group	Dental expenditures		Total direct medical expenditures [1]	
	All families	Families with dental expense	All families	Families with medical expense
All income groups	[2] $30	$58	$163	$175
Under $1,000	7	43	82	105
$1,000–$1,999	10	35	80	94
$2,000–$2,999	17	54	120	129
$3,000–$3,999	27	46	159	166
$4,000–$4,999	35	52	178	184
$5,000–$5,999	41	56	205	209
$6,000–$7,499	56	75	248	253
$7,500–$9,999	64	82	338	345
$10,000 and over	96	116	390	394

[1] Excluding health insurance premiums but including dental expenditures.
[2] Averages adjusted to Bureau of Labor Statistics aggregate medical care expenditures per consumer unit and 91-city distribution of expenditures by class of service.

dental services, including dentures and dental X-rays. Drugs purchased on the prescription of a dentist are excluded from dental expenses.

Family Dental Expenses

Urban families in 1950 spent an average of about $30 for dental care; excluding families who made no expenditure, the average was about $58 (table 1). Converting the $30 family average to a nationwide estimate of urban family dental spending yields a figure of some $945 million, a figure which is high when compared with national income account estimates of personal consumption for dental care. This divergence between family survey estimates of aggregate dental care expenditures and the national income estimates of the Department of Commerce derived from income surveys of practitioners has been noted by others (*3–5*). Additional study is required to analyze these differences and determine the origin of the divergencies and the conceptual and reporting problems involved.

The data on urban family expenditures underscore the special characteristics of dental spending which mark it as different from other medical outlays. For one thing, a large proportion of consumers do not purchase dental care in a given year. In 1950 about 48 percent of the urban families reported no expenses for dental care. In contrast, only 7 percent of the families reported no spending for direct health services, that is, spending for medical care exclusive of health insurance premiums (table 2).

Dental care spending by income groups varies more sharply than other medical care costs. Average family dental expenditures of the $1,000 to $2,000 income group, for example, are about one-tenth of the average dental expenditures of families with incomes of $10,000

Table 2. Percentage of families reporting out-of-pocket expenditures for dental care and direct medical care, by income group, urban population, 1950

Income group	Dental expenditures	Direct medical expenditures [1]
All income groups	52	93
Under $1,000	16	78
$1,000–$1,999	28	85
$2,000–$2,999	31	93
$3,000–$3,999	59	96
$4,000–$4,999	66	97
$5,000–$5,999	73	98
$6,000–$7,499	76	98
$7,500–$9,999	78	98
$10,000 and over	83	99

[1] Excluding health insurance premiums but including dental expenditures.

and over. Average expenditures for direct medical care of the $1,000 to $2,000 income group are about one-fifth of the average expenditures of families with incomes of at least $10,000. This difference is attributable largely to the variation in the proportion of families in different income groups who use paid dental services. Almost 3 times as great a proportion of families with an income of $10,000 or more report dental expenses as do families with an income of $1,000 to $2,000. There is little difference between the high and lower income groups in the proportion of families reporting some direct medical expenditures.

The average spent for all direct medical expenditures (that is, excluding insurance premiums) by families reporting some expenses is 4.2 times as high for families with an income of $10,000 or more as for families with an income of $1,000 to $2,000. In contrast, average dental expense of the $10,000 and over income family reporting some dental expenditures is only 3.3 times that of the $1,000 to $2,000 income family.

Within these averages there is considerable variation depending on the age of family members and family size, as well as other characteristics.

Age Differentials

The pattern of age differentials in dental spending for urban residents is similar to that obtained by the Health Information Foundation in its 1952–53 survey of both rural and urban families (*6*). Dental charges in the Health Information Foundation study averaged $10 per person, with a high of $14 per person 35–54 years of age and lows of $4 per person 65 years of age or older and $1 per person under 6 years of age. In the Public Health Service study, limited to urban residents, the high is $13 for those 19–44 years of age, and the low is $2 for children under 6 (table 3). The average expenditure for urban persons 65 and over in the Public Health Service study is $6, compared with the Health Information Foundation average of $4 in both urban and rural areas. (The percentage distributions by age group of the Public Health Service sample, of the urban population, and of dental expenditures are given in table 4.)

Table 3. Average out-of-pocket expenditures per person for dental care and for all medical care, by age group, urban population, 1950

Age group (years)	Average dental expenditures		Total medical expenditures [1]
	Amount	Percent of total medical expenditures	
All age groups	[2] $10	15. 2	[2] $65
Under 6	2	6. 1	29
6–18	10	28. 5	35
19–44	13	17. 4	72
45–64	11	12. 1	93
65 and over	6	7. 2	83

[1] Including health insurance premiums and dental expenditures.
[2] Averages adjusted to Bureau of Labor Statistics aggregate medical care expenditures per consumer unit and 91-city distribution of expenditures by class.

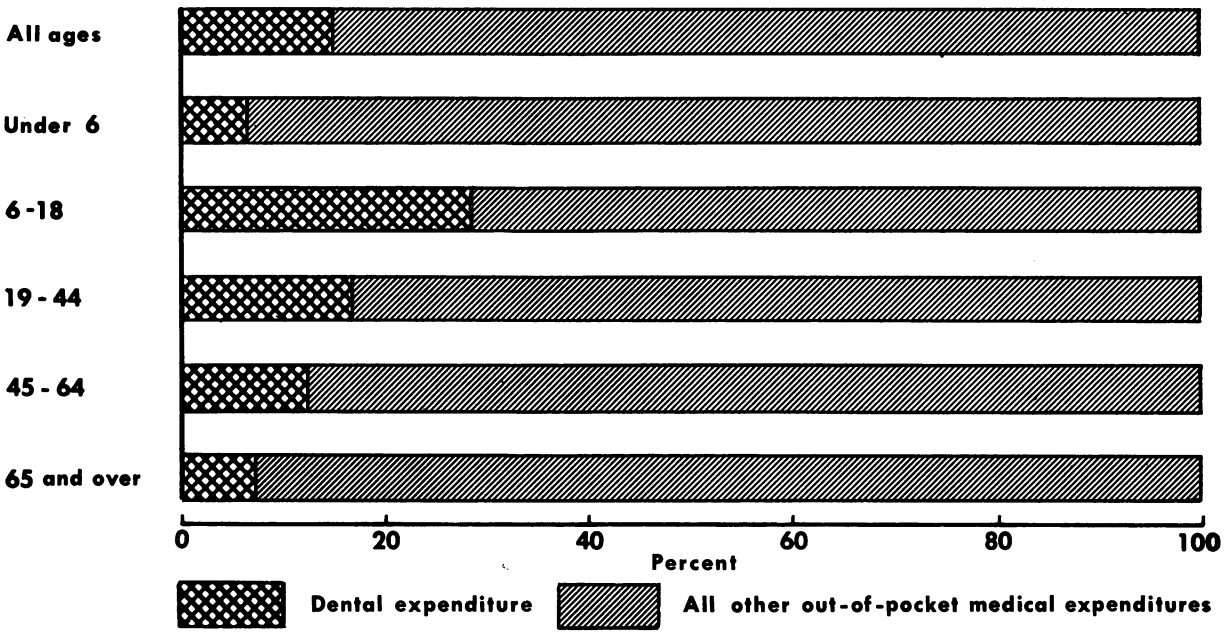
While dental expenses account for 15 percent of total medical care expenditures of all urban residents, they account for 28.5 percent of the total medical spending for those 6–18 years of age (fig. 1). Dental expenses account for about 7 percent of total medical spending of persons 65 and over and for only 3 percent of expenditures of those 75 and over.

These averages reflect the appreciable proportion of persons in each age group who had no dental expenses during the year. Almost 70 percent of urban residents of all ages incurred no dental expenses. Excluding children under

Table 4. Percentage distribution of urban population and urban out-of-pocket dental expenditures, by age group, 1950

Age group (years)	Percent of urban population		Percent of dental expenditures
	In sample	In United States	
All age groups	100. 0	100. 0	100. 0
Under 6	12. 7	11. 9	2. 3
6–18	19. 1	17. 6	19. 3
19–44	38. 3	41. 1	48. 8
45–64	21. 3	21. 3	24. 3
65 and over	8. 6	8. 1	5. 3

Figure 1. Dental expenditures as percentage of total out-of-pocket medical care expenditures, by age group, 1950.



6 years because dental services are usually not initiated until the child reaches 3 or 4 years of age (*7*), the proportion of persons reporting no dental expenses increases from 60 percent for those 6 through 44 years of age to 87 percent at ages 65 years and over (table 5).

Concentration in Expenses

Not only is the proportion of families purchasing dental services substantially higher in the upper income groups but a large part of all dental expenditures is accounted for by the spending of a small part of the population. For all age groups combined almost half of the dental expenditures are made by individuals spending $50 or more a year for dental care. The concentration of expenses differs considerably by age: In the 6–18 age group only 30 percent of dental expenses are in amounts of $50 or more, and in the 45–64 age group almost two-thirds of the expenses are above $50 per year (table 6).

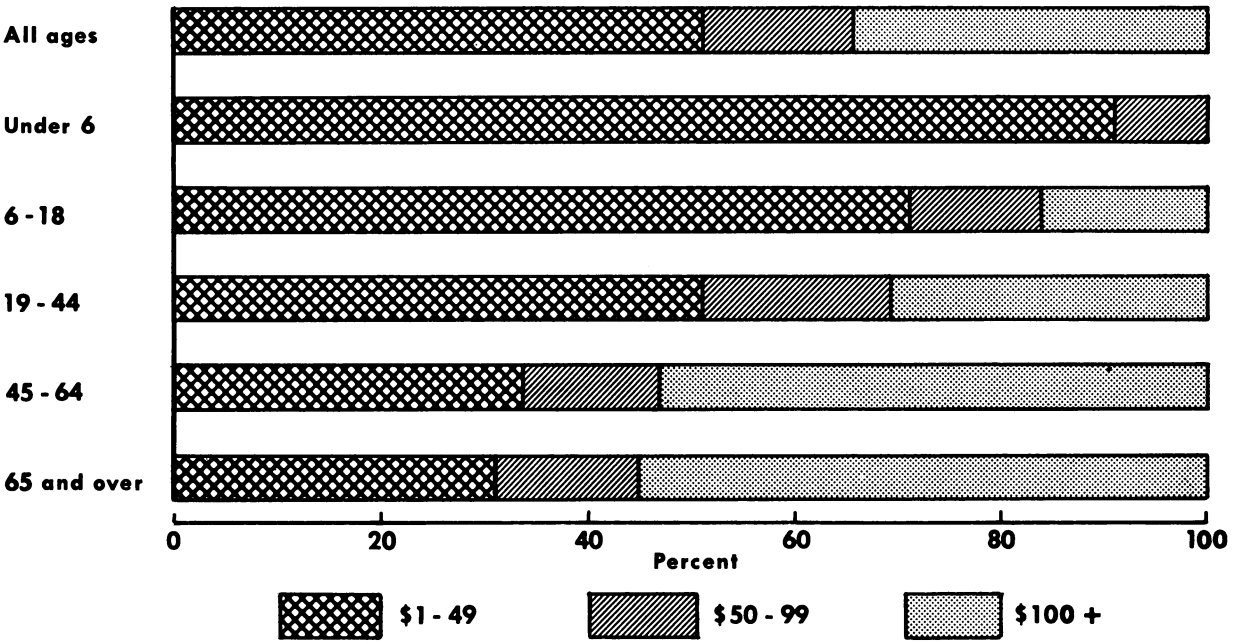
Although a smaller proportion of the urban population in the upper age groups incurred dental charges, a large part of their dental bills

Table 5. Percentage distribution of persons in each age group by amount of out-of-pocket dental expenditures, urban population, 1950

Dental expenditures	Age group (years)					
	All ages	Under 6	6–18	19–44	45–64	65 and over
Total	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
None	69. 5	91. 4	60. 4	60. 5	73. 8	86. 7
$1–$49	25. 7	8. 3	36. 4	33. 0	19. 7	9. 6
$50–$99	2. 6	(0. 3)	2. 4	3. 9	2. 5	1. 4
$100–$199	1. 6	0	. 5	1. 8	3. 0	1. 8
$200 and over	. 6	0	. 3	. 8	1. 0	. 5

NOTE: Figures are shown in parentheses when the product of the percentages and the unweighted count of persons in the sample in the given age group is less than 10.

Figure 2. Percentage distribution of dental expenditures by size of expenditure and age group, 1950.



was made up of annual bills of $100 or more or even $200 or more (fig. 2). About 1 percent of children 6–18 years of age incurred dental charges of $100 or more, and the charges in these amounts accounted for 16 percent of the total dental spending for this age group. By way of comparison, about 4 percent of persons 45–64 years of age incurred annual dental charges of $100 or more, but their bills represented more than $1 out of each $2 of the total dental spending of urban residents of those ages. Their charges of $200 or more represent more than $1 out of each $5 spent by those 45–64 years of age.

Differences in spending patterns reflect in part differences in the nature of dental care needs associated with age. The large dental bills are of lesser importance in dental spending for children under 19 years of age than in dental spending of the middle or upper ages. More than 90 percent of the dental expenses for children under 6 years and about 70 percent of the dental expenses for children 6–18 years are in amounts less than $50; only 10 percent of the

Table. 6. Percentage distribution of out-of-pocket dental expenditures of each age group by amount of expenditures, urban population, 1950

Dental expenditures	Age group (years)					
	All ages	Under 6	6–18	19–44	45–64	65 and over
Total	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
$1–$49	50. 6	91. 2	70. 9	51. 0	34. 1	30. 9
$50–$99	15. 5	(8. 8)	13. 2	18. 3	12. 8	13. 8
$100–$199	18. 7	0	5. 9	16. 6	31. 2	34. 9
$200 and over	15. 2	0	10. 0	14. 1	21. 9	20. 4

NOTE: Figures are shown in parentheses when the product of the percentages and the unweighted count of persons in the sample in the given age group is less than 10.

charges for those 6–18 are in amounts of $200 or more. Preventive dentistry at preschool ages may help to reduce that part of these expenses attributable to dental neglect.

Trends in Spending

Estimates of dental expenditures published each year by the Office of Business Economics of the Department of Commerce indicate that the share of total medical care spending represented by dental expense has decreased (*8, 9*). In 1929 dental expenses represented 16 percent of personal medical care expenditures; in 1950, 10 percent; and in 1956 (the latest year for which data are currently available), about 9 percent. Household survey data similarly indicate some but not as marked a decline in the share of medical spending going for dental services. This decline is attributable in part at least to the reduced dentist-population ratio.

In the survey data of the Committee on the Costs of Medical Care for 1928–31, dental care represented about 18 percent of total private medical spending. The Health Information Foundation survey indicates that about 16 percent of gross medical charges went for dental services in 1952–53. The Bureau of Labor Statistics data indicate that 15 percent of out-of-pocket medical expenses of urban consumers went for dentistry in 1950.

Dental spending per person increased during the 20-year period from $6.41 for cities of 5,000 and over population in 1928–31 (*10a*) to $10 for urban areas in 1950. However, medical expenses per person increased more. In 1928–31 the city average per person was $30.90 (*10b*); in 1950 the city resident average was almost $65. (These figures are in current dollars for the year in which they were reported.)

It is not surprising in view of the increased complexity of medical care, the number of new types of professional and paramedical skills comprising the "medical care package," and the spread of prepayment coverage that dental expenditures have declined somewhat in relation to total medical spending.

Utilization of dental services has increased somewhat. In 1928–31, 74.4 percent of persons in cities of 100,000 or more population and 78.5 percent of persons in cities with populations of 5,000 to 100,000 incurred no expenses for dental care (*10c*). In 1950, 69 percent of urban residents reported no dental expenses. This is remarkably little improvement in utilization when account is taken of the typical pattern of dental spending in relation to income and the rise in average family income since the survey of the Committee on the Costs of Medical Care. (Factors other than income—education and social status, in particular—influence utilization of dental services, but this study provided information only on the relation to income.) Typically, dental spending, both in the percentage of persons incurring dental expenses and the average amount of expenses, rises with family income. Why has the rise in income levels and improved distribution of income among families not been reflected in a more substantial improvement in use of dental services? Similarly, why has the increased urbanization of the population not resulted in substantially increased dental care? Part of the problem may lie in the lack of comparability of the survey data and in the inadequacies of family reporting in the medical expenditure surveys. In part it may be attributed to the decline in the ratio of dentists to population.

The National Health Survey now under way will provide data for evaluating utilization of dental services among the general population in both rural and urban areas. This survey, moreover, will provide data on the types of dental services used by different groups in the population.

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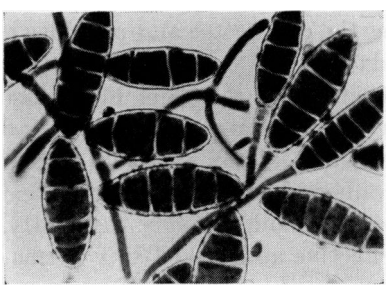
films

Laboratory Diagnosis of Ringworm In Animals

I. *Microsporum* Infections
II. *Trichophyton* Infections

35-mm. filmstrip, color, sound, 8 minutes, 47 frames and 12 minutes, 60 frames, respectively, 1957.

Audience: Veterinarians, physicians, and mycological laboratory technicians.



Microsporum gypseum macroconidia.

The clinical features of *Microsporum* and *Trichophyton* ringworm in animals are described, followed by demonstrations of methods for examining the animals with the Wood's light and for collecting specimens for laboratory study.

The laboratory methods consist of examining the clinical materials, inoculating culture media, and in case of *Microsporum* identification of the two important species *canis* and *gypseum* and of *Trichophyton*, *mentagrophytes*, *equinum*, *verrucosum*, and *gallinae*.

The mode of transmission of infections from animal to man and the appearance of the infections in man are illustrated.

These films are available on short-term LOAN from the Communicable Disease Center, Public Health Service, 50 7th Street NE., Atlanta 5, Ga., and by PURCHASE from United World Films, Inc., 1445 Park Avenue, New York 29, N. Y.

"Anyone for Nursing?"

16-mm. filmograph, color, sound, 17 minutes, 1957.

Audience: Schools of nursing, nursing organizations, and high school career guidance groups.

This filmograph covers in detail nursing activities and opportunities in Public Health Service hospitals, in the Indian and international health programs, in research nursing at the National Institutes of Health, and public health nursing programs generally.

The story is presented in a light, gay manner throughout, with an occasional cartoon and simple animation.

This film is available on short-term LOAN from the Recruitment Branch of the Division of Personnel, Public Health Service, Washington 25, D. C., and by PURCHASE ($60 per print) from the Communicable Disease Center, Public Health Service, 50 7th Street NE., Atlanta 5, Ga.

Child Care Problems of Physically Handicapped Mothers

16-mm. film, color, sound, 30 minutes, 1957.

Audience: Professional personnel and lay people interested in problems of the handicapped mother.

The film, made in 8 different homes, shows the problems of 1 normal mother, 3 wheelchair mothers, 1 amputee mother, 1 mother with muscular weakness, 1 using a crutch, and 1 with a leg brace. It points up the need for expanding programs to include more of the 10 million handicapped homemakers in the United States.

It was produced by the School of Economics, University of Connecticut, in cooperation with the Connecticut Team Approach Committee on Research Demonstrations and Workshops Concerning Physically Handicapped Women, and the Office of Rehabilitation, Department of Health, Education, and Welfare.

Address inquiries on borrowing and purchase to Audio Visual Center, University of Connecticut, Storrs, Conn.