Demand For Health Insurance Coverage In a Metropolitan Population

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VOLUNTARY health insurance coverage in the United States has expanded greatly during the past two decades. Through voluntary organizations about four of every five Americans are currently covered by some form of health insurance, compared with only one in 10 who were covered in 1940. In 1955 a mere 4.9 percent of the U.S. population was covered by major medical insurance. This proportion was 33 percent in 1965. Protection for health expenditures under conventional insurance has also been substantially increased. For instance, during the past 10 years the number of persons covered for hospitalization expenditures increased by 45 percent; coverage for surgical expenses rose 59 percent, and coverage for regular medical expenses went up 103 percent (*1*).

In 1965 Americans spent an estimated $27.4 billion on medical care. They paid $12.1 billion in health insurance premiums and received $9.6 billion in returns and benefits for medical care expenditures. Thus, close to 80 percent of the premiums paid to insurance organizations were returned in benefits to subscribers. However, only 35 percent of all medical care expenditures have been covered by health insurance (*1*).

With the increase in emphasis on the provision of insurance protection for medical care expenditures, as well as in the cost of medical care, public views toward health insurance coverage and public demand for various benefits under the system of prepayment are particularly significant.

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The Study

The data reported here, except those concerning members of the United Auto Workers (UAW) union, represent the adult population of the Detroit Standard Metropolitan Statistical Area. They were gathered as part of a larger survey by Ralph V. Smith and Stanley Flory, Institute for Community and Educational Research, Eastern Michigan University, in the spring and summer of 1965. Data used in this study are from 931 interviews, representing 87 percent of the total attempted sample.

Our analysis of "demand" for health insurance protection is only partly justified by these data, because the basic dependent variable, the index used for demand, does not refer to the technical concept of demand economists use. Nevertheless, we believe the data are highly relevant to economic demand.

The variable of demand was based on two sets of questions, each dealing with the judged importance of seven benefits of health insurance coverage—hospital, surgical, inhospital

medical, home and office medical, drugs, dental, and home nursing. The first set made no mention of cost. The second set repeated the same series of questions with the added phrase, "if additional premiums were to be paid . . .," and the respondents were asked to make judgments again. While suggesting price, the second set did not designate dollar amounts.

The health care benefits can fit into two categories—the commonly attainable features such as hospital, inhospital medical, and surgical benefits and those innovative features not commonly available such as home and office medical, drugs, dental, and home nursing benefits. Indeed, coverage for drugs, dental, and home nursing benefits is still rare in the United States.

Findings

Table 1 provides an overview of demand for specific health care benefits for a sample of UAW members (*2*) and a cross section sample of the Metropolitan Detroit population. The Detroit sample was asked both forms of the question. Demand by automobile workers was great. At least half of them considered it very important to have insurance coverage for each feature of health care mentioned. The source of this desire is unclear to us, but its existence did raise the question of whether it was a general phenomenon or unique to the UAW.

Table 1. Importance of health insurance coverage for specific benefits as seen by a sample of UAW members and a cross section sample of the Metropolitan Detroit population, by percent

Benefit	UAW sample (N=386)			Cross section sample (N=931)					
	Very important	Somewhat important	Not important	Very important		Somewhat important		Not important	
				No cost [1]	Added cost	No cost [1]	Added cost	No cost [1]	Added cost
Hospital	98	1	1	95	89	4	8	1	3
Surgical	98	1	1	94	88	5	8	1	4
Inhospital medical	96	3	1	90	84	8	12	2	4
Home and office medical	69	21	10	51	46	29	26	20	28
Drugs	62	21	17	47	43	28	27	25	30
Dental	62	21	17	43	39	29	26	28	35
Home nursing	55	25	20	40	36	33	31	27	33

[1] Indicates the simple form of the question with no mention of cost.

Table 2. Importance of health insurance coverage for specific benefits by ecological zones, by percent [1]

Benefit	Inner city (N=182)		Outer city (N=271)		Inner suburbs (N=331)		Outer suburbs (N=147)	
	No cost [2]	Added cost	No cost [2]	Added cost	No cost [2]	Added cost	No cost [2]	Added cost
Hospital	92	78	95	86	97	95	96	94
Surgical	92	78	94	86	95	93	94	94
Inhospital medical	89	77	89	80	91	89	89	89
Home and office medical	66	57	55	51	41	41	48	37
Drugs	64	54	47	41	40	40	45	37
Dental	58	50	45	38	35	38	38	30
Home nursing	52	44	39	33	38	37	32	25

[1] Percentage reported is for those considering each benefit "very important."
[2] Indicates the simple form of the question with no mention of cost.

The level of demand of the general population was appreciably lower than that of the auto workers, especially in terms of innovative features of health insurance. Nevertheless, more than a third of all adults in the metropolitan area considered each benefit very important and almost three-fourths considered them at least important. The mention of money did not frighten people away, although it did cause a decrement in the level of demand. The decrement in the percentage of persons considering each benefit set very important varied from four to six, with the higher decrement for the most universally valued; that is, those who wanted dental and home nursing coverage were least affected by mention of cost, although the variation was slight. It does appear that there was a good insurance market, despite or because of recent increases in coverage.

The ecological zones in table 2 include the customary areas of inner city, outer city, and suburban fringe. In addition, the sample includes the outer suburban area beyond the densely populated middle and high income residential areas. It includes some rural areas, low cost suburbs, and satellite cities of the Detroit Standard Metropolitan Statistical Area. These zones were used for stratification in the sample design since previous studies have shown significant socioecological differences among residents of these areas. Residents of inner city slightly undervalued the usual available benefits compared to residents in other zones, but valued more highly the innovative benefits. Perhaps of crucial significance was the trend of residents of inner city to drop away at the mention of money more than residents of other zones. This is, of course, simple realism—money is scarce in this area. Even with a greater drop, however, the demand for less valued items was higher in the inner city than in other zones.

The uniformities of demand were high, particularly in the order relations among benefits: most people responded as if they viewed the items as having the same order of desirability. The measure of this is that the items come surprisingly close to forming a chain or Guttman scale which incorporates the idea of a single order (table 3). The distribution of sums of the items valued dichotomously with one for very important indicates a much greater amount of spread toward extremes than would be true under independence, and this is measured by the variances given. The theoretical distribution under maximal relation, assuming a single order, is also presented. The average intraclass correlation among items was 0.35, but this should be viewed in the context of the maximum correlation, which was 0.52, given the variance in item proportions which is necessary to scaling. This set of items then achieved about two-thirds of the distance from independence to maximal relation.

Responses to questions mentioning extra cost had an even tighter structure, attaining almost three-fourths of the distance from independence to maximum variance of the sums. In detail, it may be seen that 4 percent considered none of the benefits very important, much more than would be expected under independence (the product of the $q_i \equiv (1-Pi)$, and nearly that expected maximally, but still a small proportion of the population. More than a fourth considered all seven very important, although if relations were maximal this would be 40 percent, the proportion choosing the least frequently chosen benefit, home nursing. The high proportion in the middle was related to the difference in proportions between available and innovative benefits.

While the addition of items is not fully justi-

Table 3. Analysis of benefit structure showing number of benefits wanted

Number of benefits wanted	Percent of persons	Percent under maximal relations
0	4	5
1	0	1
2	3	4
3	26	39
4	16	4
5	14	4
6	10	3
7	26	40
Total	99	100
Mean	4. 60	[1] 4. 60
Variance	3. 67	4. 85

[1] Under independence, mean=4.60, variance=1.19.

NOTE: Percent of maximal independence:

$$\frac{3.67-1.19}{4.85-1.19}=\frac{2.48}{3.66}=0.677$$

fied, since the items are not completely colinear, the close approximation warrants using the proportions of persons choosing specified numbers of benefits. A minimum of five benefits considered by respondents as very important was categorized as a high level of demand; three to four benefits considered very important was medium; less than three benefits considered very important was low.

Of some two dozen demographic variables examined, three best related to differences in strength of judged importance of insurance coverage for extended benefits—life cycle stages, relative income, and judged adequacy of income. Older persons in all marital status groups and persons living alone placed greatest importance on all benefits (table 4). Persons under age 40, particularly those who were single, felt less inclined to want all benefits. The presence of children is related to higher demand, and particularly to a low proportion wanting no insurance. The highest demand for benefits was among widowed, separated, or divorced persons, especially those with children under 18 years of age. This is suggestive of three phenomena prevalent in medical care data—physiological susceptibility, social responsibility, and lack of social support, or aging, child rearing, and anomie. They may be considered collectively as vulnerability, the greater likelihood of incurring and the lesser likelihood of meeting medical expense for and by oneself and others. Aging, as physicians know and politicians will learn, does not begin at the industrial retirement age, and responsibilities do not occur at the peak earning years.

Table 4. Demand for health insurance by family life cycle stage, by percent

Level of demand	Life cycle stage and ages in years								
	Single		Married					Widowed, separated, divorced	
			No children		With children			With children under 18 (N=113)	No children under 18 (N=30)
	Under 40 (N=52)	40 and over (N=29)	Under 40 (N=28)	40 and over (N=70)	Under 6 (N=233)	6–18 (N=218)	Over 18 (N=156)		
No cost suggested:									
High	44	59	46	58	46	51	45	61	57
Medium	40	24	46	31	49	43	46	32	43
Low	16	17	8	11	5	6	9	7	0
Added cost suggested:									
High	33	57	32	56	44	43	36	47	51
Medium	49	25	50	25	48	47	47	42	34
Low	18	18	18	19	8	10	17	11	15

Table 5. Demand for insurance coverage by respondent's perceived income rating in comparison with incomes in Detroit area, by percent

Level of demand	Income rating							
	Above average (N=250)		Average (N=460)		Below average (N=117)		Well below average (N=61)	
	No cost [1]	Added cost	No cost [1]	Added cost	No cost [1]	Added cost	No cost [1]	Added cost
High	38	37	51	45	62	52	77	60
Medium	49	49	43	44	34	36	21	26
Low	13	14	6	11	4	12	2	14

[1] Indicates the simple form of the question in which there was no mention of cost.

With added cost suggested, the greatest drop in demand was among widowed, separated, or divorced persons with dependent children and married persons under age 40 with no children (table 4). Among single persons, those under 40 years of age dropped and those 40 and over maintained their demand in the face of cost. Age and having dependent children appeared to be the basis for maintained demand in the face of expense.

Persons who rated their family income below average in comparison with incomes in the Detroit area were more likely to reduce demand in the face of added cost (table 5), as were persons who rated their family income less than adequate for meeting basic family needs (table 6). Nevertheless, as Koos reported, insurance is more desirable for them than for persons with adequate incomes, who can meet their own needs, and persons with incomes well below average, who may have some institutional care available to them (*3*).

Those persons with no insurance showed a higher variance in demand, including a greater proportion wanting all benefits and a greater proportion wanting none, than persons covered by insurance (table 7). This may reflect both need and ability to obtain insurance. Reasons for lack of insurance reported by another survey (*4*) were related primarily to respondents being in good health or delaying the decision to buy insurance. Half of those not covered by insurance wanted high coverage. However, about a quarter of the persons not covered did not want to be covered.

The desire to have general practitioners and specialists work together as a group rather than alone is also worth mention. Fifty-six percent of all persons in Metropolitan Detroit preferred group practice; a third preferred solo practice, and an eighth had no preference. Considering the general unavailability of group practice, the desire for it seems great. Group practice was seen not just as a matter of convenience but was associated with better medical practice. However, this feature of medical care organization does not relate to extended benefits at all, and certainly not in the quasi-scale structure of the benefits. The same was true of

Table 6. Demand for insurance coverage by respondent's perceived income adequacy to meet family's needs, by percent

Level of demand	Income adequacy					
	More than adequate (N=114)		Adequate (N=609)		Less than adequate (N=205)	
	No cost [1]	Added cost	No cost [1]	Added cost	No cost [1]	Added cost
High	32	33	49	43	64	51
Medium	50	49	44	44	33	37
Low	18	18	7	13	3	12

[1] Indicates the simple form of the question in which there was no mention of cost.

Table 7. Demand for insurance coverage by insurance status of respondent, by percent

Level of demand	Insurance status					
	Not covered (N=115)		Covered as subscriber (N=493)		Covered as dependent (N=323)	
	No cost [1]	Added cost	No cost [1]	Added cost	No cost [1]	Added cost
High	58	50	50	43	47	43
Medium	29	22	43	45	47	47
Low	13	28	7	12	6	10

[1] Indicates the simple form of the question in which there was no mention of cost.

coverage for regular checkups and preventive inoculations, although those who did not want these items covered tended to accept only the three most usual benefits.

Conclusions

Importance of insurance coverage was judged high by many people and outran both availability and ability to pay for it. A majority wanted insurance covering hospitalization, surgical services, medical services in the hospital, home, and office, drugs, dental services, home nursing, checkups, inoculations, and provision of group practice. The uniformly tight structure of attitudes toward the first seven of these benefits coupled with high rated importance would appear to present a political program for a democratic society, and there is danger in the disjuncture between aspiration and achievement. Those labor and other consumer groups now providing comprehensive prepaid group practice plans appear to be presenting a socially desired pattern for future medical care systems and serving to reduce the pressures for rapid and perhaps ill-considered political expedients. Even more evaluated experimentation in extension of benefits is desirable, and attempts to prevent such efforts are decidedly dangerous.

We do not yet understand what generates these desires, much less what statisfies them. Realistic appraisal of situations as reflected in the higher judged importance of benefits by the more vulnerable seems to be one such factor. How this occurs is still a psychological mystery in terms of where the information comes from when we consider that only a few years ago the current majority position in Detroit would have been an advanced view even among those most concerned with medical care reform. Communication even in urban areas is seldom this rapid or pervasive. The majority position would not appear to be attributable to widespread formal medical care teaching, although medical bills provide adequate motivation and are known to nearly everyone.

Such realistic assessment with consequent support of at least innovative experimentation is still to be achieved among health professionals. Perhaps, as Follmann pointed out, "the concerns of the health of a people and of their basic personal economic security" are crucial for considering the organization of medical care. "Health and personal economic security become one at the point of the economic costs inherent in illnesses and accidents . . ." (*5*).

In brief, there are variations in extent of demand, and these appear to be related not only to specific need but to ability to pay and are quite independent of considerations of the organizational form considered so important by students of medical care. All proposed solutions have their problems, among which may be the futility of striving for universality in a segmented society. We need not only more and broader attempts to satisfy gross demand, but more variety in attempts to provide health care.

REFERENCES

(*1*) Health Insurance Institute: 1966 source book of health insurance. New York, 1966.

(*2*) Metzner, C. A., and Bashshur, R. L.: Factors associated with choice of medical care plans. J Health Soc Behav. In press.

(*3*) Koos, E. L.: Metropolis: what city people think of their medical services. Amer J Public Health 45: 1551–1557, December 1955.

(*4*) Health Information Foundation: The trend of health insurance benefits. *In* Progress in health services, New York, 1960.

(*5*) Follmann, J. F.: Medical care and health insurance. Richard D. Irwin, Inc., Homewood, Ill., 1963, p. 9.