Health Insurance and Hospital Use Related to Marital Status

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THERE threads through the work of the Social Security Administration a concern with the family status of the persons whose lives its programs may affect. In that respect it is unlike many agencies of government whose relations to people are more remote and impersonal.

Social security benefits are payable not only to insured retired workers but also to their wives and to widows and surviving children of insured persons as well. Old age assistance caseloads contain large numbers of widows and widowers. Aid to dependent children is frequently needed because the absence of a parent has disrupted the family. In its studies of various income maintenance programs for which it is responsible, the Social Security Administration is constantly examining family status. Similarly, questions of levels of expenditures need to be related to family status since expenditures have significance according to the number of persons the family income must support.

Expenditures for sickness and for the maintenance of health, like other consumer expenditures such as food and clothing, are influenced by family size and family income. To some degree the medical expenditures may be gov-

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erned by selections the family can make, such as postponement of care, or care at home in lieu of hospitalization. However, other medical care expenditures, such as those for maternity, generally are consequent to the establishment of a family, and the choice as to avoidance or postponement is limited.

British (1,2) and Canadian (3,4) studies have demonstrated differential use of hospitals as between single and married persons, with single persons making greater use of hospitals.

According to the recent study of Britain's National Health Service by Abel-Smith and Titmuss, "Compared with the demands made by single men and women (and, to a lesser extent, the widowed) the proportion of married men and women in hospital even at age 65 and over is extremely small. . . . For all types of hospital and in relation to their numbers in the total adult population, the single, widowed, and divorced make about double the demand on hospital accommodation compared with married people. . . . Marriage and its survival into old age appears to be a powerful safeguard against admission to hospitals in general and to mental and 'chronic' hospitals in particular" (1a).

Table 1 summarizes the result of a one-time hospital population count made in England and Wales as part of the regular British decennial census. Abel-Smith and Titmuss drew three major conclusions from this table: (a) among both sexes with advancing age the proportion in hospitals in England and Wales at the time of the census rose most sharply for the single, less so for the widowed and divorced, and least for the married; (b) among

Vol. 74, No. 8, August 1959

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Table 1. Percentage of 1951 census population in all National Health Service hospitals in England and Wales by age, sex, and marital status

Sex and age group (years)	Marital status		
	Single (percent)	Married (percent)	Widowed and divorced (percent)
Male			
0–14	0.6		
15–44	1.4	0.3	.7
45–64	5.9	.6	1.3
65–74	6.6	1.0	1.8
75 and over	8.5	1.5	3.2
Female			
0–14	.5		
15–44	1.4	.6	.7
45–64	3.5	.7	.9
65–74	3.8	1.2	1.4
75 and over	5.9	2.4	2.9

SOURCE: Reference 1b.

the married, even at age 75 and over, the proportion in hospitals was 2 percent or less of the population; (c) at all ages the proportion of men, single, widowed, and divorced, in hospitals was higher and rose more sharply than the corresponding rates for women (1b).

Table 2 shows the average days of stay in Saskatchewan, Canada, hospitals in 1957 by age, sex, and marital status. In every age and sex category but one, the average length of stay is less for married persons than for single, widowed, divorced, or separated persons. In the one excepted category, men 45 years and over, the length of stay is the same for married as for widowed, divorced, or separated men, but both are less than the stay for single males.

These findings are of interest to those sectors of the Federal Government concerned with factors in the cost of sickness and the price of health. In the experience of Great Britain and Canada, two countries with a national health insurance program, the economic cost to an individual family is not a factor in hospital utilization. It is apparent, then, that factors other than income are in part responsible for differences in levels of hospital usage. For example, living arrangements, levels of health, ownership of health insurance, and similar conditions, some of which are related

to income and to marital status, also affect the amount of hospital care used.

The regular monthly Current Population Survey of the Bureau of the Census in September 1956 had a supplement on insurance coverage and hospital utilization. This afforded an opportunity to explore some facets of the use of hospitals in the United States by married and nonmarried (single, divorced, or widowed) persons. The household sample, on a national scale, was drawn from the civilian noninstitutional population living within the continental United States. About 27,000 households comprising approximately 90,000 persons were included. Excluded were members of the armed services, inmates of mental or penal institutions, and residents of homes for the aged, infirm, and needy. The findings which resulted are the subject of this study.

Before analyzing hospital utilization by the married and nonmarried in terms of various other factors, it is necessary to examine the extent to which health insurance protection is available to the married and the nonmarried sectors of the population. Under our system of voluntary health insurance, availability of health insurance to many women may be dependent on their status as a spouse.

HEALTH INSURANCE OWNERSHIP

Differences in the number of noninstitutionalized persons having health insurance in any given population group are to be expected, given the variety of conditions and techniques for enrollment of members and their dependents. Differences in the extent of group coverage relate to the degree of urbanization and industrialization of a community, and hence to the availability and cost of group policies. Age, income, and similar factors affect the proportions of the population insured under nongroup arrangements.

Extent of Ownership

Table 3 indicates that there is little difference based on sex in the extent of enrollment per 1,000 in the group under age 65, and in the whole population group. The census findings for September 1956 show improvement since the earlier

Table 2. Average days of stay per year in Saskatchewan, Canada, hospitals by age, sex, and marital status, 1957

Sex and age group (years)	Marital status		
	Single	Married	Widowed and divorced
Male			
15–24	7.7	6.5	11.5
25–44	11.4	8.1	12.0
45 and over	19.3	14.0	14.0
Female			
15–24	7.4	6.3	10.2
25–44	10.9	7.5	9.0
45 and over	17.6	13.6	18.3

SOURCE: Department of Health, Province of Saskatchewan: Annual Report of the Saskatchewan Hospital Services Plan, 1957, p. 15.

surveys of 1952 and 1953 in the relative position with respect to health insurance ownership of aged women compared with aged men.

Surveys made in 1952 and 1953 of persons with insurance by various characteristics provide comparative data for measuring the differential rates of growth in coverage. The March 1952 survey was made by the Bureau of the Census for the Division of Program Research, Social Security Administration, and encompassed the population aged 65 and over (5). The July 1953 survey covered the population of all ages and was made for the Health Information Foundation by the National Opinion Research Center (6).

Aged women, particularly those who are not married, are relatively poorly covered according to the September 1956 findings. Although in the corresponding group of aged unmarried men the rate per 1,000 is even lower, married men aged 14–64 achieved the largest degree of health insurance coverage of any of the segments into which the September 1956 population has been divided. (The segments are age, sex, race, labor force status, marital status, and income levels.) The rate for this group, married men aged 14–64, was above the rate per 1,000 for the white population per se and for the entire working force population. In the 14–64 age group there were 25 more insured persons per 1,000 recorded among married men than among married women. The rate is particularly noteworthy since the analysis of hospital utilization by different population groups,

Table 3. Number of insured persons per 1,000 by race, labor force status, marital status, and age, September 1956

Sex and age group (years)	Total	Race		Labor force status		Marital status	
		White	Nonwhite	In the labor force	Not in the labor force	Married	Not married [1]
Both sexes	636	670	353				
Under 14	641	686	331				
14 and over	634	664	365	681	567	685	521
14–64	671	705	382	691	637	710	574
65 and over	365	379	173	502	320	430	296
Male	640	673	359				
Under 14	640	684	338				
14 and over	640	668	371	681	451	691	513
14–64	674	706	389	691	543	723	547
65 and over	392	408	181	508	311	442	277
Female	632	667	347				
Under 14	642	688	323				
14 and over	628	659	358	681	596	679	527
14–64	669	704	376	689	654	698	597
65 and over	342	355	166	483	324	409	305

[1] Includes single persons, widowed persons, and persons who are divorced or separated from their spouses.

SOURCE: Bureau of the Census Current Population Survey, September 1956.

which will be discussed later, shows that this high rate of insurance coverage applies to a group whose need of hospitalization appears to be below average as indicated by the volume of hospital care used.

Table 3 also shows marked differences in rates of health insurance ownership when the white population is compared with the non-white population, especially when persons over age 65 are compared. Thus, while 670 white persons per 1,000 of all ages were insured, only 353 nonwhite persons per 1,000 were insured. And in contrast to 379 white insured persons aged 65 and over, only 173 nonwhite persons in this age bracket were insured per 1,000.

Participation in the labor force is also linked to health insurance ownership, with more significant differences among men than women. In the age group 14–64, 691 men per 1,000 in the labor force were insured compared with 543 per 1,000 not in the labor force. Among women in the same age group, the numbers insured were 689 per 1,000 in the labor force and 654 per 1,000 not in the labor force. The closeness of these two figures results from the fact that many women not in the labor force are covered through their husbands' employment. This is demonstrated by the fact that, of the women in the age bracket 14–64 who were married, 698 per 1,000 were insured, compared with 597 per 1,000 insured who were not married.

In general then, of the total of 636 persons per 1,000 in the population of all ages who owned health insurance in September 1956 (table 3), there were larger numbers among the white race, among those in the labor force, and among the married than among the nonwhite, the nonworker, and the nonmarried. The group with the greatest health insurance coverage, 723 per 1,000, were married men aged

Table 4. **Percentage distribution of sex and age groups in the population by health insurance coverage and scope of benefits, September 1956**

Sex and age group (years)	July 1, 1956, population (in thousands)	Percent insured, by scope of insurance				Percent not insured
		Total with insurance	Hospitalization only	Hospitalization plus surgical expense [1]	Other [2]	
Both sexes	165, 339	63. 6	8. 3	49. 3	6. 0	36. 4
Under 14	47, 915	64. 1	7. 1	50. 3	6. 7	35. 9
14 and over	117, 424	63. 4	8. 9	48. 8	5. 7	36. 6
14–64	103, 017	67. 1	8. 9	52. 1	6. 1	32. 9
65 and over	14, 407	36. 5	8. 5	25. 1	2. 9	63. 5
65–69	5, 440	47. 6	10. 5	33. 1	4. 0	52. 4
70–74	4, 139	36. 3	7. 8	25. 8	2. 7	63. 7
75 and over	4, 828	23. 7	6. 8	15. 2	1. 7	76. 3
Male	80, 598	64. 0	8. 3	49. 7	6. 0	36. 0
Under 14	24, 437	64. 0	7. 3	50. 2	6. 5	36. 0
14 and over	56, 161	64. 0	8. 8	49. 5	5. 7	36. 0
14–64	49, 511	67. 4	8. 8	52. 5	6. 1	32. 6
65 and over	6, 650	39. 2	8. 8	27. 1	3. 3	60. 8
65–69	2, 612	49. 8	10. 6	34. 7	4. 5	50. 2
70–74	1, 916	39. 5	8. 6	27. 4	3. 5	60. 5
75 and over	2, 122	25. 3	6. 8	17. 1	1. 4	74. 7
Female	84, 741	63. 2	8. 3	48. 8	6. 1	36. 8
Under 14	23, 478	64. 2	6. 9	50. 4	6. 9	35. 8
14 and over	61, 263	62. 8	8. 9	48. 2	5. 7	37. 2
14–64	53, 506	66. 9	9. 0	51. 7	6. 2	33. 1
65 and over	7, 757	34. 2	8. 2	23. 4	2. 6	65. 8
65–69	2, 828	45. 5	10. 3	31. 6	3. 6	54. 5
70–74	2, 223	33. 6	7. 1	24. 5	2. 0	66. 4
75 and over	2, 706	22. 5	6. 8	13. 7	2. 0	77. 5

[1] May include persons who also have inhospital medical benefits.
[2] Hospitalization and surgical expense insurance plus other benefits.

SOURCE: Same as for table 3.

14–64; the group with the least protection, 166 per 1,000, were aged nonwhite women.

A summary of the proportion in each age-race group who had some form of health insurance at the time of the summary shows that 94 percent of the insured were white. Of the 4.9 percent who were insured and over 65 years, only 0.2 percent were nonwhite.

	Percent distribution	
Age and race	Insured	Not insured
All ages	100.0	100.0
White	94.0	80.7
Nonwhite	6.0	19.3
Under 14 years	29.7	29.0
White	27.7	22.2
Nonwhite	2.0	6.8
14 years and over	70.3	71.0
White	66.3	58.5
Nonwhite	4.0	12.5
14–64 years	65.4	56.0
White	61.5	44.9
Nonwhite	3.9	11.1
65 years and over	4.9	15.0
White	4.7	13.6
Nonwhite	0.2	1.4

Table 4 presents the proportions in each age-sex group who were insured in September 1956 for hospitalization alone and for hospitalization and additional benefits. The group insured for hospitalization and additional benefits is subdivided into those reporting surgical expense insurance (possibly also with some protection against nonsurgical medical expenses in the hospital) and "other," those whose insurance appeared to the interviewer to include more benefits than the local Blue Cross-Blue Shield plan or the typical insurance company policy. Persons whose protection was through accident-only policies, travel-accident policies, or medical expense insurance under automobile liability policies were not counted as insured. Persons in the category labeled "other" in table 4 are all assumed to be insured against the costs of hospital care as well as against surgical and medical expenses. The table shows that 55 percent of the population had insurance covering other benefits as well as hospitalization, 8 percent had insurance limited to hospitalization, and about 36 percent had no insurance of any kind at the time of the interview.

As of the September 1956 survey, nearly two-thirds of those in the age groups under 65 had insurance, but only 36 percent of the population aged 65 and over were insured. Of the insured aged, roughly one in four had only hospitalization insurance, whereas among insured persons under 65 only one in eight had benefits limited to hospitalization.

In the remainder of this study, persons are considered insured or not insured without further delineation of the scope of their benefits. The proportion of those insured in any age group who had only hospitalization insurance should be kept in mind. Those ratios by age groups are:

	Percent of insured with
Age group (years)	hospitalization only
All ages	13.1
Under 14	11.1
14–64	13.3
Under 65	12.6
65 and over	23.2
65–69	22.0
70–74	21.0
75 and over	28.6

Insurance and Income Status of the Aged

Data were analyzed according to family income for the aged persons interviewed in the

Table 5. Number of insured per 1,000 persons aged 65 and over by sex and by family status according to annual income, September 1956

Annual income	Rate for both sexes	Rate for male	Rate for female
Primary family			
All income groups	386	415	357
Under $3,000	312	318	284
Under $1,000	174	193	154
$1,000–$1,999	323	345	297
$2,000–$2,999	432	468	394
$3,000 and over	468	509	425
$3,000–$3,999	461	491	430
$4,000–$4,999	462	478	450
$5,000 and over	477	534	426
Primary individual			
All income groups	307	309	306
Under $1,000	195	171	203
$1,000–$1,999	379	337	401
$2,000–$2,999	468	434	481
$3,000 and over	548	557	543

SOURCE: Same as for table 3.

survey (table 5). In census terminology, persons living in a family headed by a person related to them by blood, marriage, or adoption are members of "primary family units." The income shown for the family unit in which the aged person lives is not necessarily that of the aged person but would include his income. In the household interviews information was also obtained on the annual income of individuals not living with any relatives, "primary individuals."

Comparatively few aged persons living in families with low incomes were found to be insured. Only 174 per 1,000 aged persons in families whose incomes were under $1,000 reported having health insurance. When family income was $5,000 or more, 477 per 1,000 aged were insured.

Although family income was not necessarily the income of the aged person, the family income in many instances was that of an aged couple. However, the fact that the proportion of women insured was not highest in the $5,000 and over class may reflect the relatively large number of aged women who live in the households of relatives other than their spouse.

Table 5 also shows the proportion insured when the income reported was that of aged persons classed as "primary individuals." No one in these households was related to the head, so the income shown in all instances is that of the aged person. Among individuals with less than $1,000 in annual income, about one in five was insured. When their income exceeded $3,000 annually, more than half of the aged individuals reported owning health insurance.

Insured aged persons were fairly evenly distributed at each level of family or individual in-

Table 6. Percentage distribution of the insured and the uninsured noninstitutional populations 65 years and over by sex and other selected characteristics, September 1956

Age (years) and other characteristics	Both sexes		Male		Female	
	Insured [1] (5,138)	Not insured [1] (8,939)	Insured [1] (2,548)	Not insured [1] (3,956)	Insured [1] (2,590)	Not insured [1] (4,983)
Total, 65 and over	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
65–69	49. 5	31. 4	50. 1	32. 5	49. 0	30. 5
70–74	29. 2	29. 4	29. 7	29. 3	28. 6	29. 4
75 and over	21. 3	39. 2	20. 1	38. 2	22. 4	40. 1
White	96. 7	91. 0	96. 7	90. 4	96. 8	91. 5
65–69	47. 9	28. 3	48. 8	28. 9	47. 1	27. 8
70–74	28. 2	26. 4	28. 6	26. 0	27. 8	26. 7
75 and over	20. 6	36. 3	19. 3	35. 5	21. 9	37. 0
Nonwhite	3. 3	9. 0	3. 3	9. 6	3. 2	8. 5
65–69	1. 6	3. 1	1. 3	3. 6	1. 9	2. 7
70–74	1. 0	3. 0	1. 1	3. 3	. 8	2. 7
75 and over	. 7	2. 9	. 9	2. 7	. 5	3. 1
In the labor force	34. 2	19. 5	53. 0	33. 1	15. 7	8. 7
65–69	21. 9	9. 4	33. 2	15. 3	10. 8	4. 8
70–74	8. 8	6. 0	14. 1	10. 2	3. 7	2. 7
75 and over	3. 5	4. 1	5. 7	7. 6	1. 2	1. 3
Not in the labor force	65. 8	80. 5	47. 0	66. 9	84. 3	91. 2
65–69	27. 6	22. 0	16. 8	17. 2	38. 2	25. 7
70–74	20. 4	23. 3	15. 7	19. 0	25. 0	26. 7
75 and over	17. 8	35. 2	14. 5	30. 7	21. 1	38. 8
Married	60. 4	46. 0	78. 5	63. 7	42. 7	32. 0
65–69	34. 2	17. 5	42. 1	22. 7	26. 4	13. 4
70–74	17. 9	14. 6	24. 3	19. 3	11. 7	10. 8
75 and over	8. 3	14. 0	12. 1	21. 7	4. 6	7. 8
Not married	39. 6	54. 0	21. 5	36. 3	57. 3	68. 0
65–69	15. 3	13. 9	7. 8	9. 9	22. 7	17. 1
70–74	11. 2	14. 8	5. 5	9. 9	16. 9	18. 6
75 and over	13. 0	25. 3	8. 2	16. 5	17. 7	32. 2

[1] Number of persons, in thousands.

SOURCE: Same as for table 3.

Table 7. Percentage distribution of the insured and the uninsured populations aged 14 and over by selected characteristics, September 1956

Population group	Both sexes		Male		Female	
	Insured	Not insured	Insured	Not insured	Insured	Not insured
Total, 14 years and over_____	100. 0	100. 0	100. 0	100. 0	100. 0	100. 0
White_____	94. 2	82. 5	94. 3	82. 8	94. 1	82. 4
Nonwhite_____	5. 8	17. 5	5. 7	17. 2	5. 9	17. 6
In the labor force_____	63. 1	51. 2	87. 7	73. 3	40. 3	31. 8
Not in the labor force_____	36. 9	48. 8	12. 3	26. 7	59. 7	68. 2
Married_____	74. 4	59. 3	77. 2	61. 5	71. 8	57. 4
Not married_____	25. 6	40. 7	22. 8	38. 5	28. 2	42. 6
14–64 years_____	93. 0	79. 0	92. 8	80. 1	93. 2	77. 9
In the labor force_____	60. 7	47. 1	83. 9	66. 7	39. 2	29. 8
Not in the labor force_____	32. 3	31. 9	8. 9	13. 4	54. 0	48. 1
Married_____	70. 2	49. 6	71. 6	48. 8	68. 9	50. 3
Not married_____	22. 8	29. 4	21. 2	31. 3	24. 3	27. 6
65 years and over_____	7. 0	21. 0	7. 2	19. 9	6. 8	22. 1
In the labor force_____	2. 4	4. 1	3. 8	6. 6	1. 1	2. 0
Not in the labor force_____	4. 6	16. 9	3. 4	13. 3	5. 7	20. 1
Married_____	4. 2	9. 6	5. 7	12. 7	2. 9	7. 1
Not married_____	2. 8	11. 4	1. 6	7. 2	3. 9	15. 0

Source: Same as for table 3.

come but the uninsured were concentrated at the lower levels of income, whether measured as family income or as individual income.

Percent distribution of aged

Annual income	Insured	Not insured
Family		
Under $1,000 _____	7. 1	21. 1
$1,000–$1,999 _____	16. 2	21. 4
$2,000–$2,999 _____	18. 4	15. 2
$3,000–$3,999 _____	15. 1	11. 1
$4,000–$4,999 _____	11. 9	8. 7
$5,000 and over _____	26. 3	18. 1
(Not available) _____	(5. 0)	(4. 4)
Total _____	100. 0	100. 0
Individual		
Under $1,000 _____	33. 4	61. 3
$1,000–$1,999 _____	27. 5	19. 9
$2,000–$2,999 _____	15. 6	7. 9
$3,000 and over _____	18. 7	6. 8
(Not available) _____	(4. 8)	(4. 1)
Total _____	100. 0	100. 0

The size of the sample of aged persons precluded further cross classification. It would have been informative, for example, to cross classify insurance and annual income level with labor force participation, with age, and with marital status.

Table 6 enables one to see simultaneously several of the characteristics of insured and uninsured persons in the population aged 65 and over. Half of the insured aged are in the age bracket 65–69. (Twenty-five percent of the aged are both 75 and over in age and have no insurance. Twenty-four percent of the aged population consists of nonmarried uninsured women; nearly half of this group has passed the 75th birthday.)

A third of the insured aged population was still in the labor force, although among aged persons as a group, only one in four was in the labor force.

The population "14 and over" is usually selected by the Bureau of the Census for studies of labor force participation, marital status, and

the like, subdivisions of significance also in relation to health insurance ownership. In the population as a whole in the September 1956 survey, about 30 percent were under age 14 and, like the adults or the population of all ages, two-thirds of the children were insured. Table 7 shows how the insured portion, two-thirds of the whole, differed from the uninsured portion of the population aged 14 and over. The relative numbers who were married, the degree of participation in the labor force, and the proportions who were aged 65 and over were quite different in the insured and uninsured segments of the population. The group not reached to date by insurance presents special problems of enrollment.

Recent Growth in Coverage

Data collected in interviews in sample households generally have yielded lower rates of insurance protection for the public than those for recent years published by the Health Insurance Council, whose member companies account for more than 90 percent of the health insurance issued by the insurance business (7).

Measurement of Growth

Sampling errors are possible in studies based on interviews, and underenumeration may have occurred for several reasons. The sample households do not include the institutional population, some of whom have health insurance. The person being interviewed may not be cognizant of the family protection available through the employment of the head of the household. However, in the September 1956 survey the families being interviewed were asked in advance to check on their health insurance so that they could be responsive to the interviewer's questions. Finally, persons protected by more than one policy are of course counted only once as insured, regardless of the number of policies they may have covering the same type of medical expense. It is also possible that some overstatement results from interviewing persons who are unfamiliar with the provisions of their policies and who may confuse accident-only policies, travel-accident policies, and automobile policies which include medical benefits with the kinds of health and medical care insurance the surveys attempt to measure.

There is also some justification for the belief that national aggregates may contain some overstatement. National aggregates, obtained company by company from health insurance underwriters, require correction for duplicate coverage; this correction is made on the basis of periodic sampling. As more and more em-

Table 8. Health insurance coverage by type of insurance: Number of persons enrolled and rate per 1,000 population, 1948–57

End of year	Hospital expense		Surgical expense		Regular medical expense	
	Number (thousands)	Rate per 1,000	Number (thousands)	Rate per 1,000	Number (thousands)	Rate per 1,000
1948	60, 995	420	34, 060	235	12, 895	89
1949	66, 044	448	41, 143	279	16, 862	114
1950	76, 961	512	54, 477	363	21, 589	144
1951	85, 991	569	65, 535	434	27, 723	184
1952	91, 667	598	73, 161	477	35, 797	233
1953	97, 303	624	80, 982	519	42, 684	274
1954	101, 493	638	85, 890	540	47, 248	297
1955	107, 662	663	91, 927	566	55, 506	342
1956	115, 949	701	101, 325	613	64, 891	392
1957	121, 432	721	108, 931	647	71, 813	426

SOURCES: For number enrolled, Health Insurance Council: The Extent of Voluntary Health Insurance Coverage in the United States as of December 31, 1957, p. 11.

For rates per 1,000, Agnes W. Brewster: Voluntary Health Insurance—Estimated Enrollment and Rates per 1,000 Population, 1937–1957. Social Security Administration, Division of Program Research, Research and Statistics Note No. 26, July 24, 1958, pp. 3–5.

ployers include health insurance as a fringe benefit, the likelihood of husbands and wives each having family coverage when both are working is increased. A second area of uncertainty arises in connection with dependent coverage, since many carriers do not know how many children are included in family policies. A third area of uncertainty results from fluctuations in employment in a given occupation, which may change the number of persons entitled to benefits at a given moment.

Finally, the tendency to report coverage in round numbers may also exaggerate the actual count. In its studies of self-insured union plans, the Division of Program Research, Social Security Administration, has noted that the reports received frequently state coverage in such round terms as "5,000 members and 14,000 dependents," whereas an actual count might yield a considerably lower figure (8).

Comparative Data on Coverage

In 1953 the household survey made by the National Opinion Research Center showed 570 persons with hospital insurance per 1,000 population. The Health Insurance Council data yielded a mid-1953 figure of 611 persons per 1,000, 41 more persons per 1,000. For 1956 the Current Population Survey of the Bureau of the Census indicated 636 persons per 1,000 as having hospital insurance; the council's figure was 682, or 46 more persons per 1,000. However, growth between the two sample survey periods was 66 per 1,000 and growth recorded by the Health Insurance Council in the same span of years was 71 per 1,000. These are closely corresponding figures.

Table 8 presents data for the years 1948–57 from the Health Insurance Council for the number of persons estimated to have hospital, surgical, and medical expense insurance as of December 31 in each of the 10 years. Three hundred more persons per 1,000 had hospitalization insurance at the end of 1957 than at the end of 1948, in a period when population rose 23.2 million. Surgical protection rose even more rapidly. The number with any form of medical expense insurance increased from less than 1 in 10 to more than 4 in 10.

These national aggregates do not afford any measure of the characteristics of the popula-

Table 9. Persons with health insurance per 1,000 population, by age and sex, July 1953 and September 1956

Sex and age group (years)	Insured persons per 1,000		Increase in number of insured persons per 1,000 from July 1953 to September 1956
	National Opinion Research Center Survey, July 1953	Current Population Survey, September 1956	
Total population__	570	636	66
Male_____	570	640	70
Female_____	570	632	62
Under 65_____	594	661	67
Male_____	587	662	75
Female_____	613	660	47
Children [1]____	576	641	65
Male_____	569	640*	71
Female_____	590	642	52
Adults under 65 [2]_____	605	671	66
Male_____	599	674	75
Female_____	626	669	43
65 and over_____	311	365	54
Male_____	356	392	36
Female_____	267	342	75

[1] Under age 18 in the National Opinion Research Center Survey; under age 14 in the Current Population Survey.

[2] Aged 18–64 in the National Opinion Research Center Survey; aged 14–64 in the Current Population Survey.

SOURCES: For 1956 data, same as for table 3; for 1953 data, reference 6.

tion that is being increasingly included under various health insurance plans. Such information can only be obtained from household interview survey data of the kind given in tables 6 and 7. Tables 9 and 10 show the extent of growth in enrollment recorded by age and sex between the September 1956 survey and two earlier surveys.

Between July 1953 and September 1956, the number of insured persons per 1,000 in the population showed an increase of 66 (table 9). Averaged over the 3-plus years, this is an increase of about 22 persons per 1,000 per year. (In this period the population increased by 10 million, an increase that decidedly offset the gross expansion in the number of persons with insurance. The population aged 65 and over increased by about a million in the same period.) The largest relative increase in any age group was registered among women aged 65

Table 10. Number of insured persons aged 65 and over in the Current Population Surveys for March 1952 and September 1956

Sex and age group (years)	Number insured per 1,000		Increase in number of insured persons per 1,000 from March 1952 to September 1956
	March 1952	September 1956	
65 and over	263	365	102
Male	302	392	90
Female	228	342	114
65–69	364	476	112
Male	423	498	75
Female	309	455	146
70–74	248	363	115
Male	282	395	113
Female	217	336	119
75 and over	150	237	87
Male	158	253	95
Female	144	225	81

SOURCES: For 1956 data, same as for table 3; for 1952 data, reference 5.

and over in which 75 additional persons per 1,000 raised the proportion insured from 267 per 1,000 to 342. The smallest increase was among men in this same age bracket, 36 per 1,000. In the other age groupings, the number of insured men per 1,000 added in the interim was larger than the number of additional insured women per 1,000.

With the spread of family coverage in the last few years, it would be expected that females under age 65, who were found to have a larger number insured per 1,000 than males in the earlier surveys, would have maintained or added to their lead. By the September 1956 survey, however, younger women were found to lag behind men in the proportions insured. The differential between men and women was reduced, however, between the two survey dates for those aged 65 and over.

The National Opinion Research Center sample was relatively small at the higher ages, reducing the possible significance of the 3-year comparison for this age bracket. However, rates for the aged found in the March 1952 Current Population Survey, when compared with those of the September 1956 survey, con-

firm the improvement in coverage of aged women in recent years (table 10). Identical survey techniques were used in the two surveys.

The largest gains in insured persons, 146 per 1,000, have been achieved among women aged 65–69. This finding provides strong evidence that many persons who were in the age bracket 60–64 in 1952 and now would be in the age bracket 65–69 have maintained the insurance coverage they had before they reached their 65th birthday. As further evidence that older people are continuing their insurance, the proportions with insurance that were found for those aged 65–69 in March 1952 are comparable to those for the age bracket 70–74 in 1956.

Since no survey prior to the September 1956 study examined the marital status of the insured population, no conclusions can be drawn from tables 9 and 10 as to relative improvement in coverage in this respect.

HOSPITAL UTILIZATION

Before examining the relation of hospital utilization to marital status, a review of the reasons why people of different ages are admitted to hospitals would be helpful.

Why People Enter Hospitals

In their analyses of data from the 1956 survey, Odoroff and Abbe (9) showed that for the population of all ages (both sexes combined) approximately a fourth of all admissions were for surgery, more than a fifth were for obstetrics, nearly a third were for other causes, and only 6 out of 100 admissions were for accidents. In their analysis, pediatric admissions were separated from the other categories and accounted for 16 percent of all admissions. Their report shows the average stay for surgical procedures as 10.6 days, with accidents averaging 12.1 days, obstetrics, 4.5 days, pediatrics, 5.2 days, and other reasons, 9.3 days.

The annual rates of persons hospitalized are lower than annual admission rates since some of the persons hospitalized have more than one period as a patient. In the total survey population there were 1,174 admissions for each 1,000 persons hospitalized. In the population 14 and

over, insured hospitalized persons had fewer admissions than uninsured hospitalized persons, and admissions among males, particularly uninsured males, exceeded those among females per hospitalized person. Multiple admissions increased with age.

However, for present purposes, admission rates rather than rates of persons hospitalized are more meaningful, since the reason for being admitted has significance only in relation to each separate hospital stay.

The data on hospital utilization, admissions and length of stay based on household interviews, did not include persons who did not survive the year prior to the survey date. As a result, the rates underestimate the actual use of hospitals by a given population, probably by about 25 percent for the aged and somewhat less for all ages.

Table 11 divides hospital admission rates per 1,000 among four broad categories given by respondents in the household interviews as reasons for having been in the hospital. Four significant facts are discernible from the rates as tabulated: (a) insured persons are admitted with greater frequency than uninsured persons for operations and for all conditions other than

accidents, and this holds regardless of age or sex; (b) the admission rate for accidents and injuries is identical for each of the two age groups of males aged 14 and over and 14–64, with almost no differences in the rates for insured and uninsured; (c) the admission rate for accidents and injuries among females in the age bracket 14–64 is less than half that of males of the same ages, while the admission rate for accidents among insured females 65 and over is twice that for uninsured aged females or for insured aged males; and (d) in the age group 14–64, more insured than uninsured women per 1,000 were admitted for childbirth. (Although one in two admissions was for childbirth among uninsured women, only about one in three admissions among insured women was for this reason.)

Under age 14 and after age 64 males have more admissions for operations per 1,000 than females. In fact the rate of admissions for operations among elderly males with insurance, 58 per 1,000, is nearly double that of younger insured males. In contrast, among the older men the proportion of admissions for accidents or for other reasons was about the same whether or not there was insurance. This similarity in reasons for admission was not found among

Table 11. Annual admission rates per 1,000 persons by reason for admission to general hospitals, by age, insured status, and sex, noninstitutional population, year ending September 1956

Sex and reason for hospital admission	Total	Under 14 years[1]	14 years and over			14–64 years			65 years and over		
			Total	Insured	Uninsured	Total	Insured	Uninsured	Total	Insured	Uninsured
Both sexes	101	54	120	134	93	119	133	89	125	154	108
Operations	32	24	35	41	24	35	40	23	37	50	30
Accidents and injuries	8	6	9	9	9	8	8	8	14	16	13
Childbirth	22	------	30	33	25	34	35	32	------	------	------
Other	39	25	46	51	35	42	49	27	72	86	64
Male	76	61	83	91	68	75	85	53	139	155	129
Operations	28	26	29	34	21	27	32	17	45	58	36
Accidents and injuries	11	7	12	12	13	12	12	13	12	10	13
Other	37	27	41	45	34	36	42	23	82	86	80
Female	124	48	152	176	115	158	177	121	110	151	89
Operations	35	21	40	48	27	41	48	28	31	43	25
Accidents and injuries	6	5	6	6	6	5	5	4	16	22	13
Childbirth	41	------	57	63	48	65	68	60	------	------	------
Other	41	22	49	57	35	47	55	30	63	86	51

[1] Data according to insured status were not collected for persons under age 14.

NOTE: Due to rounding, not all subtotals add to the totals.

SOURCE: Same as for table 3.

Table 12. Hospital utilization rates by insured status, marital status, and sex of persons 14 years of age and over, year ending September 1956

Sex and age group (years)	Total		Insured		Not insured	
	Married	Not married	Married	Not married	Married	Not married
Annual admissions per 1,000 population						
Male, 14 and over	89	67	97	72	74	62
14–64	84	54	92	64	62	41
65 and over	132	158	149	176	119	151
65–69	131	137	144	131	114	140
70–74	130	139	146	99	118	153
75 and over	137	185	173	273	124	157
Female, 14 and over	190	80	211	88	146	72
14–64	[1] 196	71	[2] 214	75	[3] 154	64
65 and over	110	112	134	166	93	88
65–69	102	93	109	149	94	54
70–74	107	108	166	155	72	86
75 and over	139	127	202	196	119	107
Average days of stay per admission						
Male, 14 and over	10.8	14.6	9.6	9.6	14.1	20.6
14–64	10.4	11.4	9.5	8.4	14.1	17.3
65 and over	12.5	22.1	10.7	15.7	14.2	24.9
65–69	12.7	36.0	10.3	19.5	16.2	43.9
70–74	9.4	17.3	10.9	29.8	7.8	14.4
75 and over	15.7	17.1	11.5	10.4	17.7	20.8
Female, 14 and over	6.3	10.8	6.3	10.2	6.5	11.6
14–64	6.1	9.9	6.1	9.3	6.1	11.0
65 and over	11.3	12.5	11.4	12.7	11.3	12.4
65–69	11.4	12.6	11.3	13.9	11.6	10.2
70–74	10.7	11.5	12.3	13.3	8.9	9.8
75 and over	11.7	13.2	9.5	11.3	12.9	14.2
Annual days per 1,000 population						
Male, 14 and over	964	979	927	691	1,047	1,279
14–64	875	616	874	540	878	708
65 and over	1,651	3,486	1,598	2,768	1,694	3,757
65–69	1,658	4,937	1,490	2,553	1,860	6,147
70–74	1,223	2,405	1,594	2,950	923	2,210
75 and over	2,147	3,159	1,983	2,852	2,207	3,258
Female, 14 and over	1,201	868	1,319	897	954	838
14–64	[4] 1,198	701	[5] 1,310	701	[6] 940	701
65 and over	1,245	1,402	1,528	2,111	1,049	1,090
65–69	1,161	1,170	1,227	2,066	1,092	551
70–74	1,149	1,237	2,048	2,067	640	846
75 and over	1,624	1,673	1,924	2,210	1,532	1,519

[1] 65 admissions for childbirth.   [2] 68 admissions for childbirth.   [3] 60 admissions for childbirth.   [4] 293 days for childbirth with an average length of stay of 4.5 days.   [5] 306 days for childbirth, assuming an average length of stay of 4.5 days.   [6] 270 days for childbirth, assuming an average length of stay of 4.5 days.

SOURCE: Same as for table 3.

older women; the insured older women had a greater volume of admissions for each cause of admission than the uninsured.

Relation of Marital Status to Use

Table 12 shows by sex the annual admissions, days of stay per admission, and days per 1,000 used by married or nonmarried (single, divorced, or widowed) persons. The insured and uninsured are contrasted by marital status.

Annual Admission Rates

In the analysis of admissions per 1,000, some interesting if not altogether unexpected relationships emerge. Among males aged 14 and over, or aged 14–64, the married men have a higher admission rate than the nonmarried men. The average age of the married men may be higher than that of the nonmarried group of males, and therefore differences in health that come with age may account for at least part of the difference in admission rates. This seems to be the case among insured males in this age bracket, for the average hospital stay of those who were married was 1.1 days longer than among those who were not married. This does not serve to explain the very low admission rate coupled with a relatively long stay found among uninsured nonmarried males. Seemingly this group entered the hospital only when so seriously ill that a prolonged stay was often necessary. Also it may reflect the absence of a wife concerned with the health of her spouse and alert to a condition that needed immediate hospital care.

Mortality data by marital status in the continental United States for 1957, collected by the National Office of Vital Statistics, Public Health Service, are available for the first time since 1953 (table 13). A comparison of the 2 years shows that death rates by marital status have remained about the same, and that "in each age group, for both sexes, the death rate for unmarried persons is higher than for married persons. . . . For both the married and the unmarried, the age-specific death rates for males are higher than the corresponding rates for females" (10a).

It would appear that with or without health insurance or hospital utilization, marital status

is related to health, as the Abel-Smith and Titmuss study concluded (1), and that single nonmarried males have a less favorable health outlook.

In the male group 65 and over, in which the average age of married and nonmarried men is undoubtedly more similar, single men have higher hospital admission rates, and the difference between the married and nonmarried group increases with advancing age (table 12). The absence of a spouse probably made use of the hospital unavoidable in some instances. These differences are found whether or not the patient has insurance, although two exceptions occur: the insured married men aged 65–69 and 70–74 in the sample have a higher admission rate than the corresponding nonmarried men but do not remain so long in the hospital. For the 70–74 group in particular, the figures may well be due to sampling error.

Like the men, married women aged 14 and over use hospitals more often than single women, even when childbirth is excluded. Married insured women aged 14–64 used hospitals at a very high rate since more than one

Table 13. Estimated death rates per 1,000 by marital status, age, and sex: United States, 1953 and 1957 [1]

Sex and age group (years)	Married		Unmarried (single, widowed, and divorced)	
	1957 [2]	1953 [2]	1957 [2]	1953 [2]
Male, 20 and over:				
20–24	1.5	1.4	2.3	2.5
25–34	1.5	1.6	3.4	4.0
35–44	3.1	3.3	8.3	8.1
45–54	8.2	8.9	19.1	18.2
55–64	20.3	21.4	37.6	31.9
65–74	45.2	42.0	68.7	65.8
75 and over	101.2	91.9	136.0	146.9
Female, 20 and over:				
20–24	0.7	0.7	1.0	1.3
25–34	1.0	1.1	2.3	2.3
35–44	2.1	2.3	4.1	4.1
45–54	4.7	5.3	7.8	8.3
55–64	11.0	11.8	15.4	15.2
65–74	28.2	26.5	34.8	35.6
75 and over	67.3	68.4	106.0	105.1

[1] Deaths in continental United States only.
[2] Rates based on population estimated as of July 1 for each year.

SOURCE: Reference 10b.

in five was admitted in the course of the 12 months. Even though 68 of the 214 admissions per 1,000 recorded for these women were for childbirth, there still remained 146 admissions per 1,000 for other causes, nearly double the rate of 75 for the unmarried insured women.

All the admission rates of aged uninsured women are much lower than the rates of the corresponding groups of aged uninsured men.

Like the men, at the older ages insured women who are not married enter hospitals with greater frequency than insured married women. Single insured women make more use of hospitals than any other group. In addition, unlike the older men, uninsured older women who are not married are somewhat less likely to be admitted to hospitals than uninsured married women. Since aged widows are found in great numbers in this age group, there appears to be a relationship between low income, no insurance protection, and lack of hospital care.

The presence or absence of insurance appears to have a differential effect on hospital admissions depending on sex and age. Among males aged 14–64, the fact that they are married increases admission to hospitals to about the same extent as the fact that they have insurance protection. Among the women in this age bracket, even after excluding admissions for childbirth, the fact that they are married appears to increase admissions decidedly. The presence of insurance further increases the non-obstetrical admissions of married women, while the presence or absence of insurance has little effect on the proportion of nonmarried women admitted to hospitals. Being married increases admissions from 50 percent (among the uninsured) to 100 percent (among the insured) over their nonmarried counterparts. Married insured women enter hospitals 2.3 times as often as single uninsured women.

After age 65, insurance ownership increases admissions somewhat among married men but has little effect on unmarried men. Among elderly women, the presence of insurance is more important than the presence or absence of a spouse in increasing hospital admissions.

When hospital admissions are broken down into smaller age groups for the total group, the admission rates for both sexes combined are highest in the childbearing years 25–34 (table 14).

Length of Stay

Admission rates to hospitals reveal only part of the picture, however. With only three exceptions (insured men in the age groups 14–64 and 75 and over and uninsured women in the age group 65–69) the unmarried patients average longer stays in the hospital than the married patients (table 12). Among the male group the uninsured married men in general remain longer on the average than the insured married men; the same is true when the insured and uninsured who are not married are compared. In the latter case, the average stay is considerably longer for the patient group containing the uninsured who are not married. The differences in average length of stay between married or not married and insured or not insured is not nearly so decided nor so consistent among the women.

Length of stay per admission rose consistently with increasing age, except for minor deviations after age 69 where the sample size probably caused some variation. Nevertheless, the average stay for the total hospitalized population did not exceed 20 days in any age group (table 14).

If males and females are compared by age-sex-marital status groupings (table 12), the average for males in some categories after age 65 was higher than 20 days (in the unmarried and, in some cases, the uninsured categories). Stays of all durations from a day or two to practically a full year were included in the survey data.

Annual Rates in Days

Volume of hospital care in annual days used per 1,000 was higher for insured than uninsured in almost every age group (table 14). The insured population as a whole used 83 more days per 1,000 than the uninsured.

The third part of table 12 provides contrasts between married and nonmarried persons in the annual days of hospital care used. Relatively low use of hospital days was recorded for all the categories for the unmarried at the younger ages, and among aged uninsured women, whether or not they were married.

Table 14. Hospital utilization rates by insured status and age group, year ending September 1956

Age group (years)	Annual admissions per 1,000 population			Average days of stay per admission			Annual days per 1,000 population		
	Total	Insured	Uninsured	Total	Insured	Uninsured	Total	Insured	Uninsured
All ages_____	101	113	73	8. 0	7. 4	10. 3	808	836	753
Under 14_____	54	69	28	5. 2	4. 7	7. 1	279	323	200
14–24_____	119	123	109	5. 5	5. 2	6. 3	649	640	687
25–34_____	162	171	132	6. 1	5. 9	7. 0	991	1, 009	924
35–44_____	109	118	80	8. 4	8. 2	9. 3	912	968	744
45–54_____	93	104	64	9. 9	9. 0	13. 9	926	936	890
55–64_____	104	116	74	12. 8	11. 8	16. 8	1, 331	1, 369	1, 243
65 and over_____	125	154	108	14. 0	12. 1	15. 6	1, 746	1, 856	1, 683
65–69_____	114	135	95	15. 5	12. 1	19. 8	1, 764	1, 636	1, 881
70–74_____	119	148	103	11. 5	13. 2	10. 0	1, 364	1, 950	1, 029
75 and over_____	142	205	122	14. 5	10. 9	16. 5	2, 066	2, 241	2, 012

SOURCE: Same as for table 3.

In sharp contrast either with unmarried women or with married men is the volume of hospital care recorded per 1,000 older unmarried men, whether insured or not. Their rate exceeds even the rate of women in the childbearing years. In fact, more than 6 days annually per capita were used by unmarried uninsured men aged 65–69. In this same age bracket, uninsured married men accounted for less than 2 days per capita, and uninsured unmarried women used only about one-half day per capita in the survey year.

SUMMARY

As of September 1956, the civilian noninstitutional population residing in the continental United States had the following characteristics with respect to marital status, health insurance, and hospital utilization:

About two-thirds of the total population had some form of health insurance protection, one-third had none.

Nearly two-thirds of those under 65 had health insurance in some form; only 36 percent of those over 65 were insured.

Among the aged, the proportion with insurance declined with advancing age, so that fewer than one-fourth were insured among those 75 and over.

Of the insured aged, that is 65 years and over, 1 in 4 had only hospitalization insurance,

whereas among those under 65, only 1 in 8 had benefits limited to hospitalization.

Of the insured population, 95 percent were under 65; 30 percent were under 14. Ninety-four percent were white; 6 percent nonwhite. Of those 14 and over, 63 percent were in the labor force; 88 percent of the insured men and 40 percent of the insured women were working or looking for work. Since approximately equal numbers of married men and married women were insured in the 14–64 age group, it is obvious that many of the women obtained their insurance by virtue of their husband's employment.

Of the uninsured population, 15 percent were aged over 65, 85 percent under 65, and 29 percent under 14. Nineteen percent were nonwhite. Of those over 14, only 51 percent were in the labor force, 73 percent of the men and 32 percent of the women. Four in 10 were not married, and 1 in 10 was both over 65 and not married. Twenty-two percent of the women were 65 and over, most of them neither in the labor force nor married.

The uninsured include large proportions who are not gainfully employed as well as many of the aged who have only small retirement incomes or no incomes. The uninsured, therefore, appear to be difficult to enroll under any of the usual methods of group enrollment used by insurance companies and plans.

The aged insured were heavily concentrated

in the age bracket 65–69. Although only 38 percent of the aged population fell in this age group, half of the insured aged population was found in it, and less than a third of the uninsured aged population.

The aged insured population was almost entirely white; only 3 percent were nonwhite. Nine percent of the uninsured aged population was nonwhite.

The findings from the September 1956 survey and the comparison with the March 1952 survey point to the conclusion that persons entering the retirement years continue the health insurance they obtained when they were younger if it is possible to do so. A fairly high level of insurance protection exists among persons in the labor force and among married persons. Lacking such protection are those with low incomes and those who are neither in the labor force nor married to a person who is or has recently been in the labor force.

Among the insured, hospital admissions were more frequent than for the uninsured but the stay was shorter. Average stay for the insured was 7.4 days; for the uninsured, 10.3 days. Average stay for both groups combined was 8 days. Insured persons used 83 more days of hospital care per 1,000 than uninsured persons in the course of a year.

Admission rates were highest at age 25–34 for the total group; admissions for maternity during the childbearing years affected the rate for both sexes combined.

Length of stay per admission rose with increasing age. The average stay per admission never exceeded 20 days in any age group.

The volume of hospital care, that is, the annual rate per 1,000, was higher for older unmarried men, whether insured or not, than for married men or unmarried women. It exceeded even the rate of women in childbearing years.

Between the ages of 14 and 64 marriage appeared to be a factor associated with greater use of days of hospital care, whereas insurance ownership had no appreciable effect, except among married women. After age 64, the greatest impact on days of hospital care among the men appeared to be related to their wifelessness and not to their having or not having insurance. Among aged women both marital status and insurance had an impact; single insured women were the largest users of days of hospital care; single uninsured women were also generally the smallest users, particularly in the 65–69 age group.

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