

Income-Loss Protection Against Illness

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When a worker suffers a temporary loss of wages because of a work-connected illness or injury, his wage loss will usually be compensated under the workmen's compensation law of his State. If the loss of income results from an illness or injury incurred off the job, which is far more common, the possibilities of wage replacement vary, depending usually on the location of his work or the protection voluntarily provided by his employer. Protection against nonoccupational sickness is provided under employers' sickness insurance and sick-leave plans and by law for workers in four States and the railroad industry. The Social Security Administration compiles data annually that measure the amount of protection provided through cash sickness-benefit plans.

THE VALUE of time lost from work because of short-term sickness in 1965 is estimated at \$11.2 billion. Of this potential loss, about \$3.3 billion or 29.5 percent was replaced under various public and private insurance and sick-leave plans.

The incidence of illness among workers in 1965 was somewhat higher than the relatively low rate in 1964, according to estimates derived from the National Health Survey. Because of the higher sickness rate and the substantial rise in income subject to loss that reflected the relatively high level of economic activity during the year, the potential income loss in 1965 was nearly \$1 billion more than the amount for 1964. Since the potential income loss increased at a somewhat greater rate than aggregate sickness benefits did, the proportion of income loss replaced declined slightly to 29.5 percent. Among the various types of sickness protection, voluntary group insurance and sick leave showed substantial increases, but individual insurance and government temporary disability insurance payments changed only slightly.

The proportion of workers in private industry covered under cash sickness plans was about the

same in 1965 as in 1964. About 32.6 million private wage and salary workers, or almost 61 percent of the total, had some kind of protection under public programs, private insurance plans, or formal sick-leave arrangements.

The 1965 data seem to indicate little change in recent trends in the extent of protection against income loss arising from illness. The proportion of potential income loss replaced rose continuously from 1948 (the first year these data were compiled) until 1959. Since then, the proportion has leveled off, fluctuating within a range of 29-30 percent.

MEASURING INCOME LOSS

Estimating Income Loss From Short-Term Sickness

The estimates of income loss used in this series are designed to cover the loss of current earnings during the first 6 months of nonoccupational illness or injury, including loss during the first 6 months of a long-term disability. This concept of short-term income loss is based on traditional usage developed in connection with accident and sickness insurance practices and later adapted by government disability insurance programs. In designing various types of insurance policies and programs, the 6-month period was considered a useful administrative device for distinguishing between short-term and long-term disability. Disability that has already lasted such a substantial period of time is customarily dealt with under plans designed for long-continued or permanent disability. The first 6 months of any illness is thus included in the short-term category regardless of the eventual span of illness. From the viewpoint of the actual nature of disability, these distinctions are of course arbitrary. There is little evidence to indicate that 6 months represents any significant point in the distribution of the duration of disabilities.

* Office of Research and Statistics. Earlier articles in this series have appeared in the January issue of the *Bulletin*.

The term income loss, as used in this article, refers to the value of potential as well as actual loss. It includes, for example, income that would have been lost if not replaced under a sick-leave plan that continues wages and salaries during periods of illness or under another type of arrangement. Sick leave is counted among the types of benefits that offset the potential wage loss.

Estimates of the number of days of work lost in the year are computed separately for the various components of the labor force—wage and salary workers in private employment, Federal civilian employees, State and local government workers, and self-employed persons. The standard disability rates for each group are modified to reflect year-to-year variations in sickness rates, based on an index derived from the National Health Survey data on days of disability. The sickness index uses 1958 as the base year, with an index number of 100. The estimates of the amount of income loss are obtained by applying the modified sickness rates for each employment group to income data for that group.

The rate of sickness among workers, as measured by the sickness index, rose from 101 in 1964 to 103 in 1965—a moderate degree of sickness. The index has ranged between 97 and 107 since 1958.

The total income loss from nonoccupational short-term sickness in 1965 was \$11.2 billion, a rise of \$990 million or 9.7 percent. A major factor in the increase, in addition to higher sickness rates, was the growth in the amount of earnings subject to loss, which rose 7.5 percent, reflecting the relatively high level of employment and earning during the year. Each of the major labor-force groups—private industry employment, public employment, and self-employment—contributed to the rise in income loss, with each group showing an increase of 9–11 percent.

Total Economic Cost of Illness

Estimates of the loss of earnings resulting from short-term illness, similar to those included in this article, are presented in a recently issued study of the costs of illness.¹ These data for short-

¹ Dorothy P. Rice, *Estimating the Cost of Illness*, Public Health Service, Health Economics Series Number 6, May 1966.

TABLE 1.—Estimated income loss from nonoccupational short-term sickness,¹ by type of employment, 1948–65²

[In millions]

Year	Total	Wage and salary workers					Self-employed persons ³
		Total	In private employment ³		In public employment		
			Covered by temporary disability insurance laws ⁴	Other ⁵	Federal ⁶	State and local ⁷	
1948.....	\$4,568	\$3,630	\$391	\$2,807	\$174	\$258	\$938
1949.....	4,424	3,601	483	2,643	190	285	823
1950.....	4,795	3,921	712	2,703	201	305	874
1951.....	5,473	4,494	1,059	2,842	259	334	979
1952.....	5,814	4,831	1,132	3,039	291	369	983
1953.....	6,144	5,199	1,213	3,295	290	401	945
1954.....	6,094	5,161	1,212	3,232	280	437	933
1955.....	6,546	5,573	1,299	3,507	297	470	973
1956.....	7,031	6,034	1,430	3,773	313	518	997
1957.....	7,363	6,335	1,512	3,930	323	570	1,028
1958.....	7,458	6,371	1,507	3,884	352	628	1,087
1959 ⁹	7,724	6,671	1,580	4,079	356	656	1,053
1960 ⁹	8,555	7,445	1,773	4,507	403	762	1,110
1961 ⁹	8,639	7,498	1,766	4,496	420	816	1,141
1962 ⁹	9,622	8,383	1,967	5,021	467	928	1,239
1963 ⁹	10,178	8,905	2,067	5,323	504	1,011	1,273
1964 ⁹	10,236	9,013	2,063	5,403	506	1,041	1,273
1965 ⁹	11,228	9,888	2,217	5,958	548	1,165	1,340

¹ Short-term or temporary non-work-connected disability (lasting not more than 6 months) and the first 6 months of long-term disability.

² Beginning 1960, data include Alaska and Hawaii.

³ Annual payrolls of wage and salary workers in private employment from *Survey of Current Business*, Department of Commerce, multiplied by 7 (estimated average workdays lost per year due to short-term sickness) and divided by 255 (estimated workdays in year).

⁴ Total annual payrolls of wage and salary workers in industries covered by temporary disability insurance laws in Rhode Island, California, New Jersey and New York and in the railroad industry, multiplied by 7 and divided by 255.

⁵ Difference between total loss for all wage workers in private employment and for those covered by temporary disability insurance laws.

⁶ Federal civilian payroll in United States from U.S. Civil Service Commission, multiplied by 8 (estimated average workdays lost per year due to short-term sickness) and divided by 260 (scheduled workdays in year).

⁷ Annual wage and salary payrolls of State and local government employees from Department of Commerce data (see footnote 3), multiplied by 7.5 (estimated average workdays lost per year due to short-term sickness) and divided by 255 (estimated workdays in year).

⁸ Annual farm and nonfarm proprietors' income from Department of Commerce sources cited in footnote 3, multiplied by 7 (estimated income-loss days per year due to short-term sickness) and divided by 300 (estimated workdays in year).

⁹ Computed as for earlier years, then adjusted to reflect changes in sickness experience (average number of disability days) in 1959–65, as reported in the National Health Survey.

term illness are one component of the estimates presented in the study, which represents a comprehensive systematic approach to estimating the total economic costs resulting from illness, disability, and premature death. The report develops methodology for estimating the direct annual costs of morbidity and death, such as the prevention, detection, and treatment of illness, and the indirect costs including the loss of manhours and earnings. Also included are estimates of the present value of future earnings lost because of mortality in 1963. Most of the estimates are distributed by age, sex, and diagnosis.

The study presents estimates of indirect losses caused by morbidity for three population groups: the currently employed, those unable to work (not in the labor force), and those keeping house. It is the estimates relating to the currently employed that are comparable to those presented in this article. There are, however, some differences in definitions.

The estimates in the study are based on National Health Survey data on work-loss days for currently employed persons. The National Health Survey, which is based on a household sample survey of the noninstitutional population, defines the currently employed as persons who worked at any time during the 2-week period covered by the interview and those temporarily absent from work because of temporary illness, vacation, strikes, or bad weather (if they would be expected to return to work when the event causing their absence ended).

The estimates of income loss shown in this article cover the first 6 months of workers' illness, including illness of workers no longer on a payroll, those with long-term or permanent disabilities, and those in institutions. When these differences in definition are taken into account, the estimate of \$9.8 billion for the loss of earnings by the currently employed in 1963, shown in the study, seems consistent with the estimated income loss of \$10.2 billion that is shown for that year in table 1.

Long-Term Disability

For some time the Office of Research and Statistics has considered preparing a series of estimates for loss of income resulting from long-term illness and for the extent of replacement of such income loss, comparable to the short-term series in this article. These estimates for long-term disability would include the loss and replacement of income after the first 6 months of disability for persons who would be working if not disabled.

Estimating income loss for long-term disability presents more difficult problems than estimates of the loss for short-term illness. Additional problems arise primarily because of the indefinite attachment to the labor force of persons with long-term disability. For example, the estimated time

lost from work for short-term illness can be based on the average number of days of work-loss for the working population. For the long-term disability estimates, this approach is probably not possible and it is necessary to start with an estimate of the total number of disabled persons in the population. This estimate must then be adjusted according to the presumed labor-force participation rates. The age and sex composition of the disabled population must be analyzed to exclude persons who would otherwise have been keeping house, going to school, or living in retirement. Finally, annual work time must be estimated and adjusted for average time ordinarily lost from unemployment, strikes, and similar events. For persons disabled during a year, adjustment must be made to include only the work-loss time after the first 6 months of disability. The institutionalized population, nearly all of whom have long-term disabilities, must be taken into account.

Other difficulties concern the earnings valuation to be placed on lost time for the long-term disabled. The income loss attributable to short-term sickness can probably best be based on current wage levels. For the "would-be" workers among the long-term disabled, consideration should be given to the possibility that the past earnings levels of these disabled were different (probably lower) than those of the active work force.

A start toward preparing income-loss estimates of this type for long-term disability is provided by the ORS series on the number of "would-be" workers who have been disabled for 6 months or more.²

The Public Health Service report on estimating the cost of illness, especially the sections concerned with persons "unable to work," presents additional methodology useful in estimating costs attributable to long-term distributions.³

The National Health Survey data provide much information needed to develop various components of the estimates. The 1966 Survey of Disabled Adults, now being conducted by the Social Security Administration, should also yield considerable additional data on the characteristics

² Alfred M. Skolnik, "Persons Receiving Payments From Public Programs for Long-Term Disability," the *Bulletin*, October 1964.

³ Dorothy Rice, *op. cit.*

of the institutional and noninstitutional disabled population.

PROTECTION AGAINST INCOME LOSS

Types of Protection

Most of the protection against loss of earnings from short-term nonoccupational disability is provided through the worker's place of employment. Some employers insure their workers against this risk by purchasing group policies from commercial companies under which cash benefits are paid during specified periods of disability, or they provide similar benefits by self-insuring. Others establish formal paid sick-leave plans that provide for continuation of wages (usually full wages) for a certain number of days. Still others combine the two methods and establish both sick-leave and group insurance plans that supplement each other.

Among other sources of employment-connected protection against income loss resulting from sickness are mutual benefit associations and union or union-management plans, often on a regional or industrywide basis. Workers and self-employed persons may also obtain protection through the purchase of individual sickness insurance policies from insurance companies or through membership in fraternal societies.

In California, New Jersey, New York, and Rhode Island, most employees are covered under a State temporary disability insurance law, and workers in the railroad industry are protected under a Federal sickness insurance law. In Rhode Island and the railroad industry, all benefits are provided from publicly operated disability funds. In California and New Jersey, employers have the option to "contract out" of the public plan by providing an approved private plan, usually one insured by a commercial company or financed on a self-insured basis. The New York law requires employers to provide sickness protection of a specified value for their employees by establishing a privately insured or self-insured plan or insuring with a State fund that itself has many characteristics of a private carrier. In California, New Jersey, and New York, union or union-management plans may provide the sickness benefits required by law. The coverage provisions of the temporary disability laws in the four States,

which are similar to the unemployment insurance laws of those States, cover most employees in industrial and commercial firms. They generally do not cover hired farm workers (except in California), domestic service workers, or employees of governments and nonprofit organizations.

Number of Workers Covered

The extent of protection against short-term sickness is, as would be expected, considerably greater in the four States with temporary disability laws and the railroad industry than in other areas. As the following tabulation shows, of the wage and salary workers in private industry in the five jurisdictions with temporary disability laws, about 96 percent had some protection (including a small number of workers not covered under the laws but provided sick-pay protection by their employers). In the areas without laws, about 49 percent of these wage and salary workers had some type of protection.

Jurisdiction	With protection		
	Total (in thousands)	Number (in thousands)	Percent of total
Total.....	53,600	32,600	60.8
With compulsory coverage.....	13,600	13,100	96.3
Without compulsory coverage.....	40,000	19,500	48.7

Most of the 32.6 million workers with protection in 1965 were covered by group policies written by insurance companies. About 22.6 million workers were covered by private commercial insurance, including 6.4 million under plans written in accordance with the State temporary disability insurance laws. The five government-operated funds provided protection for 6.5 million workers; union, union-management, and mutual benefit associations for about 1 million. The remaining workers were covered exclusively under formal sick-leave plans.

The extent of coverage under temporary disability insurance laws has not changed substantially since 1949 when the State of New York enacted its disability law. The Rhode Island law was enacted in 1942, the California and railroad

legislative programs in 1946, and the New Jersey law in 1948. No other laws establishing programs have been passed, but coverage in the existing programs has been extended to additional small groups of workers in some of the five jurisdictions by later legislation.

Interest may therefore be focused on the developments in the jurisdictions without temporary disability insurance laws, where the sickness protection is provided on a voluntary basis. The extension of sickness insurance coverage was greatest in the immediate postwar period, a period also marked by expansion of other types of employee benefits under health, welfare, and pension plans, for example. In the last decade, however, the extent of sickness benefit coverage has hardly changed, as indicated by the data below showing the number and proportion of private wage and salary workers (excluding railroad employees) covered by cash sickness programs in the States without temporary disability insurance laws. These data exclude persons with protection only under group credit insurance arrangements since this type of insurance does not generally stem from an employment relationship. (Credit insurance is insurance purchased by lending institutions to protect their loans against the risk of nonpayment because of the borrowers' disability.) The number of workers with sickness protection has risen somewhat since 1954, but only in keeping with increases in the private labor force. The proportion of workers covered has not increased to any appreciable degree.

Year	Total number (in millions)	With protection	
		Number (in millions)	Percent of total
1954	31.4	15.0	47.8
1956	34.2	16.4	48.0
1958	33.6	16.0	47.6
1960	34.3	16.8	49.0
1962	35.9	17.3	48.2
1964	38.1	18.5	48.6
1965	40.0	19.5	48.7

Insurance Plans and Sick Leave

Both of the two major types of protection against income loss—insurance plans and paid sick-leave plans—replace income that would otherwise be lost, but the method of replacement is of course quite different. Sick leave plans usually

provide for the continuation of wages for a specified number of days, usually 5–15 days a year, sometimes varying with length of service. Some plans permit unused leave to be accumulated from year to year with or without a maximum limit.

Short-term disability insurance plans include private insurance and self-insurance and the five governmental programs whose benefit structures are similar to that of voluntary insurance plans. The disability insurance plans commonly provide 13–26 weeks of payments, usually after a waiting

TABLE 2.—Premiums and benefit payments for private insurance against income loss, 1948–65¹

Year	[In millions]							
	Total	Under voluntary provisions				Under public provisions		
		Total	Group insurance ²	Individual insurance ²	Self-insurance ³	Total	Group insurance ²	Self-insurance ⁴
Premiums								
1948	\$558.9	\$545.8	\$162.2	\$350.0	\$33.6	\$13.1	\$12.7	\$0.4
1949	603.6	564.8	177.8	355.0	32.0	38.8	31.9	6.9
1950	685.3	609.4	225.6	360.0	23.8	75.9	58.3	17.6
1951	804.7	660.9	269.4	366.0	25.5	143.8	102.9	40.9
1952	874.0	718.2	286.2	405.4	26.6	155.8	112.8	43.0
1953	1,026.0	839.5	321.5	494.8	23.2	186.5	136.2	50.3
1954	1,074.1	896.0	340.1	534.2	21.7	178.1	129.8	48.3
1955	1,133.9	955.1	386.2	547.8	21.1	178.8	128.3	50.5
1956	1,206.3	1,029.2	418.3	591.2	19.7	177.1	128.5	48.6
1957	1,346.9	1,129.7	453.7	654.4	21.6	217.2	157.9	59.3
1958	1,417.9	1,185.6	449.6	714.6	21.4	232.3	167.8	64.5
1959	1,526.4	1,293.6	484.1	787.8	21.7	232.8	166.1	66.7
1960	1,561.9	1,323.1	516.8	783.0	23.3	238.8	168.2	70.6
1961	1,630.5	1,375.2	516.0	835.9	23.3	255.3	179.1	76.2
1962	1,692.6	1,437.2	556.9	856.5	23.8	255.4	179.6	75.8
1963	1,697.7	1,453.3	560.0	870.0	23.3	244.4	161.0	83.4
1964	1,819.0	1,580.9	624.1	933.0	23.8	238.1	149.9	88.2
1965	1,928.8	1,669.5	712.4	932.4	24.7	259.3	162.2	97.1
Benefit payments								
1948	\$286.8	\$277.5	\$115.0	\$141.0	\$21.5	\$9.3	\$9.0	\$0.3
1949	322.0	294.9	124.7	150.0	20.2	27.1	22.3	4.8
1950	383.8	329.5	161.3	153.0	15.2	54.3	41.7	12.6
1951	500.8	387.5	212.4	157.0	18.1	113.3	81.1	32.2
1952	559.1	431.3	234.6	177.0	19.7	127.8	92.5	35.3
1953	606.2	466.5	241.0	209.0	16.5	139.7	102.0	37.7
1954	629.1	497.1	251.8	230.0	15.3	132.0	96.2	35.8
1955	692.4	557.2	292.0	250.0	15.2	135.2	97.0	38.2
1956	802.5	651.3	357.3	278.0	16.0	151.2	109.7	41.5
1957	874.4	696.3	372.3	307.2	16.8	178.1	129.5	48.6
1958	909.1	725.4	355.9	353.4	16.1	183.7	132.7	51.0
1959	990.1	800.6	394.2	389.6	16.8	189.5	135.2	54.3
1960	1,031.2	835.1	424.1	392.8	18.2	196.1	138.1	58.0
1961	1,051.6	850.2	406.8	425.9	17.5	201.4	141.3	60.1
1962	1,086.7	882.4	445.8	418.5	18.1	204.3	143.7	60.6
1963	1,117.5	919.3	454.2	447.2	17.9	198.2	130.6	67.6
1964	1,195.1	1,003.7	501.6	483.9	18.2	191.4	120.5	70.9
1965	1,240.9	1,043.3	543.1	482.3	17.9	197.6	123.6	74.0

¹ Beginning 1960, data include Alaska and Hawaii.

² Data on premiums earned and losses incurred by commercial companies (including fraternal) as provided by the Health Insurance Association of America for the United States, by types of insurance benefit, adjusted to include accidental death and dismemberment provisions in individual policies that insure against income loss to offset understatement arising from the omission of current short-term income-loss insurance in automobile, resident liability, life, and other policies. For 1956–65, dividends deducted from earned premiums (2–3 percent for group; 1 percent for individual). Starting with 1956, all credit accident and health insurance classified under individual insurance.

³ Union-management trust fund, trade-union, and mutual benefit association plans.

⁴ Company, and union-management plans under California, New Jersey, and New York laws.

period of 1 week. Some private plans use a shorter waiting period, perhaps 3 days, and may start benefits on the first day in case of accident. The benefit is usually a stated percentage of the worker's recent wages, often one-half to two-thirds, but is usually subject to some specified maximum amount.

Each of the two types of protection has advantages and disadvantages. The sick-leave plans offer "first-day" benefits and usually full pay but may provide little protection in cases of more extended illness or disability, especially if the sick leave is not cumulative. The insurance plans usually provide better protection for the lengthier illness or disability that often imposes the greatest financial hardship. If the plan pays 26 weeks of benefits, it will usually maintain a certain income for the worker until programs geared to long-term disability start paying benefits. Insurance plans of course give little or no protection for the most frequent types of illness—those that last only a few days—and then provide only partial wage replacement.

The fact that most illness lasts only 1 day, or a few, is important in interpreting the data on income replacement under sick-leave and insurance plans. Data on sick leave show replacement of a high proportion of income, probably about three-fourths for a typical group. Insurance plans show a much lower percentage, perhaps 20–40 percent under most plans. Because of the difference in the kind of protection offered, however, the extent of wage replacement is not necessarily an adequate measure of the comparative advantages of the two types of plans.

AMOUNT OF SICKNESS BENEFITS

Table 2 shows the amount of insurance protection against the risk of short-term illness provided through insurance companies and other private organizations. It includes separate data on private insurance written under voluntary arrangements and that provided in compliance with temporary disability laws in California, New Jersey, and New York. As for previous years, credit accident and health insurance has been included in the individual insurance category. Data on sick-leave plans and, in States without compulsory laws, on self-insured, unfunded employer-administered

plans are excluded from table 2 but are included in table 4.

In the voluntary segment, group insurance continued to show considerable growth with an 8.3-percent increase in benefit payments to \$543 million, following the rise of 10.4 percent in 1964. These increases represented substantial improvement over previous years since the average annual compound growth rate for the 4-year period 1959–63 was 3.7 percent. However, the other major voluntary insurance category, individual insurance, changed comparatively little in 1965.

While sickness insurance written under disability insurance laws increased somewhat, as discussed later, the growth was relatively greater for voluntary group insurance. Of the total of \$666.7 million in group commercial insurance benefits paid in 1965, 18.5 percent was paid in accordance with statutory provisions, compared with 19.3 percent in 1964.

Public Provisions

Table 3 shows the benefits paid under the five temporary disability insurance programs. To the extent that the protection under these programs is provided through commercial companies or other private arrangements, the data in table 3 overlap those in table 2.

In 1965, total benefits under the public provisions increased only slightly, by \$10.9 million or 2.4 percent, to a total of \$466.7 million. One factor affecting the growth in these benefits has been the steady decline in benefits under the Federal program for railroad workers that reflected the decline in railroad employment. Sickness benefits under the railroad program reached a peak of \$66.2 million in 1959 and has subsequently fallen in each year. The further decline of \$5.2 million in 1965 reduced the railroad payments to a low of \$40.8 million.

The year 1965 saw the reversal of the trend that began in 1958 toward declining participation of private plans in the temporary disability insurance programs. From 1957 to 1964 the share of benefits provided by private plans fell from 58.3 percent to 42.0 percent, with a corresponding increase in the part paid directly by State funds. The proportion paid by private plans rose slightly in 1965, however, to 42.3 percent of the total benefits paid.

The earlier decline in private-plan participation was caused mainly by the declining importance of insured private plans in California. These plans had almost disappeared by 1964, providing only a fraction of 1 percent of the benefits paid under the California law in that year. In New Jersey the participation of insured private plans has shown small relative declines in recent years. In 1965, there was little change in the amount of benefits paid by insured private plans in California and New Jersey and a moderate increase in New York, where private plans continued to dominate the program. Self-insured plans in these three States have maintained, in recent years, a relatively stable position as providers of benefits under the disability laws.

The disappearance of insured private plans in California is attributable mainly to a series of legislative enactments that affected the financial experience of and the relationship between the State fund and private plans. A comprehensive analysis of these events is given in a recent study of the California program.⁴

The 1946 legislation that established the temporary disability insurance program provided for the participation of private plans meeting certain requirements of law. The plans were required to pay benefits in some respect better than those provided by the State fund. The benefits of the public and private plans were to be financed by employee contributions of 1 percent on the first \$3,000 of annual wages. In practice, a close and somewhat delicate relationship exists between the State fund and the private plans; changes in the provisions or experience of either often have important effects on the other.

The State fund began its operations in 1947 with a substantial balance transferred from the unemployment insurance account. Also, in the early years the contributions income of the State fund greatly exceeded benefits and the fund accumulated large reserves. This "over-financing" was no doubt an important factor in encouraging the California legislature to increase benefit amounts on several occasions, without making provision to finance the additional costs. By the late 1950's the State fund was sustaining substantial annual losses and was rapidly being de-

⁴ Nathan Sinai, Bert S. Thomas, Benjamin W. Wheeler, *Disability Insurance in California*. School of Public Health, the University of Michigan, 1965.

TABLE 8.—Cash benefits under temporary disability insurance laws provided through private plans and through publicly operated funds, 1948-65¹

Year	Total	Type of insurance arrangement		
		Private plans ²		Publicly operated funds ⁴
		Group insurance	Self-insurance ³	
1948.....	\$66.4	\$9.0	\$0.3	\$57.1
1949.....	89.2	22.3	4.8	62.1
1950.....	117.4	41.7	12.6	63.1
1951.....	174.2	81.1	32.2	60.9
1952.....	202.3	92.5	35.3	74.5
1953.....	230.2	102.0	37.7	90.5
1954.....	235.1	96.2	35.8	103.1
1955.....	244.6	97.0	38.2	109.4
1956.....	265.0	109.7	41.5	113.8
1957.....	305.3	129.5	48.6	127.2
1958.....	325.1	132.7	51.0	141.4
1959.....	353.2	135.2	54.3	163.7
1960.....	368.2	138.1	58.0	172.1
1961.....	396.6	141.3	60.1	195.2
1962.....	416.3	143.7	60.6	212.0
1963.....	442.2	130.6	67.6	243.9
1964.....	455.8	120.5	70.9	264.4
1965.....	466.7	123.6	74.0	269.1

¹ Programs under the Railroad Unemployment Insurance Act and the laws of Rhode Island, California, New Jersey (beginning 1949), and New York (beginning 1950). Excludes hospital benefits in California and hospital, surgical, and medical benefits in New York.

² Under the laws of California, New Jersey, and New York.

³ Employers may self-insure by observing certain stipulations of the law. Includes some union plans whose provisions come under the law.

⁴ Includes State-operated plans in Rhode Island, California, and New Jersey, the State Insurance Fund and the special fund for the disabled unemployed in New York, and the railroad program.

pleted. The private plans, which at their peak covered about half the covered workers, were hard-pressed to provide the required benefits, at the same 1-percent contribution rate, for many of the employee groups. As a result, plan coverage declined. The financial problems of the private insurers probably caused them to limit their selection of employee groups to the best risk groups—those with the lowest disability rates. This action, in turn, aggravated the financial problems of the State fund.

Legislation enacted in 1961 raised the taxable wage base and made other provisions designed to restore the fund to actuarial balance, but later experience indicated that these revisions were not adequate. One of the 1961 provisions tightened the requirements concerning selection of risks by private insurers. These new requirements, combined with the other difficulties, resulted in the virtual disappearance of private plans.

In 1965, the California legislature enacted amendments to the disability law that raised the taxable wage base to \$7,400 annually—the highest base for any social insurance program in the United States—and provided a small, temporary increase in tax rates. They also froze at \$80 week-

ly the maximum benefit, which would otherwise have risen automatically under earlier legislation, and shortened the duration of benefits for some beneficiaries. The report of the consulting actuaries to the State fund, published in August 1966, indicates that on the basis of 1965 experience the new provisions will probably result in slightly improving the balance of the fund, given continuing good economic conditions.⁵

The Sinai report on the California program, indicates that during 1961 approximately 10 percent of the insured workers in California received disability benefits and that the rate for women was 50 percent higher than that for males. The beneficiary rate increased with age, ranging from 5 percent for those under age 25 to 15 percent for ages 55-64 and 14 percent for those age 65 and over. The average weekly benefit amount was \$49.30 or a total of \$355 for the average spell of sickness, which lasted 7.2 weeks. Computed on the basis of benefits per insured worker, the cost of the program was about \$35 per worker, based on State plan experience.

The California temporary disability insurance program includes provision for the payment of hospital benefits of \$12 a day for a maximum of 20 days to hospitalized insured workers. The Sinai report studied the extent to which duplicate hospital insurance coverage in California may possibly result in excessive insurance payments to persons who became hospitalized. (Many workers are also covered under Blue Cross or other insurance plans.) The study indicates that, for workers insured under the California program who were hospitalized in 1961, hospital insurance payments from all sources exceeded the hospital charges in 7 percent of the cases, and about equaled them in 14 percent. In the remaining 79 percent, the total insurance payments were less than the hospital charges. The report states that these results are based on limited data.

Summary of Group Insurance Benefits

The tabulation below, based on data from tables 2 and 3, gives the total insurance benefits provided in 1965 and 1964 on a group basis through the

⁵ California Unemployment Compensation Disability Fund, *Report of the Actuaries for Calendar Year 1965*, Woodward and Fondiller, Inc., California Department of Employment, 1966.

worker's place of employment under voluntary plans and government disability insurance programs. In 1965, total private and public insurance benefits passed the \$1 billion mark, with the benefits paid under law representing \$467 million or 45.4 percent of the total; in 1964 they were 46.7 percent of the total.

Type of program	1965		1964	
	Amount (in millions)	Percent	Amount (in millions)	Percent
Total.....	\$1,027.7	100.0	\$975.6	100.0
Voluntary plans.....	561.0	54.6	519.8	53.3
Public law ¹	466.7	45.4	455.8	46.7

¹ From public funds or approved private plans.

Sick Leave

The estimates of the value of sick leave shown in table 4 include the sick leave paid to some workers who are also covered under private or government insurance programs or other types of group protection. In these cases the sick leave plan frequently covers the waiting period (typically the first week of disability) before insurance benefits become available.

The increase of 11.3 percent in the value of sick leave provided in 1965 was somewhat larger than the average annual compound increase of about 8 percent for the previous 5 years. The sick leave granted to private wage and salary workers and to government workers showed increases of 12.4 and 10.8 percent, respectively. The growth in sick leave for both groups in 1965 reflects the rise in the sickness index (which is used in estimating the days lost from work) and the increased employment and wage rates of private and government employees. The rapid growth in employment by State and local governments over the past two decades has caused this employment group to show the largest relative increases in sick leave.

Of the total combined sick leave provided to private and government employees, about 69 percent was granted to the government workers. Employees of Federal, State, and local governments are the major beneficiaries of the formal sick-leave plans, and they rarely are entitled to other forms of protection. In 1965, an estimated 86 percent

of all sick leave granted in public and private employment was under exclusive plans. As a result, most of the formal sick leave discussed in this article represents sick leave paid on an exclusive basis to workers without other protection. For workers under exclusive plans, sick leave in 1965 replaced an estimated 73.9 percent of the potential income lost—about the same proportion as in 1964 (table 5).

TABLE 4.—Estimated value of formal paid sick-leave in private industry and in Federal, State, and local government employment, 1948–65¹

[In millions]

Year	Total	Workers in private industry ²			Government workers		
		Total	Not covered by temporary disability insurance laws	Covered by temporary disability insurance laws ³	Total	Federal ⁴	State and local ⁵
1948	413	157	145	12	256	148	108
1949	463	163	147	16	300	173	127
1950	493	178	154	24	315	172	143
1951	589	199	165	34	390	221	169
1952	668	215	179	36	453	254	199
1953	713	231	193	38	482	262	220
1954	741	241	201	40	500	252	248
1955	813	268	224	44	545	269	276
1956	882	291	242	49	591	280	311
1957	949	322	268	54	627	290	337
1958	1,032	336	281	55	696	315	381
1959 ⁶	1,073	348	292	56	725	315	410
1960 ⁶	1,215	388	323	65	827	348	479
1961 ⁶	1,306	406	340	66	900	376	524
1962 ⁶	1,459	461	385	76	998	414	584
1963 ⁶	1,623	513	429	84	1,110	450	660
1964 ⁶	1,618	492	413	79	1,126	445	681
1965 ⁶	1,801	553	465	88	1,248	488	760

¹ Beginning 1960, data include Alaska and Hawaii.

² Sum of estimated value of formal paid sick-leave for employees with (a) sick-leave but no other group protection and (b) sick-leave supplemental to group insurance or other forms of group protection, including publicly operated funds. Under each category, number of employees was adapted from Health Insurance Council, *Annual Survey of Accident and Health Coverage in the United States, 1948-54*, after reducing estimates of exclusive sick-leave coverage in early years by a third to allow for exclusion of informal sick-leave plans and for conversion of exclusive protection to supplemental protection under temporary disability insurance laws. Later-year estimates based on nationwide projection of formal paid sick-leave coverage reported for plant and office workers in the community wage surveys of the Bureau of Labor Statistics. Assumes that workers in private industry receive an average of 4 days of paid sick-leave a year, excluding other protection, and 3.2 days when they have other group protection. Daily wages obtained by dividing average annual earnings per full-time private employee as reported in *Survey of Current Business*, August 1965 and July 1966, by 255 (estimated workdays in a year).

³ Assumes that some workers entitled to cash benefits under temporary disability insurance laws have sick-leave in addition to their benefits under the laws, but only to the extent needed to bring up to 80 percent the replacement of their potential wage loss.

⁴ Based on studies showing that Federal employees use paid sick-leave of 7.7 days on the average for nonoccupational sickness, equivalent to 3 percent of payroll. Payroll data derived by multiplying number of paid civilian full-time employees as of June 30 in all branches of the Federal Government in the United States, by their mean earnings, as reported in *Pay Structure of the Federal Civil Service, Annual Reports*, U.S. Civil Service Commission. Practically all full-time employees are covered by paid sick-leave provisions.

⁵ Assumes that number of State and local government employees covered by formal sick-leave plans has increased gradually from 65 percent of the total number employed full-time in 1948 to 85 percent in 1964 and 1965 and that workers covered by such plans received on the average paid sick-leave ranging from 5.2 days in 1948 to 6.0 days in 1964 and 1965. Number of full-time employees from *Public Employment, Annual Reports* (Bureau of the Census). Daily wages obtained by dividing average annual earnings per full-time State and local employee as reported in *Survey of Current Business*, August 1965 and July 1966, by 255 (estimated workdays in a year).

⁶ Computed as for earlier years, then adjusted to reflect changes in sickness experience (average number of disability days) in 1959-65 as reported in the National Health Survey.

TABLE 5.—Estimated value of formal paid sick leave in relation to income loss due to short-term sickness among workers covered by exclusive formal sick-leave plans,¹ 1948–65

[Amounts in millions]

Year	Income loss	Value of sick leave under exclusive plans	Ratio (percent) of sick leave to income loss
1948	\$568	\$375	66.0
1949	602	416	69.1
1950	636	433	68.1
1951	724	508	70.2
1952	806	577	71.6
1953	846	612	72.3
1954	874	634	72.5
1955	951	691	72.7
1956	1,022	744	72.8
1957	1,104	799	72.4
1958	1,200	873	72.8
1959	1,239	906	73.1
1960	1,423	1,033	72.6
1961	1,531	1,122	73.3
1962	1,699	1,243	73.2
1963	1,875	1,383	73.8
1964	1,880	1,388	73.8
1965	2,088	1,543	73.9

¹ Sick-leave plans that do not supplement any other form of group protection, including publicly operated plans.

Trends in Benefits

A summary of the benefits—both insurance and sick leave—providing protection against income loss caused by sickness is given in table 6. Separate data are shown for benefits provided on a group basis, mostly through the worker's place of employment, and for individual insurance. Data for individual insurance benefits cannot be allocated between those going to the self-employed and those paid to employed persons.

Sickness benefits totaled \$3.3 billion in 1965, an increase of 7.6 percent over the previous year, slightly higher than the annual rate of increase of 6.7 percent during the previous 5-year period. Insurance benefits, including those paid under private group and individual insurance and public disability insurance programs, amounted to \$1.5 billion, and the value of sick leave granted was \$1.8 billion. The sick leave represented 54.4 percent of all sickness benefits in 1965—a somewhat larger proportion than in 1964.

Benefits paid under the five government disability programs totaled \$467 million, or 14.1 percent of all sickness benefits. Benefits under government disability programs are paid almost exclusively to workers in private employment. In 1965 they represented 29.5 percent of the total benefits to private industry workers.

The following tabulation shows the percentage increase for the various types of benefits from

1964 to 1965 and the compounded rate of increase for the 5-year period, 1959-64.

Type of benefit	Percentage increase	
	1965 from 1964	Annual average 1959-64
Total.....	7.6	6.7
Private group insurance and self-insurance.....	6.7	3.5
Publicly operated funds.....	1.7	10.1
Individual insurance.....	-0.3	4.5
Sick leave, private employment.....	12.4	7.4
Sick leave, government employment.....	10.8	9.3

Although the total benefits paid for short-term sickness increased at a slightly faster pace in 1965 than in the previous 5-year period, the rates of change for the various types of benefits varied considerably. Only for sick leave for government employees was the rate of increase in 1965 about the same as the 5-year average.

MEASURING THE EXTENT OF PROTECTION

Estimates of the extent of protection against income loss caused by sickness are obtained by

TABLE 6.—Benefits provided as protection against income loss, summary data, 1948-65

[In millions]

Year	Total	Benefits provided through individual insurance	Group benefits provided as protection against wage and salary loss					Sick leave for government employees
			Total	Workers in private employment			Sick leave	
				Total	Private cash sickness insurance and self-insurance ¹	Publicly operated cash sickness funds		
1948	\$756.9	\$141.0	\$615.9	\$359.9	\$145.8	\$57.1	\$157.0	\$256.0
1949	847.1	150.0	697.1	397.1	172.0	62.1	163.0	300.0
1950	939.9	153.0	786.9	471.9	230.8	63.1	178.0	315.0
1951	1,150.7	157.0	993.7	603.7	343.8	60.9	199.0	330.0
1952	1,301.6	177.0	1,124.6	671.6	382.1	74.5	215.0	453.0
1953	1,409.7	209.0	1,200.7	718.7	397.2	90.5	231.0	482.0
1954	1,473.2	230.0	1,243.2	743.2	399.1	103.1	241.0	500.0
1955	1,614.8	250.0	1,364.8	819.8	442.4	109.4	268.0	545.0
1956	1,798.3	278.0	1,520.3	929.3	524.5	113.8	291.0	591.0
1957	1,950.6	307.2	1,643.4	1,016.4	567.2	127.2	322.0	627.0
1958	2,082.5	353.4	1,729.1	1,033.1	555.7	141.4	336.0	696.0
1959	2,226.8	389.6	1,837.2	1,112.2	600.5	163.7	348.0	725.0
1960	2,418.3	392.8	2,025.5	1,198.5	638.4	172.1	388.0	827.0
1961	2,552.8	425.9	2,126.9	1,226.9	625.7	195.2	406.0	900.0
1962	2,751.7	418.5	2,333.2	1,335.2	668.2	212.0	455.0	998.0
1963	2,984.4	447.2	2,537.2	1,427.2	670.3	243.9	513.0	1,110.0
1964	3,077.5	483.9	2,593.6	1,467.6	711.2	264.4	492.0	1,126.0
1965	3,311.0	482.3	2,828.7	1,580.7	758.6	269.1	553.0	1,248.0

¹ Includes a small but undetermined amount of group disability insurance benefits paid to government workers and to self-employed persons through farm, trade, or professional associations.

comparing the total potential income loss resulting from short-term sickness with the total benefits paid in connection with this risk (table 7). Potential income loss in 1965 increased by \$992 million or at a somewhat greater rate than the benefits, which rose \$233 million. The proportion of potential income loss replaced declined from 30.1 percent to 29.5 percent. The dollar amount of income loss not replaced reached a new high of \$7.9 billion.

The 1965 wage-replacement ratio of 29.5 percent shows no significant change in the extent of protection during the year. Since 1959 the wage-replacement ratio has fluctuated slightly, about 29-30 percent, indicating little improvement in overall sickness protection. The data for 1948 (the year with which this series began) to 1959 reflected continuous year-to-year improvements in sick-pay protection, with the income-replacement ratio rising from 16.6 percent to 28.8 percent during the period.

The figures in table 7 on the net cost of providing insurance refer primarily to the difference between insurance premiums and benefit payments under commercial insurance and self-insured plans. The balance or "retention" represents, for the most part, selling and administrative expenses, premium taxes, additions to reserves, and under-

TABLE 7.—Extent of protection against income loss, 1948-65

[Amounts in millions]

Year	Income loss and protection provided			Income loss not protected	Net cost of providing insurance ³
	Income loss ¹	Protection provided ²	Protection as percent of loss		
1948	\$4,568	\$757	16.6	\$3,811	\$277
1949	4,424	847	19.1	3,577	287
1950	4,795	940	19.6	3,855	307
1951	5,473	1,151	21.0	4,322	311
1952	5,814	1,302	22.4	4,512	322
1953	6,144	1,410	22.9	4,734	428
1954	6,094	1,473	24.2	4,621	453
1955	6,546	1,615	24.7	4,931	450
1956	7,031	1,798	25.6	5,233	413
1957	7,363	1,951	26.5	5,412	482
1958	7,458	2,082	27.9	5,376	519
1959	7,724	2,227	28.8	5,497	548
1960	8,555	2,418	28.3	6,137	542
1961	8,639	2,553	29.6	6,086	592
1962	9,622	2,752	28.6	6,870	620
1963	10,178	2,984	29.3	7,194	596
1964	10,236	3,078	30.1	7,158	640
1965	11,228	3,311	29.5	7,917	705

¹ From table 1.

² Total benefits, including sick leave (from table 6).

³ Includes retention costs (for contingency reserves, taxes, commissions, acquisition, claims settlement, and underwriting gains) of private insurance companies (from table 2) and administrative expenses for publicly-operated plans and for supervision of the operation of private plans. Excludes costs of operating sick-leave plans; data not available.

writing gains. It also includes the cost of administering the public insurance programs. The net cost rose to \$705 million in 1965, an increase of \$65 million from the preceding year. This larger-than-normal rise reflected the substantial growth in the volume of insurance business written and the higher "retention ratio" indicated by the data from the Health Insurance Association of America. The cost of administering public programs added about \$17 million to the total net cost.

Wage and Salary Workers

In interpreting the data in table 8, which indicates the extent of income replacement for wage and salary workers, it should be recalled that the income-replacement reflect both (1) the extent to which the group has some type of protection and (2) the degree to which the protection is provided on an insurance basis or by sick-leave plans. The replacement ratio is greater for all wage and salary workers than it is for those in private industry because of the extensive coverage of government workers by sick-pay plans and the high percentage of income replacement characteristic of these plans. The workers in private industry who are covered by temporary disability in-

surance laws have income replaced to a greater extent than do those not covered in part because only about half the workers in the noncovered group have any type of formal sickness protection. The difference would be even greater than indicated by these figures if it were not for the greater prevalence of sick-leave plans among employment groups outside the coverage of disability insurance laws.

The wage-replacement ratio for each of the wage and salary groups dropped slightly in 1965, and the decrease was somewhat larger for the workers covered by disability insurance laws.

Potentially Insurable Income Loss

To measure the effectiveness of the insurance plans, the protection actually received is compared in table 9 with the protection that conceivably might be provided if insurance policies were more widespread and if all benefits were closer to the relatively high levels of some plans. Insurance plans (both private and government) are designed to compensate for a portion of the potential income loss after the first few days or the first week of sickness. Thus, when prevailing disability insurance provisions are taken into account, the potentially insurable or compensable

TABLE 8.—Group protection provided in relation to wage and salary loss, 1948–65

[Amounts in millions]

Year	All wage and salary workers			Wage and salary workers in private industry								
				Total			Covered by temporary disability insurance laws			Not covered by temporary disability insurance laws		
	Income loss	Protection provided		Income loss	Protection provided		Income loss	Protection provided		Income loss	Protection provided	
		Amount	Percent of income loss		Amount	Percent of income loss		Amount	Percent of income loss		Amount	Percent of income loss
1948.....	\$3,630	\$616	17.0	\$3,198	\$360	11.3	\$391	\$78	19.9	\$2,807	\$282	10.0
1949.....	3,601	697	19.4	3,126	397	12.7	483	105	21.7	2,643	292	11.0
1950.....	3,921	787	20.1	3,415	472	13.8	712	141	19.8	2,703	331	12.2
1951.....	4,494	994	22.1	3,901	604	15.5	1,059	208	19.6	2,842	396	13.9
1952.....	4,831	1,125	23.3	4,171	672	16.1	1,132	238	21.0	3,039	434	14.3
1953.....	5,199	1,201	23.1	4,508	719	15.9	1,213	268	22.1	3,295	451	13.7
1954.....	5,161	1,243	24.1	4,444	743	16.7	1,212	275	22.7	3,232	468	14.5
1955.....	5,573	1,365	24.5	4,806	820	17.1	1,299	289	22.2	3,507	531	15.1
1956.....	6,034	1,520	25.2	5,203	929	17.9	1,430	314	22.0	3,773	615	16.3
1957.....	6,335	1,643	25.9	5,442	1,016	18.7	1,512	359	23.7	3,930	657	16.7
1958.....	6,371	1,729	27.1	5,391	1,033	19.2	1,507	380	25.2	3,884	653	16.8
1959.....	6,071	1,837	27.5	5,659	1,112	19.7	1,580	409	25.9	4,079	703	17.2
1960.....	7,445	2,026	27.2	6,280	1,199	19.1	1,773	433	24.4	4,507	766	17.0
1961.....	7,498	2,127	28.4	6,262	1,227	19.6	1,766	463	26.2	4,496	764	17.0
1962.....	8,383	2,333	27.8	6,988	1,335	19.1	1,967	491	25.0	5,021	844	16.8
1963.....	8,905	2,532	28.4	7,390	1,420	19.2	2,067	526	25.4	5,323	894	16.8
1964.....	9,013	2,504	28.8	7,466	1,468	19.7	2,063	534	25.9	5,403	934	17.3
1965.....	9,888	2,829	28.6	8,175	1,581	19.3	2,217	555	25.0	5,958	1,026	17.2

TABLE 9.—Insurance benefits as percent of estimated potentially insurable and compensable income loss¹ for workers without exclusive formal sick leave, 1948–65

[Amounts in millions]

Year	Amount of insurance benefits ²	As a percent of income loss—			
		After first 3 days ³		After first 7 days ⁴	
		Total	Two-thirds	Total	Two-thirds
1948.....	\$344	12.3	18.4	15.6	23.4
1949.....	384	14.4	21.5	18.3	27.4
1950.....	447	15.4	23.0	19.5	29.3
1951.....	562	16.9	25.4	21.5	32.3
1952.....	634	18.1	27.1	23.0	34.5
1953.....	697	18.8	28.2	23.9	35.9
1954.....	732	20.0	30.0	25.5	38.2
1955.....	802	20.5	30.7	26.1	39.1
1956.....	916	21.8	32.7	27.7	41.6
1957.....	1,002	22.9	34.3	29.1	43.7
1958.....	1,050	24.0	35.9	30.5	45.8
1959.....	1,154	25.4	38.1	32.4	48.5
1960.....	1,203	24.1	36.1	30.7	46.0
1961.....	1,247	25.1	37.6	31.9	47.9
1962.....	1,299	23.4	35.1	29.8	44.7
1963.....	1,361	23.4	35.1	29.8	44.7
1964.....	1,490	25.0	37.4	31.8	47.7
1965.....	1,510	23.6	35.4	30.0	45.1

¹ The portion of income loss that may be considered insurable or compensable under prevailing insurance practices.

² Excludes sick-leave payments.

³ Based on 70 percent of total income loss (from table 1), after exclusion of income loss of workers covered by exclusive sick-leave plans (from table 5).

⁴ Based on 55 percent of total income loss (from table 1), after exclusion of income loss of workers covered by exclusive sick-leave plans (from table 5).

income—the proportion of income that might be replaced—is less than the total income loss.

To arrive at a hypothetical income loss that is meaningful in terms of current insurance practices, two benchmarks are provided. The total income loss is reduced to allow for (1) a 3-day uncompensated waiting period, which requires a 30-percent reduction, and (2) a 7-day uncompen-

sated waiting period (with a 45-percent reduction). The potentially insurable income loss is further reduced by one-third to allow for the portion of the income loss after the waiting period that is not to be indemnified. It is assumed that two-thirds of wages are to be replaced.

The table compares the dollar value of disability insurance benefits with these benchmarks of hypothetical income loss to show the proportions of potentially insurable and compensable income loss that would be met by adequate insurance plans. The wage loss of persons with exclusive sick leave (shown in table 5) is omitted from the computations to avoid inflating the benchmark base with income loss that is already uncovered by sick leave.⁶

In 1965 the \$1.5 billion paid in insurance benefits represented 35.4 percent of the hypothetical income loss compensable after a 3-day waiting period and 45.1 percent after a 7-day waiting period. The gap in income replacement reflects both the omission of benefits for those workers not covered and the extent to which the benefit amounts under insurance plans are less than the desired norm. These income-replacement indexes are somewhat lower than those for 1964 and approximate the figures for 1962 and 1963.

⁶ The income loss of persons covered by sick-leave plans that supplement insurance benefits is not excluded, since such sick-leave provisions do not give any appreciable protection against that portion of the income loss resulting from sickness considered insurable under prevailing provisions.