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INTRODUCTION

THE Executive Committee of the Continuous Mortality Investigation Bureau of the Institute of Actuaries and the Faculty of Actuaries has pleasure in presenting the seventh number of its Reports.

This number contains a paper dealing with the Sickness Experience in 1975-78 under Individual PHI Policies. The previous report on this subject for the years 1972-75 appeared in 'Sickness Experience 1972-75 For Individual Policies', *Continuous Mortality Investigation Reports*, number 4.

The PHI Sub-Committee comprises the following members:

R. H. Plumb (Chairman)	
P. H. Bayliss	F. W. G. Martin
R. Garden	A. R. Marshall
E. A. Hertzman	G. C. Orros
R. J. Sansom	

R. E. Hayward is Secretary of the PHI Sub-Committee; K. P. Kelly is Data Processing Adviser; and P. A. Leandro has given substantial help with the computer work for the graduations.

The deaths have already been noted in C.M.I.R. 6 of J. Hamilton-Jones who served as Chairman of the PHI Sub-Committee from July 1970 until September 1979 and of his successor, J. A. Cairns, who served on the Sub-Committee from 1972 and as Chairman from 1979 until his death in February 1982. Their contributions to the work that has led up to the paper in this number are inestimable. The death of F. W. Eschrich who served on the Sub-Committee from 1970 to 1977 is also recorded with regret.

The following Offices have contributed data to this investigation:

Clerical Medical & General	Medical Sickness
Commercial Union	National Employers' Life
Crusader	Norwich Union
Eagle Star	Phoenix
Friends' Provident	Scottish Mutual
Guardian Royal Exchange	Yorkshire General
Legal & General	

The Executive Committee records its thanks to the persons and Offices mentioned above and to all those who have worked behind the scenes to enable this Report to be produced.

March, 1984.

A. D. Wilkie
Chairman of the Executive Committee

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SICKNESS EXPERIENCE 1975-78 FOR INDIVIDUAL PHI POLICIES

INTRODUCTION

THE Continuous Mortality Investigation Bureau invited Offices to submit data relating to Permanent Health Insurance in 1971. A description of the methods employed, and the data processing system, appeared in 'Investigation of Sickness Statistics, Individual Policies 1972 and 1973', *Continuous Mortality Investigation Reports 2* (1976). Subsequently, in 'Sickness Experience 1972-75 for Individual Policies', Continuous Mortality Investigation Reports Number 4 (1979) (referred to as *C.M.I.R. 4*) the results obtained for the first 4-year (1972-75) period for Individual policies were combined into a single experience. A graduation was produced together with a commentary on the experience, the graduation and specific aspects of the data.

Group policies are the subject of separate investigations. The first report on the experience arising from Group policies was published in 'Sickness Experience 1973-76 for Group Policies', *C.M.I.R. 5* (1981), but no attempt was made to graduate this experience. Further reports on the experience of Group policies will be produced in due course.

One of the features of the experience reported in *C.M.I.R. 4* was a possible overall trend of worsening morbidity over the period of the investigation although the evidence for such a trend was not consistent for the separate tables by deferred period and no firm conclusion was drawn.

When, following that Report, data for 1976 became available, it was noticed that for certain deferred periods and age groups the 1976 crude sickness rates were higher than those shown by the 1972-75 experience, although not dissimilar to the rates for 1975 taken by itself. This observation revived doubts about the reliability of some parts of the 1972-75 data. When it was found that the rates reported for 1977 and 1978 appeared to be broadly in line with those for 1976, further comparison, as described in Part 1 of this Report, led the Sub-Committee to decide that it would be best to disregard the data for years prior to 1975 and to base its further work on the experience for the years 1975-78. On many occasions a 4-year period has been employed for mortality investigations as it has been found that such combined data is normally amenable to graduation without the passage of time disturbing the underlying pattern of the experience. In the absence of any compelling argument for a different period the PHI Sub-Committee has continued to follow this practice.

The data submitted to the investigation includes virtually all the policies issued by the contributing Offices other than those incorporating an extra premium on medical grounds, and the 1972-75 investigation was based on all of this data for those years. We are now referring to such total data as the 'Aggregate' experience.

Although the Sub-Committee began its investigations of the 1975-78 experience by reference to the Aggregate data, it came to the view that it would be more desirable to exclude some factors of heterogeneity by including only U.K. policies issued without either an occupational rating or a medical exclusion clause, and which have thus been underwritten, as far as is known, on 'standard' terms. This data is referred to as the 'Standard' experience. More precise details of which policies are included, and an examination of the general features of the Standard experience for male lives is given in Part 2.

Since the publication of *C.M.I.R. 4* further consideration of the methods used by Watson (1903) for the Manchester Unity investigation gave rise to doubts as to their suitability for analysing data from the developing and still relatively immature business represented in the investigation. This problem is discussed in Part 4, and contributes significantly to the view expressed in this Report that extreme caution should be exercised in using for practical purposes any rates derived from this experience.

A standard table for practical use has been the target for the Sub-Committee. However, although this Report includes, in Parts 5 and 6, the results of graduations of the sickness rates of the Standard experience for 1975-78, the Sub-Committee believes that considerable difficulty arises in interpreting these results, in particular the allowance to be made for possible future trends, and doubts whether a standard table suitable for publication for PHI work will ever be warranted within the framework of an investigation and analysis of the Manchester Unity type. It was forecast in the report published in *C.M.I.R. 4* that the investigation would eventually change direction towards the American practice of combining claim inception rates with disabled life annuities. It is hoped that more confidence can be placed in the development of standard tables derived from an investigation based on these principles, though questions over potential secular trends can be expected to persist in some measure, whatever the form of investigation of experience data.

It must be emphasized that anyone contemplating the use of the results of this investigation in a practical context should be particularly aware of the prime requirement to make an allowance for a possible deterioration in the experience. In particular the maturity of the experience now appears to be of more importance than was previously realized.

1. GENERAL EXAMINATION OF THE AGGREGATE DATA

1.1. The volumes of Aggregate data contributed for the years 1975-78, analysed by general characteristics, are summarized in Tables 1.1 and 1.2. A general description of the record formats and codings is given in Appendix A and a copy of the list of diseases and their code numbers used for coding causes of disability on claims cards is given in Appendix B.

Table 1.1 shows that between the beginning and end of the 4-year period there were appreciable increases in the proportion of occupation-rated policies, the

Table 1.1. *Number of policies in force at beginning and end of the period of investigation, analysed by various attributes*

Attribute		Number of policies at 1.1.75	Percentage of total	Number of policies at 31.12.78	Percentage of total
Sex	Male	177,920	95.8	219,169	94.6
	Female	7,813	4.2	12,433	5.4
Country	U.K.	179,913	96.9	220,954	95.4
	Republic of Ireland	5,669	3.0	10,423	4.5
	Isle of Man	4	—	62	—
	Channel Islands	147	.1	163	.1
Occupation rated	Not rated	161,644	87.0	193,134	83.4
	Rated	24,089	13.0	38,468	16.6
	Unknown	0	—	0	—
Type of benefit	Level	163,331	88.0	192,566	83.1
	Increasing	14,919	8.0	34,041	14.7
	Decreasing	7,483	4.0	4,995	2.2
	Lump sum	0	—	0	—
	Other	0	—	0	—
Medical evidence	Medical	45,553	24.5	72,969	31.5
	Non-medical	29,037	15.7	72,630	31.4
	Non-selection	35	—	58	—
	Unknown	111,108	59.8	85,945	37.1
Type of premium	Level annual	184,470	99.3	219,497	94.8
	Recurrent single	1	—	0	—
	Increasing annual	1,231	.7	12,091	5.2
	Other	31	—	14	—
Underwriting impairment	No extra risk	135,690	73.1	194,483	84.0
	Hypertension etc.	296	.2	481	.2
	Neurosis	1,288	.7	2,280	1.0
	Not known*	42,247	22.7	25,272	10.9
	Not known†	44	—	35	—
	All other exclusions	6,168	3.3	9,051	3.9
Total		185,733	100.0	231,602	100.0

* Exclusion may or may not be present

† Exclusion present but related impairment not known

proportion of policies insuring increasing benefits and the proportion of policies subject to increasing annual premiums. The changes in percentages shown by the Medical Evidence and Underwriting Impairment codes are affected by the diminution in numbers of policies originally included with 'unknown' codings under these headings.

Table 1.2 shows the number of claims included in the Aggregate data. The

Table 1.2. *Number of claims during each year, analysed by various attributes*

Attribute		1975	1976	1977	1978
Sex	Male	5,867	6,773	6,768	7,201
	Female	343	397	418	534
Country	U.K.	6,009	6,959	6,971	7,475
	Republic of Ireland	201	211	214	258
	Isle of Man	0	0	0	0
	Channel Islands	0	0	1	2
Occupation rated	Not rated	5,253	6,102	6,041	6,679
	Rated	957	957	998	1,056
	Unknown	0	111	147	0
Type of benefit	Level	4,953	5,811	5,978	6,560
	Increasing	148	214	252	294
	Decreasing	1,109	1,132	941	881
	Lump sum	0	0	0	0
	Other	0	13	15	0
Medical evidence	Medical	1,072	1,314	1,454	1,750
	Non-medical	758	1,228	1,458	1,904
	Non-selection	0	0	0	0
	Unknown	4,380	4,628	4,274	4,081
Type of premium	Level annual	6,202	7,155	7,165	7,686
	Recurrent single	0	0	0	0
	Increasing annual	7	15	21	49
	Other	1	0	0	0
Underwriting impairment	No extra risk	5,094	5,900	5,903	6,558
	Hypertension etc.	6	9	11	10
	Neurosis	86	81	105	142
	Not known*	545	616	649	426
	Not known†	1	0	0	1
	All other exclusions	478	564	518	598
Mode of commencement	Continuation	1,310	1,514	1,641	1,829
	New claim	4,787	5,536	5,418	5,783
	Interrupted claim	3	7	2	23
	Revived claim	45	30	40	32
	Benefit rate changed	65	83	85	68
Full/Reduced	Full	6,077	6,986	6,979	7,514
	Reduced	133	184	207	221
Mode of cessation	Current claim	1,457	1,666	1,953	2,012
	Policy expired	62	79	67	91
	Death	92	113	99	112
	Recovery	4,529	5,215	4,967	5,449
	Lump sum	1	12	4	0
	Ex gratia commutation	4	4	11	3
	Benefit altered	65	81	85	68
Total		6,210	7,170	7,186	7,735

* Exclusion may or may not be present

† Exclusion present but related impairment not known

figures for claims do not show a steady progression from 1975 to 1978 because one Office which contributed to record years 1976 and 1977 did not contribute data to record years 1975 and 1978.

1.2. The aggregate experience under individual policies for the years 1972-75 was examined in *C.M.I.R. 4*. In Table 1.3 the relative levels of sickness rates for males for each of the years 1972-75 are recalled and the subsequent development of rates during the period 1976-78 is shown. For this purpose, the ratio of actual to expected weeks of sickness by reference to the Manchester Unity A.H.J. rates has been used as a convenient index of comparison, to avoid the need to quote extensive age-specific rates.

It was observed in *C.M.I.R. 4* that the results for 'all periods combined' gave some indication of an upward trend in sickness rates over the period 1972-75 but, as this appeared to derive only from the experience under policies for deferred periods of 4 and 13 weeks, no firm conclusion was drawn. During further investigations after the publication of *C.M.I.R. 4* suspicion arose over the reliability of some data included in the deferred 1 and 4 weeks tables for 1972 and 1973 and it was felt unsafe to continue to rely on that data. In view of data which became available for 1976 and subsequent years, it was thought that the rates for 1974 in some areas also seemed rather light as compared with the later experience and it was decided that the 4-year period 1975-78 would be the most suitable on which to base further investigations.

The ratios in Table 1.3 for the years 1975-78 do not show any clear trends over that period, though there are inconclusive indications of a possible trend to a worsening of the 104/all sickness rates. This should be considered in conjunction with the discussion in Part 4.

1.3. The Aggregate sickness experience for 1975-78 is set out in the tables in Appendix C in 5-year age groups and in Appendix J for each separate age. The expected numbers of weeks of claim shown in these tables (and in the tables of the Standard experience which follow them) were calculated on the basis of the Manchester Unity A.H.J. rates and for this purpose the M.U.-A.H.J. rates for the first 3 months' sickness were subdivided between periods 1/3 and 4/9 in the manner described in *C.M.I.R. 4*, 2.

1.4. Central claim inception rates are also tabulated in Appendix C in 5-year age groups. Numbers of claim inceptions are given in Tables J13 and J14 for each separate age. It was not feasible to differentiate between 'active' and 'disabled' lives in the total exposed to risk. The resulting central claim inception rates are, therefore, slightly lower than those which would have been derived if the exposed to risk had been calculated incorporating only lives actually exposed to risk of claim inception.

1.5. In *C.M.I.R. 4*, 6 an investigation into the difference in experience between Offices was recorded. A similar comparison was carried out using the Aggregate data for 1975-78 with similar results.

An individual Office may show results which differ from those for All Offices combined either because of random fluctuations or because its portfolio differs

Table 1.3. *Aggregate experience (males).*
Weeks of sickness % actual/expected (by M.U.-A.H.J.):
all ages combined

Deferred period	Sickness period	100 A/E (males)						
		1972	1973	1974	1975	1976	1977	1978
1 week	1/3	40	40	43	38	40	39	38
	4/9	56	55	62	53	51	55	47
	13/13	39	41	49	44	40	48	40
	26/26	39	47	49	60	51	55	56
	52/52	64	60	52	64	83	72	90
	104/all	47	58	58	54	62	73	74
4 weeks	4/9	49	48	51	51	50	51	48
	13/13	43	41	47	46	51	47	46
	26/26	37	37	43	49	55	59	53
	52/52	11	39	52	60	58	81	72
	104/all	32	29	39	39	47	53	61
13 weeks	13/13	22	24	31	31	26	29	24
	26/26	26	27	34	42	42	36	29
	52/52	30	40	30	54	74	53	46
	104/all	30	35	33	36	42	51	47
26 weeks	26/26	23	22	20	18	22	26	25
	52/52	33	35	29	30	31	42	41
	104/all	33	37	33	30	31	34	38
52 weeks	52/52	19	10	15	19	20	27	20
	104/all	12	16	15	19	24	24	24
All periods combined	1/3	40	40	43	38	40	39	38
	4/9	53	52	56	52	51	52	47
	13/13	34	36	42	40	38	39	36
	26/26	31	32	34	38	39	40	37
	52/52	40	40	36	46	53	54	54
	104/all	34	37	38	37	41	47	49

from that for All Offices. For example, some Offices concentrate on particular occupation groups, some do not offer the full range of deferred periods and only some Offices write business in the Republic of Ireland. In addition, the portfolios of individual Offices for particular deferred periods may be either more or less mature, depending on when they commenced writing business, or on whether they have ceased writing business for a particular deferred period. In view of this, no useful conclusions can be drawn from these results.

2. THE STANDARD MALE EXPERIENCE

2.1. Although the Sub-Committee began its investigations of the 1975-78 experience by reference to the Aggregate data, it came to the view that it would be

more appropriate to base its main investigations and the graduations on data relating as nearly as possible to policies issued on what may be described as 'standard' terms. For example, the presence of policies with an occupational rating is an undesirable factor of heterogeneity in the Aggregate experience. For practical purposes 'standard' policies were interpreted as being U.K. policies without an occupational rating, without a known exclusion clause for a medical impairment and not providing lump sum or other unusual forms of benefit. The precise coding requirements for inclusion in the Standard experience were:

Field	Description	Code	Description
4	Geographical location	1	U.K.
8	Occupational rating	0	No rating
15	Type of benefit	1	Level
		2	Increasing
		3	Decreasing
18	Underwriting impairment	0	No exclusion
		7	Unknown

2.2. The Standard sickness experience for 1975-78 is set out in the tables in Appendix D in 5-year age groups and in Appendix K for each separate age. Comparisons of the exposed to risk show that the Standard male experience constitutes approximately 84% of the Aggregate for policies with a 1 week deferred period, 56% for 4 weeks deferred, 72% for 13 weeks deferred, 84% for 26 weeks deferred and 90% for 52 weeks deferred.

From a medical underwriting point of view, there are more conditions requiring an exclusion when the deferred period is short than when it is long. Similar considerations apply to occupational loadings where there are many occupations which will qualify for standard rates with a 52 week deferred period but require a loading for a 4 week deferred period. This accounts for the generally increasing percentage volume of Standard data in the longer deferred periods. *The apparently anomalous figure for 1 week deferred may be attributable to the fact that the bulk of the business written under this particular table emanated from one Office specializing in particular professional occupations.* In addition a number of occupations and medical conditions which are acceptable with a loading or exclusion for 4 weeks deferred contracts are not acceptable at all for 1 week deferred contracts.

Table 2.1 compares the Aggregate and Standard experiences standardized in each case by reference to Manchester Unity A.H.J. As may have been expected from the percentages quoted earlier, it is the 4 week deferred period experience which has been most affected by the purification of the basic data, although the effect can also be seen in the figures for 13 weeks and 26 weeks deferred, particularly at the younger ages.

2.3. The summary in Table 2.2 of the ratios of actual to expected (by M.U.-A.H.J.) weeks of sickness provides a broad overview of the relative levels

Table 2.1. *Comparison of (a) Aggregate and (b) Standard experience. Weeks of sickness % actual/expected (by M.U.-A.H.J.) Males. All sickness periods combined*

Ages	30-34	35-39	40-44	45-49	50-54	55-59	60-64
<i>Deferred period</i>							
1 week (a)	31.80	43.20	39.50	55.00	50.80	62.00	70.10
(b)	28.60	35.50	38.50	55.80	47.10	58.90	68.20
(a)/(b)	1.11	1.22	1.03	.99	1.08	1.05	1.03
4 weeks (a)	49.40	48.80	41.90	54.10	48.10	62.80	73.60
(b)	24.40	33.00	26.20	48.00	41.10	53.30	64.20
(a)/(b)	2.02	1.48	1.60	1.13	1.17	1.18	1.15
13 weeks (a)	34.50	38.40	28.60	39.80	36.60	41.50	72.00
(b)	21.50	27.30	21.40	37.30	36.90	39.10	73.30
(a)/(b)	1.60	1.41	1.34	1.07	.99	1.06	.98
26 weeks (a)	18.20	12.70	15.40	16.60	30.90	44.70	55.50
(b)	12.30	12.60	15.50	15.50	28.30	43.90	56.10
(a)/(b)	1.48	1.01	.99	1.07	1.09	1.02	.99
52 weeks (a)	2.60	4.30	12.10	17.20	29.30	25.20	46.60
(b)	2.90	4.80	8.80	12.90	26.80	26.10	44.50
(a)/(b)	.90	.90	1.38	1.33	1.09	.97	1.05

of morbidity shown by the Standard experience. In particular the table shows that, as compared with M.U.-A.H.J., the Standard experience becomes progressively heavier as age increases and it highlights the variations between the different deferred period tables within each sickness period.

With a view to the possible treatment of the data for graduation, it was important to find out whether these differences in sickness rates by deferred period would tend to disappear for sickness of long durations. Although some convergence of the rates may be detected, pronounced differences clearly persist in the 'after 2 years' sickness. It was necessary, therefore, to regard the experience under each different deferred period table as quite distinct from the others, even though together they form a reasonably well-ordered pattern in relation to one another.

Irregularities in the ratios for 52/52 weeks and 104/all weeks of sickness at the younger ages are apparent, reflecting the small numbers of claims of long duration at young ages and foreshadowing problems in arriving at reliable graduations of sickness rates at these long durations for each deferred period table separately. For this reason it was decided to combine data for deferred periods 1, 4, 13 and 26 weeks when graduating the 52/52 and 104/all sickness periods. A full discussion of this point is contained in Part 5.

2.4. There is little data for ages under 25 and these younger ages have generally been excluded from the ranges covered by the investigations described

Table 2.2. *Standard experience (males). Comparison of experience in different deferred period tables, for each sickness period.*
Weeks of sickness % actual/expected (by M.U.-A.H.J.)

Sickness period	Deferred period	Ages			
		25-34	35-44	45-54	55-64
1/3	1 week	30	36	39	45
4/9	1 week	29	42	49	59
	4 weeks	30	37	38	49
13/13	1 week	21	32	36	52
	4 weeks	27	33	32	48
	13 weeks	15	21	24	29
26/26	1 week	27	42	49	64
	4 weeks	26	30	41	56
	13 weeks	22	25	36	39
	26 weeks	13	14	21	32
52/52	1 week	22	39	80	87
	4 weeks	18	36	52	79
	13 weeks	31	32	54	64
	26 weeks	17	20	28	52
	52 weeks	10	10	19	35
104/all	1 week	23	35	63	69
	4 weeks	1	11	54	57
	13 weeks	29	21	38	63
	26 weeks	19	12	21	54
	52 weeks	5	6	21	32

in this Report. However, it is worth noting that the experience for males at ages 20-24 appears on the whole to be worse than at 25-29. This is particularly clearly indicated by the claim inception rates tabulated in Table D13.

3. THE STANDARD FEMALE EXPERIENCE

3.1. The volume of data relating to policies effected on the lives of females is insufficient to produce graduated rates, or to conduct a series of comparisons in a similar manner to those performed for male policyholders in Part 7. It is, however, possible to compare the Standard female experience with the Standard male experience and this has been done to the extent compatible with the volume of data available.

It is of interest to note that the Standard female data comprises approximately 89% of the Aggregate for policies with a 1 week deferment period, 81% for 4 weeks, 86% for 13 weeks, 91% for 26 weeks and 92% for 52 weeks deferred. These figures are all higher than those for the Standard male data given in §2.2

Table 3.1. 1975-78 *Comparison of the ungraduated Standard experience of females with that of males.**Analysis of weeks of sickness and inceptions*

Deferred period	Age group	Average age		Sickness*	Expected weeks of sickness	Inceptions*	Expected inceptions	Exposed to risk	
		Females	Males	A/EP %		A/EP %		Females %†	Males %†
1 week	Under 40	29.9	31.8	270	569	137	263	6.0	5.9
	40-49	44.8	44.7	198	642	156	104	3.8	2.2
	50-59	53.6	54.0	168	1349	123	120	3.5	2.5
4 weeks	Under 40	30.5	32.1	215	506	175	51	7.8	11.5
	40-49	44.2	44.4	183	686	179	36	5.1	5.0
	50-59	53.1	53.5	118	837	107	27	2.7	2.5
13 weeks	Under 40	31.7	32.8	114	321	186	10	11.3	12.9
	40-49	44.3	44.2	219	586	229	12	7.9	7.8
	50-59	53.2	53.5	263	945	204	12	3.8	4.2
26 weeks	Under 40	32.4	32.4	372	155	455	3	19.2	15.7
	40-49	44.3	44.2	443	390	415	6	11.2	13.2
	50-59	53.2	53.7	104	1048	163	8	6.2	6.2
52 weeks	Under 40	33.3	33.8	644	16	250	0	4.6	3.9
	40-49	44.4	44.4	241	73	375	1	4.6	4.5
	50-59	53.1	53.3	120	212	111	1	2.3	2.0

• A denotes "Actual" weeks of sickness or numbers of inceptions in the ungraduated Standard female experience. EP denotes "Expected" weeks of sickness or number of inceptions using the ungraduated Standard male experience

† The percentage shown is the percentage which the exposed to risk in the cell bears to the total exposed to risk of all cells in the column

reflecting the fact that female proposers rarely engage in occupations which underwriters regard as warranting an occupational rating.

3.2. Table 3.1 compares the actual weeks of sickness and numbers of inceptions in the Standard female experience with the ungraduated Standard male experience. The data has been amalgamated into three broad age groups and the results have been tabulated for each deferred period.

For all groups shown, the actual sickness experience is heavier for females than for males, with an overall tendency for the degree of extra sickness to be lower in the highest age group, although this trend is reversed for policies with a 13 week deferred period.

The inception rates are also all higher for females, and the difference is greatest for the 40-49 age group except for policies with a 26 week deferred period.

It was thought that some of the difference between the male and female experience could be due to a difference in the average age of the population at risk. These average ages were therefore tabulated. It can be seen that there are only three groups where the female age exceeds the male age, and even then the difference is negligible. If anything, therefore, the difference between the experiences could be said to have been slightly understated.

3.3. In order to examine the view that the excess female sickness is concentrated largely at the shorter durations an analysis by sickness period was required. The proportions of the exposed to risk in each of the groups tabulated in Table 3.1 indicated that the policies were distributed across the age ranges and between the deferred periods in a broadly similar fashion for males and females and it was therefore decided that an amalgamation of the data for all the deferred periods would not distort the results.

Table 3.2 sets out the ratios of actual to expected weeks of sickness where the expected weeks of sickness have been obtained by summing the separate figures originally derived from the data for the separate deferred periods.

It can be seen that, with only three exceptions, the actual Standard female experience is higher than the Standard male experience. There is no indication,

Table 3.2. *Comparison of the ungraduated Standard experience of females with that of males.*

Weeks of sickness (all deferred periods combined) % actual/expected

Sickness period	Age group							
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
1/3	48	171	162	205	168	169	176	103
4/9	114	224	299	235	173	223	162	104
13/13	195	313	395	185	154	271	191	145
26/26	106	498	315	133	333	302	150	175
52/52	0	390	463	202	370	263	233	121
104/all	0	164	192	235	273	195	228	104

therefore, that the excess female sickness is limited to any particular sickness period.

3.4. Table 3.3 compares the rates of sickness for females with those for males (for all deferred periods combined). The use of rates of sickness rather than weeks of sickness avoids weighting the composite figures by the volume of data in the separate sickness periods. The rates of sickness were calculated for each period and these were progressively summed from the longest deferred period forward, to produce composite rates for 52/all, 26/all, 13/all, 4/all and 1/all.

The percentages between age 25 and 54 inclusive vary from 188 to 379, but no clear trend emerges. The percentages are lower at the extremes of the age range but the low figures in the 20-24 age group may be due to the fact that almost half the claims in this group for males arise from accidents which contribute less than 5% of the claims in the female experience. This information arises from a preliminary analysis of the data for a Cause of Disability investigation which will be published in due course.

Table 3.3. *Comparison of the ungraduated Standard experience of females with that of males.*

Rates of sickness (all deferred periods combined) % actual/expected

Sickness period	Age group							
	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59
1/all	72	222	232	208	200	213	191	116
4/all	105	289	320	210	226	236	196	119
13/all	96	354	343	188	267	242	210	122
26/all	44	379	311	189	318	234	214	119
52/all	0	295	312	220	310	216	229	109

4. TECHNICAL ASPECTS OF THE MANCHESTER UNITY METHOD

4.1. The form in which data has been collected and compiled is designed for investigations modelled on those conducted by A. W. Watson when preparing the Manchester Unity Experience (1893-97) Tables which, suitably modified in the light of subsequent experience, have long been used by U.K. actuaries dealing with sickness policies. A brief historical note on the Manchester Unity investigation is included in Appendix E as background for the technical discussions that follow.

4.2. Various features underlying the Manchester Unity method are not appropriate to modern PHI business and this has been continually borne in mind in the development of the morbidity investigations. Modern Individual PHI business requires the calculation of guaranteed level annual premium rates and

the valuation of existing portfolios of business. The approach used by Watson was designed to value the various sections of the Manchester Unity Society and to assess the contribution rates to be applied to both new and existing members alike. In this approach the sickness rates for the various sickness periods are derived without taking account of the duration that each policy had been in force (once any waiting period is passed) and thus ignores the fact that new policies cannot immediately claim benefit in the later sickness periods.

This feature has concerned the Sub-Committee ever since it was originally convened. It is obvious, for example, that as a policy which has been in force for less than 1 year cannot contribute to the 52/52 claims rates, it should be excluded from the exposed to risk for 52/52 sickness. Accordingly, the Sub-Committee decided that the average exposure to sickness in each sickness period, up to and including 52/52, should be calculated in respect of each policy by taking into account its own duration in force, and the resulting adjustments were incorporated into the calculation of the exposed to risk for each sickness period. This treatment of the exposed to risk was described in *C.M.I.R.* 2, 12. No such adjustments of this kind were made in the Manchester Unity investigation of 1893-97. In the case of a population of insurance policies which has a significant volume of new business it is necessary to take account of the duration in force in the way described otherwise there could be an undesirable degree of understatement in the observed rate.

Once a policy had been in force for 2 years it was assumed to be fully exposed to sickness in the 104/all period. There seems to be no reason to limit the allowance for the durational effect to the first 2 years, which would really only be justifiable if the contribution of 104/all sickness to total claims were so small as to be insignificant. This is not the case for modern PHI business but it may be that the financial consequences of such a treatment were unimportant to the institutions for which this method was originally designed, i.e. Friendly Societies providing essentially short-term benefits. The effect of changes in the 104/all sickness rate on premium rates, for various deferred periods, providing level benefits up to age 65, can be seen later in § 6.9. The importance of the 104/all component of the total sickness rate suggests that it would have been better to have separated the 104/all claims into 3rd, 4th, 5th, etc., year claims and to have calculated adjusted exposed to risk figures corresponding to these sickness periods. On the other hand it is extremely doubtful whether the resulting data, subdivided to such an extent, would have been amenable to analysis and graduation.

4.3. It is important to consider the consequences of treating 104/all sickness in the traditional manner and to investigate what is represented by the resulting sickness rates.

Paragraph 4.4 examines the effect on the 104/all sickness rate of duration in force which originates from the fact that policyholders cannot claim sickness benefits in the sickness period $52p/52$ ($p \geq 2$) until the policy has been in force for at least p years.

Harvey (1923) took account of this feature of the Manchester Unity sickness

rate in respect of sickness that had lasted longer than 24 months and labelled this phenomenon 'durational selection', allowing for a 10-year 'select' period.

This durational factor is to be distinguished from any short-term effects of medical selection. It is possible that medical underwriting of lives may itself have some selective effect on claims experience but an investigation reported in Part 7 reveals no clear evidence of the length of such an effect and for simplicity its presence will be ignored in the following paragraphs.

4.4. Sickness rates for the sickness periods 104/52, 156/52, etc., which have regard both to age and to policy duration may be expressed in the form:

$$z_{(x-t)+t}^{52p/52} = \frac{W_{(x-t)+t}^{52p/52}}{E_{(x-t)+t}}, \quad p = 2, 3, 4 \dots \quad (1)$$

where $E_{(x-t)+t}$ denotes the central exposed to risk of sickness in respect of policies on lives aged $(x-t)$ at entry and curtate duration in force t years at the beginning of the rate year and where $W_{(x-t)+t}^{52p/52}$ denotes the weeks of sickness, in respect of such policies, related to sickness of duration between $52p$ and $52(p+1)$ weeks since the commencement of sickness. It should be noted that, if $p > t$, then $W_{(x-t)+t}^{52p/52}$ is necessarily zero.

We may sum $W_{(x-t)+t}^{52p/52}$ for successive values of p to obtain, for example,

$$W_{(x-t)+t}^{104/all} = W_{(x-t)+t}^{104/52} + W_{(x-t)+t}^{156/52} + \dots + W_{(x-t)+t}^{52t/52} \quad (2)$$

and hence

$$z_{(x-t)+t}^{104/all} = \frac{W_{(x-t)+t}^{104/all}}{E_{(x-t)+t}} = \sum_{p=2}^t z_{(x-t)+t}^{52p/52} \quad (3)$$

The intrinsic dependency of $z_{(x-t)+t}^{104/all}$ on the policy duration, t , is demonstrated by the fact that the number of terms in the summation in equations (2) and (3) is itself dependent on t . It may be inferred that $z_{(x-t)+t}^{104/all}$ necessarily increases with increasing t .

The sickness rate which we have observed in practice disregards policy duration beyond the first 2 years and may be denoted by

$$z_x^{104/all} = \frac{W_x^{104/all}}{E_x^{104}} \quad (4)$$

where E_x^{104} represents the central exposed to risk at each age from which policies of less than 104 weeks duration in force have been excluded.

Now $W_x^{104/all}$ is the summation of weeks of 104/all sickness arising from policies effected t curtate years ago at age $(x-t)$, the summation being over all values of $t \geq 2$, i.e.,

$$W_x^{104/all} = W_{(x-2)+2}^{104/all} + W_{(x-3)+3}^{104/all} + \dots + W_{(x-t)+t}^{104/all} + \dots \quad (5)$$

and, similarly,

$$E_x^{104} = E_{(x-2)+2} + E_{(x-3)+3} + \dots + E_{(x-t)+t} + \dots \quad (6)$$

Hence, using equation (3), $z_x^{104/all}$ may be expressed as a weighted sum of the duration-specific rates, $z_{(x-t)+t}^{104/all}$

$$z_x^{104/all} = \frac{\sum_{t \geq 2} z_{(x-t)+t}^{104/all} \cdot E_{(x-t)+t}}{\sum_{t \geq 2} E_{(x-t)+t}} \quad (7)$$

The weights $E_{(x-t)+t}$ can obviously vary over time as well as between one portfolio and another, resulting in different observed values of $z_x^{104/all}$ even when the underlying rates $z_{(x-t)+t}^{104/all}$ are the same. The observed rate $z_x^{104/all}$ is therefore dependent on the distribution by duration in force of the portfolio under observation. In particular, $z_x^{104/all}$ can be expected to increase as the portfolio matures.

4.5. In calculating the net premium rate, Π , for an entrant at age (x) , the value placed on future benefits to age 65 for sickness of duration exceeding 104 weeks, is:

$$\Pi_{(x)}^{104/all} = z_{(x)+2}^{104/all} \cdot \frac{\bar{D}_{(x)+2}}{D_{(x)}} + z_{(x)+3}^{104/all} \cdot \frac{\bar{D}_{(x)+3}}{D_{(x)}} + \dots + z_{(x)+64-x}^{104/all} \cdot \frac{\bar{D}_{(x)+64-x}}{D_{(x)}}$$

The approximate formula used in practice is:

$$\Pi_x^{104/all} = z_{x+2}^{104/all} \cdot \frac{\bar{D}_{(x)+2}}{D_{(x)}} + z_{x+3}^{104/all} \cdot \frac{\bar{D}_{(x)+3}}{D_{(x)}} + \dots + z_{64}^{104/all} \cdot \frac{\bar{D}_{(x)+64-x}}{D_{(x)}}$$

The differences between the approximate and theoretical premium formulae clearly depend upon the combined effect of the individual differences between the rates $z_{x+r}^{104/all}$ and $z_{(x)+r}^{104/all}$ ($r=2,3,\dots,(64-x)$). The rate $z_{x+r}^{104/all}$ is, as shown by equation (7) in §4.4, a weighted mean of the duration-specific rates $z_{(x+r-t)+t}^{104/all}$ ($t \geq 2$). Its difference from $z_{(x)+r}^{104/all}$ thus depends on the average past duration in force of all policies in force at age $x+r$. At low values of r it is to be expected that $z_{x+r}^{104/all}$ will exceed $z_{(x)+r}^{104/all}$. However, for values of r which exceed the average past duration in force at age $x+r$ it is to be expected that the converse will generally be the case.

The information needed to measure the magnitude of the differences between

the approximate and theoretical formulae is not readily available from the C.M.I. portfolio and the Sub-Committee has therefore attempted to evaluate the potential discrepancy using hypothetical model populations.

It was found, for a model of a relatively mature portfolio, assumed to have received a steadily increasing flow of numbers of new policies for many years, that the value of 104/all sickness benefits could be underestimated by around 15% by the approximate formula at the younger entry ages, but significantly overestimated for entrants at older ages. The effect at the younger ages would be far more pronounced, amounting perhaps to 40%, if premiums were based on rates observed from a portfolio which commenced business as recently as ten years ago.

When calculating the value of future benefits for the purposes of calculating valuation reserves, the differences between the theoretical and approximate formulae at the younger attained ages are slightly greater, but the degree of overestimation at the older attained ages is considerably reduced. The level of the necessary adjustments is also dependent on the average duration in force at each attained age of the portfolio being valued.

The CMI portfolio is thought to be relatively immature and the Sub-Committee considers that it is necessary to bear in mind the need for adjustments of this nature when using the 104/all sickness rates derived from the 1975-78 experience for the calculation of premium rates and reserves. Unfortunately, the Sub-Committee is not in a position to make recommendations as to the level of the required adjustments, other than to warn that it could be substantial.

If an office's own sickness experience is used in determining premium and valuation morbidity bases, the extent to which that experience may be influenced by the maturity of its portfolio, relative to the CMI portfolio, should also be taken into account.

4.6. The potential magnitude of the problem discussed above raises serious questions as to the suitability of the Manchester Unity method for the analysis of relatively immature portfolios of long term PHI business. An alternative method of analysing a sickness experience incorporates claim inception rates and disability annuity values. Such an approach, which is common in most countries of Europe and North America, is a logical and technically sound system for long term sickness evaluation, and has distinct advantages in ease of manipulation when dealing with such matters as current cost or escalating benefits contracts.

It is often assumed that a disability annuity type of investigation cannot be carried out until claims experience has been built up over many years, and that quicker results are obtainable from an investigation of the Manchester Unity type. The Sub-Committee suggests that the problems caused by paucity of data relating to claims of long duration are at least recognized under the disability annuity form of analysis, and may therefore be handled better. Those same problems exist in the Manchester Unity approach, but are buried and often overlooked, thus creating real dangers of misinterpretation.

Central claim inception rates, derived from statistics produced by the existing

CMI computer system, are published in this and in previous CMI Reports. Disability annuity values, which require claim termination rates, have not yet been derived from the system, although claim data has been retained in a suitable form for this to be done. The Sub-Committee is pursuing the implementation of such a system, with a view to publishing data at the earliest opportunity.

5. THE GRADUATION PROCESS

5.1. A description of attempts to graduate sickness rates obtained from the experience 1972-75 for individual policies was given in *C.M.I.R.* 4, 17. Curves of the form

$$z_x = a + bx + cx^2 + df^x$$

were fitted separately for each deferred period and sickness period using the method of least squares. To be amenable to straightforward computation, this method restricted the choice of graduation formula to one which could be treated as a linear expression. A term like df^x could be included providing the parameter f were pre-specified with a given trial value, enabling four simultaneous regression equations in the remaining unknown coefficients a, b, c, d to be stated. It was, therefore, difficult to escape from a modified Makeham type of formula.

Moreover, while the formula used to produce the graduated rates for 1972-75 seemed to suit the data in the upper part of the age range, it sometimes behaved badly at the younger ages (even producing negative rates), so conveying a sense of instability in the graduation process. It might have been possible to overcome this problem by graduating the data for younger and older ages separately, and blending the two curves over the central ages, but such a course seemed likely to give rise to further problems and was not pursued. Consequently, various reservations were expressed as to the acceptability of the graduations. The reasons included:

- (a) suspicion of the ungraduated rates themselves, especially in respect of the deferred 4 weeks table;
- (b) the inconclusive results of some very limited tests of the graduations;
- (c) difficulty with rates at young ages, for which data was generally sparse.

This last problem was avoided by restricting the range of ages covered by the graduations, and further by discarding graduated rates at the younger end of the range where these seemed unsatisfactory. Thus the graduated rates as published in *C.M.I.R.* 4, 81 were incomplete in their coverage of age.

5.2. After publication of *C.M.I.R.* 4, and taking note of the discussion, *J.I.A.* 106, 433, the Sub-Committee decided to renew its graduation attempts. After initial trials with Aggregate male data in respect of other periods it was decided, as explained previously, to use the data for the years 1975-78 and then, later, to

extract and graduate Standard rather than Aggregate data. The successive experiments described below were consequently performed using data which was changed at various stages. The Sub-Committee is, however, satisfied that the final choice of graduation method and formula was not prejudiced by these changes to the data under investigation.

5.3. The first concern was to escape from the restrictions of the least-squares method and it was decided to experiment with the method of curve fitting described by Lloyd (1965).

Reduced to its simplest essentials, the principle of Lloyd's method may be summarized in the following steps:

1. A formula is selected containing, say, k unknown coefficients (apart from any coefficients which may have been given pre-set trial values).
2. The total age range of graduation is divided into k sub-ranges, not necessarily of equal length.
3. The unknown coefficients are fitted (by an iterative process) so as to satisfy the condition that 'actual' (e.g. weeks of sickness) equals 'expected' in each of the sub-ranges separately. This ensures at least a broad fit of the graduation to the data.
4. An inspection of the goodness-of-fit in detail is then made, applying appropriate standard tests of graduations.
5. If required, further trials are made by re-entering step (1) with a change of any pre-set coefficients, or a new formula.

Reference should be made to Lloyd's paper for details of the iterative fitting technique employed, which is adaptable to the requirements of the particular type of formula selected at step (1).

The method was felt to have other attractions, in addition to affording flexibility in the type of graduation formula which could be investigated. It required no assumptions about the form of underlying statistical distribution of the variate being graduated. It also had a basic actuarial appeal in matching 'actual' and 'expected' over sections of the table; assuming the validity of the crude data for the purpose of the graduation, it could be felt that an actuary should not go seriously wrong in working with a graduated table meeting this criterion.

5.4. Experiments were made employing the above method using age sub-ranges of equal length; later trials showed no advantage in choosing unequal age ranges.

Initial trials were conducted using formulae of the Perks' type as described in Lloyd's paper. These were not found to be satisfactory, but more promising results were obtained with

$$z_x = a + bc^x + dg^x$$

However, this formula was found in some applications to produce unsatisfactory results at young ages, echoing the problem referred to in § 5.1. In an attempt

to overcome this, z_x was replaced by its natural logarithm, $y_x = \ln z_x$ so that the formula used was:

$$y_x = a + bc^x + dg^x$$

Initial trials indicated improved results, but during fuller trials some severe computational difficulties were experienced from some tables in locating pairs of values for c and g which would lead to sensible graduations. Nevertheless, it was felt that considerable progress had been made.

5.5. The innovation of the log-transformation appeared to have a stabilizing effect on the graduation results, and it was decided to investigate whether, working with y_x instead of z_x , there was a corresponding improvement in applying the Makeham-type formula:

$$y_x = a + bx + cx^2 + df^x$$

This formula gave results which were at least as satisfactory overall as those obtained from the previous formula without the computational difficulties which this had presented.

The various experiments described above were thus leading back to the same formula, except for the log-transformation, as was used in the original graduations of the 1972-75 data. It was recognized that, with this formula, one of the main reasons for departing from the regression method, as mentioned in § 5.1, no longer applied. For comparison, therefore, further sets of results were produced by the least-squares method using the formula:

$$y_x = a + bx + cx^2 + df^x$$

The resulting graduations were not considered superior to those obtained by the alternative method proposed by Lloyd. The effect of this transformation, when using the regression method, was to produce graduated rates which were biased on the low side of the observed rates, an effect analogous to calculating the geometric mean rather than the arithmetic mean of a set of data. It would have been necessary to make some general and probably arbitrary final adjustment to compensate for this, and it was felt, therefore, that the results obtained by using Lloyd's method were to be preferred.

5.6. Although the results obtained by fitting the modified Makeham formula by Lloyd's method were considered broadly satisfactory, there was often difficulty in locating an optimum value for the exponential parameter f . Wide variations in the choice of f often led to no clear improvements in fit, and it was felt that the search for an optimum value was possibly displaying a degree of spurious accuracy. It was, therefore, decided to examine the effect of replacing the exponential term in the formula by a simple cubic term. The resulting graduations did not appear to be inferior to those obtained from the modified Makeham formula. The graduations finally adopted were, therefore, produced by Lloyd's method, using the formula:

$$y_x = \ln z_x = a + bx + cx^2 + dx^3$$

A subsequent special modification was, however, made to the graduated 104/all rates as described later in § 5.12.

5.7. The method of graduating by reference to Manchester Unity A.H.J. as a standard table was also explored. This was performed by a least-squares fit of the function $\ln(z_x/z'_x)$ where z_x is the observed rate and z'_x the corresponding Manchester Unity tabular rate. Although this method may have some technical imperfections, it was pleasing to note that, for most tables, it produced graduated rates very similar, at most ages, to those by Lloyd's method as finally adopted.

5.8. Throughout these investigations, regard was paid, in inspecting the graduation results, to several statistical indicators of goodness of fit. These included the numbers of positive and negative signs of deviations of actual from graduated rates, the numbers of groups of such signs, the sum of absolute deviations of actual from expected weeks of sickness, and an index analogous to a χ^2 statistic. The graduations were also subjected to visual inspection. Results for the graduation selected are shown in Tables 6.1 and 6.2.

5.9. While the method and formula finally adopted for the graduations gave results which were considered at least as good as those obtained in other ways, and which were judged to be satisfactory by some criteria, there were two apparently poor features which had proved a persistent problem throughout the various graduation trials. The first was that, on a comparison of actual weeks against those expected from the graduated rates, the statistic of χ^2 form was often appreciably higher than expected, indicating an undue degree of variability in the size of deviations of weeks of sickness. The second was that in the case of longer deferred sickness periods, and especially for 104/all, an appreciable tendency to wave-cutting was evidenced by an over-concentration of deviations of the same sign into too few groups.

It was recognized, however, that the application of standard statistical tests may be invalid when applied to data observations which are not wholly independent. It is surmised that the high χ^2 values may be largely due to the presence of duplicates in fairly considerable numbers; a note on this subject is included as Appendix F. Some waviness in the crude sickness rates may be due to non-independence of the rates at adjacent ages. This arises when sickness claims extend over more than one year of age during the four-year period of the investigation, and also because, to accommodate differences in age definition used by contributing Offices, claims from some Offices are allocated in the combined experience in equal parts between two adjacent ages. The former factor would mainly affect the longer durational periods of sickness and would be very pronounced in the 104/all period, offering a partial explanation for the poorer results for the 52/52 and 104/all graduations.

5.10. There was, however, also the possibility that the wave-cutting feature was the result simply of poor graduation, reflecting either shortcomings in Lloyd's method as applied in these graduations, or an unsatisfactory choice of graduation formula. To investigate this, a series of simulation experiments was conducted as described in Appendix G. In each trial, hypothetical data was

simulated assuming random variation about a known underlying curve of rates, and then graduated by the method and formula as stated in § 5.6. The simulation was then repeated for a large number of trials in each experiment. From accumulated statistics of these trials, the Sub-Committee concluded that the choice of method and formula was unlikely to be seriously affecting the graduations adversely. On the other hand, the effect of correlation of claims data at adjacent ages in promoting over-grouping of signs of deviations was demonstrated by the simulations. This offers a possible explanation for statistical features observed in the graduations of the actual 1975-78 Standard data, though it is not claimed to be a conclusive or complete explanation. It would have been possible, by using a more elaborate graduation formula, to produce graduated rates adhering more closely to the crude rates, but it was felt better to take a broad view, overriding the apparent unevenness in the data, rather than err possibly on the side of spuriously close graduation.

5.11. The graduations of tables for sickness periods of less than 52 weeks were judged to be acceptable. Those for 52/52 and 104/all, as performed for each separate deferred period table, were considered unsatisfactory. They appeared to be seriously affected by the high variability of the crude rates, as mentioned in § 2.3. For these tables, therefore, it was decided to amalgamate the data for deferred periods 1, 4, 13 and 26 weeks and graduate the combined tables. The combined graduation appeared satisfactory for the 52/52 rates, but rather less so for the 104/all rates. A comparison was then made of the actual weeks of sickness for each deferred period table with the expected weeks as calculated from the combined graduated rates. The overall ratios of actual to expected weeks, expressed in percentage terms, were as follows:

Sickness period	Deferred period			
	1 week	4 weeks	13 weeks	26 weeks
52/52	135	114	106	70
104/all	127	107	104	77

Individual graduations for each deferred period were then obtained by applying these factors to the combined graduated rates at each age. These showed, for the 52/52 graduation, some overall improvement on the previous results and as, in addition, some particular idiosyncrasies in the rates at both ends of the age range for certain individual deferred periods had been removed, the new rates were preferred for the reasons discussed in Part 6.

5.12. For 104/all sickness, however, the results remained unsatisfactory, a substantial improvement in the deferred 4 weeks table being achieved at the expense of a worsening for the other deferred periods. Visual inspection of the curve fitted to the combined data suggested that a material improvement might be obtained by substituting for the cubic curve a simple straight line running through logarithms of the rates over the upper half of the age range.

It was observed that the cubic curve previously fitted to $\ln z_x$ has a point of inflexion at age 48 and so various approaches to blending a straight line with a

cubic graduation somewhere in the age range 45-50 were investigated. The best overall graduation was found by joining a straight line at age 48 to the cubic originally obtained by graduating all the data, which was retained for ages up to 48. The slope of the straight line was determined by requiring that the totals of actual and expected weeks of sickness should remain equal over the top 20 years of age, 45-64, when the new graduated rates were used.

Statistical tests confirmed that this modified graduation was a considerable improvement, and could be accepted as a satisfactory graduation of the combined 104/all rates. Once again, the total actual weeks of sickness for each deferred table was compared with the total expected weeks on the basis of this new graduation of the combined rates.

The percentage ratios of actual to expected weeks for the individual deferred periods were:

Sickness period:	Deferred period			
	1 week	4 weeks	13 weeks	26 weeks
104/all	124	109	106	78

The graduated rates applicable to each deferred period were again obtained by applying these percentages to the combined graduation, and comparisons made with the respective crude rates. These showed some improvement over the results of the graduations before modification, although still being unsatisfactory by some conventional tests. The Sub-Committee felt there was considerable merit, however, in the fact that net annual premiums calculated using these latest graduated rates generally reproduced the pattern of premium rates calculated using the crude rates quite well, and much better than was found with the previous graduations. Thus, although the straight-line modification of the 104/all rates can be regarded only as an arbitrary expedient, the Sub-Committee believes it to be justified by the improvement in the graduation.

The resulting graduated sickness rates are considered to be clearly superior to those obtained by any of the numerous other attempts at graduation, but the nature of the graduation method and the problems with the data should be borne in mind by actuaries using these tables.

5.13. The graduation results and related derived statistics are reported in Part 6. The Sub-Committee considered that the data for 52 weeks deferred policies was too sparse to justify graduation, and no results are reported for that table.

5.14. Graduations were also made of the central claim inception rates. It was found convenient and satisfactory to use the same method and formula as for the sickness rates, and no significant problems were encountered. These results are also reported in Part 6.

6. RESULTS OF GRADUATION

6.1. Graduated sickness rates for the 1975-78 Standard (males) experience, obtained as described in Part 5, are tabulated in Appendix H, which also contains

a table of the numerical coefficients of the graduation formula. The graduated rates cover ages 25-64; data for ages under 25 was excluded from the graduations.

6.2. Table 6.1 sets out various statistics of goodness-of-fit. Figures are included in this table for sickness periods of 52/52 and 104/all, arising from the attempt to graduate those rates for each deferred period separately, although, as explained elsewhere, it was finally decided to replace these graduations with those based on a combination of data for deferred periods 1, 4, 13 and 26 weeks. The characteristics of the combined graduations of 52/52 and 104/all sickness rates are described later.

6.3. Columns (1) and (2) of Table 6.1 show respectively the total weeks of sickness claims included in the investigation (for ages 25-64) and the total of absolute deviations of actual from expected weeks summed over individual ages. One criterion used in comparing alternative graduations was the size of residual deviations as shown in Column (2).

6.4. On a purely random distribution of deviations from the graduated rates,

Table 6.1. *Graduations of 1975-78 Standard experience (males): derived statistics*

Deferred period	Sickness period	Weeks of claim		Signs of deviations		Groups test statistic	χ^2_f	f
		Total	Sum of absolute deviations	Number of + signs	Number of groups of either sign			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1 week	1/3	17,123	1,380	20	23	+·64	81	36
	4/9	13,329	1,620	23	17	-1·16	55	36
	13/13	7,050	1,539	20	19	-·64	64	36
	26/26	8,408	2,368	20	15	-1·92	62	35
	52/52	10,870	3,324	16	22	+·60	93	35
	104/all	26,362	6,336	17	8	-4·12	69	34
4 weeks	4/9	10,205	1,666	16	19	-·40	79	36
	13/13	5,538	1,371	18	26	+1·68	60	36
	26/26	5,330	1,408	18	22	+·39	36	36
	52/52	6,013	2,624	18	20	-·26	61	34
	104/all	13,534	6,262	19	6	-4·80	130	26
13 weeks	13/13	5,546	1,372	20	24	+·96	53	35
	26/26	6,447	2,072	17	22	+·48	55	36
	52/52	8,460	2,802	17	16	-1·49	46	36
	104/all	19,727	5,671	19	16	-1·59	56	36
26 weeks	26/26	7,062	1,518	19	25	+1·30	31	36
	52/52	9,459	3,155	19	20	-·31	53	36
	104/all	25,100	5,074	19	11	-3·20	35	36

Note: The graduations of 52/52 and 104/all sickness rates, whose results are included in this table, were superseded by new graduations based on combined data, as explained in the text.

the number of positive deviations, as shown in Column (3), would have an expected value of 20 and a standard deviation of 3, (i.e. \sqrt{npq} where $p = q = .5$ and n is taken as 36 to allow for the imposed constraints of fitting four coefficients). In no graduation does the number of positive signs differ significantly from the expected number. The number of groups of deviations of the same sign is stated in Column (4), accompanied by the test statistic obtained by applying the runs' test as described in 'Considerations Affecting the Preparation of Standard Tables of Mortality', *J.I.A.* 101, 133 and *T.F.A.* 34, 135 (1974). This test is based on an observation that, if a graduation exhibits n_1 positive and n_2 negative signs of deviations, then the number of groups of signs may be assumed to be approximately normally distributed, with a mean of

$$\frac{2n_1n_2}{(n_1 + n_2)} + 1$$

and a variance of
$$\frac{2n_1n_2(2n_1n_2 - n_1 - n_2)}{(n_1 + n_2)(n_1 + n_2 - 1)}$$

Applying a one-tail test, this statistic may be regarded as signalling too few groups if it is less than -1.65 at the 5% significance level or less than -2.33 at the 1% significance level.

6.5. Without better knowledge than we have of the underlying distribution of the weeks of sickness within a sickness period it is problematical whether a test of the χ^2 form can be validly applied. Investigations of the moments of weeks of claim in the 1972-75 experience, reported in *C.M.I.R.* 4, 9, confirmed earlier studies by Coward (1949), in showing empirically that the variance of weeks of claim was, independently of age, roughly a constant multiple k of the rate of claim. From this it may be inferred that the statistic

$$\sum_x \frac{(w_x - \bar{w}_x)^2}{k\bar{w}_x}$$

where w_x , \bar{w}_x are respectively the actual and expected weeks of sickness of the group of lives aged x , will be approximately distributed as χ^2_f , where f is the number of age groups in the summation less the degrees of freedom lost in fitting the coefficients of the graduation formula.

It was not practicable to repeat the investigation of moments in relation to the 1975-78 Standard data but, based on the previous investigation, it was decided to assume, as approximations, values for k of 2 for 1/3 weeks sickness, 6 for 4/9 weeks, 10 for 13/13 weeks, 19 for 26/26 weeks, 30 for 52/52 weeks and 45 for 104/all weeks sickness. The results quoted in Column (6) were calculated accordingly. Any age group for which the expected weeks of sickness were fewer than 10 (an arbitrary choice) was omitted from the summation, which explains why the number of degrees of freedom recorded in Column (7) is sometimes less than 36. Judged by the probability levels of the theoretical χ^2 distribution, the

values of Column (6) would, except for those few below 50, be considered statistically significant. However, as discussed in Appendix F, much of the apparent significance may be due to the presence of duplicate policies. Although, therefore, the attempt to apply the χ^2 test is reported here, it is not considered that the results should be accorded too great a weight in judging the acceptability of the graduations.

6.6. Table 6.1 demonstrates clearly the unsatisfactory feature of the original 104/all and to a lesser extent the 52/52 graduations. The same statistics were extracted for the improved graduations described in Part 5 and are shown in Table 6.2. These indicate that for the 52/52 tables the results are similar, and in some respects a slight improvement, on those quoted in Table 6.1. With the added benefit that particular idiosyncrasies in individual deferred periods have been removed these new results are to be preferred. For the 104/all tables, some improvements are demonstrated in the test results. Incidentally, it should be mentioned that the figures quoted in Column (7) of Table 6.2 are on the same basis as those in Table 6.1, *i.e.* they assume that 4 degrees of freedom have been absorbed in the curve fitting. The procedure used to obtain the graduated rates underlying Table 6.2 may actually imply that fewer than 4 constraints have effectively been applied to each separate table. Differences in the numbers of degrees of freedom stated in column (7), as between Tables 6.1 and 6.2, arise from the effect of applying the rule-of-thumb mentioned in § 6.5 to a different set of values for expected weeks of sickness.

Table 6.2. *Graduations of 1975-78 Standard experience (males): derived statistics. Results for 52/52 and 104/all sickness periods from taking overall percentages of combined graduations as finally adopted*

Deferred period	Sickness period	Weeks of claim		Signs of deviations		Groups test statistic	Approximate χ^2_*	<i>f</i>
		Total	Sum of absolute deviations	Number of + signs	Number of groups of either sign			
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Combined	52/52	34,802	5,780	15	20	+0.09	75	36
	104/all	84,723	10,079	21	18	-0.95	55	36
1 week	52/52	10,870	3,371	16	21	+0.27	94	35
	104/all	26,362	7,532	17	7	-4.44	125	35
4 weeks	52/52	6,013	2,489	17	20	-0.18	60	35
	104/all	13,534	4,562	11	7	-4.02	74	36
13 weeks	52/52	8,460	2,435	19	18	-0.95	46	35
	104/all	19,727	5,293	23	12	-2.85	58	35
26 weeks	52/52	9,459	2,706	18	23	+0.71	48	36
	104/all	25,100	4,923	18	14	-2.20	45	36

* See comment in § 6.6

6.8. To put the relationship of the graduated and crude rates into perspective, it is helpful to compare scales of net annual premiums calculated from the two sets of rates. These net premiums were calculated on the basis of A1967-70 ultimate mortality and 6% interest, suggested by Sansom (1978), and used for a similar comparison based on the 1972-75 experience as reported in *C.M.I.R.* 4, 22. Table 6.4 shows the comparison of net premiums on the graduated and crude rates, and expresses the latter as a proportion of the corresponding premiums on Manchester Unity A.H.J. combined with A1967-70 ultimate mortality at 6%.

[illegible]

interest. In the main, the premiums calculated using the graduated rates are close to the premiums calculated on crude rates. The deviations at the upper ages are generally the greater with only the 13 weeks' deferred table giving good answers throughout the range.

Although net premiums based on the graduations of 1972-75 Aggregate data were quoted in *C.M.I.R. 4* for only a limited range of ages, it is noteworthy that, for ages where comparisons are possible, the net premium rates on the 1975-78 Standard data are generally higher than those on the 1972-75 Aggregate data. The difference is particularly marked in the case of the deferred 4 weeks table and, to a lesser extent, with the deferred 13 weeks table. Thus, the reservations expressed in *C.M.I.R. 4* about the level of the deferred 4 weeks graduated rates were justified. The comparison, in the final column of Table 6.4, of the premiums based on 1975-78 graduated rates with those on M.U.-A.H.J., shows a smoother pattern than was obtained with the 1972-75 graduated rates.

Table 6.4. *Comparison of net annual premiums on graduated rates with those on experience rates and M.U. rates for benefit £10 per week to age 65*

	A1967-70 ult 6% net premiums		Net premiums on graduated rates as a proportion of M.U.-A.H.J. net premiums	
	Graduated rates (1) £	Crude rates (2) £	(1)/(2) (3) %	(4) %
Deferred period 1 week				
Age 25	6.12	6.23	98	43
35	9.80	10.05	98	50
45	16.51	16.75	99	57
55	30.63	28.61	107	69
Deferred period 4 weeks				
Age 25	3.95	3.82	103	42
35	6.74	6.59	102	47
45	12.21	11.97	102	54
55	24.39	22.30	109	65
Deferred period 13 weeks				
Age 25	2.60	2.66	98	39
35	4.68	4.76	98	43
45	9.01	9.04	100	50
55	18.50	18.52	100	59
Deferred period 26 weeks				
Age 25	1.61	1.68	96	31
35	2.96	3.00	99	34
45	5.87	6.00	98	39
55	12.51	13.75	91	47

6.9. In view of the continued reservations expressed in this Report as to the interpretation of the observed experience and the validity of the graduations, especially in respect of 104/all sickness, it seems worth commenting that the effect, in the calculation of net premiums along the lines previously described, of increasing the graduated rates of 104/all sickness, for example by 50%, is to raise the annual premiums by the following percentages:

Age	Deferred period			
	1 week	4 weeks	13 weeks	26 weeks
	%	%	%	%
25	13	17	25	30
35	15	18	26	31
45	19	21	28	32
55	22	23	30	32

6.10. Table 6.5 gives specimen values of net premium reserves on the graduated sickness rates and the same mortality and interest bases as used for Table 6.4. The table also states these reserves as percentages of the corresponding M.U.-A.H.J. reserves. By considering Table 6.5 it will be seen that the reserves can build up, with contracts effected at young ages, to a large multiple of the net premiums. The size of the net premium reserve is very sensitive to the shape of the underlying sickness rates suggesting a need for caution in the selection of reserving bases. It is interesting, for example, to see that even though the net premium on the graduated rates basis for a deferred 1 week policy for a life entering at age 35 is only 50% of the Manchester Unity net premium, the reserve eventually reaches at least 85% of the reserve on Manchester Unity A.H.J.

6.11. It should be also appreciated that the Manchester Unity system sets up a single reserve to cover both claims in course of payment and the reserve necessary to cover the increasing risk which is being met out of a level net premium.

The implicit reserve for claims in course of payment is thus based on 'expected' rather than 'actual' claims, and care must be exercised when using Manchester Unity type reserves for a particular portfolio.

The difficulty in assessing the long-term element of the sickness rates, as discussed in Part 4, adds a further problem to the calculation of such reserves.

6.12. Graduations were also made of the male central claim inception rates on the 1975-78 Standard experience. It should be remembered, as mentioned in § 1.4, that the inception rates were based on the total exposed to risk, regardless of current claim status. The graduated rates and fitted coefficients are set out in Appendix H. They were fitted using the same method and graduation formula as for the sickness rates. Comparison of actual to expected numbers of inceptions yielded the statistics summarized in Table 6.6. The numbers of positive

Table 6.5. *Specimen net premium reserves (per £10 per week benefit ceasing at age 65) on the graduated sickness rates (with A1967-70 ultimate mortality and 6% interest). Figures in brackets are percentages of net premium reserves on M.U.-A.H.J.*

	Net annual premium	Duration in force (years)			
		5	15	25	35
Deferred 1 week					
Entry age: 25	6.12	24.03 (68)	84.76 (69)	157.66 (75)	162.93 (89)
35	9.80	36.63 (70)	121.51 (78)	146.98 (92)	
45	16.51	55.60 (82)	117.92 (97)		
55	30.63	56.75 (108)			
Deferred 4 weeks					
Entry age: 25	3.95	17.72 (55)	65.67 (58)	128.48 (66)	138.88 (81)
35	6.74	29.17 (61)	101.08 (70)	126.80 (84)	
45	12.21	47.35 (75)	103.10 (90)		
55	24.39	50.34 (101)			
Deferred 13 weeks					
Entry age: 25	2.60	12.92 (48)	50.23 (53)	100.29 (60)	106.31 (69)
35	4.68	23.02 (57)	79.86 (63)	97.30 (72)	
45	9.01	37.33 (67)	78.54 (75)		
55	18.50	37.43 (81)			
Deferred 26 weeks					
Entry age: 25	1.61	8.26 (36)	32.96 (41)	67.68 (47)	74.16 (55)
35	2.96	15.30 (44)	54.42 (50)	68.32 (57)	
45	5.87	25.83 (53)	55.71 (60)		
55	12.51	26.95 (65)			

Table 6.6. *Graduations of male inception rates. Statistics of goodness of fit*

	Number of positive deviations	Number of runs of same sign	χ^2_f	f
Deferred 1 week	21	24	90	36
Deferred 4 weeks	21	21	71	36
Deferred 13 weeks	19	26	43	33
Deferred 26 weeks	19	20	35	32

deviations, and the numbers of groups of deviations of the same sign, are statistically satisfactory. The values of χ^2_f for deferred periods 1 and 4 weeks are significantly high by normal considerations, but, as in the case of the sickness rates, this may be largely due to the presence of duplicates.

7. SUPPORTING INVESTIGATIONS

7.1. In *C.M.I.R.* 4 various supporting investigations were undertaken for the 1972-75 experience. A warning was given that the heterogeneity of the data and its limited volume dictated caution in the interpretation of the results. It had been hoped that a repeat of the work some 4 years later with additional data available would indicate better the significance of particular features.

There are still certain subdivisions where the amount of data reviewed is relatively small and the Sub-Committee again recommends interpretation with caution. There are also features examined where no identifiable trend has appeared and it is unlikely that such features will be considered further in subsequent reports.

7.2. For the general investigation of the 1975-78 experience it was decided to use Standard data rather than Aggregate as described in Part 2. This provided a more homogeneous base of data from which to work and these Supporting Investigations now fall into two categories.

First we have subdivisions of the Standard data by:

- (a) duration in force,
- (b) size of policy,
- (c) type of benefit and
- (d) medical evidence obtained,

where the comparison is between one or more subsets of the data on the one hand and the whole experience on the other.

Secondly, we compare sets of policies which have been excluded from the

Standard experience with that Standard experience. This category looks at the experience:

- (1) in the Republic of Ireland,
- (2) for occupationally rated cases,
- (3) for policies which incorporate medical exclusions.

The actual/expected ratios for these two categories are thus not comparable with each other as in the first instance we are comparing a part with the whole whilst in the other we are comparing completely separate sets of data.

7.3. Basis of comparison. Actual weeks of sickness or number of inceptions have in each case been related to the expected weeks of sickness or number of inceptions calculated using the ungraduated Standard experience for the appropriate deferred period and the result expressed as a percentage.

The 'expected weeks of sickness' and the 'expected inceptions' have been tabulated to indicate not only the relative importance of the percentages but also to facilitate further calculations.

The in-force policies and claims were allocated to only four age groups (under 40, 40–49, 50–59 and 60–64) as narrower age groupings would have reduced the volume of data in many cells to unacceptable levels. Even so on occasions the 'actual' and 'expected' values are very small. 'Expected' values have been recorded to the nearer integer but the accurate figures have been used to calculate the ratios of 'actual' to 'expected'. Broader or all-age groupings have not been included as it was felt that these could hide real variations from age to age between the categories under review.

7.4. Policies less than 3 years in force. It is clear from Part 4 that a straight comparison of the all-periods sickness experience of policies within 3 years of their inception with that exhibited thereafter cannot easily be interpreted. The select experience for 104/all is affected too much by the 'durational effect' for the effects of medical selection to be identified. Earlier periods of sickness are not subject to the same degree of distortion and a comparison has, therefore, been made between the actual sickness experience for policies which

- (a) have not been in force for 3 years—'select' or
- (b) have been in force for at least 3 years—'ultimate'

with that expected according to the ungraduated Standard experience excluding 104/all throughout.

Table 7.1 shows how these select and ultimate 'actual' figures compare with the aggregate experience.

The ultimate expected weeks of sickness have been calculated using composite sickness rates obtained by adding together the rates for the appropriate separate

Table 7.1. 1975-78 Experience male lives. Comparison of select and ultimate experience (i.e. excluding policies effected within 3 years) with the total Standard experience. Analysis of weeks of sickness (excluding 104/all) and inception rates

Deferred period	Age group	Weeks of sickness		Expected weeks of sickness		Inceptions		Expected inceptions	
		% Actual/Expected		Select	Ultimate	% Actual/Expected		Select	Ultimate
1 week	Under 40	109.1	96.0	3,040	6,913	106.3	96.6	1,539	2,850
	40-49	107.3	99.2	1,232	11,231	122.8	97.1	320	2,478
	50-59	63.4	101.2	659	20,260	113.8	99.4	108	2,682
	60-64	19.6	100.6	107	13,648	129.0	99.8	9	1,087
4 weeks	Under 40	108.2	95.5	2,028	3,742	112.4	92.2	221	352
	40-49	100.3	100.0	1,127	6,874	119.9	96.3	91	484
	50-59	51.1	103.1	605	9,515	78.1	101.7	36	468
	60-64	213.8	98.1	54	3,301	80.0	100.4	2	123
13 weeks	Under 40	94.6	102.4	1,101	2,487	116.3	91.5	50	97
	40-49	76.6	103.5	815	5,456	117.1	97.0	30	167
	50-59	110.3	99.3	423	6,592	124.0	98.1	12	166
	60-64	216.7	98.6	44	3,660	250.0	98.0	1	59
26 weeks	Under 40	65.9	112.1	554	1,563	76.9	109.4	20	48
	40-49	103.0	99.6	334	2,584	145.5	92.8	11	70
	50-59	75.7	101.2	359	7,010	98.8	100.1	8	136
	60-64	0	100.7	31	4,196	0	100.8	1	60
52 weeks	Under 40	107.9	96.5	49	111	150.0	75.0	2	4
	40-49	71.3	104.9	59	348	105.3	99.2	2	12
	50-59	0	107.9	66	836	0	107.1	2	22
	60-64	0	101.9	8	444	0	102.6	0	8

sickness periods for each quinquennial age group and applying these to the ultimate exposed to risk, which is the same for all periods of sickness of less than 2 years duration.

The select expected weeks of sickness are such that when added to the ultimate figures they produce the overall actual weeks experienced.

Clearly, the ultimate experience constitutes a very large proportion of the total data and as is to be expected the experience as measured by weeks of sickness does not differ greatly from that exhibited by the Standard data. The select experience on the other hand arises from a relatively small proportion of the data and fluctuates correspondingly widely. No consistent trend emerges although the select ratios exceed 100% surprisingly frequently. In particular this feature appears for younger ages and shorter deferred periods.

Inception rates are not affected in the same way as sickness rates by the duration in force and the figures compared have, therefore, not been adjusted. Here the tendency for the select experience to be worse than the Standard experience is pronounced.

This phenomenon has been recorded previously in similar investigations and a possible explanation was put forward in *C.M.I.R. 4*. The hypothesis of negative selection was proposed on the basis that early lapses of PHI policies tended to be concentrated amongst the impaired or substandard lives. There is no evidence in our investigation to support or refute this hypothesis.

7.5. Analysis by size of policy. The investigation works in calendar years and counts each policy as a unit value. It does not, therefore, weight the results by size of policy and no attempt has been made to eliminate duplicates. Two policies for £600 per annum on the same life would thus be counted twice in the 'up to £1,000 per annum' group and not at all in the '£1,001-£3,000 per annum' group.

The data includes cases where we are considering the sole policy in force on a life and cases where each policy forms part of a set of policies effected by a life. As the underlying concept is to investigate the hypothesis that the experience is affected by the level of benefit receivable by a claimant it is critical that the data cannot be subdivided between these two categories. In any event the problem of policies not included in this investigation would always be insurmountable and the lack of information concerning the proportion of earnings insured seriously detracts from any results obtained.

It was originally intended to split the data into three sections by size of policy as follows: 'up to £1,000 per annum', '£1,001-£3,000 per annum' and 'over £3,000 per annum'. The amount of data in respect of policies with benefits in excess of £3,000 per annum was too small, however, to give meaningful results so the '£3,000 plus' band was amalgamated with the next lower band. The analysis has, therefore, been conducted on the basis of 'up to £1,000 per annum' compared with the total experience.

A similar comparison was investigated in some depth in *C.M.I.R. 4* but no indication of a difference between the experience of policies by size could be identified. From Table 7.2 it can be seen that similar results have emerged from this later data, the only outstanding feature being the lower than expected number of inceptions under deferred period 1 week. Taken in conjunction with a similar feature in Table 7.3 this could indicate a number of long-standing policies with small benefits which are overlooked or ignored by potential short-duration claimants. It is not expected that this analysis will be repeated in future.

7.6. Level, increasing or decreasing benefit policies. Decreasing benefit policies are a minority group which no longer feature in the market and have not been tabulated. The results for the other types of policies are tabulated in Table 7.3.

The majority of the business is still of a level benefit type. Its experience, therefore, differs little from that of the total experience. The higher than expected number of inceptions with a deferred period of 1 week suggests that the 'missing claims' referred to in § 7.5 might also be decreasing benefit policies, but this is not proven.

Table 7.2. 1975-78 Experience male lives. Comparison of policies with benefit up to £1,000 per annum with Standard experience. Analysis of sickness and inception rates

Deferred period	Age group	Weeks of sickness % Actual/Expected	Expected weeks of sickness	Inceptions % Actual/Expected	Expected inceptions
1 week	Under 40	91	1,645	79	613
	40-49	99	7,804	86	1,178
	50-59	99	21,918	89	1,832
	60-64	101	18,851	101	877
4 weeks	Under 40	91	1,716	95	158
	40-49	106	5,025	94	229
	50-59	98	9,684	102	288
	60-64	95	4,377	101	84
13 weeks	Under 40	99	1,582	72	42
	40-49	119	4,362	86	81
	50-59	116	8,796	102	102
	60-64	97	7,305	97	42
26 weeks	Under 40	97	1,756	112	32
	40-49	113	2,641	113	37
	50-59	97	12,148	98	87
	60-64	106	9,637	104	44
52 weeks	Under 40	10	88	46	2
	40-49	143	440	128	5
	50-59	154	1,848	168	11
	60-64	106	973	68	4

The increasing benefit category is of relatively recent origin and contains very few 1 week deferred policies; overall it has a young average age. The low sickness rates under 13 and 26 week deferred policies could be due to the short duration of business in force.

The inception rates are volatile but do not deviate consistently from the level of the Standard experience.

7.7. *Medical or non-medical business.* Some Offices when first submitting data found it impractical to indicate whether business had been underwritten on a medical or non-medical basis. Table 1.1 indicates that the proportion coded as unknown has reduced over the period of the investigation, to a large extent due to the inclusion of fully coded new business. As a consequence the medical and non-medical business is of shorter average duration in force than the total business under investigation.

A comparison of the experience for the medical and non-medical business

Table 7.3. 1975-78 Experience male lives. Comparison of type of benefit with Standard experience. Analysis of sickness and inception rates

Deferred period	Age group	Weeks of sickness		Expected weeks of sickness		Inceptions		Expected inceptions	
		% Actual/Expected	Level	% Actual/Expected	Level	% Actual/Expected	Level	% Actual/Expected	Level
1 week	Under 40	123	100	112	9,610	92	99	56	4,123
	40-49	161	101	92	14,551	102	104	19	2,376
	50-59	35	105	63	19,046	200	109	6	1,719
	60-64	—	90	—	8,661	—	108	—	405
4 weeks	Under 40	117	100	634	5,242	95	103	62	485
	40-49	110	99	613	11,037	111	99	35	535
	50-59	40	103	380	15,795	83	100	13	484
	60-64	365	99	57	6,235	0	101	1	120
13 weeks	Under 40	73	105	847	4,251	108	98	27	121
	40-49	83	102	1,006	8,979	74	103	23	176
	50-59	118	99	684	14,187	121	99	9	170
	60-64	18	101	111	10,249	0	101	1	59
26 weeks	Under 40	41	107	379	2,971	95	104	8	58
	40-49	91	101	528	5,040	103	99	9	72
	50-59	82	101	741	18,691	48	103	6	137
	60-64	44	100	119	13,239	0	101	1	60
52 weeks	Under 40	25	117	44	207	77	91	1	6
	40-49	137	95	164	1,093	211	87	2	12
	50-59	141	97	299	3,614	111	91	2	22
	60-64	0	102	42	1,693	—	103	—	8

Note: — indicates 'no data'.

falling into the Standard category with the total Standard experience is shown in Table 7.4. With the shorter duration on these elements the sickness experience is almost inevitably lighter than Standard. No conclusion should be drawn from this feature of the data.

The inception rates are rather widely dispersed but are spread around the Standard rates. From the inspection of the ratios for weeks of sickness and inceptions it would appear that there is little difference between medical and non-medical business.

7.8. *Republic of Ireland.* The actual experience from policies effected on male lives in the Republic of Ireland, excluding policies rated by reason of occupation or with an exclusion, is compared in Table 7.5 with that 'expected' from the Standard experience, which relates to the U.K. only. Although the figures are small, a tendency can be seen with regard to both weeks of sickness and inceptions, for 'actual' to exceed 'expected' in all the deferred periods tabulated apart from 52 weeks where the volume of data is extremely small. This is in line

Table 7.4. 1975-78 *Experience male lives. Comparison of medical and non-medical experience with Standard experience. Analysis of sickness and inception rates*

Deferred period	Age group	Weeks of sickness % Actual/Expected		Expected weeks of sickness		Inceptions % Actual/Expected		Expected inceptions	
		Medical	Non-medical	Medical	Non-medical	Medical	Non-medical	Medical	Non-medical
1 week	Under 40	116	102	1,928	3,852	116	99	866	1,851
	40-49	80	85	1,382	2,147	206	112	158	415
	50-59	61	50	1,550	871	124	132	161	96
	60-64	16	101	511	224	114	91	26	11
4 weeks	Under 40	114	85	2,475	1,732	102	116	237	176
	40-49	88	97	2,413	1,486	106	132	135	87
	50-59	60	73	2,110	875	87	92	74	33
	60-64	113	210	458	117	85	77	9	3
13 weeks	Under 40	89	85	1,663	1,486	126	96	46	48
	40-49	88	92	1,904	1,603	93	114	43	37
	50-59	52	106	1,979	1,136	96	107	27	15
	60-64	42	151	620	262	92	94	4	2
26 weeks	Under 40	49	74	759	1,094	62	135	16	24
	40-49	102	52	976	910	102	66	16	15
	50-59	68	100	2,012	1,124	86	137	17	10
	60-64	33	124	593	205	69	0	3	1
52 weeks	Under 40	144	110	79	84	91	80	2	2
	40-49	108	75	290	220	156	160	3	2
	50-59	74	56	700	376	109	125	5	2
	60-64	43	193	173	54	125	0	1	0

Table 7.5. 1975-78 Experience male lives. Comparison of Republic of Ireland and Standard experience. Analysis of weeks of sickness and inceptions

Deferred period	Age group	Weeks of sickness % Actual/Expected	Expected weeks of sickness	Inceptions % Actual/Expected	Expected inceptions
1 week	Under 40	289	112	122	45
	40-49	68	277	119	43
	50-59	153	519	73	45
	60-64	66	175	158	8
4 weeks	Under 40	143	452	106	43
	40-49	138	529	146	27
	50-59	294	508	165	16
	60-64	153	148	36	3
13 weeks	Under 40	269	263	211	8
	40-49	175	377	211	8
	50-59	91	476	169	6
	60-64	89	163	100	1
26 weeks	Under 40	266	61	214	1
	40-49	224	136	286	2
	50-59	155	448	143	4
	60-64	112	215	200	1
52 weeks	Under 40	0	5	0	0
	40-49	9	35	125	0
	50-59	88	93	250	1
	60-64	0	34	0	0

with the previous report in *C.M.I.R.* 4 and supports the suggestion that a higher pattern of morbidity should be expected in the Republic.

7.9. *Occupation.* The experience of U.K. policies where it was known that a policy has been rated solely by reason of occupation is compared with the Standard experience in Table 7.6.

Generally, the experience for occupational rated cases was much heavier than Standard. In policies of more than 1 week deferment there is a tendency for the margin to be smaller towards the older ages but not to the extent required to support the common practice of charging a flat extra premium regardless of age.

It is perhaps worth noting here that we have only identified the occupations for which an extra premium has been charged. The Standard experience thus includes many occupations which would merit a rating if the deferred period effected were shorter.

Table 7.7 analyses this experience in rather more detail but with the figures for the short deferred periods combined separately from those for longer deferments.

Table 7.6. 1975-78 *Experience male lives. Comparison of policies rated for occupation and Standard experience. Analysis of weeks of sickness and inceptions*

Deferred period	Age group	Weeks of sickness % Actual/Expected	Expected weeks of sickness	Inceptions % Actual/Expected	Expected inceptions
1 week	Under 40	299	568	120	220
	40-49	129	1,180	118	192
	50-59	169	1,346	109	120
	60-64	259	704	76	33
4 weeks	Under 40	259	4,547	195	438
	40-49	162	4,473	165	239
	50-59	164	3,194	171	103
	60-64	179	703	107	14
13 weeks	Under 40	232	1,182	223	38
	40-49	194	1,123	171	25
	50-59	135	944	174	12
	60-64	155	276	250	2
26 weeks	Under 40	183	321	191	7
	40-49	125	223	57	4
	50-59	108	358	103	3
	60-64	0	77	0	4
52 weeks	Under 40	0	15	0	1
	40-49	416	25	0	0
	50-59	146	71	0	0
	60-64	0	9	0	0

Table 7.7. 1975-78 *Experience male lives. Comparison of actual weeks of sickness from policies rated for occupation with that expected from the Standard experience.*

Deferred period	Age group	Period of sickness					
		1/3 %	4/9 %	13/13 %	26/26 %	52/52 %	104/all %
1 week	Under 40	196	223	259	327	339	440
	40-49	155	190	199	192	154	82
4 weeks	50-59	135	176	205	184	159	149
	60-64	94	119	147	150	251	279
13 weeks	Under 40			246	229	254	154
26 weeks	40-49			185	156	213	189
and	50-59			211	156	130	107
52 weeks	60-64			239	261	232	51

A feature of the deferred 1 and 4 weeks section of the table is the increase in the ratio as the period of sickness is progressively deferred both below age 40 and above age 60. Over the intermediate ages there is a tendency for the ratios to rise initially but then to decrease. There is no indication that the extra risk is restricted to shorter duration sickness.

The experience under the longer deferred contracts relates to those occupations regarded by underwriters as carrying the highest extra risk but the ratios tend if anything to be lower than those for the shorter deferred periods. The two sets of ratios are not directly comparable, however, as the 'expected' sickness for 1 and 4 weeks deferred derives from data which has been much more stringently 'selected' from the point of view of occupation.

7.10. *Policies with medical exclusions.* The experience of policies with medical exclusions which were otherwise 'Standard' is compared with the Standard experience in Table 7.8. Not all Offices were able to provide this information for policies in force prior to 1 January 1972 and the 'unknown' cases have been included in the Standard data.

The results show no consistent trend either between ages or between deferred

Table 7.8. 1975-78 Experience male lives. Comparison of policies with exclusions and Standard experience. Analysis of weeks of sickness and inceptions

Deferred period	Age group	Weeks of sickness % Actual/Expected	Expected weeks of sickness	Inceptions % Actual/Expected	Expected inceptions
1 week	Under 40	120	957	110	412
	40-49	67	1,858	111	310
	50-59	116	3,724	112	318
	60-64	80	2,912	81	136
4 weeks	Under 40	174	389	112	37
	40-49	158	727	155	38
	50-59	130	1,240	115	39
	60-64	188	561	213	11
13 weeks	Under 40	84	176	146	6
	40-49	120	382	111	8
	50-59	143	622	117	8
	60-64	27	579	29	3
26 weeks	Under 40	6	53	91	1
	40-49	64	124	100	2
	50-59	120	542	143	4
	60-64	82	520	125	2
52 weeks	Under 40	0	3	0	0
	40-49	1,118	28	0	0
	50-59	197	102	429	1
	60-64	320	65	0	0

Table 7.9. 1975-78 Experience male lives. Comparison of policies with exclusions for neurosis, psychoneurosis and psychosis (including anxiety state) with Standard experience. Analysis of weeks of sickness and inception rates

Deferred period	Age group	Weeks of sickness % Actual/Expected	Expected weeks of sickness	Inceptions % Actual/Expected	Expected inceptions
1 week	Under 40	107	126	118	53
	40-49	54	188	140	31
	50-59	108	420	183	36
	60-64	28	240	53	11
4 weeks	Under 40	270	86	84	8
	40-49	335	127	175	6
	50-59	221	170	75	5
	60-64	377	82	375	2
13 weeks	Under 40	82	40	333	1
	40-49	35	75	125	2
	50-59	199	108	143	1
	60-64	0	71	0	0
26 weeks	Under 40	0	15	0	0
	40-49	228	29	200	1
	50-59	87	113	111	1
	60-64	0	89	0	0
52 weeks	Under 40	0	0	0	0
	40-49	0	9	0	0
	50-59	232	31	500	0
	60-64	2,600	8	0	0

periods. Overall there would appear to be no grounds for anticipating anything but the Standard experience from policies which incorporate health exclusions except perhaps where the deferred period is 4 weeks and no explanation can be put forward for this feature.

As in *C.M.I.R. 4*, policies with exclusions limited to neurosis, psychoneurosis and psychosis were considered separately and the figures are shown in Table 7.9. The amount of data is very small and apart from noting the persistently high sickness figures under 4 weeks deferred and the tendency towards higher inception rates there is no comment to be made.

7.11. Conclusion. It is perhaps worth noting that policies effected in the Republic of Ireland, or which include an occupational loading and which have been excluded from the Standard data, exhibit recognizably higher levels of experience.

The subdivisions by Size of Policy, Type of Benefit and Medical or Non-medical on the other hand have, so far, not exhibited any clear trend away from the overall Standard experience.

CONCLUSION

The construction of this paper has proved to be a task of greater complexity than may immediately be apparent to the reader. The investigation has provided the first major opportunity to reappraise the work undertaken for *C.M.I.R.* 4, and not unexpectedly the benefits of hindsight and the increased volume of data have assisted in the review. Fundamental truths and concepts of PHI have been under scrutiny in this text. For many years, the results and ideas contained in the Manchester Unity tables have been in use as the yardstick. These ideas have broadly remained unquestioned in practical usage, although sickness covers available have changed a great deal. Major difficulties in the validity of the concepts of the Manchester Unity approach were identified by the Sub-Committee, and have been explained in the text. The effects of what has been termed 'durational selection' are certainly difficult to quantify, and also introduce problems of a conceptual nature that are not encountered with mortality. These difficulties may incline future investigations towards the North American system of inception rates and disability annuities, and the Sub-Committee is well advanced in the necessary development work. A considerable amount of effort has been spent on investigating and deriving graduation formulae for practical use on the available data. In the final analysis, the graduations produced have given reasonable results but the various queries raised elsewhere in the text dictate that extreme caution be exercised in any practical usage. In particular, the desire of the Sub-Committee to produce a standard table for valuation purposes has not been realized. The results and tables published in this Report specifically relate to the experience of Individual PHI policies for the years 1975-78. As such, any application of these results to any other potentially similar PHI experience *e.g.* Group or Waiver of Premium must be performed with extreme caution.

The thanks of the Sub-Committee are due to the Offices which contributed data and time to the production of this Report. At the present time, PHI is still a relatively small element of long-term insurance and other Offices who do not contribute will be very welcome to join.

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APPENDIX A

Card layouts for individual business

(1) In-force Card

Field	Columns	Description
Block A		
1	1	Type of Record 1 = individual record (2 = group record)
2	2-4	Contributor's 'office number'
3	5-6	Record Year The last two digits of the calendar year to the end of which the record refers.
4	7	Geographical Location 1 = U.K. 2 = Republic of Ireland 3 = Isle of Man 4 = Channel Islands (No other countries outside the British Isles have yet been specified by offices. The Sub-Committee will supply further codes on request.)
5	8	Please leave blank or code '0'
6	9	Age Definition Blank or zero if month and year of birth are given in field 11, otherwise 1 = nearest birthday, 2 = next birthday at the date referred to in field 3.
Block B		
7	16	Sex 1 = Male 2 = Female
8	17	Occupational Rating 0 = no rating 1 = rated
9	18-20	Period of Deferment. Code in weeks thus: 001 = 1 week, 052 = 52 weeks, etc., to nearest week, but use code 999 if the period of deferment is one <i>Calendar month</i> .
10	21-22	Year of Entry The last two digits of the calendar year in which the policy first went on the books. Code 00 if not known. Note: 'Continuation' policies—that is policies passing from group to individual under a continuation option—should not be included with the individual returns in

Field	Columns	Description
		cases where the disability started before the continuation policy was issued. In other cases the year of entry to be recorded is the year in which the continuation option was exercised. These policies should be coded '1' in column 1 and '3' in column 36.
11	23-26	<p>Month and Year of Birth or Office Year of Birth</p> <p>Contributors will have the option of showing the month of birth in columns 23-24 and the last two digits of the year of birth in columns 25-26, or of showing the office year of birth, which allows the calculation of the age next birthday or the nearest age at the date referred to in field 3, in columns 25-26 and zeros in columns 23-24. If possible, offices are requested to adopt the former method, since it is more accurate.</p>
12	27-28	<p>Ceasing Year</p> <p>Last two digits of calendar year in which cover will cease.</p>
13	29	<p>Period of Benefit Payment</p> <p>Specify payment period to which rate shown in columns 30-34 relates:</p> <p>1 = weekly 2 = monthly 3 = yearly 4 = special</p> <p>If the amount of business to which code 4 applies is a large proportion of the whole, the office is requested to approach the Sub-Committee for a separate code to be allocated.</p>
14	30-34	<p>Rate of Benefit</p> <p>Rate of benefit to the nearer £, gross of reinsurance. (<i>Excluding</i> waiver amount in every case if possible. Report 00 if the only benefit is waiver of premium, e.g. attached to life policy.)</p> <p>Note 1: Where code 2 or 3 applies in field 15, the initial rate of benefit should be shown.</p> <p>Note 2: If it is unnecessarily cumbersome to eliminate amounts of waiver of premium from office records, this need not be done. Please inform the Sub-Committee, however.</p> <p>Note 3: Reinsurances ceded to other offices are included in the ceding office's figures. Reinsurances accepted from other offices are not to be included in the investigation.</p>

Field	Columns	Description
15	35	Type of Benefit 1 = level sickness benefit 2 = increasing sickness benefit 3 = decreasing sickness benefit 5 = lump sum benefit 9 = other type of benefit
16	36	Medical Evidence 1 = medical 2 = non-medical (with or without P.M.A. report) 3 = non-selection limit applies part or whole of benefit 4 = unknown (for existing business at 1 January 1972 only) Note: Medically substandard lives (other than those subject only to a special exclusion clause) are not to be included in the investigation.
17	37	Type of Premium 1 = level annual premium 2 = recurrent single premium 3 = increasing annual premium 4 = any other type, but see note for code 4 in field 13
18	38	Underwriting Impairment. (For cases dealt with by exclusions only. For occupational ratings see field 8. Other cases rated for health or dangerous pursuits, etc., should not be included in the investigation at all.) 0 = no extra risk 1 = exclusion relating to hypertension and disease of cardiovascular system 2 = exclusion relating to neurosis, psychoneuroses and psychosis (including anxiety state) 7 = exclusion may or may not be present (for business existing at 1 January 1972 only) 8 = exclusion present but related impairment not known (for business existing at 1 January 1972 only) 9 = all other exclusions Note: Codes 3-6 are being reserved for possible future use.

Block C

19	71-80	Policy Number Note: This field is reserved for the policy number or any other means by which the particular record can be referred to in any communications between the C.M.I. Bureau and the contributing office for error indications, etc.
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Further notes:

1. Block A contains fields which can probably be gang-punched by the contributing offices.
Block B contains information relating to the particular record, which will have to be individually punched.
Block C contains only an item of identification, requiring individual punching.
2. Where data are submitted in the form of punched cards, these will be returned by the Bureau after the data have been transferred to tape. It would therefore be possible for the contributing office to use some of the space on the card for its own purposes. Initially, offices would be asked not to use columns other than 43-70 in this way and it would not be possible to transfer such data to the claims card because those columns are used for the details of the claim.

(2) Claims Card

Field	Columns	Description
Block A		
1	1	Type of Record 3 = claim under individual policy (4 = claim under group policy)
2-6	2-9	As for In-force Card
Block B		
7-18	16-38	As for In-force Card Offices are asked to ensure that the information shown in Blocks A and B is consistent with that recorded in the corresponding 'in-force' card. If fresh information should come to light when a claim arises, it should be ignored for the purpose of compiling the claims card. For example, if code 4 is used in column 36 of the in-force card it should be repeated on the claims card and not amended in accordance with information discovered later.
Block C		
19	44-49	Date of falling sick (<i>i.e.</i> beginning of deferred period). If present card relates to an interrupted claim (including a change from total to partial disability) record date of first falling sick. Date to be coded in three groups of two digits, day-month-year.
20	50-53	Date payments commenced (in present record year) in benefit period to which present card relates (day and month only: 0000 if continuation from previous year). A new card should be prepared each time a claim is resumed after an interruption or a change in degree of disability.

Field	Columns	Description
21	54	Mode of commencement of present Benefit 0 = continuation from previous record year 1 = new claim 2 = new claim following interruption of sickness in the deferred period 3 = revival of claim following interruption (whether the benefit rate is the same as before the interruption or different) 4 = continuation of an existing claim but benefit rate changed from date recorded in field 20
22	55-56	Percentage the benefit under the current claim bears to the full rate of benefit (for partial disability claim). Punch zeros if full rate is being paid.
23	57-60	Date payments ceased in benefit period to which present card relates (day and month only: 9999 if claim in force at end of year).
24	61	Mode of cessation 1 = policy expired or void for reason other than death or lump sum payment 2 = death 3 = recovery 4 = lump sum payment terminating contract (add explanatory note) 5 = <i>ex gratia</i> commutation (add explanatory note) 6 = benefit rate altered but claim continues (continuation reported on further card) Note: In the case of code 4 or 5 please give amount of payment as well as circumstances, e.g. whether contract was withdrawn. If the <i>ex gratia</i> commutation is one month's payment or less punch an adjusted expiry date in field 23 which would give correct total claim. This will not be practicable if the adjusted expiry date is after the current year of claim and in such a case explain in relation to field 24 what has been done.
25	62-65	Cause of disability for current claim. (Abbreviated 'List C' in the eighth revision of the <i>Manual of the International Statistical Classification of Diseases</i> . See Appendix B).
26	71-80	Policy number or other identification. (See note to corresponding field 19 of in-force card.)

APPENDIX B

ABRIDGED LIST OF DISEASES

List C of the Eighth Revision* of the 'Manual of the International Statistical Classification of Diseases, Injuries and Causes of Death'.

(Reprinted with kind permission of the World Health Organization)

List of 70 Causes for Tabulation of Morbidity

<i>Cause Groups</i>	<i>Detailed List Numbers</i>
C 1 Typhoid, paratyphoid fever, other salmonella infections	001-003
C 2 Bacillary dysentery and amoebiasis	004, 006
C 3 Enteritis and other diarrhoeal diseases	008, 009
C 4 Tuberculosis of respiratory system	010-012
C 5 Other tuberculosis, including late effects	013-019
C 6 Brucellosis	023
C 7 Diphtheria	032
C 8 Whooping cough	033
C 9 Streptococcal sore throat and scarlet fever	034
C10 Smallpox	050
C11 Measles	055
C12 Viral encephalitis	062-065
C13 Infectious hepatitis	070
C14 Typhus and other rickettsioses	080-083
C15 Malaria	084
C16 Syphilis and its sequelae	090-097
C17 Gonococcal infections	098
C18 Helminthiasis	120-129
C19 All other infective and parasitic diseases	{ Remainder of 000-136
C20 Malignant neoplasms, including neoplasms of lymphatic and haematopoietic tissue	140-209
C21 Benign neoplasms and neoplasms of unspecified nature	210-239
C22 Thyrotoxicosis with or without goitre	242
C23 Diabetes mellitus	250
C24 Avitaminoses and other nutritional deficiency	260-269
C25 Other endocrine and metabolic diseases	{ 240,241 243-246 251-258 270-279

* The Eighth Revision has been superseded in general use by the Ninth Revision.

<i>Cause Groups</i>		<i>Detailed List Numbers</i>
C26	Anaemias	280-285
C27	Psychoses and non psychotic mental disorders	290-309
C28	Inflammatory diseases of eye	360-369
C29	Cataract	374
C30	Otitis media and mastoiditis	381-383
C31	Other diseases of nervous system and sense organs	320-358
		370-373
		375-380
		384-389
C32	Active rheumatic fever	390-392
C33	Chronic rheumatic heart disease	393-398
C34	Hypertensive disease	400-404
C35	Ischaemic heart disease	410-414
C36	Cerebrovascular disease	430-438
C37	Venous thrombosis and embolism	450-453
C38	Other diseases of circulatory system	420-429
		440-448
		454-458
C39	Acute respiratory infections	460-466
C40	Influenza	470-474
C41	Pneumonia	480-486
C42	Bronchitis, emphysema and asthma	490-493
C43	Hypertrophy of tonsils and adenoids	500
C44	Pneumoconioses and related diseases	515, 516
C45	Other diseases of respiratory system	501-514
		517-519
C46	Diseases of teeth and supporting structures	520-525
C47	Peptic ulcer	531-533
C48	Appendicitis	540-543
C49	Intestinal obstruction and hernia	550-553
		560
C50	Cholelithiasis and cholecystitis	574, 575
C51	Other diseases of digestive system	526-530
		534-537
		561-573
		576, 577
C52	Nephritis and nephrosis	580-584

<i>Cause Groups</i>		<i>Detailed List Numbers</i>
C53	Calculus of urinary system	592, 594
C54	Hyperplasia of prostate	600
C55	Other diseases of genito-urinary system	{ 590, 591 593 595-599 601-629
C56	Abortion	640-645
C57	Other complications of pregnancy, childbirth and the puerperium	{ 630-639 651-678
C58	Delivery without mention of complication	650
C59	Infections of skin and subcutaneous tissue	680-686
C60	Other diseases of skin and subcutaneous tissue	690-709
C61	Arthritis and spondylitis	710-715
C62	Other diseases of musculoskeletal system and connective tissue	716-738
C63	Congenital anomalies	740-759
C64	Certain causes of perinatal morbidity	760-779
C65	Other specified and ill-defined diseases	{ 286-289 310-315 780-796
<i>External Cause of Injury</i>		
CE66	Road transport accidents	{ E810-E819 E825-E827
CE67	All other accidents	{ E800-E807 E820-E823 E830-E949
CE68	Attempted suicide and self-inflicted injuries	E950-E959
CE69	Attempted homicide and injury purposely inflicted by other persons; legal intervention	E960-E978
CE70	All other external causes	E980-E999
<i>Nature of Injury</i>		
CN66	Fractures	N800-N829
CN67	Intracranial and internal injuries	N850-N869
CN68	Burn	N940-N949
CN69	Adverse effects of chemical substances	N960-N989
CN70	All other injuries	{ N830-N848 N870-N939 N950-N959 N990-N999

APPENDIX C
(pages 52–68)

APPENDIX C

*Individual PHI Policies 1975-78**All offices—Aggregate sickness experience*Table C1. *Males—Deferred period 1 week*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
<i>Sickness period 1/3</i>											
Exposed to risk	2	1,396	11,684	15,304	12,757	12,736	14,196	13,888	10,046	6,892	98,901
Actual weeks of sickness	0	212	1,686	2,341	2,364	2,453	3,188	3,534	2,907	2,685	21,370
Expected weeks of sickness	1	681	5,442	7,198	6,242	6,651	7,962	8,551	6,952	5,450	55,130
Actual rate of sickness	·000	·152	·144	·153	·185	·193	·225	·254	·289	·390	·216
Actual/expected %	·0	31·1	31·0	32·5	37·9	36·9	40·0	41·3	41·8	49·3	38·8
<i>Sickness period 4/9</i>											
Exposed to risk	2	1,300	11,477	15,177	12,680	12,677	14,150	13,868	10,038	6,891	98,260
Actual weeks of sickness	0	104	636	1,009	1,478	1,602	2,523	3,317	3,173	3,306	17,148
Expected weeks of sickness	0	196	1,968	2,912	2,828	3,550	4,909	6,154	5,674	4,992	33,183
Actual rate of sickness	·000	·080	·055	·066	·117	·126	·178	·239	·316	·480	·175
Actual/expected %		53·1	32·3	34·6	52·3	45·1	51·4	53·9	55·9	66·2	51·7
<i>Sickness period 13/13</i>											
Exposed to risk	1	1,118	11,063	14,923	12,528	12,562	14,062	13,827	10,022	6,889	96,995
Actual weeks of sickness	0	26	181	425	703	601	1,148	1,520	2,072	2,315	8,991
Expected weeks of sickness	0	88	946	1,440	1,530	1,992	2,874	3,971	4,050	4,100	20,991
Actual rate of sickness	·000	·023	·016	·028	·056	·048	·082	·110	·207	·336	·093
Actual/expected %		29·5	19·1	29·5	45·9	30·2	39·9	38·3	51·2	56·5	42·8

Table C1 (*continued*)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	1	878	10,434	14,536	12,299	12,386	13,926	13,766	9,996	6,886	95,108
Actual weeks of sickness	0	52	155	362	756	543	1,491	1,419	2,500	3,138	10,416
Expected weeks of sickness	0	46	635	1,025	1,122	1,544	2,328	3,416	4,044	4,584	18,744
Actual rate of sickness	·000	·059	·015	·025	·061	·044	·107	·103	·250	·456	·110
Actual/expected %		113·0	24·4	35·3	67·4	35·2	64·0	41·5	61·8	68·5	55·6
Sickness period 52/52											
Exposed to risk	0	505	9,150	13,737	11,836	12,028	13,647	13,634	9,944	6,878	91,359
Actual weeks of sickness	—	5	93	138	511	432	1,782	2,203	3,277	4,847	13,288
Expected weeks of sickness	—	16	365	729	812	1,189	1,905	3,004	3,972	5,161	17,153
Actual rate of sickness	·000	·010	·010	·010	·043	·036	·131	·162	·330	·705	·145
Actual/expected %		31·3	25·5	18·9	62·9	36·3	93·5	73·3	82·5	93·9	77·5
Sickness period 104/all											
Exposed to risk	0	126	6,591	12,057	10,905	11,311	13,078	13,344	9,823	6,848	84,083
Actual weeks of sickness	—	0	0	271	317	1,424	3,779	5,683	9,194	11,938	32,606
Expected weeks of sickness	—	3	347	999	1,645	2,935	5,296	9,715	12,584	15,960	49,484
Actual rate of sickness	·000	·000	·000	·022	·029	·126	·289	·426	·936	1·743	·388
Actual/expected %		·0	·0	27·1	19·3	48·5	71·4	58·5	73·1	74·8	65·9

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C2. *Males—Deferred period 4 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 4/9											
Exposed to risk	289	5,344	24,482	34,692	29,703	26,930	21,526	14,244	7,154	2,551	166,915
Actual weeks of sickness	78	685	2,073	3,538	3,414	3,676	3,365	3,062	1,941	1,131	22,963
Expected weeks of sickness	40	788	4,197	6,668	6,615	7,517	7,418	6,279	3,995	1,824	45,341
Actual rate of sickness	·270	·128	·085	·102	·115	·137	·156	·215	·271	·443	·138
Actual/expected %	195·0	86·9	49·4	53·1	51·6	48·9	45·4	48·8	48·6	62·0	50·6
Sickness period 13/13											
Exposed to risk	249	4,875	23,455	33,670	29,098	26,530	21,301	14,157	7,133	2,550	163,018
Actual weeks of sickness	17	302	1,008	1,735	1,693	1,942	1,823	1,734	1,368	856	12,478
Expected weeks of sickness	15	377	2,006	3,254	3,549	4,192	4,315	4,028	2,831	1,486	26,053
Actual rate of sickness	·068	·062	·043	·052	·058	·073	·086	·122	·192	·336	·077
Actual/expected %	113·3	80·1	50·2	53·3	47·7	46·3	42·2	43·0	48·3	57·6	47·9

Table C2 (*continued*)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	196	4,219	21,926	32,136	28,188	25,921	20,958	14,020	7,096	2,546	157,206
Actual weeks of sickness	0	244	679	1,159	1,418	1,512	1,867	1,746	1,702	1,105	11,432
Expected weeks of sickness	5	208	1,331	2,273	2,570	3,215	3,472	3,434	2,797	1,650	20,955
Actual rate of sickness	·000	·058	·031	·036	·050	·058	·089	·125	·240	·434	·073
Actual/expected %	·0	117·3	51·0	51·0	55·2	47·0	53·8	50·8	60·9	67·0	54·6
Sickness period 52/52											
Exposed to risk	114	3,076	18,910	29,067	26,361	24,678	20,261	13,725	7,014	2,537	145,743
Actual weeks of sickness	0	126	362	803	1,191	1,275	1,919	1,725	2,485	1,708	11,594
Expected weeks of sickness	1	93	752	1,547	1,805	2,428	2,799	2,981	2,710	1,843	16,959
Actual rate of sickness	·000	·041	·019	·028	·045	·052	·095	·126	·354	·673	·080
Actual/expected %	·0	135·5	48·1	51·9	66·0	52·5	68·6	57·9	91·7	92·7	68·4
Sickness period 104/all											
Exposed to risk	30	1,471	13,348	23,204	22,697	22,158	18,841	13,074	6,823	2,512	124,158
Actual weeks of sickness	0	0	50	510	1,050	1,251	4,844	4,290	5,596	4,355	21,946
Expected weeks of sickness	0	36	691	1,940	3,416	5,714	7,530	9,360	8,524	5,642	42,853
Actual rate of sickness	·000	·000	·004	·022	·046	·056	·257	·328	·820	1·734	·177
Actual/expected %		·0	7·2	26·3	30·7	21·9	64·3	45·8	65·6	77·2	51·2

Individual PHI Policies 1975-78

All offices—Aggregate sickness experience

Table C3. Males—Deferred period 13 weeks

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 13/13											
Exposed to risk	171	3,759	21,955	38,887	35,775	33,423	27,015	17,923	9,040	3,780	191,728
Actual weeks of sickness	0	131	524	872	1,236	1,367	1,515	1,304	1,069	766	8,784
Expected weeks of sickness	10	290	1,881	3,766	4,361	5,282	5,469	5,096	3,606	2,209	31,970
Actual rate of sickness	·000	·035	·024	·022	·035	·041	·056	·073	·118	·203	·046
Actual/expected %	·0	45·2	27·9	23·2	28·3	25·9	27·7	25·6	29·6	34·7	27·5
Sickness period 26/26											
Exposed to risk	130	3,207	20,276	37,005	34,483	32,534	26,514	17,723	8,984	3,775	184,631
Actual weeks of sickness	0	92	452	858	1,131	1,224	1,773	1,596	1,207	1,258	9,591
Expected weeks of sickness	3	157	1,238	2,622	3,144	4,035	4,390	4,341	3,569	2,456	25,955
Actual rate of sickness	·000	·029	·022	·023	·033	·038	·067	·090	·134	·333	·052
Actual/expected %	·0	58·6	36·5	32·7	36·0	30·3	40·4	36·8	33·8	51·2	37·0
Sickness period 52/52											
Exposed to risk	75	2,286	17,079	33,316	31,927	30,734	25,496	17,301	8,861	3,764	170,839
Actual weeks of sickness	0	63	309	952	1,288	1,257	2,332	1,919	1,677	2,204	12,001
Expected weeks of sickness	0	68	684	1,775	2,184	3,024	3,520	3,756	3,459	2,742	21,212
Actual rate of sickness	·000	·028	·018	·029	·040	·041	·091	·111	·189	·586	·070
Actual/expected %		92·6	45·2	53·6	59·0	41·6	66·3	51·1	48·5	80·4	56·6
Sickness period 104/all											
Exposed to risk	23	1,069	11,581	26,397	26,980	27,173	23,420	16,377	8,579	3,724	145,323
Actual weeks of sickness	0	7	118	900	1,621	1,691	3,436	4,305	4,953	7,157	24,188
Expected weeks of sickness	0	27	607	2,222	4,057	7,007	9,353	11,718	10,802	8,398	54,191
Actual rate of sickness	·000	·007	·010	·034	·060	·062	·147	·263	·577	1·922	·166
Actual/expected %		25·9	19·4	40·5	40·0	24·1	36·7	36·7	45·9	85·2	44·6

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C4. *Males—Deferred period 26 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	90	4,567	31,897	52,551	44,557	41,475	36,203	26,449	15,829	7,112	260,730
Actual weeks of sickness	0	86	446	640	588	718	1,074	1,941	1,956	1,638	9,087
Expected weeks of sickness	3	227	1,946	3,715	4,060	5,153	6,006	6,518	6,292	4,653	38,573
Actual rate of sickness	·000	·019	·014	·012	·013	·017	·030	·073	·124	·230	·035
Actual/expected %	·0	37·9	22·9	17·2	14·5	13·9	17·9	29·8	31·1	35·2	23·6
Sickness period 52/52											
Exposed to risk	56	3,545	28,583	48,648	42,028	39,605	35,041	25,936	15,678	7,101	246,221
Actual weeks of sickness	0	29	289	679	491	849	1,069	2,288	3,134	2,953	11,781
Expected weeks of sickness	0	108	1,143	2,587	2,872	3,904	4,848	5,670	6,127	5,214	32,473
Actual rate of sickness	·000	·008	·010	·014	·012	·021	·031	·088	·200	·416	·048
Actual/expected %		26·9	25·3	26·2	17·1	21·7	22·1	40·4	51·2	56·6	36·3
Sickness period 104/all											
Exposed to risk	21	1,968	22,384	40,885	36,922	35,780	32,658	24,780	15,310	7,061	217,769
Actual weeks of sickness	0	0	529	453	502	1,259	1,826	5,056	9,094	9,802	28,521
Expected weeks of sickness	0	52	1,163	3,409	5,539	9,247	13,079	17,881	19,291	16,053	85,714
Actual rate of sickness	·000	·000	·024	·011	·014	·035	·056	·204	·594	1·388	·131
Actual/expected %		·0	45·5	13·3	9·1	13·6	14·0	28·3	47·1	61·1	33·3

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C5. *Males—Deferred period 52 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 52/52											
Exposed to risk	13	445	4,064	11,679	14,248	15,670	14,472	9,892	4,663	1,442	76,588
Actual weeks of sickness	0	14	53	20	73	193	364	588	521	492	2,318
Expected weeks of sickness	0	13	164	625	980	1,550	2,000	2,152	1,798	1,031	10,313
Actual rate of sickness	·000	·031	·013	·002	·005	·012	·025	·059	·112	·341	·030
Actual/expected %		107·7	32·3	3·2	7·4	12·5	18·2	27·3	29·0	47·7	22·5
Sickness period 104/all											
Exposed to risk	5	239	2,808	9,072	12,006	13,786	13,159	9,220	4,473	1,424	66,192
Actual weeks of sickness	0	0	28	17	48	427	883	1,983	1,337	1,451	6,174
Expected weeks of sickness	0	6	148	776	1,822	3,581	5,261	6,613	5,581	3,142	26,930
Actual rate of sickness	·000	·000	·010	·002	·004	·031	·067	·215	·299	1·019	·093
Actual/expected %		·0	18·9	2·2	2·6	11·9	16·8	30·0	24·0	46·2	22·9

TABLE C6
(pages 60–61)

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C6. *Males—All deferred periods combined*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 1/3											
Exposed to risk	2	1,396	11,684	15,304	12,757	12,736	14,196	13,888	10,046	6,892	98,901
Actual weeks of sickness	0	212	1,686	2,341	2,364	2,453	3,188	3,534	2,907	2,685	21,370
Expected weeks of sickness	1	681	5,442	7,198	6,242	6,651	7,962	8,551	6,952	5,450	55,130
Actual rate of sickness	·000	·152	·144	·153	·185	·193	·225	·254	·289	·390	·216
Actual/expected %	·0	31·1	31·0	32·5	37·9	36·9	40·0	41·3	41·8	49·3	38·8
Sickness period 4/9											
Exposed to risk	291	6,644	35,959	49,869	42,383	39,607	35,676	28,112	17,192	9,442	265,175
Actual weeks of sickness	78	789	2,709	4,547	4,892	5,278	5,888	6,379	5,114	4,437	40,111
Expected weeks of sickness	40	984	6,165	9,580	9,443	11,067	12,327	12,433	9,669	6,816	78,524
Actual rate of sickness	·268	·119	·075	·091	·115	·133	·165	·227	·297	·470	·151
Actual/expected %	195·0	80·2	43·9	47·5	51·8	47·7	47·8	51·3	52·9	65·1	51·1
Sickness period 13/13											
Exposed to risk	421	9,752	56,473	87,480	77,401	72,515	62,378	45,907	26,195	13,219	451,741
Actual weeks of sickness	17	459	1,713	3,032	3,632	3,910	4,486	4,558	4,509	3,937	30,253
Expected weeks of sickness	25	755	4,833	8,460	9,440	11,466	12,658	13,095	10,487	7,795	79,014
Actual rate of sickness	·040	·047	·030	·035	·047	·054	·072	·099	·172	·298	·067
Actual/expected %	68·0	60·8	35·4	35·8	38·5	34·1	35·4	34·8	43·0	50·5	38·3

Table C6 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	417	12,871	84,533	136,228	119,527	112,316	97,601	71,958	41,905	20,319	697,675
Actual weeks of sickness	0	474	1,732	3,019	3,893	3,997	6,205	6,702	7,365	7,139	40,526
Expected weeks of sickness	11	638	5,150	9,635	10,896	13,947	16,196	17,709	16,702	13,343	104,227
Actual rate of sickness	·000	·037	·020	·022	·033	·036	·064	·093	·176	·351	·058
Actual/expected %	·0	74·3	33·6	31·3	35·7	28·7	38·3	37·8	44·1	53·5	38·9
Sickness period 52/52											
Exposed to risk	258	9,857	77,786	136,447	126,400	122,715	108,917	80,488	46,160	21,722	730,750
Actual weeks of sickness	0	237	1,106	2,592	3,554	4,006	7,466	8,723	11,094	12,204	50,982
Expected weeks of sickness	1	298	3,108	7,263	8,653	12,095	15,072	17,563	18,066	15,991	98,110
Actual rate of sickness	·000	·024	·014	·019	·028	·033	·069	·108	·240	·562	·070
Actual/expected %	·0	79·5	35·6	35·7	41·1	33·1	49·5	49·7	61·4	76·3	52·0
Sickness period 104/all											
Exposed to risk	79	4,873	56,712	111,615	109,510	110,208	101,156	76,795	45,008	21,569	637,525
Actual weeks of sickness	0	7	725	2,151	3,538	6,052	14,768	21,317	30,174	34,703	113,435
Expected weeks of sickness	0	124	2,956	9,346	16,479	28,484	40,519	55,287	56,782	49,195	259,172
Actual rate of sickness	·000	·001	·013	·019	·032	·055	·146	·278	·670	1·609	·178
Actual/expected %		5·6	24·5	23·0	21·5	21·2	36·4	38·6	53·1	70·5	43·8

*Individual PHI policies 1975-78**All offices—Aggregate sickness experience*Table C7. *Females—Deferred period 1 week*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 1/3										
Exposed to risk	2	288	955	602	505	434	507	634	339	4,266
Actual weeks of sickness	0	20	233	150	184	134	190	262	96	1,269
Expected weeks of sickness	1	140	447	282	246	225	286	390	233	2,250
Actual rate of sickness	·000	·069	·244	·249	·364	·309	·375	·413	·283	·297
Actual/expected %	·0	14·3	52·1	53·2	74·8	59·6	66·4	67·2	41·2	56·4
Sickness period 4/9										
Exposed to risk	1	267	937	591	498	429	504	634	338	4,199
Actual weeks of sickness	0	6	154	100	149	99	172	286	133	1,099
Expected weeks of sickness	0	39	157	114	111	119	177	280	188	1,185
Actual rate of sickness	·000	·022	·164	·169	·299	·231	·341	·451	·393	·262
Actual/expected %		15·4	98·1	87·7	134·2	83·2	97·2	102·1	70·7	92·7
Sickness period 13/13										
Exposed to risk	1	231	903	578	489	423	501	633	337	4,096
Actual weeks of sickness	0	14	89	64	65	66	64	118	85	565
Expected weeks of sickness	0	18	78	55	59	67	105	180	135	697
Actual rate of sickness	·000	·061	·099	·111	·133	·156	·128	·186	·252	·138
Actual/expected %		77·8	114·1	116·4	110·2	98·5	61·0	65·6	63·0	81·1

Table C7 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	1	179	849	556	474	413	494	632	336	3,934
Actual weeks of sickness	0	26	107	78	33	87	78	76	160	645
Expected weeks of sickness	0	9	51	39	42	52	84	155	134	566
Actual rate of sickness	·000	·145	·126	·140	·070	·211	·158	·120	·476	·164
Actual/expected %		288·9	209·8	200·0	78·6	167·3	92·9	49·0	119·4	114·0
Sickness period 52/52										
Exposed to risk	0	99	740	512	445	395	479	629	334	3,633
Actual weeks of sickness	—	2	112	135	45	0	67	141	165	667
Expected weeks of sickness	—	3	29	28	30	39	69	137	130	465
Actual rate of sickness	·000	·020	·151	·264	·101	·000	·140	·224	·494	·184
Actual/expected %		66·7	386·2	482·1	150·0	·0	97·1	102·9	126·9	143·4
Sickness period 104/all										
Exposed to risk	0	18	513	420	387	363	456	619	327	3,103
Actual weeks of sickness	—	0	41	52	5	0	383	589	259	1,329
Expected weeks of sickness	—	0	25	35	59	93	191	446	411	1,260
Actual rate of sickness	·000	·000	·080	·124	·013	·000	·840	·952	·792	·428
Actual/expected %		·0	164·0	148·6	8·5	·0	200·5	132·1	63·0	105·5

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C8. *Females—Deferred period 4 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 4/9										
Exposed to risk	53	697	1,715	1,463	1,369	1,213	952	709	280	8,451
Actual weeks of sickness	0	53	188	271	300	182	254	141	40	1,429
Expected weeks of sickness	7	102	291	281	305	339	328	313	155	2,121
Actual rate of sickness	·000	·076	·110	·185	·219	·150	·267	·199	·143	·169
Actual/expected %	·0	52·0	64·6	96·4	98·4	53·7	77·4	45·0	25·8	67·4
Sickness period 13/13										
Exposed to risk	45	634	1,646	1,408	1,322	1,186	936	703	279	8,159
Actual weeks of sickness	0	37	100	169	101	66	148	111	26	758
Expected weeks of sickness	3	49	141	135	160	186	190	200	110	1,174
Actual rate of sickness	·000	·058	·061	·120	·076	·056	·158	·158	·093	·093
Actual/expected %	·0	75·5	70·9	125·2	63·1	35·5	77·9	55·5	23·6	64·6

Table C8 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	34	546	1,544	1,328	1,256	1,144	911	694	274	7,731
Actual weeks of sickness	0	17	76	46	23	74	106	99	61	502
Expected weeks of sickness	1	26	92	93	114	142	151	169	107	895
Actual rate of sickness	·000	·031	·049	·035	·018	·065	·116	·143	·223	·065
Actual/expected %	·0	65·4	82·6	49·5	20·2	52·1	70·2	58·6	57·0	56·1
Sickness period 52/52										
Exposed to risk	17	393	1,340	1,178	1,127	1,066	859	670	269	6,919
Actual weeks of sickness	0	0	46	42	0	157	78	109	62	494
Expected weeks of sickness	0	11	53	62	78	105	119	145	102	675
Actual rate of sickness	·000	·000	·034	·036	·000	·147	·091	·163	·230	·071
Actual/expected %		·0	86·8	67·7	·0	149·5	65·5	75·2	60·8	73·2
Sickness period 104/all										
Exposed to risk	2	187	940	922	908	927	762	622	256	5,526
Actual weeks of sickness	0	0	0	0	0	223	255	324	44	846
Expected weeks of sickness	0	4	47	76	136	239	305	447	313	1,567
Actual rate of sickness	·000	·000	·000	·000	·000	·241	·335	·521	·172	·153
Actual/expected %		·0	·0	·0	·0	93·3	83·6	72·5	14·1	54·0

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C9. *Females—Deferred period 13 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 13/13										
Exposed to risk	31	391	1,415	1,820	1,770	1,676	1,523	1,144	498	10,268
Actual weeks of sickness	0	0	84	99	75	104	218	156	116	852
Expected weeks of sickness	2	30	120	176	215	266	308	324	197	1,638
Actual rate of sickness	·000	·000	·059	·054	·042	·062	·143	·136	·233	·083
Actual/expected %	·0	·0	70·0	56·3	34·9	39·1	70·8	48·1	58·9	52·0
Sickness period 26/26										
Exposed to risk	23	325	1,287	1,702	1,676	1,614	1,480	1,128	495	9,730
Actual weeks of sickness	0	0	57	55	37	76	241	175	126	767
Expected weeks of sickness	0	15	77	121	153	201	245	276	194	1,282
Actual rate of sickness	·000	·000	·044	·032	·022	·047	·163	·155	·255	·079
Actual/expected %		·0	74·0	45·5	24·2	37·8	98·4	63·4	64·9	59·8
Sickness period 52/52										
Exposed to risk	13	218	1,052	1,481	1,498	1,498	1,392	1,095	490	8,737
Actual weeks of sickness	0	0	0	52	52	70	136	364	255	929
Expected weeks of sickness	0	6	42	78	103	148	193	237	188	995
Actual rate of sickness	·000	·000	·000	·035	·035	·047	·098	·332	·520	·106
Actual/expected %		·0	·0	66·7	50·5	47·3	70·5	153·6	135·6	93·4
Sickness period 104/all										
Exposed to risk	3	90	668	1,103	1,178	1,280	1,230	1,021	470	7,043
Actual weeks of sickness	0	0	0	44	96	126	720	914	759	2,659
Expected weeks of sickness	0	2	35	94	177	332	495	727	585	2,447
Actual rate of sickness	·000	·000	·000	·040	·081	·098	·585	·895	1·615	·378
Actual/expected %		·0	·0	46·8	54·2	38·0	145·5	125·7	129·7	108·7

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C10. *Females—Deferred period 26 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	18	310	1,456	2,036	2,369	2,710	2,494	1,695	698	13,786
Actual weeks of sickness	0	0	187	79	81	263	342	191	112	1,255
Expected weeks of sickness	0	15	87	144	219	338	413	415	272	1,903
Actual rate of sickness	·000	·000	·128	·039	·034	·097	·137	·113	·160	·091
Actual/expected %		·0	214·9	54·9	37·0	77·8	82·8	46·0	41·2	65·9
Sickness period 52/52										
Exposed to risk	11	220	1,186	1,751	2,119	2,511	2,368	1,629	691	12,486
Actual weeks of sickness	0	0	90	76	114	322	499	290	74	1,465
Expected weeks of sickness	0	7	47	94	149	248	326	355	263	1,489
Actual rate of sickness	·000	·000	·076	·043	·054	·128	·211	·178	·107	·117
Actual/expected %		·0	191·5	80·9	76·5	129·8	153·1	81·7	28·1	98·4
Sickness period 104/all										
Exposed to risk	4	103	763	1,250	1,659	2,130	2,123	1,490	669	10,191
Actual weeks of sickness	0	0	14	0	304	284	121	253	223	1,199
Expected weeks of sickness	0	3	39	105	255	553	848	1,071	827	3,701
Actual rate of sickness	·000	·000	·018	·000	·183	·133	·057	·170	·333	·118
Actual/expected %		·0	35·9	·0	119·2	51·4	14·3	23·6	27·0	32·4

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C11. *Females—Deferred period 52 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 52/52										
Exposed to risk	3	47	274	499	684	869	845	572	249	4,042
Actual weeks of sickness	0	0	0	0	52	26	46	45	52	221
Expected weeks of sickness	0	1	10	26	47	87	117	124	93	505
Actual rate of sickness	·000	·000	·000	·000	·076	·030	·054	·079	·209	·055
Actual/expected %		·0	·0	·0	110·6	29·9	39·3	36·3	55·9	43·8
Sickness period 104/all										
Exposed to risk	1	22	167	349	524	731	734	511	235	3,274
Actual weeks of sickness	0	0	0	0	51	104	0	104	54	313
Expected weeks of sickness	0	0	9	31	81	190	292	368	287	1,258
Actual rate of sickness	·000	·000	·000	·000	·097	·142	·000	·204	·230	·096
Actual/expected %			·0	·0	63·0	54·7	·0	28·3	18·8	24·9

TABLE C12
(pages 70-71)

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C12. *Females—All deferred periods combined*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 1/3										
Exposed to risk	2	288	955	602	505	434	507	634	339	4,266
Actual weeks of sickness	0	20	233	150	184	134	190	262	96	1,269
Expected weeks of sickness	1	140	447	282	246	225	286	390	233	2,250
Actual rate of sickness	·000	·069	·244	·249	·364	·309	·375	·413	·283	·297
Actual/expected %	·0	14·3	52·1	53·2	74·8	59·6	66·4	67·2	41·2	56·4
Sickness period 4/9										
Exposed to risk	54	964	2,652	2,054	1,867	1,642	1,456	1,343	618	12,650
Actual weeks of sickness	0	59	342	371	449	281	426	427	173	2,528
Expected weeks of sickness	7	141	448	395	416	458	505	593	343	3,306
Actual rate of sickness	·000	·061	·129	·181	·240	·171	·293	·318	·280	·200
Actual/expected %	·0	41·8	76·3	93·9	107·9	61·4	84·4	72·0	50·4	76·5
Sickness period 13/13										
Exposed to risk	77	1,256	3,964	3,806	3,581	3,285	2,960	2,480	1,114	22,523
Actual weeks of sickness	0	51	273	332	241	236	430	385	227	2,175
Expected weeks of sickness	5	97	339	366	434	519	603	704	442	3,509
Actual rate of sickness	·000	·041	·069	·087	·067	·072	·145	·155	·204	·097
Actual/expected %	·0	52·6	80·5	90·7	55·5	45·5	71·3	54·7	51·4	62·0

Table C12 (*continued*)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	76	1,360	5,136	5,622	5,775	5,881	5,379	4,149	1,803	35,181
Actual weeks of sickness	0	43	427	258	174	500	767	541	459	3,169
Expected weeks of sickness	1	65	307	397	528	733	893	1,015	707	4,646
Actual rate of sickness	·000	·032	·083	·046	·030	·085	·143	·130	·255	·090
Actual/expected %	·0	66·2	139·1	65·0	33·0	68·2	85·9	53·3	64·9	68·2
Sickness period 52/52										
Exposed to risk	44	977	4,592	5,421	5,873	6,339	5,943	4,595	2,033	35,817
Actual weeks of sickness	0	2	248	305	263	575	826	949	608	3,776
Expected weeks of sickness	0	28	181	288	407	627	824	998	776	4,129
Actual rate of sickness	·000	·002	·054	·056	·045	·091	·139	·207	·299	·105
Actual/expected %		7·1	137·0	105·9	64·6	91·7	100·2	95·1	78·4	91·5
Sickness period 104/all										
Exposed to risk	10	420	3,051	4,044	4,656	5,431	5,305	4,263	1,957	29,137
Actual weeks of sickness	0	0	55	96	456	737	1,479	2,184	1,339	6,346
Expected weeks of sickness	0	9	155	341	708	1,407	2,131	3,059	2,423	10,233
Actual rate of sickness	·000	·000	·018	·024	·098	·136	·279	·512	·684	·218
Actual/expected %		·0	35·5	28·2	64·4	52·4	69·4	71·4	55·3	62·0

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table C13. *Males—Central claim inception rates per 10,000 exposed to risk*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Deferred period 1 week	0	1,304	1,311	1,216	1,309	1,253	1,330	1,389	1,421	1,818	1,349
Deferred period 4 weeks	467	223	155	177	204	228	265	340	411	655	231
Deferred period 13 weeks	0	39	28	25	36	44	55	71	114	183	47
Deferred period 26 weeks	0	15	8	7	7	10	17	32	57	95	17
Deferred period 52 weeks	0	22	2	2	1	2	8	16	31	55	8

Table C14. *Females—Central claim inception rates per 10,000 exposed to risk*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Deferred period 1 week	0	1,146	1,812	1,595	2,376	1,843	2,091	1,893	1,195	1,800
Deferred period 4 weeks	0	115	175	280	347	276	425	324	268	274
Deferred period 13 weeks	0	0	71	44	40	66	135	135	201	82
Deferred period 26 weeks	0	0	62	22	19	41	62	50	100	45
Deferred period 52 weeks	0	0	0	0	15	12	24	17	40	15

APPENDIX D

(pages 74–90)

APPENDIX D

*Individual PHI Policies 1975-78**All offices—Standard sickness experience*Table D1. *Males—Deferred period 1 week*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 1/3											
Exposed to risk	1	1,226	10,273	13,211	10,547	10,445	11,734	11,743	8,444	5,894	83,518
Actual weeks of sickness	0	189	1,400	1,856	1,828	1,948	2,505	2,875	2,380	2,331	17,312
Expected weeks of sickness	0	597	4,785	6,213	5,161	5,454	6,581	7,232	5,843	4,664	46,530
Actual rate of sickness	·000	·154	·136	·140	·173	·187	·213	·245	·282	·395	·207
Actual/expected %		31·7	29·3	29·9	35·4	35·7	38·1	39·8	40·7	50·0	37·2
Sickness period 4/9											
Exposed to risk	0	1,139	10,092	13,105	10,487	10,397	11,700	11,726	8,438	5,894	82,978
Actual weeks of sickness	—	75	504	721	1,013	1,201	1,902	2,614	2,582	2,792	13,404
Expected weeks of sickness	—	171	1,731	2,514	2,339	2,913	4,059	5,207	4,769	4,272	27,975
Actual rate of sickness	·000	·066	·050	·055	·097	·116	·163	·223	·306	·474	·162
Actual/expected %		43·9	29·1	28·7	43·3	41·2	46·9	50·2	54·1	65·4	47·9
Sickness period 13/13											
Exposed to risk	0	976	9,732	12,893	10,366	10,305	11,632	11,696	8,427	5,893	81,920
Actual weeks of sickness	—	13	144	293	443	483	879	1,202	1,684	1,922	7,063
Expected weeks of sickness	—	77	831	1,242	1,267	1,636	2,377	3,361	3,406	3,513	17,710
Actual rate of sickness	·000	·013	·015	·023	·043	·047	·076	·103	·200	·326	·086
Actual/expected %		16·9	17·3	23·6	35·0	29·5	37·0	35·8	49·4	54·7	39·9

Table D1 (*continued*)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	0	759	9,182	12,567	10,183	10,160	11,527	11,645	8,408	5,896	80,321
Actual weeks of sickness	—	26	125	266	510	415	1,232	1,142	2,001	2,717	8,434
Expected weeks of sickness	—	39	558	886	929	1,267	1,927	2,891	3,399	3,926	15,822
Actual rate of sickness	·000	·034	·014	·021	·050	·041	·107	·098	·238	·461	·105
Actual/expected %		66·7	22·4	30·0	54·9	32·8	63·9	39·5	58·9	69·2	53·3
Sickness period 52/52											
Exposed to risk	0	424	8,050	11,886	9,808	9,869	11,313	11,541	8,370	5,883	77,144
Actual weeks of sickness	—	2	86	127	332	305	1,587	1,698	2,742	3,993	10,872
Expected weeks of sickness	—	14	320	630	673	976	1,579	2,546	3,342	4,423	14,503
Actual rate of sickness	·000	·005	·011	·011	·034	·031	·140	·147	·328	·679	·141
Actual/expected %		14·3	26·9	20·2	49·3	31·3	100·5	66·7	82·0	90·3	75·0
Sickness period 104/all											
Exposed to risk	0	86	5,765	10,438	9,041	9,279	10,865	11,305	8,276	5,860	70,915
Actual weeks of sickness	—	0	0	271	38	1,286	3,575	4,346	7,078	9,768	26,362
Expected weeks of sickness	—	2	304	864	1,363	2,410	4,399	8,241	10,598	13,683	41,864
Actual rate of sickness	·000	·000	·000	·026	·004	·139	·329	·384	·855	1·667	·372
Actual/expected %		·0	·0	31·4	2·8	53·4	81·3	52·7	66·8	71·4	63·0

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D.2. *Males—Deferred period 4 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 4/9											
Exposed to risk	79	2,163	11,385	16,537	15,276	15,507	14,240	10,340	5,475	2,074	93,076
Actual weeks of sickness	13	114	587	964	1,328	1,511	1,747	1,822	1,394	852	10,332
Expected weeks of sickness	11	321	1,953	3,180	3,408	4,339	4,916	4,563	3,060	1,485	27,236
Actual rate of sickness	·165	·053	·052	·058	·087	·097	·123	·176	·255	·411	·111
Actual/expected %	118·2	35·5	30·1	30·3	39·0	34·8	35·5	39·9	45·6	57·4	37·9
Sickness period 13/13											
Exposed to risk	67	1,961	10,928	16,094	15,012	15,315	14,114	10,287	5,460	2,073	91,311
Actual weeks of sickness	3	29	277	395	635	777	909	931	969	645	5,570
Expected weeks of sickness	4	152	935	1,558	1,834	2,427	2,867	2,930	2,171	1,211	16,089
Actual rate of sickness	·045	·015	·025	·025	·042	·051	·064	·091	·177	·311	·061
Actual/expected %	75·0	19·1	29·6	25·4	34·6	32·0	31·7	31·8	44·6	53·3	34·6
Sickness period 26/26											
Exposed to risk	51	1,681	10,245	15,423	14,614	15,021	13,922	10,203	5,435	2,069	88,664
Actual weeks of sickness	0	0	113	329	385	569	978	1,011	1,190	755	5,330
Expected weeks of sickness	1	84	622	1,092	1,337	1,870	2,313	2,506	2,149	1,344	13,318
Actual rate of sickness	·000	·000	·011	·021	·026	·038	·070	·099	·219	·365	·060
Actual/expected %	·0	·0	18·2	30·1	28·8	30·4	42·3	40·3	55·4	56·2	40·0
Sickness period 52/52											
Exposed to risk	27	1,200	8,879	14,058	13,811	14,415	13,540	10,023	5,384	2,061	83,398
Actual weeks of sickness	0	0	65	135	400	454	1,053	1,075	1,727	1,104	6,013
Expected weeks of sickness	0	37	353	748	949	1,424	1,876	2,181	2,088	1,501	11,157
Actual rate of sickness	·000	·000	·007	·010	·029	·031	·078	·107	·321	·536	·072
Actual/expected %		·0	18·4	18·0	42·1	31·9	56·1	49·3	82·7	73·6	53·9
Sickness period 104/all											
Exposed to risk	5	545	6,289	11,399	12,161	13,192	12,759	9,632	5,264	2,043	73,289
Actual weeks of sickness	0	0	0	14	346	226	3,516	3,003	3,278	3,150	13,534
Expected weeks of sickness	0	13	325	957	1,840	3,420	5,118	6,913	6,593	4,600	29,779
Actual rate of sickness	·000	·000	·000	·001	·028	·017	·276	·312	·623	1·542	·185
Actual/expected %		·0	·0	1·5	18·8	6·6	68·7	43·4	49·7	68·5	45·4

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D3. *Males—Deferred period 13 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 13/13											
Exposed to risk	52	1,616	13,381	25,975	25,299	24,939	21,251	14,779	7,667	3,370	138,329
Actual weeks of sickness	0	43	203	360	657	805	1,071	982	813	655	5,589
Expected weeks of sickness	3	127	1,148	2,519	3,089	3,947	4,307	4,208	3,064	1,969	24,381
Actual rate of sickness	·000	·027	·015	·014	·026	·032	·050	·066	·106	·194	·040
Actual/expected %	·0	33·9	17·7	14·3	21·3	20·4	24·9	23·3	26·5	33·3	22·9
Sickness period 26/26											
Exposed to risk	40	1,384	12,462	24,974	24,623	24,455	20,961	14,656	7,633	3,368	134,556
Actual weeks of sickness	0	30	244	308	633	696	1,282	1,256	955	1,073	6,477
Expected weeks of sickness	1	68	761	1,772	2,249	3,040	3,474	3,597	3,039	2,190	20,191
Actual rate of sickness	·000	·022	·020	·012	·026	·028	·061	·086	·125	·319	·048
Actual/expected %	·0	44·1	32·1	17·4	28·1	22·9	36·9	34·9	31·4	49·0	32·1
Sickness period 52/52											
Exposed to risk	24	1,006	10,693	22,971	23,254	23,473	20,369	14,394	7,561	3,362	127,107
Actual weeks of sickness	0	52	154	360	547	720	1,696	1,502	1,505	1,976	8,512
Expected weeks of sickness	0	30	430	1,226	1,596	2,313	2,817	3,131	2,960	2,450	16,953
Actual rate of sickness	·000	·052	·014	·016	·024	·031	·083	·104	·199	·588	·067
Actual/expected %		173·3	35·8	29·4	34·3	31·1	60·2	48·0	50·8	80·7	50·2
Sickness period 104/all											
Exposed to risk	9	510	7,548	19,026	20,472	21,486	19,139	13,812	7,387	3,338	112,727
Actual weeks of sickness	0	7	80	507	898	959	2,766	3,953	3,912	6,652	19,734
Expected weeks of sickness	0	13	399	1,607	3,089	5,550	7,656	9,901	9,321	7,525	45,061
Actual rate of sickness	·000	·014	·011	·027	·044	·045	·145	·286	·530	1·993	·175
Actual/expected %		53·8	20·1	31·5	29·1	17·3	36·1	39·9	42·0	88·4	43·8

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D4. *Males—Deferred period 26 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	57	3,257	26,318	44,468	38,036	35,234	30,286	22,240	13,829	6,518	220,243
Actual weeks of sickness	0	50	286	327	460	664	733	1,496	1,592	1,504	7,112
Expected weeks of sickness	1	163	1,608	3,143	3,465	4,377	5,021	5,483	5,513	4,271	33,045
Actual rate of sickness	·000	·015	·011	·007	·012	·019	·024	·067	·115	·231	·032
Actual/expected %		30·7	17·8	10·4	13·3	15·2	14·6	27·3	28·9	35·2	21·5
Sickness period 52/52											
Exposed to risk	37	2,558	23,790	41,544	36,182	33,866	29,452	21,871	13,721	6,510	209,531
Actual weeks of sickness	0	29	185	360	395	763	754	1,731	2,548	2,723	9,488
Expected weeks of sickness	0	79	953	2,210	2,472	3,337	4,071	4,784	5,380	4,790	28,076
Actual rate of sickness	·000	·011	·008	·009	·011	·023	·026	·079	·186	·418	·045
Actual/expected %		36·7	19·4	16·3	16·0	22·9	18·5	36·2	47·4	56·8	33·8
Sickness period 104/all											
Exposed to risk	14	1,460	18,922	35,592	32,371	31,018	27,728	21,031	13,453	6,481	188,070
Actual weeks of sickness	0	0	415	334	502	1,008	1,640	3,977	8,094	9,130	25,100
Expected weeks of sickness	0	39	987	2,968	4,857	8,013	11,090	15,185	16,995	14,766	74,900
Actual rate of sickness	·000	·000	·022	·009	·016	·032	·059	·189	·602	1·409	·133
Actual/expected %		0	42·0	11·3	10·3	12·6	14·8	26·2	47·6	61·8	33·5

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D5. *Males—Deferred period 52 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 52/52											
Exposed to risk	10	340	3,559	10,334	12,666	14,033	13,109	8,976	4,240	1,346	68,613
Actual weeks of sickness	0	14	53	20	73	147	260	444	458	452	1,921
Expected weeks of sickness	0	10	144	554	871	1,390	1,810	1,953	1,637	962	9,331
Actual rate of sickness	·000	·041	·015	·002	·006	·010	·020	·049	·108	·336	·028
Actual/expected %		140·0	36·8	3·6	8·4	10·6	14·4	22·7	28·0	47·0	20·6
Sickness period 104/all											
Exposed to risk	4	185	2,546	8,204	10,848	12,517	12,071	8,470	4,098	1,331	60,274
Actual weeks of sickness	0	0	28	17	48	263	593	1,710	1,304	1,281	5,244
Expected weeks of sickness	0	4	135	703	1,646	3,252	4,826	6,074	5,117	2,933	24,690
Actual rate of sickness	·000	·000	·011	·002	·004	·021	·049	·202	·318	·962	·087
Actual/expected %		·0	20·7	2·4	2·9	8·1	12·3	28·2	25·5	43·7	21·2

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D6. *Males—All deferred periods combined*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 1/3											
Exposed to risk	1	1,226	10,273	13,211	10,547	10,445	11,734	11,743	8,444	5,894	83,518
Actual weeks of sickness	0	189	1,400	1,856	1,828	1,948	2,505	2,875	2,380	2,331	17,312
Expected weeks of sickness	0	597	4,785	6,213	5,161	5,454	6,581	7,232	5,843	4,664	46,530
Actual rate of sickness	·000	·154	·136	·140	·173	·187	·213	·245	·282	·395	·207
Actual/expected %		31·7	29·3	29·9	35·4	35·7	38·1	39·8	40·7	50·0	37·2
Sickness period 4/9											
Exposed to risk	79	3,302	21,477	29,642	25,763	25,904	25,940	22,066	13,913	7,968	176,054
Actual weeks of sickness	13	189	1,091	1,685	2,341	2,712	3,649	4,436	3,976	3,644	23,736
Expected weeks of sickness	11	492	3,684	5,694	5,747	7,252	8,975	9,770	7,829	5,757	55,211
Actual rate of sickness	·165	·057	·051	·057	·091	·105	·141	·201	·286	·457	·135
Actual/expected %	118·2	38·4	29·6	29·6	40·7	37·4	40·7	45·4	50·8	63·3	43·0
Sickness period 13/13											
Exposed to risk	119	4,553	34,041	54,962	50,677	50,559	46,997	36,762	21,554	11,336	311,560
Actual weeks of sickness	3	85	624	1,048	1,735	2,065	2,859	3,115	3,466	3,222	18,222
Expected weeks of sickness	7	356	2,914	5,319	6,190	8,010	9,551	10,499	8,641	6,693	58,180
Actual rate of sickness	·025	·019	·018	·019	·034	·041	·061	·085	·161	·284	·058
Actual/expected %	42·9	23·9	21·4	19·7	28·0	25·8	29·9	29·7	40·1	48·1	31·3

Table D6 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Sickness period 26/26											
Exposed to risk	148	7,081	58,207	97,432	87,456	84,870	76,696	58,744	35,305	17,845	523,784
Actual weeks of sickness	0	106	768	1,230	1,988	2,344	4,225	4,905	5,738	6,049	27,353
Expected weeks of sickness	3	354	3,549	6,893	7,980	10,554	12,735	14,477	14,100	11,731	82,376
Actual rate of sickness	-000	-015	-013	-013	-023	-028	-055	-083	-163	-339	-052
Actual/expected %	-0	29.9	21.6	17.8	24.9	22.2	33.2	33.9	40.7	51.6	33.2
Sickness period 52/52											
Exposed to risk	98	5,528	54,971	100,793	95,721	95,656	87,783	66,805	39,276	19,162	565,793
Actual weeks of sickness	0	97	543	1,002	1,747	2,389	5,350	6,450	8,980	10,248	36,806
Expected weeks of sickness	0	170	2,200	5,368	6,561	9,440	12,153	14,595	15,407	14,126	80,020
Actual rate of sickness	-000	-018	-010	-010	-018	-025	-061	-097	-229	-535	-065
Actual/expected %	-0	57.1	24.7	18.7	26.6	25.3	44.0	44.2	58.3	72.5	46.0
Sickness period 104/all											
Exposed to risk	32	2,786	41,070	84,659	84,893	87,492	82,562	64,250	38,478	19,053	505,275
Actual weeks of sickness	0	7	523	1,143	1,832	3,742	12,091	16,989	23,666	29,981	89,974
Expected weeks of sickness	0	71	2,150	7,099	12,795	22,645	33,089	46,314	48,624	43,507	216,294
Actual rate of sickness	-000	-003	-013	-014	-022	-043	-146	-264	-615	-1,574	-178
Actual/expected %		9.9	24.3	16.1	14.3	16.5	36.5	36.7	48.7	68.9	41.6

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D7. *Females—Deferred period 1 week*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
<i>Sickness period 1/3</i>										
Exposed to risk	2	257	844	524	460	379	448	552	318	3,784
Actual weeks of sickness	0	19	197	118	164	119	161	237	93	1,108
Expected weeks of sickness	1	125	394	246	225	197	252	338	219	1,997
Actual rate of sickness	·000	·074	·233	·225	·357	·314	·359	·429	·292	·293
Actual/expected %	·0	15·2	50·0	48·0	72·9	60·4	63·9	70·1	42·5	55·5
<i>Sickness period 4/9</i>										
Exposed to risk	1	238	828	518	455	375	446	551	318	3,730
Actual weeks of sickness	0	0	121	81	134	93	151	247	125	952
Expected weeks of sickness	0	35	140	99	101	104	156	243	178	1,056
Actual rate of sickness	·000	·000	·146	·156	·295	·248	·339	·448	·393	·255
Actual/expected %		·0	86·4	81·8	132·7	89·4	96·8	101·6	70·2	90·2
<i>Sickness period 13/13</i>										
Exposed to risk	1	206	799	504	447	368	441	551	317	3,634
Actual weeks of sickness	0	0	50	39	65	66	64	100	80	464
Expected weeks of sickness	0	16	68	49	53	59	92	157	127	621
Actual rate of sickness	·000	·000	·063	·077	·145	·179	·145	·181	·252	·128
Actual/expected %		·0	73·5	79·6	122·6	111·9	69·6	63·7	63·0	74·7

Table D7 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	1	162	752	487	434	361	435	550	315	3,497
Actual weeks of sickness	0	0	66	78	33	87	78	76	160	578
Expected weeks of sickness	0	8	44	34	39	45	74	136	126	506
Actual rate of sickness	·000	·000	·088	·160	·076	·241	·179	·138	·508	·165
Actual/expected %		·0	150·0	229·4	84·6	193·3	105·4	55·9	127·0	114·2
Sickness period 52/52										
Exposed to risk	0	90	659	451	410	346	424	548	313	3,241
Actual weeks of sickness	—	0	92	135	45	0	67	141	165	645
Expected weeks of sickness	—	2	25	25	28	35	60	119	123	417
Actual rate of sickness	·000	·000	·140	·299	·110	·000	·158	·257	·527	·199
Actual/expected %		·0	368·0	540·0	160·7	·0	111·7	118·5	134·1	154·7
Sickness period 104/all										
Exposed to risk	0	15	458	375	360	316	402	539	309	2,774
Actual weeks of sickness	—	0	41	52	5	0	383	589	259	1,329
Expected weeks of sickness	—	0	22	31	54	81	168	387	388	1,131
Actual rate of sickness	·000	·000	·090	·139	·014	·000	·953	1·093	·838	·479
Actual/expected %		·0	186·4	167·7	9·3	·0	228·0	152·2	66·8	117·5

Individual PHI Policies 1975-78

All offices—Standard sickness experience

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Table D8. Females—Deferred period 4 weeks

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 4/9										
Exposed to risk	36	520	1,293	1,151	1,119	1,005	840	629	239	6,832
Actual weeks of sickness	0	50	123	203	198	150	240	133	40	1,137
Expected weeks of sickness	5	75	220	220	249	281	290	277	133	1,750
Actual rate of sickness	·000	·096	·095	·176	·177	·149	·286	·211	·167	·166
Actual/expected %	·0	66·7	55·9	92·3	79·5	53·4	82·8	48·0	30·1	65·0
Sickness period 13/13										
Exposed to risk	30	471	1,241	1,111	1,087	986	828	625	238	6,617
Actual weeks of sickness	0	37	85	145	67	41	142	103	26	646
Expected weeks of sickness	1	37	107	107	133	156	168	180	95	984
Actual rate of sickness	·000	·079	·068	·131	·062	·042	·171	·165	·109	·098
Actual/expected %	·0	100·0	79·4	135·5	50·4	26·3	84·5	57·2	27·4	65·7
Sickness period 26/26										
Exposed to risk	23	403	1,163	1,055	1,039	956	807	616	237	6,299
Actual weeks of sickness	0	17	76	20	23	54	106	96	48	440
Expected weeks of sickness	0	20	70	74	94	119	135	152	93	757
Actual rate of sickness	·000	·042	·065	·019	·022	·056	·131	·156	·203	·070
Actual/expected %		85·0	108·6	27·0	24·5	45·4	78·5	63·2	51·6	58·1
Sickness period 52/52										
Exposed to risk	12	287	1,009	943	944	903	766	597	234	5,695
Actual weeks of sickness	0	0	46	0	0	104	78	109	62	399
Expected weeks of sickness	0	8	39	51	64	90	105	130	89	576
Actual rate of sickness	·000	·000	·046	·000	·000	·115	·102	·183	·265	·070
Actual/expected %		·0	117·9	·0	·0	115·6	74·3	83·8	69·7	69·3
Sickness period 104/all										
Exposed to risk	1	135	711	745	777	809	685	558	224	4,645
Actual weeks of sickness	0	0	0	0	0	109	229	324	44	706
Expected weeks of sickness	0	3	36	61	115	209	274	399	274	1,371
Actual rate of sickness	·000	·000	·000	·000	·000	·135	·334	·581	·196	·152
Actual/expected %		·0	·0	·0	·0	52·2	83·6	81·2	16·1	51·5

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D9. *Females—Deferred period 13 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 13/13										
Exposed to risk	20	317	1,195	1,524	1,502	1,469	1,311	1,036	444	8,818
Actual weeks of sickness	0	0	58	60	62	68	206	143	114	711
Expected weeks of sickness	1	25	102	147	183	233	267	294	176	1,428
Actual rate of sickness	·000	·000	·049	·039	·041	·046	·157	·138	·257	·081
Actual/expected %	·0	·0	56·9	40·8	33·9	29·2	77·2	48·6	64·8	49·8
Sickness period 26/26										
Exposed to risk	16	266	1,096	1,440	1,433	1,423	1,281	1,024	443	8,422
Actual weeks of sickness	0	0	44	32	14	56	224	148	126	644
Expected weeks of sickness	0	13	67	101	131	177	214	250	173	1,126
Actual rate of sickness	·000	·000	·040	·022	·010	·039	·175	·145	·284	·076
Actual/expected %		·0	65·7	31·7	10·7	31·6	104·7	59·2	72·8	57·2
Sickness period 52/52										
Exposed to risk	9	183	909	1,277	1,299	1,336	1,220	1,001	439	7,673
Actual weeks of sickness	0	0	0	52	0	70	126	340	228	816
Expected weeks of sickness	0	6	35	68	90	131	169	217	168	884
Actual rate of sickness	·000	·000	·000	·041	·000	·052	·103	·340	·519	·106
Actual/expected %		·0	·0	76·5	·0	53·4	74·6	156·7	135·7	92·3
Sickness period 104/all										
Exposed to risk	2	80	594	988	1,046	1,169	1,101	946	425	6,351
Actual weeks of sickness	0	0	0	44	0	22	511	862	525	1,964
Expected weeks of sickness	0	2	30	84	157	303	441	672	524	2,213
Actual rate of sickness	·000	·000	·000	·045	·000	·019	·464	·911	1·235	·309
Actual/expected %		·0	·0	52·4	·0	7·3	115·9	128·3	100·2	88·7

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D10. *Females—Deferred period 26 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	16	256	1,316	1,837	2,147	2,477	2,275	1,561	638	12,523
Actual weeks of sickness	0	0	114	64	81	263	305	141	112	1,080
Expected weeks of sickness	0	13	80	130	197	308	376	382	249	1,735
Actual rate of sickness	·000	·000	·087	·035	·038	·106	·134	·090	·176	·086
Actual/expected %		·0	142·5	49·2	41·1	85·4	81·1	36·9	45·0	62·2
Sickness period 52/52										
Exposed to risk	10	183	1,084	1,600	1,941	2,309	2,173	1,505	633	11,438
Actual weeks of sickness	0	0	17	40	98	322	447	286	74	1,284
Expected weeks of sickness	0	5	43	86	135	228	299	327	241	1,364
Actual rate of sickness	·000	·000	·016	·025	·050	·139	·206	·190	·117	·112
Actual/expected %		·0	39·5	46·5	72·6	141·2	149·5	87·5	30·7	94·1
Sickness period 104/all										
Exposed to risk	4	90	716	1,170	1,549	1,984	1,965	1,389	614	9,481
Actual weeks of sickness	0	0	0	0	163	284	105	253	223	1,028
Expected weeks of sickness	0	1	36	99	238	517	786	999	761	3,437
Actual rate of sickness	·000	·000	·000	·000	·105	·143	·053	·182	·363	·108
Actual/expected %		·0	·0	·0	68·5	54·9	13·4	25·3	29·3	29·9

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D11. *Females—Deferred period 52 weeks*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
<i>Sickness period 52/52</i>										
Exposed to risk	3	44	248	446	615	831	780	531	213	3,711
Actual weeks of sickness	0	0	0	0	52	26	46	45	52	221
Expected weeks of sickness	0	1	10	25	43	82	108	116	79	464
Actual rate of sickness	·000	·000	·000	·000	·085	·031	·059	·085	·244	·060
Actual/expected %		·0	·0	·0	120·9	31·7	42·6	38·8	65·8	47·6
<i>Sickness period 104/all</i>										
Exposed to risk	1	21	156	325	478	705	688	481	206	3,061
Actual weeks of sickness	0	0	0	0	51	104	0	104	54	313
Expected weeks of sickness	0	0	8	27	74	184	274	345	250	1,162
Actual rate of sickness	·000	·000	·000	·000	·109	·037	·067	·094	·252	·072
Actual/expected %			·0	·0	120·9	31·7	42·6	38·8	65·8	47·6

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D12. *Females—All deferred periods combined*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 1/3										
Exposed to risk	2	257	844	524	460	379	448	552	318	3,784
Actual weeks of sickness	0	19	197	118	164	119	161	237	93	1,108
Expected weeks of sickness	1	125	394	246	225	197	252	338	219	1,997
Actual rate of sickness	·000	·074	·233	·225	·357	·314	·359	·429	·292	·293
Actual/expected %	·0	15·2	50·0	48·0	72·9	60·4	63·9	70·1	42·5	55·5
Sickness period 4/9										
Exposed to risk	37	758	2,121	1,669	1,574	1,380	1,286	1,180	557	10,562
Actual weeks of sickness	0	50	244	284	332	243	391	380	165	2,089
Expected weeks of sickness	5	110	360	319	350	385	446	520	311	2,806
Actual rate of sickness	·000	·066	·115	·170	·211	·176	·304	·322	·296	·198
Actual/expected %	·0	45·5	67·8	89·0	94·9	63·1	87·7	73·1	53·1	74·4
Sickness period 13/13										
Exposed to risk	51	994	3,235	3,140	3,035	2,823	2,580	2,212	999	19,069
Actual weeks of sickness	0	37	193	244	194	175	412	346	220	1,821
Expected weeks of sickness	2	78	277	303	369	448	527	631	398	3,033
Actual rate of sickness	·000	·037	·060	·078	·064	·061	·160	·156	·220	·095
Actual/expected %	·0	47·4	69·7	80·5	52·6	39·1	78·2	54·9	55·3	60·0

Table D12 (continued)

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Sickness period 26/26										
Exposed to risk	56	1,087	4,327	4,819	5,053	5,217	4,798	3,751	1,633	30,741
Actual weeks of sickness	0	17	300	194	151	460	713	461	446	2,742
Expected weeks of sickness	0	54	261	339	461	649	799	920	641	4,124
Actual rate of sickness	·000	·016	·069	·040	·030	·088	·149	·123	·273	·089
Actual/expected %		31·5	114·9	57·2	32·8	70·9	89·2	50·1	69·6	66·5
Sickness period 52/52										
Exposed to risk	34	787	3,909	4,717	5,209	5,725	5,363	4,182	1,832	31,758
Actual weeks of sickness	0	0	155	227	195	522	764	921	581	3,365
Expected weeks of sickness	0	22	152	255	360	566	741	909	700	3,705
Actual rate of sickness	·000	·000	·040	·048	·037	·091	·142	·220	·317	·106
Actual/expected %		·0	102·0	89·0	54·2	92·2	103·1	101·3	83·0	90·8
Sickness period 104/all										
Exposed to risk	8	341	2,635	3,603	4,210	4,983	4,841	3,913	1,778	26,312
Actual weeks of sickness	0	0	41	96	219	519	1,228	2,132	1,105	5,340
Expected weeks of sickness	0	6	132	302	638	1,294	1,943	2,802	2,197	9,314
Actual rate of sickness	·000	·000	·016	·027	·052	·104	·254	·545	·621	·203
Actual/expected %		·0	31·1	31·8	34·3	40·1	63·2	76·1	50·3	57·3

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table D13. *Males—Central claim inception rates per 10,000 exposed to risk*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	All ages
Deferred period 1 week	0	1,334	1,282	1,165	1,298	1,235	1,286	1,371	1,399	1,860	1,326
Deferred period 4 weeks	253	116	94	116	162	174	214	284	384	605	191
Deferred period 13 weeks	0	28	19	17	29	37	50	68	102	178	42
Deferred period 26 weeks	0	9	7	4	7	11	14	31	54	93	16
Deferred period 52 weeks	0	29	3	2	2	2	8	13	29	59	8

Table D.14. *Females—Central claim inception rates per 10,000 exposed to risk*

Age group	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	All ages
Deferred period 1 week	0	1,128	1,765	1,450	2,326	1,873	2,054	1,957	1,242	1,774
Deferred period 4 weeks	0	115	155	269	282	259	446	342	314	264
Deferred period 13 weeks	0	0	67	33	40	54	149	140	203	82
Deferred period 26 weeks	0	0	46	24	21	44	59	42	110	44
Deferred period 52 weeks	0	0	0	0	16	12	26	19	47	16

APPENDIX E

NOTE ON THE MANCHESTER UNITY SICKNESS TABLE 1893-97

The Manchester Unity Sickness Investigation for 1893-97 was the fourth in a series of investigations in the nineteenth century. It was constructed from data supplied by the Lodges of the Manchester Unity of Oddfellows on cards, one for each member. The three previous investigations had used sheets of membership data supplied by the Lodges.

From the instructions which were issued to the secretaries of Lodges it may be deduced that the investigation was to be made using the calendar year as the rate interval for the exposed to risk because, although the full date of birth was recorded, for entry and exit the only information recorded was the calendar year.

Details of all sickness claims during the 5 years 1893-97 were to be given on the backs of the cards. The claims of the separate years were to be given in separate spaces and, for each claim, the exact dates when sickness began and ended were to be recorded together with the duration. In cases where the sickness began in one calendar year and ended in another the claim was entered on the card as a separate period of sickness for each of the calendar years into which the sickness extended.

The following assumptions were made in calculating the exposed to risk of sickness:

(a) The new entrants in each year were assumed to come under observation on 1 January following admission (because the rules stipulated that sickness benefit shall not be payable in the first 6 months of membership).

(b) The members withdrawing in each year were assumed to have ceased to be entitled to sickness benefits on 31 December of the year previous to that in which the withdrawal was recorded (because of the rules relating to suspension from sickness benefit after default in the payment of contributions).

(c) The members who died in each year were assumed to be at risk until the middle of that year.

The sickness experience was recorded in five periods or stages, namely:

- First 3 months of sickness
- Second 3 months of sickness
- Second 6 months of sickness
- Second 12 months of sickness
- After 2 years of sickness

A uniform 'off' period of one year was adopted. Periods of sickness not separated by a year were deemed to be continuous. In order to enable the investigators to schedule the sickness claims in the correct period of sickness secretaries of Lodges were asked to pay strict attention to the recording of the

dates when the sickness claims began, especially in the case of those members who were sick on the first day of the investigation period. Each first period of sickness in the year 1893, which did not begin before 1 January 1893, was assumed to have been a new period of sickness and not a 'continuation' of a claim begun in a previous year.

The experience of 1893-97 included members of all ages from 16 to 100. There was no provision on the card for recording the sex of the member. Occupations were recorded and an examination of the types of occupation which were included suggests that most members were male.

The following table shows the total exposed to risk included in the four investigation periods ending with 1893-97.

Years	Exposed to risk	All ages		Ages 20-59 only		
		Weeks of sickness	Sickness rate	Exposed to risk	Weeks of sickness	Sickness rate
1846-48	621,561	609,112	·980	612,627	583,672	·953
1856-60	1,006,272	1,324,202	1·316	972,453	1,151,645	1·184
1866-70	1,321,048	1,975,033	1·495	1,235,613	1,475,203	1·193
1893-97	2,995,724	7,022,438	2·344	2,649,549	4,011,559	1·514

The average rate of increase of the exposed to risk aged 20-59 was 2% p.a. over the period 1846-97. The proportion of the exposed to risk outside this age range increased from 1·44% in 1846-48 to 11·56% in 1893-97. A mortality table was prepared in each of the four investigation periods but the change in mortality was not spectacular so it must be concluded that the growth in the exposed to risk above age 60 was probably not simply the result of falling mortality but of real growth in the membership.

The experience in all four investigations was based on data which was subject to a waiting period of 6 months from the date of joining, after which time payment of a claim coincided with the commencement of the sickness.

Rates of sickness were obtained for each age and sickness period by dividing the total number of weeks of sickness benefit paid within the age and sickness period classification by the exposed to risk within the age classification.

The exposed to risk was not adjusted to allow for the fact that an entrant at age x cannot suffer sickness at, for example, sickness period 'after 2 years' until at least $2\frac{1}{2}$ years of membership have elapsed. By that time the member would be at the beginning of the rate year applicable to age $(x+3)$.

The data was subdivided into geographical areas and occupation groups. Separate sickness tables were constructed for broad groups of occupations as follows:

- A Agriculture
- B Outdoor trades
- C Railway
- D Seafaring

- E Quarry workers
- F Iron and Steel workers
- G Mining
- H Other occupations (rural)
- J Other occupations (urban)

Groups A, H and J combined showed the lightest sickness experience and the table formed from that data is still in use today.

For comparison purposes, the male exposed to risk in the period 1972-78, under individual PHI policies, all deferred periods combined, ages 20-59, was as follows:

Year	Exposed to risk
1972	127,791
1973	133,692
1974	151,989
1975	171,680
1976	194,799
1977	206,047
1978	200,029

The average rate of growth was 7.5% p.a.

APPENDIX F

DUPLICATES

The theoretical effect on variance of the inclusion of duplicates in a mortality investigation was examined by Daw (1944). The variance of the number of death claims from policies for lives aged x is increased by a factor

$$\frac{\sum_{k=1}^{\infty} k^2 n_k}{\sum_{k=1}^{\infty} k n_k} \quad (1)$$

where n_k ($k = 1, 2, 3, \dots$), is the number of lives aged x who hold k policies.

The distribution of k may be unknown, even though an estimate of the average value of k may be available. Daw illustrated the application of this formula by examples of conjectured distributions of the numbers of duplicates and suggested that, in the particular circumstances being considered, it would be suitable to assume that k followed a geometric progression.

As a by-product of other investigations into the 1975-78 Aggregate experience, some indications were obtained of the numbers of duplicates occurring in sickness claims inceptions. These took the form of estimates of the number of policies, among the total numbers of inceptions under each deferred period table, which were first policies, the number which were second policies and the number which were third or subsequent policies, as shown in the following table:

	Deferred 1 week	Deferred 4 weeks	Deferred 13 weeks	Deferred 26 weeks
Numbers of:				
1st policies	8,135	3,431	828	395
2nd policies	3,272	361	59	41
3rd and subsequent policies	1,960	77	11	10
Total inceptions	13,367	3,869	898	446
Average number of policies per life	1.643	1.128	1.085	1.129

The average number of policies per life is calculated as the total number of inceptions divided by the number of first policies.

If a geometric distribution of k is postulated, then from the average number of policies per life, \bar{k} , the geometric factor may be estimated as $1 - 1/\bar{k}$. On this basis,

theoretical frequencies corresponding to the previous table were found as follows:

	Deferred 1 week	Deferred 4 weeks	Deferred 13 weeks	Deferred 26 weeks
Numbers of:				
1st policies	8,135	3,431	828	395
2nd policies	3,184	388	65	45
3rd and subsequent policies	2,048	50	5	6
	<hr/> 13,367	<hr/> 3,869	<hr/> 898	<hr/> 446

There is a reasonable correspondence between the two tables.

If the frequencies n_k are assumed to follow a geometric progression with a factor $1 - 1/\bar{k}$, then expression (1) reduces to $2\bar{k} - 1$. Ignoring any variation of \bar{k} with age, this leads to estimates that the variance of sickness claim inceptions may have been raised, by the presence of duplicates, by factors of 2.29, 1.26, 1.17 and 1.26 for the deferred 1, 4, 13 and 26 weeks tables respectively. A scaling down of the values of χ_f^2 stated in Table 6.6 by these factors results in the following adjusted values:

	χ_f^2	f
Deferred 1 week	39	36
Deferred 4 weeks	56	36
Deferred 13 weeks	37	33
Deferred 26 weeks	28	32

On this adjusted basis, the test results become far more acceptable. However, the result for the deferred 4 weeks table remains significantly high.

It is concluded that the very limited amount of information to hand on the presence of duplicates does point to this as a major contributing factor to the high values of χ^2 often arising in the attempted graduations.

APPENDIX G

SIMULATIONS TO TEST THE VALIDITY OF THE GRADUATION METHODS

From the variety of methods and formulae with which we have experimented in the past, we have chosen the 'pivotal' method and an exponential cubic formula as the basis for recent work. With some reservations, this approach has given reasonably satisfactory results. We have observed an appreciable tendency to wave-cutting and have been unsure whether this is an effect of the 'pivotal' method, a formula which is not entirely suitable, or due to the character of the data, *e.g.* the numbers of duplicates or the non-independence of experience at adjacent ages.

In order to investigate this subject, a series of simulation experiments has been conducted. In each experiment, an underlying 'true' curve of rates was postulated. For each simulation within the experiment, hypothetical data was generated by creating an 'observed' sickness rate at each age, equal to the 'true' rate plus a random deviation. These crude rates were then graduated by the method and formula chosen, and relevant statistics were recorded. The simulation was then repeated 500 times. The accumulated statistics for the whole experiment were then examined. Because the hypothetical data had been created under controlled conditions, theoretical values for these statistics were known, and it was possible to make comparisons. Further details and results are given in Tables G1 and G2. The distributions of the numbers of groups of signs are of particular interest.

Progressing through various experiments, the following conclusions were reached:

(a) If rates at different ages are stochastically independent, and if the true underlying curve is of the same form as the curve being fitted, then the results are very close to the theoretical. Thus, the 'pivotal' method is fully acceptable in producing results which for practical purposes are as good as could be obtained by an alternative (*e.g.* regression) method.

(b) When the formula for the underlying curve was changed to other plausible forms, the results were still very satisfactory. It seems, therefore, that our choice of graduation formula is able to cope, even if the underlying pattern of rates differs from it to some extent.

(c) When correlation exists between rates at adjacent ages, there is a change in the distribution of groups of signs, reflecting greater bunching of signs.

It appears, therefore, that a tendency of our graduation to show rather low numbers of groups of signs is unlikely to be due to an inappropriate method or formula, but could well be due to correlation. One cause of correlation is that

Table G1. Graduation simulations

Trial No.	Underlying curve of rates
1, 5, 6, 7	$z_x = \exp(-4 + .8X - .4X^2 + .1X^3)$
2	$z_x = \exp(-4.5 + .4X + .1 \times 2^X)$
3	$z_x = .01 + .02X^2$
4	$z_x = .08 \times 2^{-X} + .01 \times 3^X$

Note: $X = (X-20)/10$

Specimen underlying rates

Age	Formula			
	1	2	3	4
25	.0250	.0156	.0150	.0739
30	.0302	.0202	.0300	.0700
35	.0346	.0269	.0550	.0802
40	.0408	.0369	.0900	.1100
45	.0530	.0532	.1350	.1700
50	.0821	.0821	.1900	.2800
55	.1632	.1396	.2550	.4747
60	.4493	.2725	.3300	.8150
64	1.3423	.5332	.3972	1.2608

claims data from some Offices becomes split between adjacent ages to adjust for the method of age classification used by those Offices. It was estimated that less than 8% of the total data is treated in this way. Another cause is the continuation of claims from one calendar year into the next, which will obviously be more pronounced with long-duration claims.

In each experiment, crude experience was simulated by allowing 10,000 exposed to risk at each age, 25-64, ($n=40$), and assuming

$$\mu_2 = 10\mu_1$$

$$\text{i.e. } w_x = 10,000 \{z_x + \sqrt{10z_x} \cdot R\}$$

where R was an (approximately) normal random variable with zero mean and unit standard deviation.

This was modified in trials 5, 6 and 7 to incorporate some degree of correlation at adjacent ages, by replacing R by R' , a variable of auto-regressive form, derived as

$$R'_x = \{r R_{x-1} + (1-r)R_x\} \cdot c$$

where r is the assumed correlation factor and c is an adjustment to ensure that R' has unit standard deviation.

The arbitrary trial values assigned to r , namely 0.1, 0.2 and 0.3 for trials 5, 6 and 7 respectively do not reflect any view as to the degree of correlation which may exist in practice in the *C.M.I.* data.

Table G2. *Results of simulation experiments*

	Experiment number						
Statistic	1	2	3	4	5	6	7
1. No of '+' signs							
Mean - 20	·060	·054	·260	—·188	—·092	—·070	·116
Standard deviation	2·01	1·89	1·83	2·02	2·01	2·01	2·04
2. Groups of signs							
Mean	20·8	21·2	21·4	20·7	19·7	18·3	16·6
Standard deviation	3·2	3·1	3·0	3·2	3·1	3·2	3·0
3. Mean χ^2 (36 df)	40	40	39	42	41	41	42
4. Frequency distribution of groups of signs							
8						1	2
9						0	1
10						6	7
11				1	1	3	5
12	1	1		6	6	10	32
13	2	0	1	0	4	9	15
14	5	6	3	8	20	32	66
15	12	7	5	8	14	29	40
16	24	12	17	13	44	58	85
17	41	32	20	33	21	49	42
18	39	37	41	62	68	69	77
19	51	56	43	40	48	51	35
20	56	55	62	72	74	55	49
21	65	59	54	44	61	50	22
22	60	68	77	71	57	33	7
23	39	48	49	40	24	15	10
24	35	44	52	39	29	15	5
25	30	33	32	30	13	11	
26	20	19	22	18	7	3	
27	10	12	15	10	7	1	
28	7	5	6	3	1		
29	2	4	0	2	1		
30	1	0	1				
31		2					

Notes

1. If the number of signs obeyed the binomial distribution, the standard deviation would be $\sqrt{npq} = \sqrt{40 \times \frac{1}{2} \times \frac{1}{2}} = 3.16$. The observed standard deviations are consistently smaller than 3.16. This reflects the fact that, in curve fitting, the curve tends to follow the statistical deviations. On the usual binomial assumption, the standard deviation of the mean would be $3.16/\sqrt{500} = .141$. The observed deviations of the mean from 20 are acceptable in comparison.

2. The distribution of the numbers of groups of signs depends on n but mean values around 20.5 are expected. Although the mean, as observed, even for experiment 7, is not drastically low, it can be seen from the frequency distribution that the chance of getting a low value is greatly increased when rates at adjacent ages are co-related.

3. None of the mean χ^2 values is much above the 'expected' value of 36.

APPENDIX H

*Standard sickness experience 1975-78—Graduated rates*Table H1. *Males—Deferred period 1 week*

Age	Sickness period 1/3	Sickness period 4/9	Sickness period 13/13	Sickness period 26/26	Sickness period 52/52	Sickness period 104/all
25	·115	·032	·009	·008	·011	·021
26	·120	·036	·011	·010	·011	·019
27	·125	·040	·013	·012	·011	·018
28	·130	·044	·015	·013	·012	·017
29	·135	·048	·017	·015	·013	·016
30	·140	·053	·019	·017	·013	·016
31	·144	·057	·021	·020	·014	·017
32	·149	·062	·024	·022	·015	·017
33	·153	·067	·026	·025	·016	·018
34	·157	·072	·029	·027	·018	·020
35	·162	·078	·032	·030	·019	·021
36	·166	·083	·034	·033	·021	·024
37	·170	·089	·037	·036	·023	·027
38	·174	·095	·040	·039	·026	·031
39	·178	·102	·043	·043	·028	·035
40	·182	·108	·046	·046	·032	·041
41	·186	·115	·049	·050	·036	·048
42	·190	·122	·052	·054	·040	·058
43	·194	·129	·056	·058	·045	·069
44	·199	·137	·059	·063	·052	·083
45	·203	·145	·063	·068	·059	·101
46	·208	·154	·067	·073	·067	·122
47	·213	·163	·072	·079	·077	·149
48	·218	·173	·077	·086	·088	·182
49	·224	·184	·083	·094	·102	·216
50	·230	·195	·089	·102	·118	·257
51	·237	·208	·097	·112	·136	·306
52	·245	·221	·105	·123	·158	·364
53	·253	·236	·115	·137	·184	·434
54	·262	·252	·126	·152	·214	·516
55	·272	·269	·140	·171	·250	·614
56	·282	·289	·156	·193	·292	·731
57	·295	·311	·175	·220	·341	·870
58	·308	·336	·198	·252	·399	1·036
59	·323	·363	·226	·292	·467	1·233
60	·340	·394	·261	·341	·546	1·467
61	·359	·430	·304	·403	·640	1·746
62	·380	·470	·359	·482	·749	2·078
63	·404	·516	·428	·582	·877	2·473
64	·431	·570	·516	·711	1·026	2·943

*Standard sickness experience 1975-78—Graduated rates*Table H2. *Males—Deferred period 4 weeks*

Age	Sickness period 4/9	Sickness period 13/13	Sickness period 26/26	Sickness period 52/52	Sickness period 104/all
25	·036	·012	·014	·009	·018
26	·040	·015	·014	·009	·017
27	·044	·017	·015	·010	·015
28	·047	·019	·015	·010	·015
29	·051	·022	·016	·011	·014
30	·055	·025	·017	·011	·014
31	·059	·027	·018	·012	·015
32	·063	·030	·019	·013	·015
33	·067	·032	·020	·014	·016
34	·071	·035	·021	·015	·017
35	·074	·037	·022	·016	·019
36	·078	·039	·024	·018	·021
37	·082	·041	·025	·020	·024
38	·086	·043	·027	·022	·027
39	·090	·045	·030	·024	·031
40	·094	·048	·032	·027	·036
41	·098	·050	·035	·030	·043
42	·102	·052	·038	·034	·051
43	·106	·054	·042	·038	·061
44	·111	·056	·046	·044	·073
45	·116	·059	·051	·050	·088
46	·122	·061	·056	·057	·107
47	·128	·064	·062	·065	·131
48	·134	·068	·069	·075	·160
49	·142	·072	·077	·086	·190
50	·150	·077	·087	·099	·226
51	·159	·083	·098	·115	·269
52	·170	·090	·110	·134	·320
53	·182	·099	·124	·155	·381
54	·196	·109	·141	·181	·454
55	·212	·122	·160	·211	·540
56	·231	·138	·183	·246	·643
57	·253	·158	·209	·288	·765
58	·279	·183	·240	·337	·910
59	·309	·215	·275	·394	1·083
60	·346	·257	·317	461	1·289
61	·390	·312	·367	·540	1·535
62	·444	·385	·425	·633	1·826
63	·509	·484	·494	·741	2·174
64	·590	·620	·575	·867	2·587

Standard sickness experience 1975–78—Graduated rates

Table H3. Males—Deferred period 13 weeks

Age	Sickness period 13/13	Sickness period 26/26	Sickness period 52/52	Sickness period 104/all
25	·008	·013	·008	·018
26	·009	·013	·009	·016
27	·010	·013	·009	·015
28	·011	·013	·009	·014
29	·012	·014	·010	·014
30	·013	·014	·010	·014
31	·015	·015	·011	·014
32	·016	·015	·012	·015
33	·018	·016	·013	·016
34	·019	·017	·014	·017
35	·021	·018	·015	·018
36	·022	·019	·017	·020
37	·024	·021	·018	·023
38	·026	·023	·020	·026
39	·028	·025	·022	·030
40	·030	·027	·025	·035
41	·032	·030	·028	·041
42	·034	·033	·032	·049
43	·037	·036	·036	·059
44	·039	·040	·040	·071
45	·042	·044	·046	·086
46	·045	·049	·053	·104
47	·048	·055	·060	·127
48	·052	·061	·069	·155
49	·056	·069	·080	·185
50	·060	·077	·092	·220
51	·065	·085	·107	·262
52	·070	·095	·124	·312
53	·076	·106	·144	·371
54	·083	·118	·168	·441
55	·091	·131	·196	·525
56	·100	·146	·229	·625
57	·110	·161	·268	·744
58	·122	·178	·313	·885
59	·136	·195	·366	1·054
60	·153	·214	·429	1·254
61	·172	·233	·502	1·492
62	·195	·253	·588	1·776
63	·222	·274	·689	2·114
64	·255	·294	·806	2·516

*Standard sickness experience 1975-78—Graduated rates*Table H4. *Males—Deferred period 26 weeks*

Age	Sickness period 26/26	Sickness period 52/52	Sickness period 104/all
25	·008	·006	·013
26	·008	·006	·012
27	·008	·006	·011
28	·008	·006	·011
29	·008	·007	·010
30	·008	·007	·010
31	·009	·007	·010
32	·009	·008	·011
33	·010	·008	·011
34	·010	·009	·012
35	·011	·010	·013
36	·011	·011	·015
37	·012	·012	·017
38	·013	·013	·019
39	·014	·015	·022
40	·015	·016	·026
41	·017	·019	·031
42	·018	·021	·036
43	·020	·024	·043
44	·022	·027	·052
45	·025	·030	·063
46	·028	·035	·077
47	·031	·040	·094
48	·035	·046	·114
49	·039	·053	·136
50	·045	·061	·162
51	·051	·071	·193
52	·058	·082	·229
53	·066	·095	·273
54	·075	·111	·325
55	·086	·129	·386
56	·099	·151	·460
57	·115	·177	·547
58	·133	·207	·651
59	·154	·242	·775
60	·179	·283	·923
61	·208	·332	1·098
62	·243	·388	1·307
63	·284	·455	1·555
64	·333	·532	1·851

Standard sickness experience 1975-78

Appendix H (continued)

Parameters of graduation formulae for sickness periods other than 52/52 and 104/all

Formula used: $z_x = \exp(a + bX + cX^2 + dX^3)$ where $X = (x - 20)/10$

Sickness period	Deferment period 1 week			
	a	b	c	d
1/3	-2.43684	0.6281376	-0.190103	0.02947452
4/9	-4.04653	1.370115	-0.311103	0.04083456
13/13	-5.66818	2.328121	-0.723707	0.1029967
26/26	-5.80719	2.354830	-0.693693	0.1001916
	Deferment period 4 weeks			
	a	b	c	d
4/9	-3.91552	1.403744	-0.457376	0.07121253
13/13	-5.43491	2.557061	-0.978601	0.1485257
26/26	-4.34844	0.04860458	0.2176713	-0.00743757
	Deferment period 13 weeks			
	a	b	c	d
13/13	-5.52874	1.536934	-0.374140	0.05449524
26/26	-4.13416	-0.655579	0.5914066	-0.0663738
	Deferment period 26 weeks			
	a	b	c	d
26/26	-4.82338	-0.284767	0.3454629	-0.0200844

Standard sickness experience 1975-78

Appendix H (continued)

Parameters of graduation formulae for sickness periods 52/52 and 104/all

Sickness period 52/52

Formula used: $z_x = E(\exp(a + bX + cX^2 + dX^3))$ where $X = (x - 20)/10$

$$a = -4.85721$$

$$b = -0.155555$$

$$c = 0.424230$$

$$d = -0.0345801$$

$$E = 1.13 \text{ for deferment period 1 week}$$

$$= 1.14 \text{ for deferment period 4 weeks}$$

$$= 1.06 \text{ for deferment period 13 weeks}$$

$$= 0.70 \text{ for deferment period 26 weeks}$$

Sickness period 104/all

Formula used: $z_x = E(\exp(a + bX + cX^2 + dX^3))$ for $X \leq 2.8$

$$z_x = E(\exp(a + 2.8b + 2.8^2c + P(X - 2.8))) \text{ for } X > 2.8$$

where $X = (x - 20)/10$

$$a = -3.16436$$

$$b = -2.60149$$

$$c = 1.623072$$

$$d = -0.191066$$

$$P = 1.74062$$

$$E = 1.24 \text{ for deferment period 1 week}$$

$$= 1.09 \text{ for deferment period 4 weeks}$$

$$= 1.06 \text{ for deferment period 13 weeks}$$

$$= 0.78 \text{ for deferment period 26 weeks}$$

Table H5. 1975-78 Male standard experience—Central claim inception rates
 Graduated inception rates per 10,000

Formula used: $\exp (a+bX+cX^2+dX^3)$ where
 $X=(x-20)/10$

	Age	Deferred period			
		1 week	4 weeks	13 weeks	26 weeks
Coefficient	25	1,152	72	10	5
Deferred 1 week	26	1,170	79	11	5
$a = -2.272056$	27	1,186	86	13	5
$b = 0.285722$	28	1,200	93	14	5
$c = -0.139204$	29	1,212	100	15	5
$d = 0.023992$	30	1,223	107	17	5
	31	1,232	114	18	5
Deferred 4 weeks	32	1,239	120	20	6
$a = -5.501709$	33	1,245	127	21	6
$b = 1.346728$	34	1,250	134	23	6
$c = -0.452465$	35	1,255	140	25	6
$d = 0.068383$	36	1,258	146	26	7
	37	1,261	152	28	7
Deferred 13 weeks	38	1,263	158	30	8
$a = -7.608699$	39	1,265	165	32	8
$b = 1.612617$	40	1,268	171	33	9
$c = -0.464695$	41	1,270	177	35	10
$d = 0.067854$	42	1,272	183	37	10
Deferred 26 weeks	43	1,275	190	40	11
$a = -7.547107$	44	1,279	196	42	12
$b = -0.317972$	45	1,284	204	44	13
$c = 0.325961$	46	1,289	211	47	15
$d = -0.019606$	47	1,296	220	50	16
	48	1,305	229	53	18
	49	1,315	239	56	20
	50	1,327	250	60	23
	51	1,341	263	64	25
	52	1,357	277	69	28
	53	1,377	294	74	32
	54	1,399	313	80	36
	55	1,425	334	87	41
	56	1,454	359	95	46
	57	1,488	388	104	52
	58	1,526	422	115	60
	59	1,569	462	127	68
	60	1,619	509	143	78
	61	1,675	565	161	89
	62	1,738	633	182	102
	63	1,809	714	208	117
	64	1,890	812	240	135

APPENDIX J

Individual PHI Policies 1975-78

All offices—Aggregate sickness experience

Table J1. Males—Deferred period 1 week

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	—	—	—	—	—	—
19	2	—	2	—	1	—	1	—	—	—	—	—
20	5	—	5	—	4	—	4	—	2	—	—	—
21	13	2	12	4	10	—	8	—	5	—	2	—
22	83	14	74	7	57	—	38	—	17	—	5	—
23	383	39	346	3	279	—	195	—	91	—	19	—
24	912	157	863	90	768	26	633	52	390	5	100	—
25	1,457	188	1,407	82	1,309	13	1,165	26	884	4	394	—
26	1,940	340	1,898	129	1,812	63	1,678	22	1,395	—	836	—
27	2,348	294	2,309	123	2,231	32	2,111	9	1,863	—	1,320	—
28	2,828	404	2,788	139	2,709	19	2,589	22	2,350	—	1,854	—
29	3,111	460	3,075	163	3,002	54	2,891	76	2,658	89	2,187	—
30	3,308	443	3,275	269	3,209	160	3,107	88	2,891	68	2,440	63
31	3,326	561	3,299	199	3,244	114	3,159	129	2,982	58	2,582	104
32	3,063	431	3,038	162	2,988	65	2,914	24	2,764	—	2,452	104
33	2,875	439	2,852	165	2,807	16	2,740	26	2,606	8	2,339	—
34	2,732	467	2,713	214	2,675	70	2,616	95	2,494	4	2,244	—
35	2,526	426	2,509	242	2,476	85	2,425	136	2,319	17	2,105	—
36	2,488	529	2,473	290	2,443	160	2,396	144	2,296	83	2,095	7
37	2,516	498	2,502	333	2,473	138	2,431	163	2,347	252	2,162	59
38	2,605	405	2,589	253	2,558	154	2,513	140	2,431	87	2,263	127
39	2,622	506	2,607	360	2,578	166	2,534	173	2,443	72	2,280	124

Table J1 (*continued*)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	2,597	541	2,582	419	2,554	159	2,510	135	2,423	46	2,250	144
41	2,553	503	2,542	243	2,520	82	2,486	92	2,411	138	2,256	221
42	2,440	428	2,430	264	2,409	64	2,378	65	2,316	77	2,186	398
43	2,531	471	2,519	308	2,497	98	2,463	108	2,395	67	2,269	285
44	2,615	510	2,604	368	2,582	198	2,549	143	2,483	104	2,350	376
45	2,727	591	2,718	432	2,699	215	2,670	319	2,606	461	2,471	648
46	2,819	543	2,808	446	2,787	214	2,756	199	2,696	74	2,579	796
47	2,852	650	2,843	534	2,825	208	2,797	460	2,736	444	2,613	724
48	2,877	743	2,868	619	2,852	262	2,827	310	2,780	484	2,673	795
49	2,921	661	2,913	492	2,899	249	2,876	203	2,829	319	2,742	816
50	2,964	713	2,959	644	2,949	265	2,933	250	2,894	170	2,803	816
51	2,908	807	2,904	689	2,895	286	2,882	249	2,855	326	2,790	661
52	2,798	643	2,794	757	2,787	453	2,775	355	2,749	277	2,696	1,141
53	2,716	645	2,712	544	2,704	271	2,694	467	2,675	751	2,630	1,441
54	2,502	726	2,499	683	2,492	245	2,482	98	2,461	679	2,425	1,624
55	2,369	647	2,366	663	2,360	450	2,351	559	2,332	342	2,293	1,835
56	2,126	659	2,125	716	2,122	404	2,116	456	2,103	794	2,072	1,778
57	1,908	505	1,907	463	1,904	280	1,901	343	1,894	739	1,872	1,865
58	1,885	541	1,883	649	1,881	480	1,877	490	1,870	559	1,857	2,055
59	1,758	555	1,757	682	1,755	458	1,751	652	1,745	843	1,729	1,661
60	1,582	559	1,581	612	1,579	456	1,577	602	1,571	790	1,557	1,665
61	1,523	528	1,523	641	1,523	405	1,522	759	1,520	1,199	1,507	1,671
62	1,469	543	1,469	714	1,469	478	1,469	568	1,469	981	1,466	2,721
63	1,342	585	1,342	783	1,342	516	1,342	600	1,342	939	1,342	2,831
64	976	470	976	556	976	460	976	609	976	938	976	3,050
Total	98,901	21,370	98,260	17,148	96,995	8,991	95,108	10,416	91,359	13,288	84,083	32,606

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J2. *Males—Deferred period 4 weeks*

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	125	36	104	14	77	—	39	—	6	—
19	—	—	164	42	145	3	119	—	75	—	24	—
20	—	—	280	17	248	12	205	17	139	8	58	—
21	—	—	473	71	423	39	354	35	242	17	108	—
22	—	—	868	142	781	71	662	48	463	37	203	—
23	—	—	1,477	224	1,340	107	1,152	64	832	16	390	—
24	—	—	2,246	231	2,083	73	1,846	80	1,400	48	712	—
25	—	—	3,165	251	2,995	59	2,739	63	2,220	31	1,271	—
26	—	—	3,948	455	3,767	219	3,500	99	2,978	46	1,980	—
27	—	—	4,877	312	4,681	187	4,388	135	3,803	60	2,709	21
28	—	—	5,943	463	5,699	224	5,345	140	4,683	93	3,478	24
29	—	—	6,549	592	6,313	319	5,954	242	5,226	132	3,910	5
30	—	—	6,978	734	6,746	355	6,397	241	5,703	71	4,369	—
31	—	—	7,251	703	7,024	274	6,685	158	6,012	253	4,723	34
32	—	—	7,028	730	6,817	368	6,503	206	5,887	50	4,724	135
33	—	—	6,894	690	6,700	393	6,411	239	5,839	172	4,751	111
34	—	—	6,541	681	6,383	345	6,140	315	5,626	257	4,637	230
35	—	—	6,111	741	5,968	299	5,757	247	5,346	251	4,488	217
36	—	—	5,873	719	5,743	300	5,548	329	5,155	206	4,402	319
37	—	—	5,883	585	5,767	348	5,588	233	5,217	344	4,469	288
38	—	—	5,952	663	5,842	396	5,676	268	5,345	301	4,670	111
39	—	—	5,884	706	5,778	350	5,619	341	5,298	89	4,668	115

Table J2 (continued)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	5,759	732	5,659	354	5,508	209	5,205	292	4,613	206
41	—	—	5,578	785	5,492	389	5,359	267	5,078	212	4,507	191
42	—	—	5,452	610	5,373	310	5,254	208	5,018	126	4,512	268
43	—	—	5,183	726	5,115	414	5,010	374	4,792	223	4,350	282
44	—	—	4,958	823	4,891	475	4,790	454	4,585	422	4,176	304
45	—	—	4,764	721	4,704	307	4,613	440	4,427	593	4,059	700
46	—	—	4,601	738	4,553	479	4,479	380	4,324	463	3,995	1,167
47	—	—	4,298	555	4,257	360	4,195	288	4,069	223	3,798	968
48	—	—	4,074	646	4,033	284	3,972	365	3,852	374	3,617	955
49	—	—	3,789	705	3,754	393	3,699	394	3,589	266	3,372	1,054
50	—	—	3,469	597	3,444	332	3,404	218	3,311	284	3,111	805
51	—	—	3,181	599	3,160	432	3,127	481	3,058	369	2,901	1,006
52	—	—	2,819	575	2,804	286	2,779	281	2,724	591	2,602	762
53	—	—	2,502	622	2,489	266	2,470	199	2,429	183	2,333	887
54	—	—	2,273	669	2,260	418	2,240	567	2,203	298	2,127	830
55	—	—	2,032	550	2,024	433	2,010	420	1,975	585	1,897	950
56	—	—	1,699	411	1,695	247	1,687	328	1,669	448	1,619	1,101
57	—	—	1,395	461	1,391	316	1,385	370	1,373	537	1,347	1,358
58	—	—	1,132	291	1,128	210	1,122	368	1,112	515	1,093	1,085
59	—	—	896	228	895	162	892	216	885	400	867	1,102
60	—	—	736	283	735	240	732	324	726	342	715	778
61	—	—	620	199	620	103	619	199	616	571	607	901
62	—	—	519	220	519	257	519	306	519	198	515	1,043
63	—	—	423	152	423	80	423	197	423	471	422	920
64	—	—	253	277	253	176	253	79	253	126	253	713
Total	—	—	166,915	22,963	163,018	12,478	157,206	11,432	145,743	11,594	124,158	21,946

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J3. *Males—Deferred period 13 weeks*

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	65	—	48	—	25	—	5	—
19	—	—	—	—	106	—	82	—	50	—	18	—
20	—	—	—	—	211	9	169	—	106	—	40	—
21	—	—	—	—	347	4	285	4	188	—	74	—
22	—	—	—	—	611	15	510	—	347	—	146	—
23	—	—	—	—	1,027	58	879	39	625	7	289	—
24	—	—	—	—	1,563	45	1,364	49	1,020	56	520	7
25	—	—	—	—	2,317	38	2,070	19	1,613	16	915	—
26	—	—	—	—	3,188	80	2,900	50	2,362	9	1,453	—
27	—	—	—	—	4,264	95	3,936	100	3,300	55	2,196	—
28	—	—	—	—	5,579	131	5,187	141	4,438	107	3,115	40
29	—	—	—	—	6,607	180	6,183	142	5,366	122	3,902	78
30	—	—	—	—	7,407	177	6,983	203	6,159	158	4,635	199
31	—	—	—	—	7,917	296	7,512	279	6,717	229	5,220	183
32	—	—	—	—	7,918	151	7,541	102	6,807	239	5,439	256
33	—	—	—	—	7,986	94	7,629	158	6,915	224	5,583	124
34	—	—	—	—	7,659	154	7,340	116	6,718	102	5,520	138
35	—	—	—	—	7,346	222	7,044	182	6,461	201	5,354	310
36	—	—	—	—	7,150	310	6,880	279	6,329	199	5,283	390
37	—	—	—	—	7,065	129	6,810	146	6,312	338	5,314	221
38	—	—	—	—	7,112	334	6,875	328	6,391	233	5,471	338
39	—	—	—	—	7,102	241	6,874	196	6,434	317	5,558	362

Table J3 (continued)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	7,155	173	6,938	167	6,495	242	5,633	304
41	—	—	—	—	6,969	327	6,775	336	6,393	286	5,624	226
42	—	—	—	—	6,678	252	6,502	220	6,145	376	5,464	344
43	—	—	—	—	6,395	220	6,234	200	5,912	178	5,266	434
44	—	—	—	—	6,226	395	6,085	301	5,789	175	5,186	383
45	—	—	—	—	6,047	377	5,921	431	5,663	494	5,142	370
46	—	—	—	—	5,743	319	5,631	332	5,405	548	4,942	537
47	—	—	—	—	5,400	184	5,300	244	5,102	331	4,696	962
48	—	—	—	—	5,100	382	5,013	520	4,829	344	4,460	856
49	—	—	—	—	4,725	253	4,649	246	4,497	615	4,180	711
50	—	—	—	—	4,346	260	4,284	221	4,153	276	3,881	873
51	—	—	—	—	4,064	286	4,018	311	3,918	362	3,693	697
52	—	—	—	—	3,519	260	3,482	298	3,406	317	3,231	599
53	—	—	—	—	3,149	180	3,119	279	3,058	442	2,920	878
54	—	—	—	—	2,845	318	2,820	487	2,766	522	2,652	1,258
55	—	—	—	—	2,444	178	2,423	230	2,380	542	2,284	1,305
56	—	—	—	—	2,090	234	2,075	257	2,043	264	1,968	1,337
57	—	—	—	—	1,738	235	1,727	265	1,702	73	1,651	1,051
58	—	—	—	—	1,500	245	1,494	227	1,479	316	1,444	437
59	—	—	—	—	1,268	177	1,265	228	1,257	482	1,232	823
60	—	—	—	—	1,050	171	1,047	229	1,040	418	1,023	1,148
61	—	—	—	—	923	176	922	302	919	537	906	1,649
62	—	—	—	—	784	232	783	331	782	479	776	1,522
63	—	—	—	—	626	126	626	184	626	412	623	1,534
64	—	—	—	—	397	61	397	212	397	358	396	1,304
Total	—	—	—	—	191,728	8,784	184,631	9,591	170,839	12,001	145,323	24,188

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J4. *Males—Deferred period 26 weeks*

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	29	—	17	—	5	—
19	—	—	—	—	—	—	61	—	39	—	16	—
20	—	—	—	—	—	—	150	—	98	—	38	—
21	—	—	—	—	—	—	340	—	227	—	90	—
22	—	—	—	—	—	—	675	22	487	—	215	—
23	—	—	—	—	—	—	1,256	25	968	24	514	—
24	—	—	—	—	—	—	2,146	39	1,765	5	1,111	—
25	—	—	—	—	—	—	3,237	61	2,775	58	1,970	—
26	—	—	—	—	—	—	4,699	49	4,121	8	3,073	103
27	—	—	—	—	—	—	6,288	98	5,635	74	4,397	109
28	—	—	—	—	—	—	8,302	38	7,503	73	5,989	161
29	—	—	—	—	—	—	9,371	200	8,549	76	6,955	156
30	—	—	—	—	—	—	10,378	156	9,478	194	7,773	154
31	—	—	—	—	—	—	11,035	205	10,198	63	8,500	82
32	—	—	—	—	—	—	10,716	79	9,935	119	8,373	81
33	—	—	—	—	—	—	10,509	112	9,769	64	8,302	89
34	—	—	—	—	—	—	9,913	88	9,268	239	7,937	47
35	—	—	—	—	—	—	9,217	77	8,642	103	7,490	76
36	—	—	—	—	—	—	8,899	158	8,374	94	7,308	66
37	—	—	—	—	—	—	8,778	81	8,288	152	7,293	100
38	—	—	—	—	—	—	8,830	133	8,349	16	7,387	156
39	—	—	—	—	—	—	8,833	139	8,375	126	7,444	104

Table J4 (continued)

	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
Age	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	8,697	193	8,261	127	7,384	176
41	—	—	—	—	—	—	8,450	125	8,038	118	7,191	165
42	—	—	—	—	—	—	8,226	114	7,856	135	7,101	252
43	—	—	—	—	—	—	8,170	72	7,820	260	7,101	257
44	—	—	—	—	—	—	7,932	214	7,630	209	7,003	409
45	—	—	—	—	—	—	7,822	207	7,527	170	6,929	371
46	—	—	—	—	—	—	7,544	269	7,286	370	6,750	383
47	—	—	—	—	—	—	7,356	108	7,128	233	6,649	418
48	—	—	—	—	—	—	6,944	166	6,753	175	6,353	358
49	—	—	—	—	—	—	6,537	324	6,347	121	5,977	296
50	—	—	—	—	—	—	6,098	340	5,943	294	5,605	350
51	—	—	—	—	—	—	5,741	346	5,621	591	5,344	459
52	—	—	—	—	—	—	5,259	366	5,165	459	4,943	1,170
53	—	—	—	—	—	—	4,815	492	4,740	563	4,570	1,328
54	—	—	—	—	—	—	4,536	397	4,467	381	4,318	1,749
55	—	—	—	—	—	—	4,133	434	4,077	610	3,952	1,543
56	—	—	—	—	—	—	3,700	451	3,658	750	3,558	1,925
57	—	—	—	—	—	—	3,141	320	3,115	664	3,045	2,070
58	—	—	—	—	—	—	2,665	314	2,647	575	2,605	1,931
59	—	—	—	—	—	—	2,190	437	2,181	535	2,150	1,625
60	—	—	—	—	—	—	1,893	306	1,885	702	1,865	1,762
61	—	—	—	—	—	—	1,694	271	1,691	866	1,680	2,039
62	—	—	—	—	—	—	1,465	364	1,465	482	1,459	2,249
63	—	—	—	—	—	—	1,249	331	1,249	478	1,247	2,073
64	—	—	—	—	—	—	811	366	811	425	810	1,679
Total	—	—	—	—	—	—	260,730	9,087	246,221	11,781	217,769	28,521

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J5. *Males—Deferred period 52 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	—	—	6	—	2	—
19	—	—	—	—	—	—	—	—	7	—	3	—
20	—	—	—	—	—	—	—	—	21	—	9	—
21	—	—	—	—	—	—	—	—	46	—	23	—
22	—	—	—	—	—	—	—	—	76	—	42	—
23	—	—	—	—	—	—	—	—	116	14	67	—
24	—	—	—	—	—	—	—	—	186	—	98	—
25	—	—	—	—	—	—	—	—	319	—	188	—
26	—	—	—	—	—	—	—	—	481	28	319	—
27	—	—	—	—	—	—	—	—	732	25	495	28
28	—	—	—	—	—	—	—	—	1,092	—	759	—
29	—	—	—	—	—	—	—	—	1,440	—	1,047	—
30	—	—	—	—	—	—	—	—	1,816	—	1,341	—
31	—	—	—	—	—	—	—	—	2,193	—	1,660	17
32	—	—	—	—	—	—	—	—	2,425	11	1,883	—
33	—	—	—	—	—	—	—	—	2,596	9	2,050	—
34	—	—	—	—	—	—	—	—	2,649	—	2,138	—
35	—	—	—	—	—	—	—	—	2,662	—	2,180	—
36	—	—	—	—	—	—	—	—	2,729	48	2,248	—
37	—	—	—	—	—	—	—	—	2,821	4	2,382	48
38	—	—	—	—	—	—	—	—	2,981	21	2,560	—
39	—	—	—	—	—	—	—	—	3,055	—	2,636	—

Table J5 (continued)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	—	—	3,081	20	2,668	130
41	—	—	—	—	—	—	—	—	3,111	32	2,722	150
42	—	—	—	—	—	—	—	—	3,114	—	2,745	52
43	—	—	—	—	—	—	—	—	3,189	81	2,824	7
44	—	—	—	—	—	—	—	—	3,175	60	2,827	88
45	—	—	—	—	—	—	—	—	3,170	82	2,858	128
46	—	—	—	—	—	—	—	—	3,060	61	2,773	78
47	—	—	—	—	—	—	—	—	2,875	32	2,604	26
48	—	—	—	—	—	—	—	—	2,784	160	2,545	119
49	—	—	—	—	—	—	—	—	2,583	29	2,379	532
50	—	—	—	—	—	—	—	—	2,330	37	2,157	600
51	—	—	—	—	—	—	—	—	2,179	63	2,023	548
52	—	—	—	—	—	—	—	—	1,999	109	1,856	405
53	—	—	—	—	—	—	—	—	1,803	229	1,693	203
54	—	—	—	—	—	—	—	—	1,581	150	1,491	227
55	—	—	—	—	—	—	—	—	1,343	175	1,273	239
56	—	—	—	—	—	—	—	—	1,110	227	1,056	284
57	—	—	—	—	—	—	—	—	903	40	871	313
58	—	—	—	—	—	—	—	—	734	39	714	293
59	—	—	—	—	—	—	—	—	573	40	559	208
60	—	—	—	—	—	—	—	—	448	141	438	313
61	—	—	—	—	—	—	—	—	369	112	363	418
62	—	—	—	—	—	—	—	—	293	148	291	301
63	—	—	—	—	—	—	—	—	212	65	212	292
64	—	—	—	—	—	—	—	—	120	26	120	127
Total	—	—	—	—	—	—	—	—	76,588	2,318	66,192	6,174

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J6. *Males—All deferred periods*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed	Weeks	Exposed	Weeks	Exposed	Weeks	Exposed	Weeks	Exposed	Weeks	Exposed	Weeks
	to	of	to	of	to	of	to	of	to	of	to	of
	risk	sickness	risk	sickness	risk	sickness	risk	sickness	risk	sickness	risk	sickness
18	—	—	125	36	169	14	154	—	87	—	18	—
19	2	—	166	42	252	3	263	—	171	—	61	—
20	5	—	285	17	463	21	528	17	366	8	145	—
21	13	2	485	75	780	43	987	39	708	17	297	—
22	83	14	942	149	1,449	86	1,885	70	1,390	37	611	—
23	383	39	1,823	227	2,646	165	3,482	128	2,632	61	1,279	—
24	912	157	3,109	321	4,414	144	5,989	220	4,761	114	2,541	7
25	1,457	188	4,572	333	6,621	110	9,211	169	7,811	109	4,738	—
26	1,940	340	5,846	584	8,767	362	12,777	220	11,337	91	7,661	103
27	2,348	294	7,186	435	11,176	314	16,723	342	15,333	214	11,117	158
28	2,828	404	8,731	602	13,987	374	21,423	341	20,066	273	15,195	225
29	3,111	460	9,624	755	15,922	553	24,399	660	23,239	419	18,001	239
30	3,308	443	10,253	1,003	17,362	692	26,865	688	26,047	491	20,558	416
31	3,326	561	10,550	902	18,185	684	28,391	771	28,102	603	22,685	420
32	3,063	431	10,066	892	17,723	584	27,674	411	27,818	419	22,871	576
33	2,875	439	9,746	855	17,493	503	27,289	535	27,725	477	23,025	324
34	2,732	467	9,254	895	16,717	569	26,009	614	26,755	602	22,476	415
35	2,526	426	8,620	983	15,790	606	24,443	642	25,430	572	21,617	603
36	2,488	529	8,346	1,009	15,336	770	23,723	910	24,883	630	21,336	782
37	2,516	498	8,385	918	15,305	615	23,607	623	24,985	1,090	21,620	716
38	2,605	405	8,541	916	15,512	884	23,894	869	25,497	658	22,351	732
39	2,622	506	8,491	1,066	15,458	757	23,860	849	25,605	604	22,586	705

Table J6 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	2,597	541	8,341	1,151	15,368	686	23,653	704	25,465	727	22,548	960
41	2,553	503	8,120	1,028	14,981	798	23,070	820	25,031	786	22,300	953
42	2,440	428	7,882	874	14,460	626	22,360	607	24,449	714	22,008	1,314
43	2,531	471	7,702	1,034	14,007	732	21,877	754	24,108	809	21,810	1,265
44	2,615	510	7,562	1,191	13,699	1,068	21,356	1,112	23,662	970	21,542	1,560
45	2,727	591	7,482	1,153	13,450	899	21,026	1,397	23,393	1,800	21,459	2,217
46	2,819	543	7,409	1,184	13,083	1,012	20,410	1,180	22,771	1,516	21,039	2,961
47	2,852	650	7,141	1,089	12,482	752	19,648	1,100	21,910	1,263	20,360	3,098
48	2,877	743	6,942	1,265	11,985	928	18,756	1,361	20,998	1,537	19,648	3,083
49	2,921	661	6,702	1,197	11,378	895	17,761	1,167	19,845	1,350	18,650	3,409
50	2,964	713	6,428	1,241	10,739	857	16,719	1,029	18,631	1,061	17,557	3,444
51	2,908	807	6,085	1,288	10,119	1,004	15,768	1,387	17,631	1,711	16,751	3,371
52	2,798	643	5,613	1,332	9,110	999	14,295	1,300	16,043	1,753	15,328	4,077
53	2,716	645	5,214	1,166	8,342	717	13,098	1,437	14,705	2,168	14,146	4,737
54	2,502	726	4,772	1,352	7,597	981	12,078	1,549	13,478	2,030	13,013	5,688
55	2,369	647	4,398	1,213	6,828	1,061	10,917	1,643	12,107	2,254	11,699	5,872
56	2,126	659	3,824	1,127	5,907	885	9,578	1,492	10,583	2,483	10,273	6,425
57	1,908	505	3,302	924	5,033	831	8,154	1,298	8,987	2,053	8,786	6,657
58	1,885	541	3,015	940	4,509	935	7,158	1,399	7,842	2,004	7,713	5,801
59	1,758	555	2,653	910	3,918	797	6,098	1,533	6,641	2,300	6,537	5,419
60	1,582	559	2,317	895	3,364	867	5,249	1,461	5,670	2,393	5,598	5,666
61	1,523	528	2,143	840	3,066	684	4,757	1,531	5,115	3,285	5,063	6,678
62	1,469	543	1,988	934	2,772	967	4,236	1,569	4,528	2,288	4,507	7,836
63	1,342	585	1,765	935	2,391	722	3,640	1,312	3,852	2,365	3,846	7,650
64	976	470	1,229	833	1,626	697	2,437	1,266	2,557	1,873	2,555	6,873
Total	98,901	21,370	265,175	40,111	451,741	30,253	697,675	40,526	730,750	50,982	637,525	113,435

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J7. *Females—Deferred period 1 week*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	1	—	—	—	—	—	—	—	—	—	—	—
19	1	—	1	—	1	—	1	—	—	—	—	—
20	2	—	2	—	2	—	1	—	1	—	1	—
21	4	—	3	—	3	—	2	—	2	—	1	—
22	21	2	18	—	13	—	7	—	2	—	1	—
23	79	7	70	3	55	7	36	13	14	1	1	—
24	182	11	174	3	158	7	133	13	80	1	14	—
25	221	51	215	51	202	14	182	—	144	—	63	—
26	211	58	207	19	201	6	189	26	162	20	107	—
27	193	52	190	41	184	39	176	9	160	—	123	—
28	169	42	166	34	161	29	154	59	139	41	113	—
29	161	30	159	9	155	1	148	13	135	51	107	41
30	142	31	139	13	135	1	129	—	117	13	93	15
31	123	26	121	35	119	—	115	—	107	—	87	2
32	116	37	114	28	111	34	107	—	98	—	82	—
33	119	27	117	17	115	21	111	52	102	35	84	—
34	102	29	100	7	98	8	94	26	88	87	74	35
35	107	25	105	13	103	—	99	—	90	34	76	5
36	105	44	104	25	101	12	98	—	92	—	77	—
37	105	37	103	25	101	—	97	—	90	—	79	—
38	92	31	91	51	90	15	87	3	83	—	72	—
39	96	47	95	35	94	38	93	30	90	11	83	—

Table J7 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	96	41	95	36	93	28	91	74	87	—	80	—
41	92	25	91	27	90	28	87	13	83	—	76	—
42	90	24	89	21	88	10	86	—	82	—	75	—
43	84	27	83	10	82	—	80	—	77	—	71	—
44	72	17	71	5	70	—	69	—	66	—	61	—
45	77	33	76	15	76	—	74	—	71	—	68	—
46	82	20	81	18	80	26	79	—	76	—	71	52
47	89	32	89	34	88	—	87	—	84	—	80	104
48	116	43	116	32	115	8	113	26	110	18	106	104
49	143	62	142	73	142	30	141	42	138	49	131	123
50	135	65	135	56	134	7	134	—	132	89	128	120
51	149	43	149	68	149	14	148	—	147	—	143	209
52	131	66	131	71	131	37	131	24	131	—	130	156
53	112	29	112	21	112	29	112	38	112	14	111	52
54	107	59	107	70	107	31	107	14	107	38	107	52
55	88	20	88	15	87	1	86	—	85	14	84	38
56	84	30	84	49	84	21	84	—	83	—	80	—
57	63	19	62	22	62	28	62	52	62	7	60	—
58	62	4	62	6	62	13	62	105	62	105	61	104
59	42	23	42	41	42	22	42	3	42	39	42	117
Total	4,266	1,269	4,199	1,099	4,096	565	3,934	645	3,633	667	3,103	1,329

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J8. *Females—Deferred period 4 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	17	—	13	—	9	—	3	—	—	—
19	—	—	36	—	32	—	25	—	14	—	2	—
20	—	—	46	—	42	—	36	—	26	—	10	—
21	—	—	63	—	58	—	51	—	39	—	22	—
22	—	—	99	18	87	10	71	—	50	—	26	—
23	—	—	197	9	175	11	146	—	100	—	50	—
24	—	—	292	26	272	16	242	17	178	—	79	—
25	—	—	332	20	315	4	290	9	241	43	135	—
26	—	—	344	21	331	6	311	—	268	—	181	—
27	—	—	351	49	338	23	320	—	283	—	207	—
28	—	—	359	46	344	36	323	61	285	3	220	—
29	—	—	329	52	318	31	300	6	263	—	197	—
30	—	—	326	60	312	32	292	14	257	—	201	—
31	—	—	314	76	302	75	285	17	250	—	191	—
32	—	—	295	61	286	37	271	15	243	42	188	—
33	—	—	264	11	254	5	240	—	216	—	174	—
34	—	—	264	63	254	20	240	—	212	—	168	—
35	—	—	298	48	285	13	267	—	236	—	185	—
36	—	—	288	87	279	11	266	—	235	—	184	—
37	—	—	267	49	258	13	247	2	228	—	188	—
38	—	—	254	27	245	6	232	1	207	—	172	—
39	—	—	262	89	255	58	244	20	221	—	179	—

Table J8 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	250	46	245	2	236	6	220	46	190	—
41	—	—	248	45	240	17	230	11	213	24	184	46
42	—	—	259	40	254	17	245	35	226	37	194	70
43	—	—	237	22	232	12	224	7	211	50	185	55
44	—	—	219	29	215	18	209	15	196	—	174	52
45	—	—	210	48	206	27	200	13	186	3	161	26
46	—	—	202	64	199	29	193	7	184	22	164	82
47	—	—	193	68	189	30	184	35	173	22	157	67
48	—	—	174	46	172	46	168	38	159	5	139	22
49	—	—	173	28	170	16	166	13	157	26	141	58
50	—	—	172	29	169	13	165	2	158	66	146	64
51	—	—	152	28	151	12	149	1	142	—	131	52
52	—	—	144	24	143	16	142	26	138	24	128	104
53	—	—	136	42	135	38	133	12	129	—	121	104
54	—	—	105	18	105	32	105	58	103	19	96	—
55	—	—	91	18	90	13	88	15	87	10	84	15
56	—	—	72	9	72	—	71	15	68	37	64	—
57	—	—	49	4	49	—	48	—	47	15	44	29
58	—	—	39	—	39	—	38	—	38	—	37	—
59	—	—	29	9	29	13	29	31	29	—	27	—
Total	—	—	8,451	1,429	8,159	758	7,731	502	6,919	494	5,526	846

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78

All offices—Aggregate sickness experience

Table J9. Females—Deferred period 13 weeks

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
18	—	—	—	—	12	—	8	—	4	—	1	—
19	—	—	—	—	19	—	15	—	9	—	2	—
20	—	—	—	—	27	—	22	—	15	—	6	—
21	—	—	—	—	43	—	35	—	24	—	11	—
22	—	—	—	—	65	—	53	—	35	—	14	—
23	—	—	—	—	104	—	86	—	57	—	23	—
24	—	—	—	—	152	—	129	—	87	—	36	—
25	—	—	—	—	210	2	187	—	141	—	68	—
26	—	—	—	—	252	2	226	—	181	—	109	—
27	—	—	—	—	300	22	271	2	220	—	138	—
28	—	—	—	—	316	46	291	46	244	—	162	—
29	—	—	—	—	337	12	312	9	266	—	191	—
30	—	—	—	—	348	3	322	1	274	—	194	—
31	—	—	—	—	341	13	319	18	274	—	194	—
32	—	—	—	—	358	17	334	12	292	44	222	—
33	—	—	—	—	379	7	356	—	314	8	243	44
34	—	—	—	—	394	59	371	24	327	—	250	—
35	—	—	—	—	376	—	353	8	311	44	240	—
36	—	—	—	—	350	31	331	15	294	8	229	44
37	—	—	—	—	346	13	328	3	293	—	229	52
38	—	—	—	—	343	31	325	11	293	—	232	—
39	—	—	—	—	355	—	339	—	307	—	248	—

Table J9 (continued)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	355	6	339	1	308	—	257	—
41	—	—	—	—	349	9	338	2	315	—	267	—
42	—	—	—	—	325	57	311	42	288	65	246	22
43	—	—	—	—	326	6	315	21	292	5	250	52
44	—	—	—	—	321	26	311	10	295	—	260	52
45	—	—	—	—	336	50	324	50	300	11	261	104
46	—	—	—	—	311	16	303	1	285	—	248	52
47	—	—	—	—	286	41	278	39	264	—	237	156
48	—	—	—	—	295	58	287	68	270	83	242	209
49	—	—	—	—	295	53	288	83	273	42	242	199
50	—	—	—	—	286	45	281	32	271	117	248	207
51	—	—	—	—	264	22	261	15	254	55	237	201
52	—	—	—	—	224	26	221	30	215	9	200	152
53	—	—	—	—	194	42	191	32	187	111	177	122
54	—	—	—	—	176	21	174	66	168	72	159	232
55	—	—	—	—	144	25	143	13	141	37	131	129
56	—	—	—	—	122	15	121	39	119	39	114	209
57	—	—	—	—	104	39	103	31	102	53	99	104
58	—	—	—	—	75	11	75	26	75	77	73	158
59	—	—	—	—	53	26	53	17	53	49	53	159
Total	—	—	—	—	10,268	852	9,730	767	8,737	929	7,043	2,659

Sickness Experience 1975–78 for Individual PHI Policies

Individual PHI Policies 1975–78
All offices—Aggregate sickness experience

Table J10. *Females—Deferred period 26 weeks*

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	7	—	5	—	2	—
19	—	—	—	—	—	—	11	—	6	—	2	—
20	—	—	—	—	—	—	19	—	14	—	6	—
21	—	—	—	—	—	—	24	—	17	—	8	—
22	—	—	—	—	—	—	46	—	32	—	15	—
23	—	—	—	—	—	—	81	—	54	—	23	—
24	—	—	—	—	—	—	140	—	103	—	51	—
25	—	—	—	—	—	—	216	21	165	—	91	—
26	—	—	—	—	—	—	261	76	212	37	131	—
27	—	—	—	—	—	—	290	13	246	—	171	—
28	—	—	—	—	—	—	330	61	270	14	182	—
29	—	—	—	—	—	—	359	16	293	39	188	14
30	—	—	—	—	—	—	393	10	332	—	222	—
31	—	—	—	—	—	—	401	3	339	—	236	—
32	—	—	—	—	—	—	404	—	352	—	254	—
33	—	—	—	—	—	—	419	—	362	—	268	—
34	—	—	—	—	—	—	419	66	366	76	270	—
35	—	—	—	—	—	—	405	2	356	32	273	73
36	—	—	—	—	—	—	415	—	367	—	282	104
37	—	—	—	—	—	—	459	38	407	—	313	104
38	—	—	—	—	—	—	536	28	482	43	378	18
39	—	—	—	—	—	—	554	13	507	39	413	5

Table J10 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	539	79	497	40	411	19
41	—	—	—	—	—	—	550	93	503	57	425	47
42	—	—	—	—	—	—	550	67	514	156	435	78
43	—	—	—	—	—	—	510	—	474	69	404	140
44	—	—	—	—	—	—	561	24	523	—	455	—
45	—	—	—	—	—	—	546	77	512	92	443	—
46	—	—	—	—	—	—	542	20	515	63	460	42
47	—	—	—	—	—	—	524	72	500	73	453	52
48	—	—	—	—	—	—	448	101	426	89	385	3
49	—	—	—	—	—	—	434	72	415	182	382	24
50	—	—	—	—	—	—	400	45	376	84	334	4
51	—	—	—	—	—	—	380	46	364	104	323	—
52	—	—	—	—	—	—	355	7	347	71	324	78
53	—	—	—	—	—	—	291	41	282	1	265	104
54	—	—	—	—	—	—	269	52	260	30	244	67
55	—	—	—	—	—	—	223	57	218	29	206	41
56	—	—	—	—	—	—	167	23	166	45	160	52
57	—	—	—	—	—	—	128	—	127	—	124	52
58	—	—	—	—	—	—	102	—	102	—	101	26
59	—	—	—	—	—	—	78	32	78	—	78	52
Total	—	—	—	—	—	—	13,786	1,255	12,486	1,465	10,191	1,199

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J11. *Females—Deferred period 52 weeks*

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	1	—	—	—	—	—
19	—	—	—	—	—	—	2	—	1	—	—	—
20	—	—	—	—	—	—	2	—	1	—	—	—
21	—	—	—	—	—	—	2	—	1	—	—	—
22	—	—	—	—	—	—	4	—	2	—	—	—
23	—	—	—	—	—	—	12	—	5	—	—	—
24	—	—	—	—	—	—	27	—	13	—	—	—
25	—	—	—	—	—	—	38	—	21	—	—	—
26	—	—	—	—	—	—	50	—	30	—	—	—
27	—	—	—	—	—	—	49	—	33	—	—	—
28	—	—	—	—	—	—	60	—	37	—	—	—
29	—	—	—	—	—	—	77	—	46	—	—	—
30	—	—	—	—	—	—	80	—	53	—	—	—
31	—	—	—	—	—	—	97	—	66	—	—	—
32	—	—	—	—	—	—	99	—	68	—	—	—
33	—	—	—	—	—	—	112	—	81	—	—	—
34	—	—	—	—	—	—	111	—	81	—	—	—
35	—	—	—	—	—	—	108	—	79	—	—	—
36	—	—	—	—	—	—	123	—	89	—	—	—
37	—	—	—	—	—	—	138	—	108	—	—	—
38	—	—	—	—	—	—	150	51	118	—	—	—
39	—	—	—	—	—	—	165	1	130	51	—	—

Table J11 (*continued*)

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	—	—	163	—	135	52
41	—	—	—	—	—	—	—	—	162	—	133	—
42	—	—	—	—	—	—	—	—	184	—	151	52
43	—	—	—	—	—	—	—	—	177	26	153	—
44	—	—	—	—	—	—	—	—	183	—	159	—
45	—	—	—	—	—	—	—	—	197	—	168	—
46	—	—	—	—	—	—	—	—	175	—	150	—
47	—	—	—	—	—	—	—	—	174	20	150	—
48	—	—	—	—	—	—	—	—	165	23	147	—
49	—	—	—	—	—	—	—	—	134	3	119	—
50	—	—	—	—	—	—	—	—	129	—	114	—
51	—	—	—	—	—	—	—	—	123	—	106	26
52	—	—	—	—	—	—	—	—	120	45	106	52
53	—	—	—	—	—	—	—	—	108	—	102	26
54	—	—	—	—	—	—	—	—	92	—	83	—
55	—	—	—	—	—	—	—	—	82	2	76	—
56	—	—	—	—	—	—	—	—	64	50	61	2
57	—	—	—	—	—	—	—	—	47	—	44	52
58	—	—	—	—	—	—	—	—	32	—	31	—
59	—	—	—	—	—	—	—	—	24	—	23	—
Total	—	—	—	—	—	—	—	—	4,042	221	3,274	313

Sickness Experience 1975–78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Aggregate sickness experience

Table J12. *Females—All deferred periods*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	1	—	17	—	25	—	24	—	13	—	3	—
19	1	—	37	—	52	—	52	—	31	—	7	—
20	2	—	48	—	71	—	78	—	58	—	24	—
21	4	—	66	—	104	—	112	—	84	—	43	—
22	21	2	117	18	165	10	177	—	123	—	58	—
23	79	7	267	12	334	18	349	13	237	1	102	—
24	182	11	466	29	582	23	644	30	475	1	193	—
25	221	51	547	71	727	20	875	30	729	43	378	—
26	211	58	551	40	784	14	987	102	873	57	558	—
27	193	52	541	90	822	84	1,057	24	958	—	672	—
28	169	42	525	80	821	111	1,098	227	998	58	714	—
29	161	30	488	61	810	44	1,119	44	1,034	90	729	55
30	142	31	465	73	795	36	1,136	25	1,060	13	763	15
31	123	26	435	111	762	88	1,120	38	1,067	—	774	2
32	116	37	409	89	755	88	1,116	27	1,084	86	814	—
33	119	27	381	28	748	33	1,126	52	1,106	43	850	44
34	102	29	364	70	746	87	1,124	116	1,104	163	843	35
35	107	25	403	61	764	13	1,124	10	1,101	110	852	78
36	105	44	392	112	730	54	1,110	15	1,111	8	861	148
37	105	37	370	74	705	26	1,131	43	1,156	—	917	156
38	92	31	345	78	678	52	1,180	43	1,215	94	973	18
39	96	47	357	124	704	96	1,230	63	1,290	51	1,053	56

*Aggregate Experience*Table J13. *Males—Numbers of claim inceptions*

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
18	—	6.5	—	—	—
19	—	7.0	—	—	—
20	.5	4.0	1.0	—	—
21	1.5	11.0	—	—	—
22	9.0	27.0	4.0	4.0	—
23	36.0	40.5	5.5	1.0	1.0
24	135.0	36.5	4.0	2.0	—
25	169.5	58.0	5.0	3.0	—
26	275.5	81.0	10.0	4.0	1.0
27	276.5	58.0	9.5	5.0	—
28	395.5	79.5	14.5	3.0	—
29	415.0	102.5	22.5	11.5	—
30	354.0	120.5	21.0	6.5	—
31	442.0	127.5	28.0	9.5	—
32	371.5	121.5	21.0	6.5	1.0
33	363.5	132.5	13.0	6.5	1.0
34	329.5	112.0	15.0	5.5	—

Table J13 (continued)

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
35	340.5	128.0	23.5	2.0	—
36	343.5	129.0	30.0	7.5	1.0
37	340.5	107.0	13.5	5.5	—
38	303.0	117.0	34.5	7.0	1.0
39	342.0	126.0	27.0	10.5	—
40	318.0	119.5	17.0	10.5	1.0
41	331.0	126.5	34.0	8.5	—
42	288.5	114.5	28.5	7.5	—
43	332.5	120.0	27.5	5.5	1.0
44	326.0	134.0	41.0	9.5	1.5
45	356.0	119.5	33.5	18.5	2.0
46	322.0	129.5	36.5	11.0	1.5
47	383.5	87.0	21.5	3.5	3.5
48	416.5	113.0	33.5	8.5	3.5
49	410.0	121.5	23.5	20.5	1.5
50	403.0	99.5	25.5	15.0	2.0
51	451.0	80.0	31.0	16.0	2.0
52	328.0	90.5	26.0	17.0	2.5
53	374.0	103.0	15.5	20.0	7.5
54	373.0	112.0	29.5	17.0	2.0
55	323.5	85.0	18.5	21.5	6.5
56	321.0	61.0	21.5	17.5	3.5
57	233.5	64.0	22.5	13.0	1.5
58	274.0	45.0	25.5	18.5	1.5
59	275.5	39.0	15.0	19.0	1.5
60	294.5	41.5	18.0	13.5	4.0
61	260.5	30.5	16.5	12.0	.5
62	240.0	29.5	18.5	16.0	2.5
63	240.5	31.5	11.5	15.0	.5
64	217.5	34.0	4.5	11.0	.5
Total	13,337.5	3,863.5	898.5	446.0	60.0

*Aggregate experience*Table J14. *Females—Numbers of claim inceptions*

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
18	—	—	—	—	—
19	—	—	—	—	—
20	—	—	—	—	—
21	—	—	—	—	—
22	3·0	2·0	—	—	—
23	12·0	1·0	—	—	—
24	18·0	5·0	—	—	—
25	37·0	6·0	·5	1·0	—
26	44·5	6·0	·5	3·0	—
27	41·0	7·0	3·0	1·0	—
28	27·5	6·0	4·5	3·0	—
29	23·0	5·0	1·5	1·0	—
30	21·0	9·0	—	1·0	—
31	17·0	10·0	1·0	1·0	—
32	24·5	11·0	2·0	—	—
33	17·5	1·5	·5	—	—
34	16·0	9·5	4·5	2·5	—
35	16·5	7·0	—	·5	—
36	28·5	15·0	4·0	—	—
37	29·5	8·0	1·0	2·0	—
38	18·5	7·5	2·0	1·5	1·0
39	27·0	10·0	—	·5	—

Table J14 (continued)

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
40	21.0	7.5	.5	3.0	—
41	14.5	7.5	1.0	5.5	—
42	17.5	9.5	6.5	1.5	—
43	15.0	6.5	—	—	1.0
44	12.0	2.5	3.0	1.0	—
45	15.0	9.0	4.5	3.0	—
46	14.0	13.0	1.5	2.5	—
47	18.5	8.5	4.0	2.0	1.0
48	26.5	6.5	6.0	5.5	1.0
49	32.0	3.5	4.5	2.5	—
50	31.5	6.0	4.5	3.5	—
51	21.0	4.5	3.0	1.0	—
52	29.0	4.5	3.0	—	1.0
53	15.5	5.5	4.0	2.0	—
54	23.0	2.5	1.0	2.0	—
55	9.0	4.5	2.0	2.0	1.0
56	12.5	1.0	2.0	1.0	—
57	9.5	1.0	3.0	1.0	—
58	1.5	—	1.0	—	—
59	8.0	1.0	2.0	3.0	—
Total	768.5	233.0	82.0	60.0	6.0

APPENDIX K

Individual PHI Policies 1975-78

All offices—Standard sickness experience

Table K1. Males—Deferred period 1 week

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to Risk	Weeks of Sickness	Exposed to Risk	Weeks of Sickness	Exposed to Risk	Weeks of Sickness	Exposed to Risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	1	—	—	—	—	—	—	—	—	—	—	—
19	—	—	—	—	—	—	—	—	—	—	—	—
20	—	—	—	—	—	—	—	—	0	—	—	—
21	5	—	4	—	3	—	2	—	1	—	—	—
22	65	11	57	3	42	—	25	—	8	—	1	—
23	342	37	308	3	246	—	169	—	73	—	9	—
24	814	141	770	69	685	13	563	26	342	2	76	—
25	1,310	163	1,265	55	1,177	—	1,046	—	789	—	340	—
26	1,720	270	1,683	106	1,608	58	1,490	22	1,236	—	729	—
27	2,066	257	2,032	94	1,964	26	1,859	9	1,641	—	1,156	—
28	2,467	332	2,433	112	2,366	19	2,264	22	2,058	—	1,621	—
29	2,710	378	2,679	137	2,617	41	2,523	72	2,326	86	1,919	—
30	2,876	366	2,848	222	2,792	127	2,706	78	2,521	66	2,132	63
31	2,892	457	2,869	141	2,823	84	2,751	104	2,599	58	2,251	104
32	2,650	338	2,628	110	2,585	37	2,521	12	2,395	—	2,129	104
33	2,467	339	2,449	112	2,412	2	2,356	—	2,239	—	2,009	—
34	2,326	356	2,311	136	2,281	43	2,233	72	2,132	3	1,917	—
35	2,093	334	2,080	162	2,055	39	2,015	70	1,930	3	1,756	—
36	2,051	402	2,039	204	2,015	108	1,978	95	1,899	27	1,737	—
37	2,082	394	2,071	239	2,047	91	2,013	107	1,944	192	1,793	—
38	2,153	307	2,139	161	2,113	98	2,076	103	2,007	38	1,866	19
39	2,168	391	2,158	247	2,136	107	2,101	135	2,028	72	1,889	19

Table K1 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	2,116	413	2,105	273	2,082	122	2,048	103	1,981	46	1,844	144
41	2,072	408	2,063	181	2,046	76	2,017	64	1,955	114	1,829	169
42	1,988	334	1,979	217	1,962	47	1,935	41	1,882	27	1,772	339
43	2,090	385	2,080	253	2,062	75	2,034	82	1,977	64	1,869	261
44	2,179	408	2,170	277	2,153	163	2,126	125	2,074	54	1,965	373
45	2,255	466	2,249	308	2,235	121	2,213	247	2,163	421	2,057	596
46	2,335	434	2,327	364	2,310	206	2,286	180	2,242	74	2,150	796
47	2,365	519	2,358	416	2,344	179	2,322	417	2,273	435	2,175	724
48	2,373	615	2,366	480	2,354	195	2,335	263	2,300	401	2,215	773
49	2,406	471	2,400	334	2,389	178	2,371	125	2,335	256	2,268	686
50	2,469	586	2,465	501	2,457	226	2,442	225	2,411	93	2,337	570
51	2,465	621	2,461	517	2,455	213	2,444	186	2,422	270	2,367	373
52	2,369	548	2,366	640	2,361	364	2,352	234	2,331	166	2,288	778
53	2,323	521	2,320	422	2,314	209	2,306	409	2,291	592	2,255	1,160
54	2,117	599	2,114	534	2,109	190	2,101	88	2,086	577	2,058	1,465
55	1,995	518	1,992	483	1,988	317	1,981	414	1,966	319	1,935	1,522
56	1,799	560	1,798	618	1,796	323	1,792	332	1,782	550	1,756	1,353
57	1,594	399	1,594	349	1,592	219	1,590	284	1,586	646	1,570	1,277
58	1,581	452	1,580	563	1,578	408	1,575	371	1,571	492	1,562	1,611
59	1,475	451	1,474	569	1,473	417	1,470	600	1,465	735	1,453	1,315
60	1,336	492	1,336	521	1,335	374	1,333	505	1,328	673	1,316	1,382
61	1,299	460	1,299	546	1,299	328	1,298	635	1,296	927	1,287	1,565
62	1,250	464	1,250	568	1,250	399	1,250	502	1,250	750	1,248	2,200
63	1,157	506	1,157	654	1,157	392	1,157	496	1,157	827	1,157	2,153
64	852	409	852	503	852	429	852	579	852	816	852	2,468
Total	83,518	17,312	82,978	13,404	81,920	7,063	80,321	8,434	77,144	10,872	70,915	26,362

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K2. *Males—Deferred period 4 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	27	9	21	3	13	—	5	—	1	—
19	—	—	52	4	46	—	38	—	22	—	4	—
20	—	—	83	2	74	—	62	—	44	—	18	—
21	—	—	149	7	135	—	116	—	84	—	42	—
22	—	—	313	35	279	23	234	—	165	—	80	—
23	—	—	610	37	543	2	453	—	308	—	132	—
24	—	—	1,008	33	930	4	816	—	599	—	273	—
25	—	—	1,464	67	1,388	14	1,272	26	1,028	23	565	—
26	—	—	1,853	156	1,776	88	1,659	14	1,421	12	938	—
27	—	—	2,285	64	2,197	26	2,066	4	1,808	1	1,300	—
28	—	—	2,741	105	2,635	54	2,482	65	2,192	23	1,655	—
29	—	—	3,042	195	2,932	95	2,766	4	2,430	6	1,831	—
30	—	—	3,243	177	3,139	61	2,980	48	2,655	41	2,034	—
31	—	—	3,449	199	3,352	76	3,206	48	2,908	6	2,306	—
32	—	—	3,340	230	3,250	69	3,116	33	2,854	16	2,353	—
33	—	—	3,320	164	3,235	127	3,108	98	2,853	10	2,367	6
34	—	—	3,185	194	3,118	62	3,013	102	2,788	62	2,339	8
35	—	—	2,991	276	2,928	86	2,836	2	2,660	82	2,279	65
36	—	—	2,971	322	2,917	154	2,834	167	2,661	29	2,325	62
37	—	—	3,037	228	2,986	135	2,908	68	2,747	214	2,412	117
38	—	—	3,130	230	3,083	111	3,011	46	2,861	61	2,553	50
39	—	—	3,147	272	3,098	149	3,025	102	2,882	14	2,592	52

Table K2 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	3,142	210	3,094	90	3,022	71	2,878	118	2,607	61
41	—	—	3,105	389	3,066	202	3,004	81	2,869	31	2,588	3
42	—	—	3,126	239	3,087	133	3,029	75	2,914	17	2,662	—
43	—	—	3,083	272	3,049	113	2,996	139	2,887	109	2,672	52
44	—	—	3,051	401	3,019	239	2,970	203	2,867	179	2,663	110
45	—	—	3,022	340	2,990	114	2,942	191	2,849	276	2,666	476
46	—	—	2,968	317	2,942	204	2,902	197	2,818	293	2,641	802
47	—	—	2,849	347	2,825	208	2,788	164	2,717	147	2,562	600
48	—	—	2,771	378	2,749	176	2,715	228	2,646	195	2,503	733
49	—	—	2,630	365	2,608	207	2,575	198	2,510	142	2,387	906
50	—	—	2,463	339	2,449	163	2,425	141	2,367	130	2,244	648
51	—	—	2,290	361	2,277	253	2,257	281	2,217	139	2,123	784
52	—	—	2,053	346	2,043	161	2,028	230	1,995	446	1,924	497
53	—	—	1,844	378	1,836	175	1,823	137	1,797	171	1,740	627
54	—	—	1,690	398	1,682	179	1,670	222	1,647	189	1,601	447
55	—	—	1,513	370	1,509	268	1,500	233	1,480	322	1,432	534
56	—	—	1,296	325	1,293	211	1,288	254	1,277	257	1,246	604
57	—	—	1,070	316	1,067	234	1,063	271	1,055	449	1,038	733
58	—	—	883	203	879	133	875	276	868	369	856	662
59	—	—	713	180	712	123	709	156	704	330	692	745
60	—	—	588	247	587	210	584	245	579	273	571	617
61	—	—	504	154	504	81	503	167	500	436	493	676
62	—	—	422	113	422	157	422	201	422	131	419	796
63	—	—	350	108	350	53	350	89	350	233	350	660
64	—	—	210	230	210	144	210	53	210	31	210	401
Total	—	—	93,076	10,332	91,311	5,570	88,664	5,330	83,398	6,013	73,289	13,534

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K3. *Males—Deferred period 13 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	17	—	13	—	8	—	3	—
19	—	—	—	—	35	—	27	—	16	—	6	—
20	—	—	—	—	71	9	58	—	38	—	15	—
21	—	—	—	—	121	—	101	—	70	—	31	—
22	—	—	—	—	221	—	183	—	127	—	62	—
23	—	—	—	—	446	23	382	28	274	7	135	—
24	—	—	—	—	757	11	660	2	497	45	267	7
25	—	—	—	—	1,246	19	1,113	7	870	—	502	—
26	—	—	—	—	1,863	16	1,705	27	1,401	1	879	—
27	—	—	—	—	2,606	32	2,425	21	2,067	27	1,406	—
28	—	—	—	—	3,504	43	3,290	76	2,872	38	2,099	26
29	—	—	—	—	4,162	93	3,929	113	3,483	88	2,662	54
30	—	—	—	—	4,742	71	4,516	59	4,061	88	3,188	164
31	—	—	—	—	5,231	111	5,014	107	4,579	49	3,713	52
32	—	—	—	—	5,322	96	5,123	38	4,730	26	3,956	102
33	—	—	—	—	5,410	41	5,222	82	4,838	126	4,082	104
34	—	—	—	—	5,270	41	5,099	22	4,763	71	4,087	85
35	—	—	—	—	5,058	96	4,900	48	4,583	60	3,960	209
36	—	—	—	—	4,966	196	4,823	186	4,528	107	3,937	168
37	—	—	—	—	4,960	85	4,826	89	4,559	135	4,003	100
38	—	—	—	—	5,122	117	4,998	147	4,738	149	4,212	230
39	—	—	—	—	5,193	163	5,076	163	4,846	96	4,360	191

Table K3 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	5,203	89	5,091	67	4,862	186	4,401	199
41	—	—	—	—	5,089	180	4,988	192	4,788	125	4,381	137
42	—	—	—	—	4,983	149	4,886	128	4,688	142	4,302	268
43	—	—	—	—	4,875	136	4,784	103	4,601	100	4,223	174
44	—	—	—	—	4,789	251	4,706	206	4,534	167	4,179	181
45	—	—	—	—	4,667	243	4,594	272	4,444	346	4,136	234
46	—	—	—	—	4,486	191	4,420	224	4,284	411	4,009	357
47	—	—	—	—	4,246	145	4,188	128	4,070	135	3,823	750
48	—	—	—	—	4,045	284	3,997	453	3,896	250	3,676	742
49	—	—	—	—	3,807	208	3,762	205	3,675	554	3,495	683
50	—	—	—	—	3,511	173	3,472	175	3,394	221	3,232	819
51	—	—	—	—	3,337	187	3,309	213	3,244	295	3,097	629
52	—	—	—	—	2,912	208	2,890	251	2,844	286	2,731	568
53	—	—	—	—	2,631	122	2,612	193	2,574	322	2,488	809
54	—	—	—	—	2,388	292	2,373	424	2,338	378	2,264	1,128
55	—	—	—	—	2,039	130	2,026	191	2,001	431	1,940	1,070
56	—	—	—	—	1,751	177	1,742	186	1,724	203	1,677	1,027
57	—	—	—	—	1,472	190	1,466	208	1,452	73	1,423	790
58	—	—	—	—	1,293	192	1,289	197	1,279	316	1,258	306
59	—	—	—	—	1,112	124	1,110	173	1,105	482	1,089	719
60	—	—	—	—	934	156	933	224	928	404	918	1,037
61	—	—	—	—	830	108	829	184	828	467	819	1,597
62	—	—	—	—	691	225	691	314	691	361	688	1,471
63	—	—	—	—	555	118	555	159	555	386	553	1,325
64	—	—	—	—	360	48	360	192	360	358	360	1,222
Total	—	—	—	—	138,329	5,589	134,556	6,477	127,107	8,512	112,727	19,734

Individual PHI Policies 1975-78

All offices—Standard sickness experience

Table K4. Males—Deferred period 26 weeks

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	20	—	12	—	3	—
19	—	—	—	—	—	—	37	—	25	—	11	—
20	—	—	—	—	—	—	90	—	59	—	24	—
21	—	—	—	—	—	—	212	—	145	—	60	—
22	—	—	—	—	—	—	455	7	333	—	154	—
23	—	—	—	—	—	—	892	13	692	24	378	—
24	—	—	—	—	—	—	1,608	30	1,329	5	844	—
25	—	—	—	—	—	—	2,531	61	2,177	58	1,549	—
26	—	—	—	—	—	—	3,810	26	3,364	8	2,527	103
27	—	—	—	—	—	—	5,176	72	4,682	22	3,714	104
28	—	—	—	—	—	—	6,931	38	6,318	26	5,124	104
29	—	—	—	—	—	—	7,870	89	7,249	71	6,008	104
30	—	—	—	—	—	—	8,765	68	8,084	75	6,760	75
31	—	—	—	—	—	—	9,373	49	8,732	22	7,412	82
32	—	—	—	—	—	—	9,057	60	8,467	21	7,273	78
33	—	—	—	—	—	—	8,896	86	8,348	49	7,225	52
34	—	—	—	—	—	—	8,377	64	7,913	193	6,922	47
35	—	—	—	—	—	—	7,845	70	7,416	103	6,548	76
36	—	—	—	—	—	—	7,608	119	7,223	73	6,425	66
37	—	—	—	—	—	—	7,492	26	7,136	125	6,400	100
38	—	—	—	—	—	—	7,545	111	7,191	16	6,471	156
39	—	—	—	—	—	—	7,546	134	7,216	78	6,527	104

Table K4 (continued)

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	7,387	181	7,069	127	6,420	176
41	—	—	—	—	—	—	7,166	125	6,868	118	6,241	165
42	—	—	—	—	—	—	7,024	98	6,748	110	6,176	226
43	—	—	—	—	—	—	6,943	72	6,688	225	6,152	136
44	—	—	—	—	—	—	6,714	188	6,493	183	6,029	305
45	—	—	—	—	—	—	6,611	164	6,401	167	5,966	371
46	—	—	—	—	—	—	6,376	149	6,189	264	5,794	383
47	—	—	—	—	—	—	6,128	70	5,965	136	5,619	373
48	—	—	—	—	—	—	5,744	138	5,607	133	5,320	306
49	—	—	—	—	—	—	5,427	212	5,290	54	5,029	207
50	—	—	—	—	—	—	5,083	298	4,973	193	4,733	309
51	—	—	—	—	—	—	4,822	215	4,735	444	4,532	361
52	—	—	—	—	—	—	4,451	308	4,379	332	4,209	883
53	—	—	—	—	—	—	4,054	342	4,004	494	3,877	1,062
54	—	—	—	—	—	—	3,830	333	3,780	268	3,680	1,362
55	—	—	—	—	—	—	3,537	274	3,495	414	3,401	1,204
56	—	—	—	—	—	—	3,189	364	3,160	543	3,089	1,680
57	—	—	—	—	—	—	2,749	272	2,732	608	2,684	1,880
58	—	—	—	—	—	—	2,379	283	2,365	515	2,333	1,848
59	—	—	—	—	—	—	1,975	399	1,969	468	1,946	1,482
60	—	—	—	—	—	—	1,708	306	1,703	654	1,689	1,556
61	—	—	—	—	—	—	1,544	237	1,542	834	1,534	1,824
62	—	—	—	—	—	—	1,350	329	1,349	396	1,345	2,128
63	—	—	—	—	—	—	1,160	288	1,160	420	1,158	1,943
64	—	—	—	—	—	—	756	344	756	419	755	1,679
Total	—	—	—	—	—	—	220,243	7,112	209,531	9,488	188,070	25,100

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K5. Males—Deferred period 52 weeks

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	—	—	3	—	1	—
19	—	—	—	—	—	—	—	—	7	—	3	—
20	—	—	—	—	—	—	—	—	12	—	6	—
21	—	—	—	—	—	—	—	—	28	—	15	—
22	—	—	—	—	—	—	—	—	53	—	31	—
23	—	—	—	—	—	—	—	—	89	14	51	—
24	—	—	—	—	—	—	—	—	158	—	82	—
25	—	—	—	—	—	—	—	—	272	—	169	—
26	—	—	—	—	—	—	—	—	419	28	286	—
27	—	—	—	—	—	—	—	—	639	25	450	28
28	—	—	—	—	—	—	—	—	960	—	691	—
29	—	—	—	—	—	—	—	—	1,269	—	950	—
30	—	—	—	—	—	—	—	—	1,599	—	1,208	—
31	—	—	—	—	—	—	—	—	1,934	—	1,493	17
32	—	—	—	—	—	—	—	—	2,148	11	1,702	—
33	—	—	—	—	—	—	—	—	2,314	9	1,869	—
34	—	—	—	—	—	—	—	—	2,339	—	1,932	—
35	—	—	—	—	—	—	—	—	2,356	—	1,970	—
36	—	—	—	—	—	—	—	—	2,435	48	2,039	—
37	—	—	—	—	—	—	—	—	2,504	4	2,148	48
38	—	—	—	—	—	—	—	—	2,640	21	2,304	—
39	—	—	—	—	—	—	—	—	2,731	—	2,387	—

Table K5 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	—	—	2,755	20	2,416	78
41	—	—	—	—	—	—	—	—	2,778	32	2,472	98
42	—	—	—	—	—	—	—	—	2,792	—	2,497	52
43	—	—	—	—	—	—	—	—	2,853	35	2,561	—
44	—	—	—	—	—	—	—	—	2,855	60	2,571	35
45	—	—	—	—	—	—	—	—	2,869	56	2,621	75
46	—	—	—	—	—	—	—	—	2,782	35	2,549	—
47	—	—	—	—	—	—	—	—	2,605	32	2,391	26
48	—	—	—	—	—	—	—	—	2,509	111	2,327	64
49	—	—	—	—	—	—	—	—	2,344	26	2,183	428
50	—	—	—	—	—	—	—	—	2,118	20	1,982	495
51	—	—	—	—	—	—	—	—	1,970	50	1,855	496
52	—	—	—	—	—	—	—	—	1,818	72	1,712	403
53	—	—	—	—	—	—	—	—	1,642	195	1,560	150
54	—	—	—	—	—	—	—	—	1,428	107	1,361	166
55	—	—	—	—	—	—	—	—	1,219	145	1,166	226
56	—	—	—	—	—	—	—	—	1,002	194	962	264
57	—	—	—	—	—	—	—	—	813	40	791	313
58	—	—	—	—	—	—	—	—	678	39	662	293
59	—	—	—	—	—	—	—	—	528	40	517	208
60	—	—	—	—	—	—	—	—	418	141	411	313
61	—	—	—	—	—	—	—	—	346	72	340	405
62	—	—	—	—	—	—	—	—	273	148	271	249
63	—	—	—	—	—	—	—	—	198	65	198	240
64	—	—	—	—	—	—	—	—	111	26	111	74
Total	—	—	—	—	—	—	—	—	68,613	1,921	60,274	5,244

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K6. *Males—All deferred periods*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	27	9	38	3	46	—	28	—	8	—
19	1	—	52	4	81	—	102	—	70	—	24	—
20	—	—	83	2	145	9	210	—	153	—	63	—
21	5	—	153	7	259	—	431	—	328	—	148	—
22	65	11	370	38	542	23	897	7	686	—	328	—
23	342	37	918	40	1,235	25	1,896	41	1,436	45	705	—
24	814	141	1,778	102	2,372	28	3,647	58	2,925	52	1,542	7
25	1,310	163	2,729	122	3,811	33	5,962	94	5,136	81	3,125	—
26	1,720	270	3,536	262	5,247	162	8,664	89	7,841	49	5,359	103
27	2,066	257	4,317	158	6,767	84	11,526	106	10,837	75	8,026	132
28	2,467	332	5,174	217	8,505	116	14,967	201	14,400	87	11,190	130
29	2,710	378	5,721	332	9,711	229	17,088	278	16,757	251	13,370	158
30	2,876	366	6,091	399	10,673	259	18,967	253	18,920	270	15,322	302
31	2,892	457	6,318	340	11,406	271	20,344	308	20,752	135	17,175	255
32	2,650	338	5,968	340	11,157	202	19,817	143	20,594	74	17,413	284
33	2,467	339	5,769	276	11,057	170	19,582	266	20,592	194	17,552	162
34	2,326	356	5,496	330	10,669	146	18,722	260	19,935	329	17,197	140
35	2,093	334	5,071	438	10,041	221	17,596	190	18,945	248	16,513	350
36	2,051	402	5,010	526	9,898	458	17,243	567	18,746	284	16,463	296
37	2,082	394	5,108	467	9,993	311	17,239	290	18,890	670	16,756	365
38	2,153	307	5,269	391	10,318	326	17,630	407	19,437	285	17,406	455
39	2,168	391	5,305	519	10,427	419	17,748	534	19,703	260	17,755	366

Table K6 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	2,116	413	5,247	483	10,379	301	17,548	422	19,545	497	17,688	658
41	2,072	408	5,168	570	10,201	458	17,175	462	19,258	420	17,511	572
42	1,988	334	5,105	456	10,032	329	16,874	342	19,024	296	17,409	885
43	2,090	385	5,163	525	9,986	324	16,757	396	19,006	533	17,477	623
44	2,179	408	5,221	678	9,961	653	16,516	722	18,823	643	17,407	1,004
45	2,255	466	5,271	648	9,892	478	16,360	874	18,726	1,266	17,446	1,752
46	2,335	434	5,295	681	9,738	601	15,984	750	18,315	1,077	17,143	2,338
47	2,365	519	5,207	763	9,415	532	15,426	779	17,630	885	16,570	2,473
48	2,373	615	5,137	858	9,148	655	14,791	1,082	16,958	1,090	16,041	2,618
49	2,406	471	5,030	699	8,804	593	14,135	740	16,154	1,032	15,362	2,910
50	2,469	586	4,928	840	8,417	562	13,422	839	15,263	657	14,528	2,841
51	2,465	621	4,751	878	8,069	653	12,832	895	14,588	1,198	13,974	2,643
52	2,369	548	4,419	986	7,316	733	11,721	1,023	13,367	1,302	12,864	3,129
53	2,323	521	4,164	800	6,781	506	10,795	1,081	12,308	1,774	11,920	3,808
54	2,117	599	3,804	932	6,179	661	9,974	1,067	11,279	1,519	10,964	4,568
55	1,995	518	3,505	853	5,536	715	9,044	1,112	10,161	1,631	9,874	4,556
56	1,799	560	3,094	943	4,840	711	8,011	1,136	8,945	1,747	8,730	4,928
57	1,594	399	2,664	665	4,131	643	6,868	1,035	7,638	1,816	7,506	4,993
58	1,581	452	2,463	766	3,750	733	6,118	1,127	6,761	1,731	6,671	4,720
59	1,475	451	2,187	749	3,297	664	5,264	1,328	5,771	2,055	5,697	4,469
60	1,336	492	1,924	768	2,856	740	4,558	1,280	4,956	2,145	4,905	4,905
61	1,299	460	1,803	700	2,633	517	4,174	1,223	4,512	2,736	4,473	6,067
62	1,250	464	1,672	681	2,363	781	3,713	1,346	3,985	1,786	3,971	6,844
63	1,157	506	1,507	762	2,062	563	3,222	1,032	3,420	1,931	3,416	6,321
64	852	409	1,062	733	1,422	621	2,178	1,168	2,289	1,650	2,288	5,844
Total	83,518	17,312	176,054	23,736	311,560	18,222	523,784	27,353	565,793	36,806	505,275	89,974

Individual PHI Policies 1975-78

All offices—Standard sickness experience

Table K7. Females—Deferred period 1 week

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	1	—	—	—	—	—	—	—	—	—	—	—
19	1	—	1	—	1	—	1	—	—	—	—	—
20	1	—	1	—	1	—	1	—	1	—	—	—
21	3	—	2	—	2	—	1	—	1	—	1	—
22	17	2	14	—	10	—	6	—	2	—	1	—
23	72	7	64	—	50	—	33	—	13	—	1	—
24	164	10	157	—	143	—	121	—	73	—	12	—
25	200	40	194	41	183	7	166	—	132	—	57	—
26	187	52	184	19	178	—	168	—	146	—	97	—
27	171	44	168	36	163	39	155	9	142	—	111	—
28	146	36	144	16	140	3	133	44	120	41	99	—
29	140	25	138	9	135	1	130	13	119	51	94	41
30	123	25	121	13	117	1	112	—	103	13	84	15
31	105	17	104	22	102	—	99	—	92	—	77	2
32	97	32	96	22	93	9	90	—	83	—	71	—
33	104	21	103	17	101	21	98	52	90	35	74	—
34	95	23	94	7	91	8	88	26	83	87	69	35
35	98	24	97	13	95	—	91	—	84	34	71	5
36	97	44	96	25	94	12	91	—	86	—	72	—
37	96	29	95	14	93	—	90	—	83	—	73	—
38	83	27	82	49	81	15	79	3	76	—	68	—
39	86	40	85	33	84	38	83	30	81	11	76	—

Table K7 (continued)

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
40	85	37	84	35	82	28	80	74	77	—	71	—
41	78	22	78	27	76	28	75	13	71	—	64	—
42	79	19	78	17	77	10	75	—	72	—	65	—
43	73	24	72	9	71	—	70	—	67	—	62	—
44	64	17	63	5	62	—	61	—	59	—	54	—
45	68	33	67	15	66	—	65	—	62	—	59	—
46	73	17	73	18	72	26	70	—	68	—	63	52
47	77	24	77	23	76	—	75	—	74	—	70	104
48	101	31	100	26	99	8	98	26	96	18	92	104
49	129	56	129	69	128	30	127	52	124	49	118	123
50	122	57	121	46	121	4	121	—	119	89	115	120
51	131	40	131	59	131	5	130	—	130	—	126	209
52	113	61	113	67	113	37	113	24	113	—	112	156
53	94	23	94	14	94	29	94	38	94	14	94	52
54	92	56	92	61	92	25	92	14	92	38	92	52
55	79	19	79	15	78	1	77	—	77	14	76	38
56	79	30	79	49	79	21	79	—	78	—	76	—
57	60	19	60	22	60	28	59	52	59	7	58	—
58	60	4	60	6	60	13	60	105	59	105	59	104
59	40	21	40	33	40	17	40	3	40	39	40	117
Total	3,784	1,108	3,730	952	3,634	464	3,497	578	3,241	645	2,774	1,329

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K8. *Females—Deferred period 4 weeks*

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	12	—	9	—	6	—	2	—	—	—
19	—	—	24	—	21	—	17	—	10	—	1	—
20	—	—	31	—	28	—	23	—	15	—	4	—
21	—	—	43	—	39	—	34	—	26	—	12	—
22	—	—	73	18	63	10	51	—	35	—	18	—
23	—	—	153	9	136	11	113	—	77	—	39	—
24	—	—	220	23	205	16	182	17	134	—	62	—
25	—	—	244	20	231	4	212	9	176	43	101	—
26	—	—	254	17	244	6	229	—	196	—	131	—
27	—	—	267	28	258	14	244	—	216	—	158	—
28	—	—	275	25	263	34	247	61	218	3	169	—
29	—	—	253	33	245	27	231	6	203	—	152	—
30	—	—	257	51	246	32	231	14	203	—	158	—
31	—	—	245	67	237	62	225	1	199	—	150	—
32	—	—	232	42	225	34	216	5	197	—	155	—
33	—	—	208	—	201	—	191	—	174	—	145	—
34	—	—	209	43	202	17	192	—	170	—	137	—
35	—	—	241	39	232	3	219	—	195	—	155	—
36	—	—	239	43	233	7	222	—	201	—	162	—
37	—	—	218	37	211	13	203	2	188	—	158	—
38	—	—	207	19	201	6	192	1	173	—	147	—
39	—	—	214	60	210	38	203	20	187	—	155	—

Table K8 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	200	35	197	2	192	6	182	46	162	—
41	—	—	201	44	196	4	189	—	178	6	160	46
42	—	—	214	32	210	15	203	26	190	11	169	52
43	—	—	199	13	195	6	189	7	179	41	161	11
44	—	—	191	26	188	14	183	15	174	—	157	—
45	—	—	182	44	180	27	175	13	165	3	146	—
46	—	—	178	59	175	29	170	7	163	22	146	82
47	—	—	172	68	169	30	164	35	155	22	141	67
48	—	—	157	46	155	46	152	38	144	5	126	22
49	—	—	151	23	149	10	146	13	139	26	126	58
50	—	—	149	21	147	6	144	—	139	66	131	64
51	—	—	134	28	133	11	131	—	125	—	116	52
52	—	—	131	24	130	16	129	26	126	24	117	104
53	—	—	122	42	122	38	120	12	116	—	109	104
54	—	—	93	18	93	32	92	58	91	19	85	—
55	—	—	79	18	78	13	77	15	76	10	73	15
56	—	—	60	9	60	—	60	15	58	37	55	—
57	—	—	39	4	39	—	39	—	39	15	37	29
58	—	—	34	—	34	—	34	—	34	—	33	—
59	—	—	27	9	27	13	27	18	27	—	26	—
Total	—	—	6,832	1,137	6,617	646	6,299	440	5,695	399	4,645	706

Individual PHI Policies 1975–78
All offices—Standard sickness experience

Table K9. *Females—Deferred period 13 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	8	—	6	—	3	—	1	—
19	—	—	—	—	12	—	10	—	6	—	1	—
20	—	—	—	—	15	—	13	—	10	—	4	—
21	—	—	—	—	27	—	23	—	16	—	9	—
22	—	—	—	—	52	—	42	—	28	—	12	—
23	—	—	—	—	92	—	77	—	52	—	21	—
24	—	—	—	—	131	—	111	—	77	—	34	—
25	—	—	—	—	174	2	155	—	116	—	56	—
26	—	—	—	—	209	2	189	—	153	—	92	—
27	—	—	—	—	252	9	230	—	190	—	124	—
28	—	—	—	—	270	33	250	35	213	—	146	—
29	—	—	—	—	290	12	272	9	237	—	176	—
30	—	—	—	—	294	3	275	1	239	—	177	—
31	—	—	—	—	284	13	269	18	235	—	174	—
32	—	—	—	—	292	17	276	12	247	44	197	—
33	—	—	—	—	322	7	305	—	273	8	218	44
34	—	—	—	—	332	20	315	1	283	—	222	—
35	—	—	—	—	321	—	304	—	273	—	219	—
36	—	—	—	—	297	18	282	—	252	—	201	—
37	—	—	—	—	287	13	273	3	247	—	196	—
38	—	—	—	—	292	31	280	11	255	—	205	—
39	—	—	—	—	305	—	294	—	272	—	225	—

Table K9 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	—	—	—	—	314	6	302	1	278	—	237	—
41	—	—	—	—	309	9	300	2	283	—	246	—
42	—	—	—	—	287	44	277	32	260	65	227	22
43	—	—	—	—	285	6	277	21	260	5	229	—
44	—	—	—	—	274	3	267	—	255	—	230	—
45	—	—	—	—	286	38	278	33	262	1	234	52
46	—	—	—	—	266	16	260	1	248	—	220	52
47	—	—	—	—	245	41	240	39	231	—	211	104
48	—	—	—	—	256	58	250	68	238	83	219	156
49	—	—	—	—	258	53	253	83	241	42	217	147
50	—	—	—	—	256	45	252	32	245	117	227	155
51	—	—	—	—	239	22	237	15	233	55	221	201
52	—	—	—	—	201	26	198	30	194	9	184	152
53	—	—	—	—	179	30	177	32	173	111	165	122
54	—	—	—	—	161	20	160	39	156	48	149	232
55	—	—	—	—	133	25	133	13	131	10	124	104
56	—	—	—	—	110	13	109	39	108	39	105	156
57	—	—	—	—	90	39	90	31	89	53	87	52
58	—	—	—	—	65	11	65	26	65	77	63	106
59	—	—	—	—	46	26	46	17	46	49	46	107
Total	—	—	—	—	8,818	711	8,422	644	7,673	816	6,351	1,964

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K10. *Females—Deferred period 26 weeks*

Age	Sickness period											
	1/3	4/9	13/13	26/26	52/52	104/all						
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	7	—	5	—	2	—
19	—	—	—	—	—	—	9	—	5	—	2	—
20	—	—	—	—	—	—	14	—	10	—	5	—
21	—	—	—	—	—	—	16	—	12	—	6	—
22	—	—	—	—	—	—	36	—	25	—	13	—
23	—	—	—	—	—	—	66	—	45	—	20	—
24	—	—	—	—	—	—	124	—	91	—	46	—
25	—	—	—	—	—	—	194	21	150	—	84	—
26	—	—	—	—	—	—	230	29	188	17	120	—
27	—	—	—	—	—	—	261	13	224	—	159	—
28	—	—	—	—	—	—	299	35	249	—	173	—
29	—	—	—	—	—	—	332	16	273	—	180	—
30	—	—	—	—	—	—	355	10	304	—	209	—
31	—	—	—	—	—	—	360	3	309	—	222	—
32	—	—	—	—	—	—	368	—	324	—	239	—
33	—	—	—	—	—	—	377	—	329	—	248	—
34	—	—	—	—	—	—	377	51	334	40	252	—
35	—	—	—	—	—	—	370	2	328	16	256	36
36	—	—	—	—	—	—	377	—	338	—	266	52
37	—	—	—	—	—	—	416	38	373	—	293	52
38	—	—	—	—	—	—	484	28	439	43	350	18
39	—	—	—	—	—	—	500	13	463	39	384	5

Table K10 (continued)

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	485	79	450	40	380	19
41	—	—	—	—	—	—	504	93	462	57	390	47
42	—	—	—	—	—	—	505	67	476	156	409	78
43	—	—	—	—	—	—	469	—	439	69	381	140
44	—	—	—	—	—	—	514	24	482	—	424	—
45	—	—	—	—	—	—	499	77	469	92	409	—
46	—	—	—	—	—	—	496	20	474	63	425	42
47	—	—	—	—	—	—	480	72	462	73	422	52
48	—	—	—	—	—	—	402	64	386	62	354	3
49	—	—	—	—	—	—	398	72	382	157	355	8
50	—	—	—	—	—	—	366	45	345	83	310	4
51	—	—	—	—	—	—	344	46	331	103	298	—
52	—	—	—	—	—	—	329	7	322	71	302	78
53	—	—	—	—	—	—	272	4	264	—	250	104
54	—	—	—	—	—	—	250	39	243	29	229	67
55	—	—	—	—	—	—	204	57	200	29	190	41
56	—	—	—	—	—	—	151	23	150	45	144	52
57	—	—	—	—	—	—	114	—	114	—	111	52
58	—	—	—	—	—	—	93	—	93	—	93	26
59	—	—	—	—	—	—	76	32	76	—	76	52
Total	—	—	—	—	—	—	12,523	1,080	11,438	1,284	9,481	1,028

Sickness Experience 1975-78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K11. *Females—Deferred period 52 weeks*

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	—	—	—	—	—	—	—	—	1	—	—	—
19	—	—	—	—	—	—	—	—	2	—	1	—
20	—	—	—	—	—	—	—	—	2	—	1	—
21	—	—	—	—	—	—	—	—	2	—	1	—
22	—	—	—	—	—	—	—	—	4	—	2	—
23	—	—	—	—	—	—	—	—	12	—	5	—
24	—	—	—	—	—	—	—	—	24	—	12	—
25	—	—	—	—	—	—	—	—	34	—	20	—
26	—	—	—	—	—	—	—	—	45	—	28	—
27	—	—	—	—	—	—	—	—	47	—	32	—
28	—	—	—	—	—	—	—	—	53	—	35	—
29	—	—	—	—	—	—	—	—	69	—	41	—
30	—	—	—	—	—	—	—	—	70	—	48	—
31	—	—	—	—	—	—	—	—	87	—	61	—
32	—	—	—	—	—	—	—	—	87	—	63	—
33	—	—	—	—	—	—	—	—	100	—	76	—
34	—	—	—	—	—	—	—	—	102	—	77	—
35	—	—	—	—	—	—	—	—	98	—	73	—
36	—	—	—	—	—	—	—	—	109	—	82	—
37	—	—	—	—	—	—	—	—	122	—	96	—
38	—	—	—	—	—	—	—	—	134	51	107	—
39	—	—	—	—	—	—	—	—	152	1	120	51

Table K11 (continued)

Age	Sickness period											
	1/3 Exposed to risk	Weeks of sickness	4/9 Exposed to risk	Weeks of sickness	13/13 Exposed to risk	Weeks of sickness	26/26 Exposed to risk	Weeks of sickness	52/52 Exposed to risk	Weeks of sickness	104/all Exposed to risk	Weeks of sickness
40	—	—	—	—	—	—	—	—	154	—	128	52
41	—	—	—	—	—	—	—	—	154	—	127	—
42	—	—	—	—	—	—	—	—	177	—	146	52
43	—	—	—	—	—	—	—	—	172	26	150	—
44	—	—	—	—	—	—	—	—	174	—	154	—
45	—	—	—	—	—	—	—	—	184	—	159	—
46	—	—	—	—	—	—	—	—	160	—	140	—
47	—	—	—	—	—	—	—	—	158	20	138	—
48	—	—	—	—	—	—	—	—	154	23	138	—
49	—	—	—	—	—	—	—	—	124	3	113	—
50	—	—	—	—	—	—	—	—	123	—	110	—
51	—	—	—	—	—	—	—	—	116	—	102	26
52	—	—	—	—	—	—	—	—	111	45	100	52
53	—	—	—	—	—	—	—	—	101	—	95	26
54	—	—	—	—	—	—	—	—	80	—	74	—
55	—	—	—	—	—	—	—	—	72	2	68	—
56	—	—	—	—	—	—	—	—	55	50	54	2
57	—	—	—	—	—	—	—	—	40	—	38	52
58	—	—	—	—	—	—	—	—	27	—	27	—
59	—	—	—	—	—	—	—	—	19	—	19	—
Total	—	—	—	—	—	—	—	—	3,711	221	3,061	313

Sickness Experience 1975–78 for Individual PHI Policies

Individual PHI Policies 1975-78
All offices—Standard sickness experience

Table K12. *Females—All deferred periods*

Age	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
18	1	—	12	—	17	—	19	—	11	—	3	—
19	1	—	25	—	34	—	37	—	23	—	5	—
20	1	—	32	—	44	—	51	—	38	—	14	—
21	3	—	45	—	68	—	74	—	57	—	29	—
22	17	2	87	18	125	10	135	—	94	—	46	—
23	72	7	217	9	278	11	289	—	199	—	86	—
24	164	10	377	23	479	16	538	17	399	—	166	—
25	200	40	438	61	588	13	727	30	608	43	318	—
26	187	52	438	36	631	8	816	29	728	17	468	—
27	171	44	435	64	673	62	890	22	819	—	584	—
28	146	36	419	41	673	70	929	175	853	44	622	—
29	140	25	391	42	670	40	965	44	901	51	643	41
30	123	25	378	64	657	36	973	25	919	13	676	15
31	105	17	349	89	624	75	953	22	922	—	684	2
32	97	32	328	64	610	60	950	17	938	44	725	—
33	104	21	311	17	624	28	971	52	966	43	761	44
34	95	23	303	50	625	45	972	78	972	127	757	35
35	98	24	338	52	648	3	984	2	978	50	774	41
36	97	44	335	68	623	37	972	—	986	—	783	52
37	96	29	313	51	591	26	982	43	1,013	—	816	52
38	83	27	289	68	574	52	1,035	43	1,077	94	877	18
39	86	40	299	93	599	76	1,080	63	1,155	51	960	56

Table K12 (continued)

Age	Sickness period											
	1/3		4/9		13/13		26/26		52/52		104/all	
	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness	Exposed to risk	Weeks of sickness
40	85	37	284	70	593	36	1,059	160	1,141	86	978	71
41	78	22	279	71	581	41	1,068	108	1,148	63	987	93
42	79	19	292	49	574	69	1,060	125	1,175	232	1,016	204
43	73	24	271	22	551	12	1,005	28	1,117	141	983	151
44	64	17	254	31	524	17	1,025	39	1,144	—	1,019	—
45	68	33	249	59	532	65	1,017	123	1,142	96	1,007	52
46	73	17	251	77	513	71	996	28	1,113	85	994	228
47	77	24	249	91	490	71	959	146	1,080	115	982	328
48	101	31	257	72	510	112	902	196	1,018	191	929	285
49	129	56	280	92	535	93	924	220	1,010	277	929	336
50	122	57	270	67	524	55	883	77	971	355	893	343
51	131	40	265	87	503	38	842	61	935	158	863	488
52	113	61	244	91	444	79	769	87	866	149	815	542
53	94	23	216	56	395	97	663	86	748	125	713	408
54	92	56	185	79	346	77	594	150	662	134	629	351
55	79	19	158	33	289	39	491	85	556	65	531	198
56	79	30	139	58	249	34	399	77	449	171	434	210
57	60	19	99	26	189	67	302	83	341	75	331	185
58	60	4	94	6	159	24	252	131	278	182	275	236
59	40	21	67	42	113	56	189	70	208	88	207	276
Total	3,784	1,108	10,562	2,089	19,069	1,821	30,741	2,742	31,758	3,365	26,312	5,340

Sickness Experience 1975-78 for Individual PHI Policies

*Standard experience*Table K13. *Males—Numbers of claim inceptions*

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
18	—	1.0	—	—	—
19	—	1.0	—	—	—
20	—	1.0	1.0	—	—
21	—	—	—	—	—
22	6.0	8.0	—	1.0	—
23	33.0	9.5	2.5	—	1.0
24	124.5	6.5	1.0	2.0	—
25	146.5	17.5	2.0	3.0	—
26	231.0	26.0	2.5	3.0	1.0
27	247.5	14.0	3.0	4.0	—
28	341.0	15.5	6.0	3.0	—
29	350.5	34.0	12.0	6.5	—
30	291.5	36.5	10.5	2.5	—
31	369.0	46.5	9.5	3.0	—
32	311.0	42.5	12.5	5.0	1.0
33	304.5	33.5	7.0	4.5	1.0
34	263.5	33.5	4.5	3.5	—
35	288.0	51.5	12.5	1.0	—
36	272.0	55.5	19.0	6.0	1.0
37	282.0	42.0	9.5	3.0	—
38	244.5	46.5	14.0	6.0	1.0
39	283.0	51.5	18.0	10.5	—
40	249.5	36.5	10.5	9.5	1.0
41	279.0	65.0	19.5	8.5	—
42	223.0	51.5	17.0	5.5	—
43	275.0	50.0	19.0	4.5	1.0
44	263.0	67.0	25.5	9.5	1.5

Table K13 (*continued*)

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
45	282.5	56.5	22.0	14.0	1.0
46	265.5	63.0	21.5	6.0	1.5
47	298.0	50.0	18.0	2.0	3.5
48	349.0	69.0	24.5	7.0	3.5
49	314.0	66.5	19.5	14.0	1.0
50	339.5	60.0	17.0	15.0	.5
51	362.5	45.0	23.0	12.5	1.5
52	279.5	54.5	19.5	12.5	1.0
53	314.0	64.5	12.5	15.0	6.5
54	314.0	70.0	28.5	14.5	2.0
55	267.5	56.0	13.5	14.0	4.5
56	275.5	46.5	17.5	15.5	3.5
57	186.0	43.0	18.5	11.5	1.5
58	229.0	34.0	20.0	16.0	1.5
59	223.0	31.0	8.5	18.0	1.5
60	258.5	36.5	16.0	13.5	4.0
61	230.5	22.0	12.0	10.0	.5
62	208.5	16.5	18.0	14.0	2.5
63	207.5	22.5	10.5	13.0	.5
64	191.0	28.0	3.5	10.0	.5
Total	11,074.0	1,778.5	582.5	353.0	52.0

*Standard experience*Table K14. *Females—Numbers of claim inceptions*

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
18	—	—	—	—	—
19	—	—	—	—	—
20	—	—	—	—	—
21	—	—	—	—	—
22	3.0	2.0	—	—	—
23	10.0	1.0	—	—	—
24	16.0	3.0	—	—	—
25	31.0	5.0	.5	1.0	—
26	39.5	5.0	.5	1.0	—
27	34.0	4.0	2.0	1.0	—
28	26.5	2.0	3.5	2.0	—
29	18.0	4.0	1.5	1.0	—
30	17.0	7.0	—	1.0	—
31	12.0	9.0	1.0	1.0	—
32	20.5	8.0	2.0	—	—
33	14.5	—	.5	—	—
34	12.0	7.0	1.5	2.5	—
35	15.5	6.0	—	.5	—
36	27.5	8.0	3.0	—	—
37	26.0	5.0	1.0	2.0	—
38	16.0	4.5	2.0	1.5	1.0
39	22.0	8.0	—	.5	—

Table K14 (continued)

Age	Deferred period				
	1 Week	4 Weeks	13 Weeks	26 Weeks	52 Weeks
40	19.0	5.5	.5	3.0	—
41	12.5	7.5	1.0	5.5	—
42	14.5	7.5	5.5	1.5	—
43	13.0	4.0	—	—	1.0
44	12.0	1.5	1.0	1.0	—
45	15.0	7.5	3.5	3.0	—
46	13.0	12.0	1.5	2.5	—
47	14.0	8.5	4.0	2.0	1.0
48	20.5	6.5	6.0	3.5	1.0
49	29.5	3.0	4.5	2.5	—
50	28.5	4.5	4.5	3.5	—
51	20.0	4.5	3.0	1.0	—
52	26.0	4.5	3.0	—	1.0
53	11.5	5.5	3.0	.5	—
54	22.0	2.5	1.0	1.5	—
55	8.0	4.5	2.0	2.0	1.0
56	12.5	1.0	1.0	1.0	—
57	9.5	1.0	3.0	1.0	—
58	1.5	—	1.0	—	—
59	8.0	1.0	2.0	3.0	—
Total	671.5	181.0	70.0	53.0	6.0

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