

**TRANSACTIONS OF SOCIETY OF ACTUARIES
1962 REPORTS**

**REPORT OF THE COMMITTEE ON EXPERIENCE UNDER
SELF-ADMINISTERED RETIREMENT PLANS**

MORTALITY EXPERIENCE AMONG PENSIONERS

AS WAS the case with the previous report of this Committee (*TSA* 1958 Reports, 115), the present report is limited to a study of mortality experience among pensioners under certain large self-administered retirement plans. Both for consistency with the 1958 report, and because of the present inability of the Committee to extend the scope of its studies, the following further limitations have also been observed:

- a) So far as possible only regular (service) retirements, as distinguished from retirements due to disability occurring prior to normal retirement age, have been included. Different employers follow different retirement policies and different methods of classifying retirements, so it is likely that this limitation does not produce complete homogeneity.
- b) The experience is reported only by numbers of lives, since little or no experience data were available by amounts of pension.
- c) So far as possible experience for male and female pensioners was considered separately. In one group this separation was not available, and it was possible only to indicate the approximate proportions of female employees.
- d) Each employer's experience has been studied and reported separately. While consideration was given to combining the experience of certain of the groups, it was concluded that each one involved a large enough experience to be of significance when considered separately and that the results would be more useful in this form.

For consistency, both with the 1958 report and with the reports of the Committee on Group Annuity Mortality, the *Ga-1951* Table (without projection) has been used as the basis for determining expected deaths.

Of the eight groups whose experience was reported in 1958, new data were received for only four. However, data were received for two new groups, so the present report encompasses the experience of six large employers.

Table 1 reports the ratios of actual to expected mortality, in five-year age groups, for each of the six groups studied. In each case the data have also been broken down into groups of calendar years of experience to bring out the secular trends of mortality.

Table 2 is a summary of composite mortality ratios, for ages 65 and

over, charted according to the calendar-year periods for which data were separately available. This table also shows, for comparison, two important experiences among "insured" pensions. These are the intercompany group annuity mortality experience and the experience under group contracts issued to employers by the Canadian Government Annuities Branch. Both experiences relate to males retired at age 65 or over.

TABLE 1

MORTALITY OF PENSIONERS UNDER SELF-ADMINISTERED RETIREMENT PLANS
RATIOS OF ACTUAL DEATHS TO EXPECTED
ACCORDING TO Ga-1951 MORTALITY TABLE (WITHOUT PROJECTION)

ATTAINED AGES	GROUP A Retired Governmental Employees, Including Only "Nondisability Annuitants"				
	7/35-6/40	7/40-6/45	7/45-6/50	7/50-6/55	7/55-6/60
	Males				
Under 55.....	150% (43)	* (2)	* (3)	80% (21)	121% (47)
55-59.....	158 (252)	141% (92)	127% (340)	129 (424)	114 (565)
60-64.....	132 (885)	142 (942)	157 (1940)	147 (3031)	132 (4169)
65-69.....	121 (2381)	121 (2887)	128 (3962)	132 (6333)	126 (10206)
70-74.....	126 (2851)	120 (4020)	112 (5489)	107 (7649)	109 (11354)
75-79.....	124 (2316)	117 (3253)	108 (4588)	102 (6556)	103 (9247)
80-84.....	125 (1285)	118 (2130)	109 (2926)	99 (4229)	99 (6383)
85-89.....	113 (406)	118 (762)	109 (1269)	106 (1908)	106 (3130)
90 and over..	133 (168)	118 (212)	123 (372)	119 (658)	110 (1018)
65 and over..	124 (9407)	119 (13264)	113 (18606)	109 (27333)	109 (41338)
All.....	125 (10587)	120 (14300)	117 (20889)	112 (30809)	111 (46119)
	Females				
Under 55.....	* (1)	* (0)	* (0)	* (3)	* (4)
55-59.....	* (8)	* (8)	75 (16)	70 (36)	97 (55)
60-64.....	118 (23)	124 (43)	106 (125)	97 (263)	103 (436)
65-69.....	174 (126)	119 (150)	134 (364)	110 (639)	102 (1021)
70-74.....	126 (170)	104 (266)	108 (480)	98 (770)	93 (1362)
75-79.....	162 (189)	127 (288)	116 (448)	106 (710)	92 (1220)
80-84.....	167 (116)	150 (206)	134 (342)	117 (526)	99 (910)
85-89.....	187 (67)	146 (82)	125 (136)	131 (296)	105 (476)
90 and over..	128 (14)	154 (28)	123 (46)	124 (92)	112 (192)
65 and over..	155 (682)	124 (1020)	121 (1816)	109 (3033)	97 (5181)
All.....	153 (714)	125 (1071)	119 (1957)	107 (3335)	98 (5676)

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

* Less than 10 deaths.

TABLE 1—Continued

ATTAINED AGES	GROUP B Service Pensioners of a Group of Public Utility Companies Covered under a Uniform Plan, Retirement Is Compulsory at 65, and Service Pensioners Include Employees Retired for Disability If Eligible for a Service Pension					
	1933-37	1938-42	1943-47	1948-52	1953-57	1958-61
Males						
Under 55...	270% (20)	523% (34)	559% (33)	684% (39)	523% (46)	593% (54)
55-59...	251 (100)	255 (117)	378 (155)	336 (136)	363 (158)	353 (176)
60-64...	186 (206)	194 (308)	195 (379)	209 (475)	180 (458)	180 (475)
65-69...	157 (259)	130 (389)	132 (681)	125 (990)	126 (1283)	124 (1189)
70-74...	143 (184)	135 (279)	130 (487)	114 (739)	115 (1155)	116 (1163)
75-79...	167 (128)	141 (180)	113 (257)	115 (471)	109 (788)	109 (943)
80-84...	134 (45)	122 (70)	133 (137)	102 (201)	102 (382)	106 (540)
85-89...	133 (12)	110 (23)	86 (29)	113 (73)	129 (155)	119 (204)
90 and over...	* (5)	* (3)	126 (13)	110 (21)	127 (37)	137 (43)
65 and over...	152 (633)	131 (944)	127 (1604)	117 (2495)	116 (3800)	115 (4088)
All...	167 (959)	151 (1403)	144 (2171)	131 (3145)	125 (4462)	124 (4793)
Females						
Under 55...	396 (21)	396 (38)	389 (58)	311 (73)	355 (130)	348 (131)
55-59...	297 (38)	251 (64)	268 (113)	247 (180)	208 (229)	192 (259)
60-64...	171 (30)	226 (88)	196 (143)	164 (208)	146 (332)	148 (416)
65-69...	184 (35)	198 (81)	149 (140)	124 (251)	115 (444)	115 (601)
70-74...	200 (27)	140 (40)	151 (100)	135 (204)	115 (379)	108 (512)
75-79...	143 (12)	160 (31)	98 (38)	121 (108)	111 (233)	104 (359)
80-84...	* (4)	200 (16)	143 (26)	116 (48)	122 (119)	105 (172)
85-89...	* (0)	* (3)	* (5)	167 (21)	139 (41)	128 (67)
90 and over...	* (0)	* (2)	* (3)	* (0)	* (7)	217 (20)
65 and over...	173 (78)	172 (173)	141 (312)	127 (632)	115 (1223)	110 (1731)
All...	207 (167)	208 (363)	178 (626)	152 (1093)	133 (1914)	126 (2537)

TABLE 1—Continued

ATTAINED AGES	GROUP F Regular (Nondisability) Pensioners of a Chemical Manufacturing Company. Experience of Employees Retired at the Compulsory Retirement Age of 65				
	7/42-6/46	7/46-6/50	7/50-6/54	7/54-6/58	7/58-6/61
	Salaried †				
65-69.....	141% (18)	82% (21)	121% (50)	95% (56)	82% (50)
70-74.....	171 (13)	103 (21)	107 (35)	106 (56)	98 (55)
75-79.....	* (7)	* (9)	88 (19)	101 (34)	82 (30)
80-84.....	* (0)	* (1)	* (5)	99 (18)	124 (28)
85-89.....	* (1)	* (1)	* (0)	* (1)	* (8)
90 and over...	* (0)	* (0)	* (0)	* (0)	* (0)
65 and over...	167 (39)	99 (53)	109 (109)	100 (165)	93 (171)
All.....	167 (39)	99 (53)	109 (109)	100 (165)	93 (171)
	Wage ‡				
65-69.....	104 (35)	138 (79)	121 (92)	103 (103)	103 (96)
70-74.....	87 (21)	115 (57)	115 (90)	127 (129)	102 (97)
75-79.....	* (4)	138 (35)	106 (52)	107 (86)	111 (87)
80-84.....	* (1)	* (9)	99 (18)	124 (50)	126 (58)
85-89.....	* (0)	* (1)	* (4)	121 (10)	152 (21)
90 and over...	* (0)	* (0)	* (1)	* (1)	* (2)
65 and over...	88 (61)	128 (181)	114 (257)	114 (379)	110 (361)
All.....	88 (61)	128 (181)	114 (257)	114 (379)	110 (361)

NOTE.—Number of actual deaths corresponding to each mortality ratio is shown in parentheses.

* Less than 10 deaths.

† Approximately 15 per cent females.

‡ Approximately 3 per cent females.

TABLE 1—Continued

ATTAINED AGES	GROUP I Pensioners of a Company Engaged in Heavy Manufacturing, Including Experience after Age 65 on Disability Pensioners	
	1/55-9/59	1960-61
	Males	
60-64.....	101% (43)	115% (55)
65-69.....	131 (672)	124 (396)
70-74.....	109 (489)	128 (391)
75-79.....	113 (214)	130 (179)
80-84.....	115 (70)	103 (51)
85 and over.....	102 (10)	118 (13)
65 and over.....	119 (1455)	125 (1030)
All.....	110 (1498)	125 (1085)

TABLE 1—Continued

ATTAINED AGES	GROUP K Pensioners of an Integrated Oil Company, with Retirement Mandatory at Normal Retirement Age (65), and with Liberal Early Retirement Provisions. Experience Is for Normal Retirements Only		
	1953-55	1956-58	1959-61
	Males		
65-69.....	96% (66)	97% (83)	85% (87)
70-74.....	90 (13)	92 (55)	98 (87)
75-79.....	* (0)	* (1)	92 (32)
80-84.....	* (0)	* (0)	* (0)
85-89.....	* (0)	* (0)	* (0)
90 and over.....	* (0)	* (0)	* (0)
65 and over.....	95 (73)	97 (134)	92 (200)
All.....	95 (79)	95 (139)	91 (206)

TABLE 1—Continued

ATTAINED AGES	GROUP L Service (Nondisability) Retirements of an Integrated Oil Company			
	7/40-6/46	7/46-6/50	7/50-6/54	7/54-6/59
Salaried Males				
55-59.....				190% (12)
60-64.....				98 (33)
65-69.....				130 (115)
70-74.....				88 (65)
75-79.....				136 (78)
80-84.....				105 (35)
85-89.....				101 (10)
90 and over.....				* (2)
65 and over.....	124%†	142%†	98%†	116 (305)
All.....				115 (350)
Wage Males				
55-59.....				129 (12)
60-64.....				138 (93)
65-69.....				114 (207)
70-74.....				124 (230)
75-79.....				116 (174)
80-84.....				130 (115)
85-89.....				134 (38)
90 and over.....				* (7)
65 and over.....	136†	115†	112†	120 (771)
All.....				122 (876)

† Approximate. Numbers of deaths by period not available for first three periods.

Perhaps the most significant feature of the experience here reported is that it confirms the "plateau" of male pensioner mortality, starting about 1950, that was noted in the 1958 report. For the two largest groups, A and B, the absence of any appreciable secular improvement in mortality of male pensioners during the last ten years, either in the aggregate or by individual age groups, is quite apparent. As pointed out in the 1958 report, while this leveling-off may represent a real slowing-down in the mortality improvement trend among pensioners, it could also result at least in part from a continuing trend away from compulsory retirement or from a tendency to classify an increasing proportion of pensioners as "regular" rather than disability. However, even if the leveling-off is real, it may well be temporary; certainly, there is nothing here that would indicate a change in the widely used assumption of a continuing downward trend in pensioner mortality.

The foregoing comments apply only to the male experience. Again referring primarily to the two largest groups, A and B, there appears to be a definite and continuing trend downward in the rates of mortality among female pensioners. At least with these two groups, the size of the experience would seem to be large enough so that the indicated results may be considered significant. Incidentally, the fact that Group F, in which the male and female experience could not be separated, shows a continuing downward trend in over-all pensioner mortality tends to confirm the experience of Groups A and B.

It will be noted that the volume of experience covered by Group A is comparable in size with the total volume of experience covered by the intercompany group annuity mortality experience. This fact, in conjunction with the above-noted apparent inconsistencies in the trends of male and female pensioner mortality, suggested the desirability of the further comparison shown in Table 3.

Table 3 indicates a significant degree of consistency between the intercompany group annuity and the Group A experiences, both in the recent over-all mortality ratios and in the secular trend of these ratios.

For Group F the experience summarized in Tables 1 and 2 covers only pensioners retired at the compulsory retirement age of 65. Under this plan employees may in certain circumstances retire voluntarily prior to age 65 with an unreduced pension. Data for pensioners in this special category were also made available, and Table 4 shows the experience by comparison with the experience for the corresponding years included in Table 1.

As would be expected, the mortality prior to age 65 for both groups indicates that the voluntary retirement provision is used by some em-

TABLE 3
COMPARISON OF MORTALITY EXPERIENCE

	Intercompany Group Annuity (Retirements on or after Normal Retirement Date)	Group A (Ages 65 and Over)
Males		
1941-45.	124% (5905)	119% (13264)
1946-50.	114 (12085)	113 (18606)
1951-55.	111 (24313)	109 (27333)
1956-60.	107 (41545)	109 (41338)
Females		
1941-45.	145 (491)	124 (1020)
1946-50.	116 (915)	121 (1816)
1951-55.	105 (1985)	109 (2033)
1956-60.	96 (3909)	97 (5181)

TABLE 4
GROUP F—EXPERIENCE JULY, 1954, THROUGH JUNE, 1961

Attained Ages	Compulsory Retirements at Age 65	Voluntary Retirement prior to Age 65 with Unreduced Pensions
Salaried Employees†		
60-64.	88% (106)	125% (36)
65-69.	102 (111)	66 (27)
70-74.	91 (64)	98 (23)
75-79.	113 (46)	* (3)
80-84.	* (9)	* (0)
85 and over.		* (0)
All.	96 (336)	90 (89)
Wage Employees‡		
60-64.	103% (199)	128% (20)
65-69.	115 (226)	144 (32)
70-74.	109 (173)	65 (11)
75-79.	125 (108)	* (6)
80-84.	137 (34)	* (0)
85 and over.		* (0)
All.	112 (740)	118 (69)

* Less than 10 deaths.

† Approximately 15 per cent females.

‡ Approximately 3 per cent females.

ployees who, while not eligible for disability pension, are nevertheless in impaired health. The experience above 65 for wage group seems to be consistent. For the salaried employees the lighter mortality above 65 may indicate that voluntary retirements among salaried people include not only substandard employees but also a "superstandard" group. However, the experience here is so small that such inferences must be considered largely conjectural.

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