CONTRIBUTION TO THE STUDY

OF THE

DEATH-RATE OF PERSONS IN ASYLUMS.

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In the population of Scotch Asylums, there are so few persons below the age of 10 years that, for practical purposes, it may be correctly said there are none. Of the general community, on the other hand, 25·6 per cent. are persons below that age. It is clear, therefore, that the death-rate of the population of asylums cannot properly be compared with the death-rate of the general population. To make such a comparison it is necessary to deal only with the deaths occurring among the 74·4 per cent. of the general community who are above the age of 10 years. When this is done, it appears that the mean annual death-rate for the general population is 1·7 per cent. as compared with 8·3 per cent. for the population of asylums. These figures refer to the whole population of asylums, and to the whole of the general population above the age of 10 years ; but in order to show the rates at which persons of different ages die in asylums, and the rates at which persons of corresponding ages die in the general community, the following table has been prepared. It is founded on 3,800 deaths occurring during the seven years, 1870-1876, in the Asylums of Scotland, which had a mean population of 6,421 during those years.

This table shows that the inmates of asylums, at all the quinquennia between the ages of 10 and 50, die pretty nearly at the same rate, with the exception of those whose ages fall in quinquennium 25-30, among whom a distinctly lower death-rate occurs.

In the general population, on the other hand, the death-rates for all the quinquennia between 10 and 50 increase in geometrical progression as the ages rise.

Ages in Years.	Mean annual mortality per 100 persons resident in asylums at different ages.	Mean annual mortality per 100 of the general population at different ages.	Number of deaths in Asylums to one death in the population at different ages.	One death annually in persons living of the general population at different ages.	One death annually in persons living in asylums at different ages.
From					
10 to 15......	6·2	·58	10·7	172·71	16·1
15 to 20......	6·8	·79	8·6	126·74	14·7
20 to 25......	6·3	·99	6·4	101·11	16·0
25 to 30......	5·1	1·05	4·9	94·88	19·5
30 to 35......	6·2	1·09	5·7	91·32	16·1
35 to 40......	6·4	1·29	5·0	77·34	15·6
40 to 45......	6·8	1·33	5·1	75·36	14·8
45 to 50......	6·8	1·66	4·1	60·13	14·7
50 to 55......	7·9	1·97	4·0	50·84	12·6
55 to 60......	9·1	2·47	3·7	40·49	11·0
60 to 65......	11·7	3·32	3·5	30·09	8·5
65 to 70......	15·0	4·72	3·2	21·20	6·7
70 to 75......	18·7	6·91	2·7	14·47	5·3
75 to 80......	26·7	10·89	2·5	9·18	3·7
80 to 90......	39·6	20·63	1·9	5·13	2·5
90 to 100 ...	20·4	38·41	0·5	2·63	4·9

After the age of 50, that is, when the working period of life is over, the death-rates in asylums rise from quinquennium to quinquennium by a considerable but irregular progress.

In the general population again, after the age of 50, the rise is rapid and steady.

The third column of the table shows the proportions which the asylum death-rates at different ages bear to the death-rates at corresponding ages in the general population. For example, it shows that for every death yielded by 100 persons of the general population whose age falls between 10 and 15 years, 10·7 deaths are yielded by 100 persons in asylums whose age falls between the same years; and so in like manner with the other quinquennia. It will be seen that the figures in this column steadily fall as the ages rise: the asylum death-rate for the quinquennium 10-15 being 10½

Ages in Years—From:—	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 to 90	90 to 100
Royal Asylums:—																
Mean numbers resident, at different ages	3·0	43·0	139·0	233·0	319·5	377·0	358·0	338·0	324·0	240·0	207·5	130·5	95·0	50·0	6·7	1·0
Mean annual number of deaths, at different ages	·429	4·286	9·143	12·143	21·714	22·857	26·286	22·857	27·571	21·429	22·429	21·143	16·000	12·429	3·357	·286
Mean annual percentage of deaths on residents, at different ages	14·3	10·0	6·6	5·2	6·8	6·1	7·3	6·8	8·5	8·9	10·8	16·2	16·8	24·9	52·3	28·6
District Asylums:—																
Mean numbers resident, at different ages	3·5	38·0	93·0	179·5	240·0	226·5	238·5	225·0	197·0	168·0	123·5	79·5	60·5	26·0	7·0	—
Mean annual number of deaths, at different ages	·143	2·286	6·429	9·143	12·714	13·714	13·143	15·000	12·286	13·429	14·857	11·143	10·429	8·000	2·286	·286
Mean annual percentage of deaths on residents, at different ages	4·1	6·0	6·9	5·1	5·3	6·1	5·5	6·7	6·2	8·0	12·0	14·0	17·2	30·8	23·1	—
Parochial Asylums:—																
Mean numbers resident, at different ages	3·0	24·5	53·5	90·5	109·5	117·5	124·5	94·0	73·5	54·0	37·5	29·5	16·5	9·0	1·5	1·0
Mean annual number of deaths, at different ages	—	1·286	3·571	4·286	7·857	10·143	10·000	7·571	8·429	6·714	6·286	5·143	3·714	1·286	·571	·143
Mean annual percentage of deaths on residents, at different ages	—	5·2	6·7	4·7	7·2	8·6	8·0	8·1	11·5	12·4	16·8	17·4	22·5	14·3	35·7	14·3
Private Asylums:—																
Mean numbers resident, at different ages	—	3·5	10·5	18·0	21·5	28·5	27·5	28·0	26·0	24·0	20·5	19·5	12·0	7·0	2·0	0·5
Mean annual number of deaths, at different ages	—	—	·571	1·571	3·000	2·429	2·571	1·571	2·286	3·286	2·286	2·571	2·000	3·000	·571	—
Mean annual percentage of deaths on residents, at different ages	—	—	5·4	8·7	14·0	8·5	9·4	5·6	8·8	13·7	11·1	13·2	16·7	42·9	28·6	—
Lunatic Wards of Poorhouses:—																
Mean numbers resident, at different ages	2·0	8·5	30·5	39·0	59·0	66·0	72·0	64·0	55·0	50·5	49·5	30·0	19·5	12·5	2·7	1·0
Mean annual number of deaths, at different ages	·143	·143	·714	1·571	1·286	3·000	3·429	4·000	3·000	4·000	5·429	3·429	6·000	3·286	1·143	—
Mean annual percentage of deaths on residents, at different ages	7·1	1·7	2·3	4·0	2·2	4·5	4·8	6·3	5·5	7·9	11·0	11·4	30·8	26·3	52·1	—
In all Establishments:—																
Mean numbers resident, at different ages	11·5	117·5	326·5	560·0	749·5	815·5	820·5	749·0	675·5	536·5	438·5	289·0	203·5	104·5	20·0	3·5
Mean annual number of deaths, at different ages	·715	8·000	20·429	28·714	46·571	52·143	55·429	51·000	53·571	48·857	51·286	43·429	38·143	28·000	7·923	·714
Mean annual percentage of deaths on residents, at different ages	6·2	6·8	6·3	5·1	6·2	6·4	6·8	6·8	7·9	9·1	11·7	15·0	18·7	26·7	39·6	20·4

times the death-rate for that quinquennium in the general population, while the asylum death-rate for the quinquennium 75-80, is only 2½ times the death-rate for that quinquennium in the general community.

The fourth and fifth columns are intended to exhibit the figures of the third column in a different aspect. The figures in these are read in the following way :—172·7 persons in the general community between the age of 10 and 15 yield one death annually, while 16·1 persons in asylums between the age of 10 and 15 yield one death annually ; and so on in like manner with the other figure of the two columns.

It is scarcely necessary to point out that little reliance can be placed on the figures relating to ages from 80 to 100.

The annexed table shows—(1) the mean numbers resident in the different classes of establishments, and in all establishments, in Scotland, at different ages, for the period 1870-1876 ; (2) the mean yearly number of deaths at corresponding ages which occurred in these different classes of establishments, and in all establishments, during the same period ; and (3) the mean yearly deaths per 100 of the mean numbers resident at the different ages.

This table exhibits in detail the material which was employed in constructing the first table ; but its chief use lies in this, that it shows the progress of the death-rate for different ages in asylum communities to be substantially the same in the Royal, District, and Parochial Asylums when they are taken separately, as it is in all kinds of asylums when they are taken in mass. It will be observed that even the exceptional character of the death-rate for the quinquennium 25-30, which was seen in the figures relating to all asylums, appears also, more or less distinctly, in the figures relating to these three classes of asylums when they are dealt with separately.

The population of Private Asylums and also of the Lunatic Wards of Poorhouses, is too small to yield useful results in this matter when these establishments are dealt with apart from others.

The following table is added for the convenience of those who may be interested in this research. No explanation of it is needed :—

Ages in Years.	Proportion of persons at different ages in 1,000 of the whole population of Scotland above ten years of age.	Proportion of persons in asylum at different ages in 1,000 of the whole population of Scotch Asylums.
From		
10 to 15	148·9	1·8
15 to 20	134·3	18·3
20 to 25	117·0	50·8
25 to 30	101·9	87·2
30 to 35	88·1	116·7
35 to 40	75·7	127·0
40 to 45	70·3	127·8
45 to 50	59·0	116·6
50 to 55	53·9	105·2
55 to 60	42·0	83·6
60 to 65	39·4	68·3
65 to 70	27·0	45·0
70 to 75	21·8	31·7
75 to 80	11·5	16·3
80 to 90	8·5	3·1
90 to 100.........	0·7	0·5
100 and upwards.	0·03	