

No.	Death Age
1	77
2	87
3	42
4	61
5	45
6	34
7	78
8	59
9	55
10	72
11	31
12	71
13	77
14	23
15	38
16	86
17	52
18	85
19	80
20	70
21	51
22	53
23	45
24	41
25	55
26	73
27	42
28	50
29	77
30	67

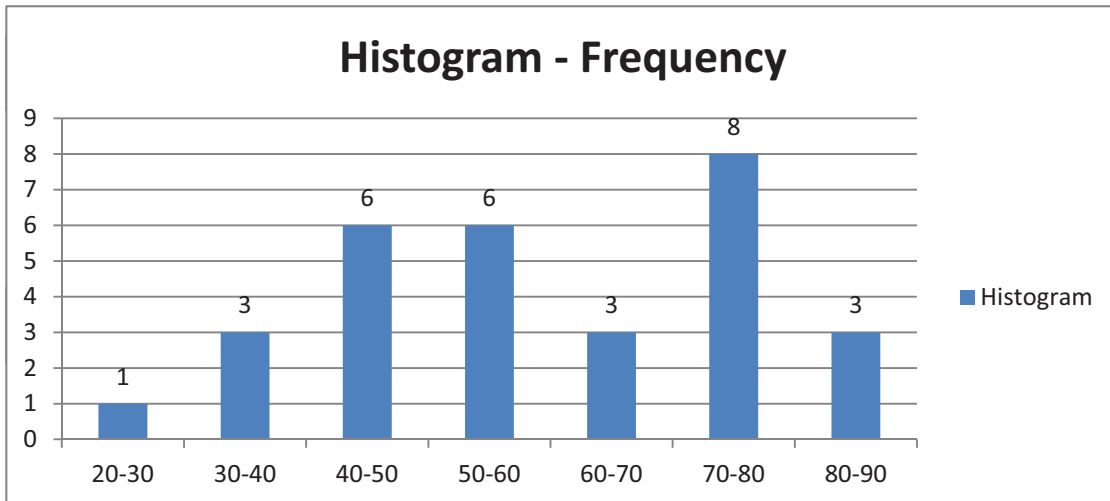
**Basic Description**

Numbers of Data	30
SUM	1777
Mean	59.23333
Median	57
Mode	77
Maximum	87
Minimum	23
Variance	322.8057
Standard Deviation	17.9668

**Histogram**

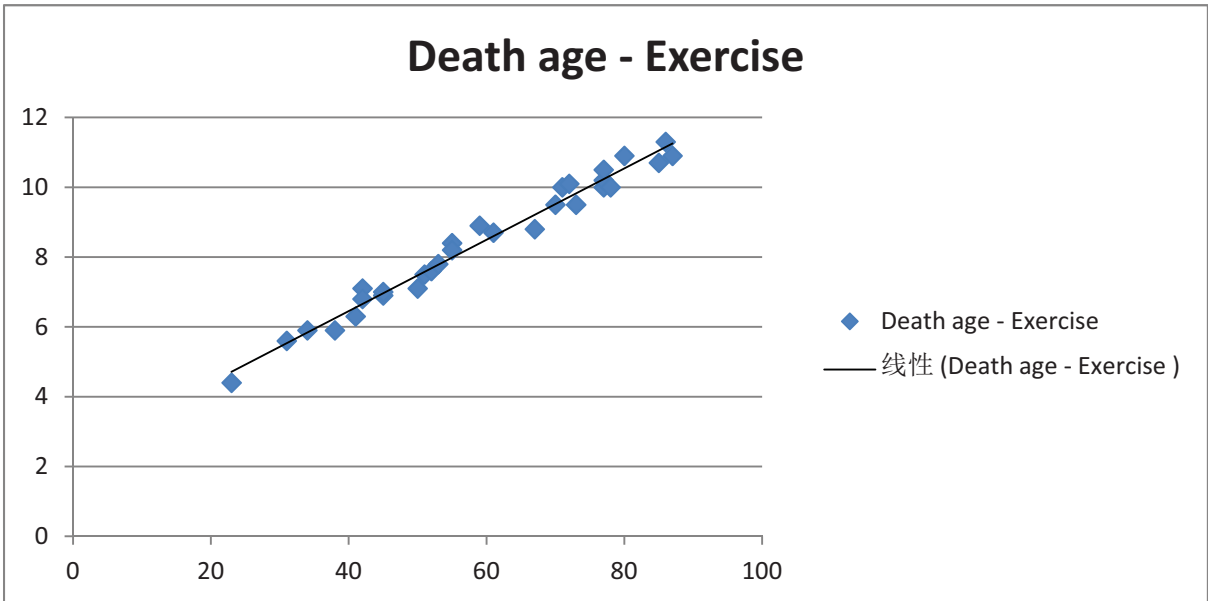
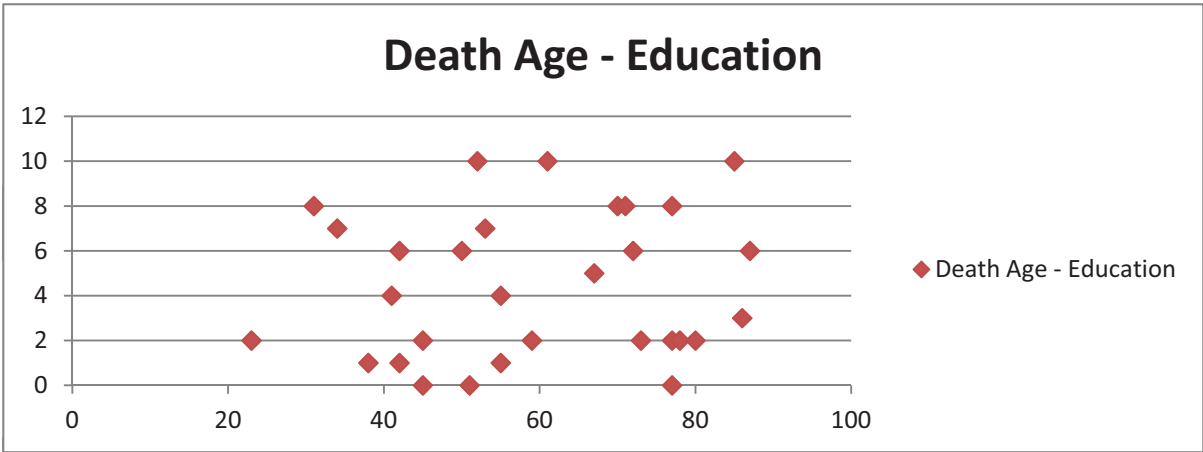
Numbers of Bins	5.906891
Width of each Bin	16.92938

Bins	Frequency	Relative Frequency	Critical Points	Frequency
20-30	1	0.033333333	20	1
30-40	3	0.1	30	3
40-50	6	0.2	40	5
50-60	6	0.2	50	7
60-70	3	0.1	60	2
70-80	8	0.266666667	70	8
80-90	3	0.1	80	4
Sum	30	1	90	30



No.	Death Age	Confidence Interval	
1	77	Numbers of Sample	30
2	87	Sample Average	59.23333
3	42	Sample Variance	322.8057
4	61	Sample Standard Deviation	17.9668
5	45	Sample Standard Error	3.280273
6	34		
7	78	Confidence level	0.95
8	59	Degree of freedom	29
9	55	t value	2.04523
10	72		
11	31	Radius of Confidence Interval	6.708912
12	71	Lower Bounder	52.52442
13	77	Upper Bounder	65.94224
14	23		
15	38		
16	86		
17	52		
18	85		
19	80		
20	70		
21	51		
22	53		
23	45		
24	41		
25	55		
26	73		
27	42		
28	50		
29	77		
30	67		

No.	Death Age (y)	Exercise (x)	Education
14	23	4.4	2
11	31	5.6	8
6	34	5.9	7
15	38	5.9	1
24	41	6.3	4
3	42	7.1	1
27	42	6.8	6
5	45	6.9	0
23	45	7	2
28	50	7.1	6
21	51	7.5	0
17	52	7.6	10
22	53	7.8	7
9	55	8.4	1
25	55	8.2	4
8	59	8.9	2
4	61	8.7	10
30	67	8.8	5
20	70	9.5	8
12	71	10	8
10	72	10.1	6
26	73	9.5	2
1	77	10	8
13	77	10.2	2
29	77	10.5	0
7	78	10	2
19	80	10.9	2
18	85	10.7	10
16	86	11.3	3
2	87	10.9	6



The results of Linear Regression			
Slope	9.557028	-21.205	Intercept
±	0.280337	2.414421	±
r <sup>2</sup>	0.976475	2.804513	S(y)
F	1162.212	28	Degree of Freedom
Regression ss	9141.138	220.2283	Residual ss

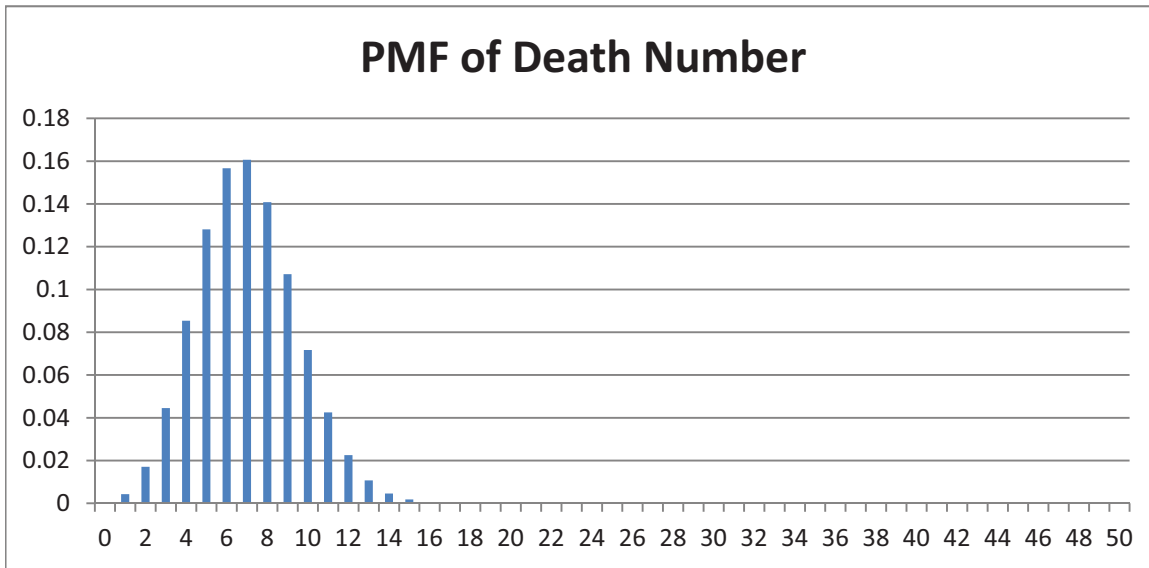
True Model:

$$y = 10*x - 20 - 10*u, \text{ where } u \sim U(0, 1)$$

PMF of Death Number

Number of insureds 50 Death Rate (Male, 85+) 0.14023

Numbers of Death(k)	P(Y=k)	P(Y<=k)
0	0.000523738	0.000523738
1	0.004271132	0.00479487
2	0.017067415	0.021862285
3	0.044539606	0.066401891
4	0.085357735	0.151759627
5	0.128082371	0.279841998
6	0.156678451	0.436520449
7	0.160628481	0.59714893
8	0.140818485	0.737967415
9	0.107182799	0.845150214
10	0.071674983	0.916825197
11	0.04251024	0.959335437
12	0.022533858	0.981869295
13	0.01074322	0.992612515
14	0.004630915	0.997243429
15	0.001812745	0.999056174
16	0.00064676	0.999702935
17	0.000210976	0.99991391
18	6.30859E-05	0.999976996
19	1.73295E-05	0.999994326
20	4.38104E-06	0.999998707
21	1.02079E-06	0.999999727
22	2.19468E-07	0.999999947
23	4.35774E-08	0.99999999
24	7.99599E-09	0.999999998
25	1.35633E-09	1
26	2.12711E-10	1
27	3.08387E-11	1
28	4.13165E-12	1
29	5.11219E-13	1
30	5.83665E-14	1
31	6.14173E-15	1
32	5.94776E-16	1
33	5.2914E-17	1
34	4.31518E-18	1
35	3.21743E-19	1
36	2.18654E-20	1
37	1.3494E-21	1
38	7.5294E-23	1
39	3.77864E-24	1
40	1.69483E-25	1
41	6.7422E-27	1
42	2.35643E-28	1
43	7.15046E-30	1
44	1.8554E-31	1
45	4.03492E-33	1
46	7.15329E-35	1
47	9.92949E-37	1
48	1.0122E-38	1
49	6.73842E-41	1



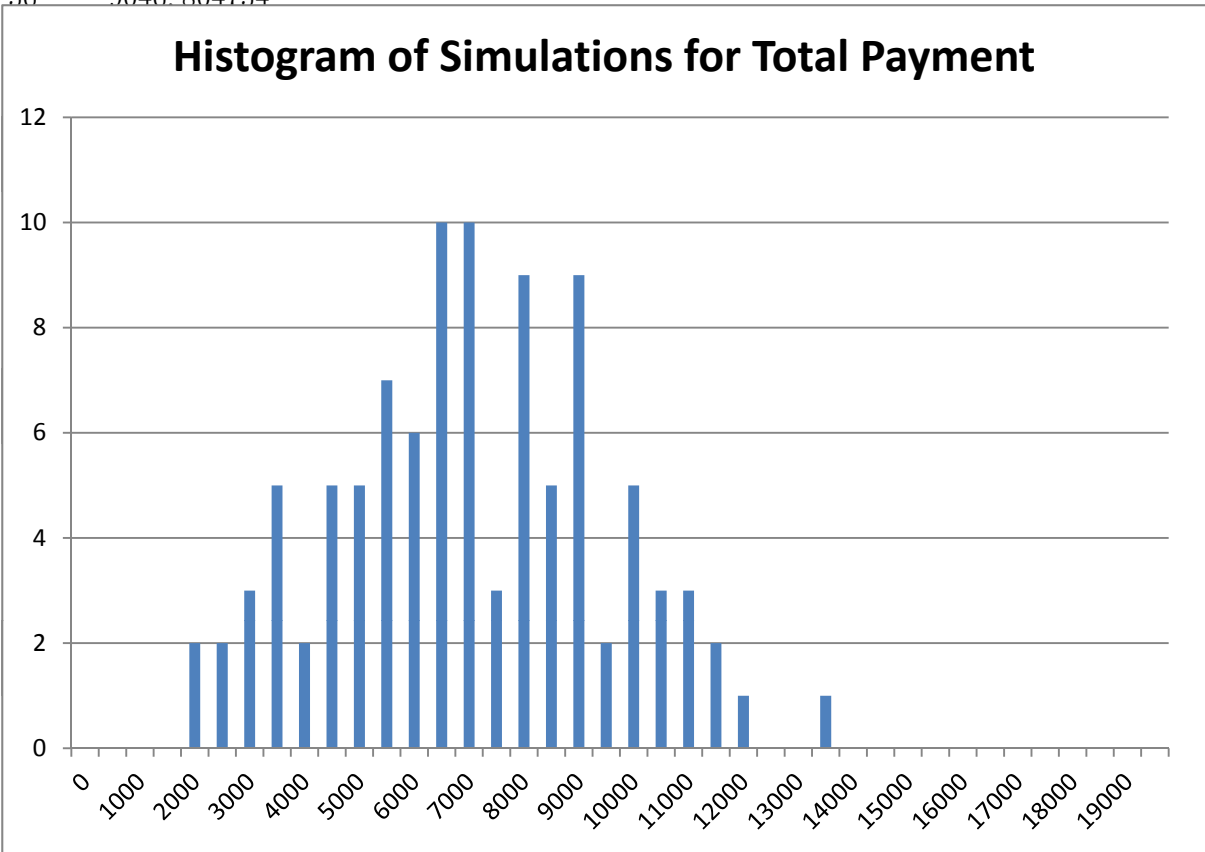
		Simulation			
Number of insureds	50	Death rate	0.14023	# of Death	7
Payment per death	N(1000, 10000)	Rand	0.77138505	Total payment	6518.576755
No.	RAND()	Death	NORMINV	Payment	
1	0.249640405	0	1176.40645	0	
2	0.424190367	0	846.53173	0	
3	0.788620102	0	955.393378	0	
4	0.811615415	0	1134.93824	0	
5	0.086196171	1	856.121174	856.1211735	
6	0.22115212	0	856.698994	0	
7	0.954414034	0	949.666099	0	
8	0.0524065	1	1042.5357	1042.535701	
9	0.917397727	0	853.861361	0	
10	0.419739886	0	1057.65104	0	
11	0.494759119	0	937.825238	0	
12	0.44062745	0	958.069286	0	
13	0.494737343	0	1163.80385	0	
14	0.671000224	0	1172.07737	0	
15	0.853148681	0	1075.30213	0	
16	0.383889138	0	1019.41433	0	
17	0.097254279	1	1017.09563	1017.095629	
18	0.783091888	0	1089.76877	0	
19	0.529048293	0	1211.55236	0	
20	0.542141792	0	1034.07311	0	
21	0.709666163	0	771.625999	0	
22	0.400070313	0	1047.13297	0	
23	0.037506143	1	1002.40679	1002.406794	
24	0.710035897	0	963.456163	0	
25	0.202306991	0	980.06078	0	
26	0.785638513	0	1041.26091	0	
27	0.244183975	0	975.368578	0	
28	0.431118971	0	959.491828	0	
29	0.148081418	0	917.642694	0	
30	0.103576877	1	840.396086	840.3960857	
31	0.500014739	0	944.375176	0	
32	0.455074722	0	1192.86217	0	
33	0.236915875	0	1071.39489	0	
34	0.232676846	0	989.839585	0	
35	0.719108055	0	1016.42815	0	
36	0.783591015	0	930.268491	0	
37	0.322234803	0	866.330514	0	
38	0.181093726	0	1085.21514	0	
39	0.973170251	0	1059.81483	0	
40	0.546049628	0	962.393647	0	
41	0.561140505	0	875.292762	0	
42	0.894863989	0	907.49166	0	
43	0.764522631	0	1142.27251	0	
44	0.595528381	0	1102.36515	0	
45	0.068337021	1	861.803833	861.8038332	
46	0.902656953	0	905.918876	0	
47	0.56476914	0	1110.16133	0	
48	0.100084809	1	898.21754	898.2175396	
49	0.869631465	0	994.133144	0	
50	0.623681541	0	1016.86694	0	





	Total payment			Interval	Frequency	
1	6518.576755	# of Simulations	100			0
2	5824.319674	Average	7245.7	0	500	0
3	7963.283289	Max	13714	500	1000	0
4	9137.337094	Min	2003	1000	1500	0
5	11064.17501	# of Bins	7.6439	1500	2000	0
6	8051.682308	Width of each Bin	1532.1	2000	2500	2
7	7136.875224	Variance	6E+06	2500	3000	2
8	8785.330996	Sample SD	2461.8	3000	3500	3
9	10040.5316	Sample SE	246.18	3500	4000	5
10	6263.742112			4000	4500	2
11	7070.490866	Confidence level	0.95	4500	5000	5
12	5190.702007	Degree of freedom	99	5000	5500	5
13	9286.408135	t value	1.9842	5500	6000	7
14	11837.57921			6000	6500	6
15	4583.838018	Confidence Interval		6500	7000	10
16	2852.517981	Upper Bound	7734.1	7000	7500	10
17	9169.199698	Lower Bound	6757.2	7500	8000	3
18	6525.648918			8000	8500	9
19	7234.721374			8500	9000	5
20	2961.689649			9000	9500	9
21	8236.234509			9500	10000	2
22	9083.233947			10000	10500	5
23	5886.902428			10500	11000	3
24	8407.937693			11000	11500	3
25	7272.539386			11500	12000	2
26	3825.733424			12000	12500	1
27	7235.895382			12500	13000	0
28	10364.90201			13000	13500	0
29	9913.097002			13500	14000	1
30	3838.683092			14000	14500	0
31	13713.81095			14500	15000	0
32	6843.718715			15000	15500	0
33	9284.265048			15500	16000	0
34	3104.361675			16000	16500	0
35	8613.685095			16500	17000	0
36	6132.16368			17000	17500	0
37	5132.060024			17500	18000	0
38	11837.59396			18000	18500	0
39	5618.129365			18500	19000	0
40	6145.222975			19000	19500	0
41	4586.231213			19500	20000	0
42	7968.907383					
43	5063.90932					
44	7258.106523					
45	8113.731534					
46	11359.61298					
47	10276.29758					
48	8676.617486					
49	6896.145005					
50	5098.876012					
51	10125.58132					
52	4183.758167					
53	7442.885426					

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