

Exercise 6- Indirect Age Standardization (10 pts)

Please apply the indirect method of age standardization to the following data set. Remember to show all of your work and fill in the appropriate blanks in the table. Use Pennsylvania as the standard population for which you determine the age-specific rates to apply to the 4 counties.

Indirect age standardization equation:
$$SMR = \frac{D}{\sum M_{sx} \times P_x} \times \frac{\sum M_{sx} \times P_{sx}}{\sum P_{sx}}$$

where **D** is the total observed deaths, **M** is the age specific morbidity/mortality rate, **P** is the age group population, **x** is the age group cohort, and **s** is the standard population. **Please use rate per 100,000.**

Pennsylvania

Age	HIV	Pop	Age-Specific Rate
<15	20	2390022	
15-24	23	1649816	
25-29	100	818433	
30-34	264	907313	
35-39	339	934931	
40-44	265	897315	
45-54	284	1448888	
55-64	59	1109005	
65-74	16	1047512	
>75	2	868607	
Total			

Crude Death Rate (x100,000)= _____

Philadelphia Obs HIV= 648

Age	Pop	Age-Specific Rate	Expected Deaths
<15	307992		
15-24	224407		
25-29	113434		
30-34	115936		
35-39	112173		
40-44	104415		
45-54	165262		
55-64	129216		
65-74	116886		
>75	109250		
Total			

Adjusted Rate= _____

Cumberland Obs HIV= 13

Age	Pop	Age-Specific Rate	Expected Deaths
<15	37106		
15-24	33089		
25-29	14331		
30-34	15174		
35-39	15748		
40-44	15633		
45-54	25876		
55-64	49133		
65-74	17046		
>75	12823		
Total			

Adjusted Rate= _____

Franklin Obs HIV= 2

Age	Pop	Age-Specific Rate	Expected Deaths
<15	25516		
15-24	16243		
25-29	8788		
30-34	9612		
35-39	9590		
40-44	9584		
45-54	15677		
55-64	12033		
65-74	11018		
>75	8388		
Total			

Adjusted Rate= _____

Dauphin Obs HIV= 43

Age	Pop	Age-Specific Rate	Expected Deaths
<15	50313		
15-24	29040		
25-29	18015		
30-34	19716		
35-39	20610		
40-44	19790		
45-54	30949		
55-64	22266		
65-74	19336		
>75	16267		
Total			

Adjusted Rate= _____