

TABLE 6.3
Sampled Counties in Example 6.5

State	County	Population Size, M_i	ψ_i	Number of Physicians, t_i	$\frac{t_i}{\psi_i}$
AL	Wilcox	13,672	0.00005360	4	74,627.72
AZ	Maricopa	2,209,567	0.00866233	4320	498,710.81
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AZ	Pinal	120,786	0.00047353	61	128,820.64
AR	Garland	76,100	0.00029834	131	439,095.36
AR	Mississippi	55,060	0.00021586	48	222,370.54
CA	Contra Costa	840,585	0.00329541	1761	534,379.68
⋮	⋮	⋮	⋮	⋮	⋮
VA	Chesterfield	225,225	0.00088297	181	204,990.72
WA	King	1,557,537	0.00610613	5280	864,704.59
WI	Lincoln	27,822	0.00010907	28	256,709.47
WI	Waukesha	320,306	0.00125572	687	547,096.42
		average			570,304.30
		std. dev.			414,012.30

an idea of the spread involved in the population estimates, and may help you identify unusual psus (Figure 6.1b).

The sample was chosen using the cumulative-size method; Table 6.3 shows the sampled counties arranged alphabetically by state. The ψ_i 's were calculated using $\psi_i = M_i/M_0$. The average of the t_i/ψ_i column is 570,304.3, the estimated total number of physicians in the United States. The standard error of the estimate is $414,012.3/\sqrt{100} = 41,401$. For comparison, the *County and City Data Book* lists a total of 532,638 physicians in the United States; a 95% CI using our estimate includes the true value.

These estimates can be found using the SAS code on the website. Partial output is given below:

Data Summary					
Number of Observations		100			
Sum of Weights		2450.71956			
Statistics					
Variable	N	Mean	Std Error of Mean	95% CL for Mean	
physicns	100	232.708918	48.859302	135.761463	329.656372