

## Appendix 3b External Validation; 5% Simple Random Sample of Facilities

With simple random sampling (SRS), every possible sample of  $n$  elements from a population of size  $N$  has the same chance of being chosen. Following are the steps to be taken when selecting a simple random sample of 5% of facilities from the lower two tertiles of facilities ranked by predicted number of CLABSIs.

1. Enumerate and assign sequential numbers to the facilities in the survey population (sampling frame, e.g. lower two tertiles) from 1 to  $N$ .
2. Calculate the size of the sample  $n = N * 5\%$ . Round to the nearest integer.
3. Select  $n$  different random numbers between 1 and  $N$  (no selected numbers can be greater than  $N$ ). The selection must be done without replacement; i.e., if a number is the same as any one of the previously selected numbers discard it and continue until  $n$  *different* numbers between 1 and  $N$  have been chosen. Use either a table of random numbers or a computerized random number generator.
4. Select the facilities corresponding to the numbers generated in step 3.

OR

5. Enumerate facilities in the survey population (sampling frame, e.g. lower two tertiles); total facilities= $N$ .
6. Calculate the size of the desired sample  $n = N * 5\%$ . Round to the nearest integer.
7. Assign random numbers to each facility in the population using a random number generator. The possibility that the same random number may be assigned to more than one facility is reduced if the range of assigned random numbers is a multiple of  $N$ .
8. Select facilities with the lowest assigned random numbers until  $n$  facilities have been selected.