SUPPLEMENTAL MATERIAL

Sample Size

The overall goal of this project was to determine the impact of PCV-10 in reducing proportions of hospitalized radiologically defined pneumonia and case fatality rates in children aged 3 to 24 months in Nigeria. As mentioned earlier that the proposed surveillance will use a more sensitive case definition (and with a loss of certain amount of specificity) it is expected that 50% of the severe pneumonia admissions will be radiologically confirmed with a margin of error ranging between 3-5%. Since the total population in the catchment area was not exactly known, we used the population parameter as unknown. The confidence limit was 95%. We used the following formula to calculate the number of medical charts required for both before and after PCV- 10 introduction analysis to generate Table.

$$SS = Z^2 * p * (1-p) / C^2$$

SS= Sample size

Z= Z value (1.96 for 95% CI)

P= expected proportion of the disease (pneumonia) to be picked up
C= Margin of error

Table 7: Sample size variation to be within the expected margin of error with 95% and 99% CI

Sample size	Expected proportion of disease	CI	Error Margin	CI	Error Margin
500	0.5	95%	4.38	99%	5.77
600	0.5	95%	4.0	99%	5.27
700	0.5	95%	3.7	99%	4.88
800	0.5	95%	3.46	99%	4.56
900	0.5	95%	3.27	99%	4.3
1000	0.5	95%	3.1	99%	4.08
1100	0.5	95%	2.95	99%	3.89

We planned to document about 300 severe pneumonia admissions per site over a 3-year-period of study giving a total of 900 from all the three sites. But the actual enrolment was 777, which although lower, is still within a margin of error between 4.56 and 4.88, CI 99%.