

Annex 1: sample size determination		
	The formula for minimum sample size calculation	Minimum sample size calculated
For the PHCs	$n = \frac{\{u\sqrt{[\pi_1(1-\pi_1) + \pi_0(1-\pi_0)]} + v\sqrt{[2\pi(1-\pi)]}\}^2}{(\pi_0-\pi_1)^2}$ <p>Where n = required minimum sample size of each group π_1 = proportion of interest π_0 = null hypothesis proportion $\pi = (\pi_0 + \pi_1) \div 2$ $\pi = (\pi_0 + \pi_1) \div 2 = (0.02 + 0.5) \div 2 = 0.52 \div 2 = 0.26$ u = one-sided percentage point of the normal distribution corresponding to 100% - the power. At 90% power, u becomes 1.28, that being the one-sided percentage point of the normal distribution corresponding to 10% (100% - 90% = 10%) v = percentage point of the normal distribution corresponding to the two-sided significance level. At 5% significance level v = 1.96.</p>	<p>For this study, the required minimum sample size of PHCs, n, at 90% power, 5% significance level, null hypothesis proportion of 50%, and proportion of interest of 2% is $15.52 \approx 16$ PHCs per group. Hence, a minimum of 32 PHCs for the 2 groups</p>
For the health workers	$n = \frac{\{u\sqrt{[\pi_1(1-\pi_1) + \pi_0(1-\pi_0)]} + v\sqrt{[2\pi(1-\pi)]}\}^2}{(\pi_0-\pi_1)^2}$ <p>Where n = required minimum sample size of each group π_1 = proportion of interest π_0 = null hypothesis proportion $\pi = (\pi_0 + \pi_1) \div 2$ $\pi = (\pi_0 + \pi_1) \div 2 = (0.83 + 0.5) \div 2 = 1.33 \div 2 = 0.67$ u = one-sided percentage point of the normal distribution corresponding to 100% - the power. At 90% power, u becomes 1.28, that being the one-sided percentage point of the normal distribution</p>	<p>For this study, the required minimum sample size of health workers, n, at 90% power, 5% significance level, null hypothesis proportion of 50%, and proportion of interest of 83% is $40.1 \approx 40$ health workers per group. Hence, a minimum of 80 health workers for the 2 study groups</p>

	<p>corresponding to 10% (100% - 90% = 10%)</p> <p>v = percentage point of the normal distribution corresponding to the two-sided significance level. At 5% significance level v = 1.96.</p>	
For case records	$n = \frac{\{u \sqrt{[\pi_1(1-\pi_1) + \pi_0(1-\pi_0)]} + v \sqrt{2\pi(1-\pi)}\}^2}{(\pi_0 - \pi_1)^2}$ <p>Where n = required minimum sample size of each group π_1 = proportion of interest π_0 = null hypothesis proportion $\pi = (\pi_0 + \pi_1) \div 2$ $\pi = (\pi_0 + \pi_1) \div 2 = (0.61 + 0.5) \div 2 = 1.11 \div 2 = 0.56$ u = one-sided percentage point of the normal distribution corresponding to 100% - the power. At 90% power, u becomes 1.28, that being the one-sided percentage point of the normal distribution corresponding to 10% (100% - 90% = 10%) v = percentage point of the normal distribution corresponding to the two-sided significance level. At 5% significance level v = 1.96.</p>	<p>For this study, the required minimum sample size of case records, n, at 90% power, 5% significance level, null hypothesis proportion of 50%, and proportion of interest of 60.6% is $515.29 \approx 515$ case records per group. Hence a minimum of 1030 case records for the 2 groups</p>