1. The sample size of this study was calculated as follows:

$$n=\frac{Z\_{{α}/{2}}^{2} p(1-p)}{ε^{2}}=\frac{1.96×1.96×0.4×(1-0.6)}{0.02×0.02}=2305$$

Among them, $α=0.05$, $Z\_{{α}/{2}}=1.96$, and the allowable sampling error ε=0.02. According to the preliminary survey of the project team, the estimated blood glucose control rate in the northern region is 40%.