

# Attrition analyzed in five yearly waves of a longitudinal survey of smokers: Findings from the ITC Netherlands Survey

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## **Abstract**

**Background:** Attrition bias can affect the external validity of findings. This article analyses attrition bias and assesses the effectiveness of replenishment samples on demographic and smoking-related characteristics for the International Tobacco Control Netherlands Survey, a longitudinal survey among smokers.

**Methods:** Attrition analyses were conducted for the first five survey waves (2008–12). We assessed, including and excluding replenishment samples, whether the demographic composition of the samples changed between the first and fifth waves. Replenishment samples were tailored to ensure the sample remained representative of the smoking population. We also constructed a multivariable survival model of attrition that included all five waves with replenishment samples.

**Results:** Of the original 1820 respondents recruited in 2008, 46% participated again in 2012. Demographic differences between waves due to attrition were generally small and replenishment samples tended to minimize them further. The multivariable survival analysis revealed that only two of the 10 variables analysed were significant predictors of attrition: a weak effect for gender (men dropped out more often) and weak to moderate effects for age (respondents aged 15–24 years dropped out more than aged 25–39 years, who dropped out more than those aged 40+ years).

**Conclusions:** Weak to moderate attrition effects were found for men and younger age groups. This information could be used to minimize respondent attrition. Our findings suggest that sampling weights and tailored replenishment samples can effectively compensate for attrition effects. This is already being done for the International Tobacco Control Netherlands Survey, including the categories that significantly predicted attrition in this study.

## **Recommended Citation**

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