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**In an occupational health surveillance study, auxiliary data from administrative health and occupational databases effectively corrected for nonresponse**

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**ABSTRACT**

**OBJECTIVES** - To show how reweighting can correct for unit nonresponse bias in an occupational health surveillance survey by using data from administrative databases in addition to classic sociodemographic data. **STUDY DESIGN AND SETTING** - In 2010, about 10,000 workers covered by a French health insurance fund were randomly selected and were sent a postal questionnaire. Simultaneously, auxiliary data from routine health insurance and occupational databases were collected for all these workers. To model the probability of response to the questionnaire, logistic regressions were performed with these auxiliary data to compute weights for correcting unit nonresponse. Corrected prevalences of questionnaire variables were estimated under several assumptions regarding the missing data process. The impact of reweighting was evaluated by a sensitivity analysis. **RESULTS** - Respondents had more reimbursement claims for medical services than nonrespondents but fewer reimbursements for medical prescriptions or hospitalizations. Salaried workers, workers in service companies, or who had held their job longer than 6 months were more likely to respond. Corrected prevalences after reweighting were slightly different from crude prevalences for some variables but meaningfully different for others. **CONCLUSION** - Linking health insurance and occupational data effectively corrects for nonresponse bias using reweighting techniques. Sociodemographic variables may be not sufficient to correct for nonresponse.

**KEYWORDS:** Unit nonresponse; Selection bias; Reweighting; Health insurance data; Occupational data; Surveillance

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