

# DM Health systems and economics

## Individual Versus Area Level Social Risk Measurement in the General French Population

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### Background:

Ongoing health policy changes include a move towards alternative delivery and payment models. In addition, the emphasis is put on social determinants as part of performance measurement and payment calibration. Most payers and policy makers rely on area-level socio-economic data, which can lead to sub-optimal. However, little is known about the agreement between individual and area-level variables. The objective was to assess the agreement between individual and area-level social risk variables in the general French population.

### Methods:

We used data from the CONSTANCES general-purpose cohort, a randomly selected representative sample of French adults aged 18-69 years. Data collected include socioeconomic and demographic characteristics, behaviors, and health data. We assessed the correlation or agreement between individual and area-level variables for 4 dimensions: household annual pretax income, secondary education completion, occupational group (workers), and unemployment.

### Results:

115,263 individuals were included in the study, 53% female and aged 48 years on average. The median annual household income was 42,000 Euros (USD 50,400), 73% had completed secondary education, 7% were unemployed, and 9.3% were workers. The correlation between income measured at the individual and area level was positive but moderate ( $\rho = 0.20$ ;  $p < 0.01$ ). Individuals having completed secondary education had a higher area-level median completion rate compared to those having a lower education level (48% versus 41%;  $p < 0.01$ ). Unemployed individuals had a slightly higher area-level median unemployment rate compared to employed ones (11% versus 10%;  $p < 0.01$ ). Lastly, workers had a higher area-level median probability to be a worker rate compared to other individuals ones (25% versus 18%;  $p < 0.01$ ).

### Conclusions:

In the general French population, area-level socio-economic variables are poor proxies for individual-level social risk.

### Key messages:

- Area-level socio-economic data is a poor proxy for individual data.
- Researchers and policy makers should move towards individual data.