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MATGENE: A PROGRAM TO DEVELOP JOB-EXPOSURE MATRICES IN THE GENERAL POPULATION IN FRANCE

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Objectives Matgéné is a program to develop job-exposure matrices (JEM) adapted to the general population in France for the period since 1950. The aim is to create retrospective exposure assessment tools for estimating the prevalence of occupational exposure to various agents that can then be correlated to health-related parameters.

Methods Each JEM is specific to one agent, assessing exposure for a set of homogeneous combinations (occupation x activity x period) according to two occupational classifications (ISCO 1968 or PCS 1994) and one economic activities classification (NAF 2000). The cells of the JEM carry an estimate of the probability and level of exposure. Level is estimated by the duration and intensity of exposure-linked tasks.

Results By the end of 2010, 18 JEMs have been developed and 8 are under development, concerning a variety of agents: organic and mineral dust, mineral fibres and solvents. These JEMs were applied to a representative sample of the French population and prevalence (at different dates and for complete careers) for each exposure was estimated in various population groups; attributable risk fractions were also estimated for certain pathologies. Some of these results were validated by comparison with those of other programs. All JEMs are available on a dedicated website.

Conclusions Initial Matgéné JEMs results are in agreement with the French and international literature, thus validating the methodology. These JEMs are important epidemiological tools to assess occupational exposure for large retrospective community-based epidemiological survey in France.