

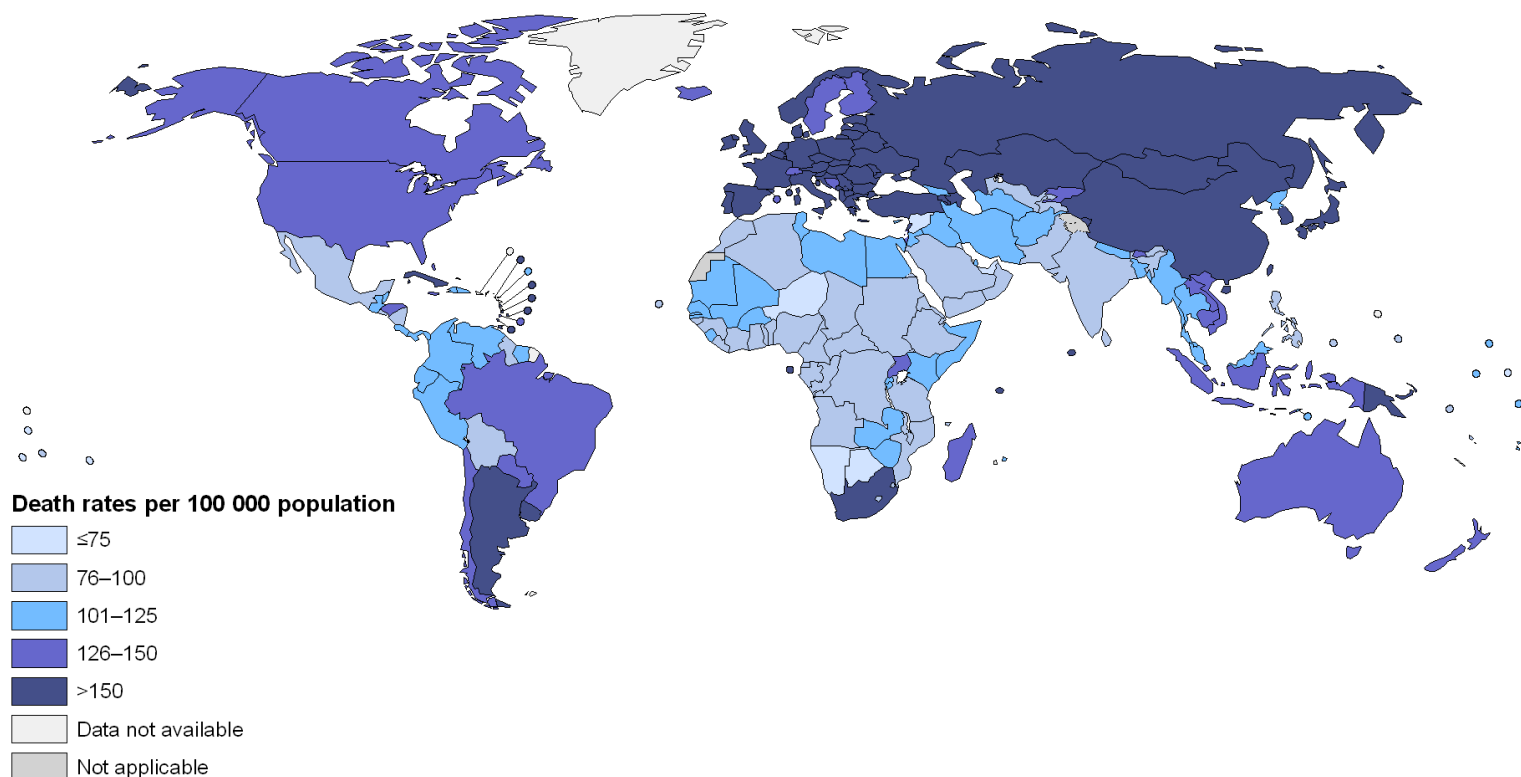


Spatial Analysis of Surveillance Data: Cluster Analysis

Diana Gomez Barroso
Rebeca Ramis Prieto



Cancer, death rates per 100 000 population, age standardized Males, 2008



The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Public Health Information
and Geographic Information Systems (GIS)
World Health Organization

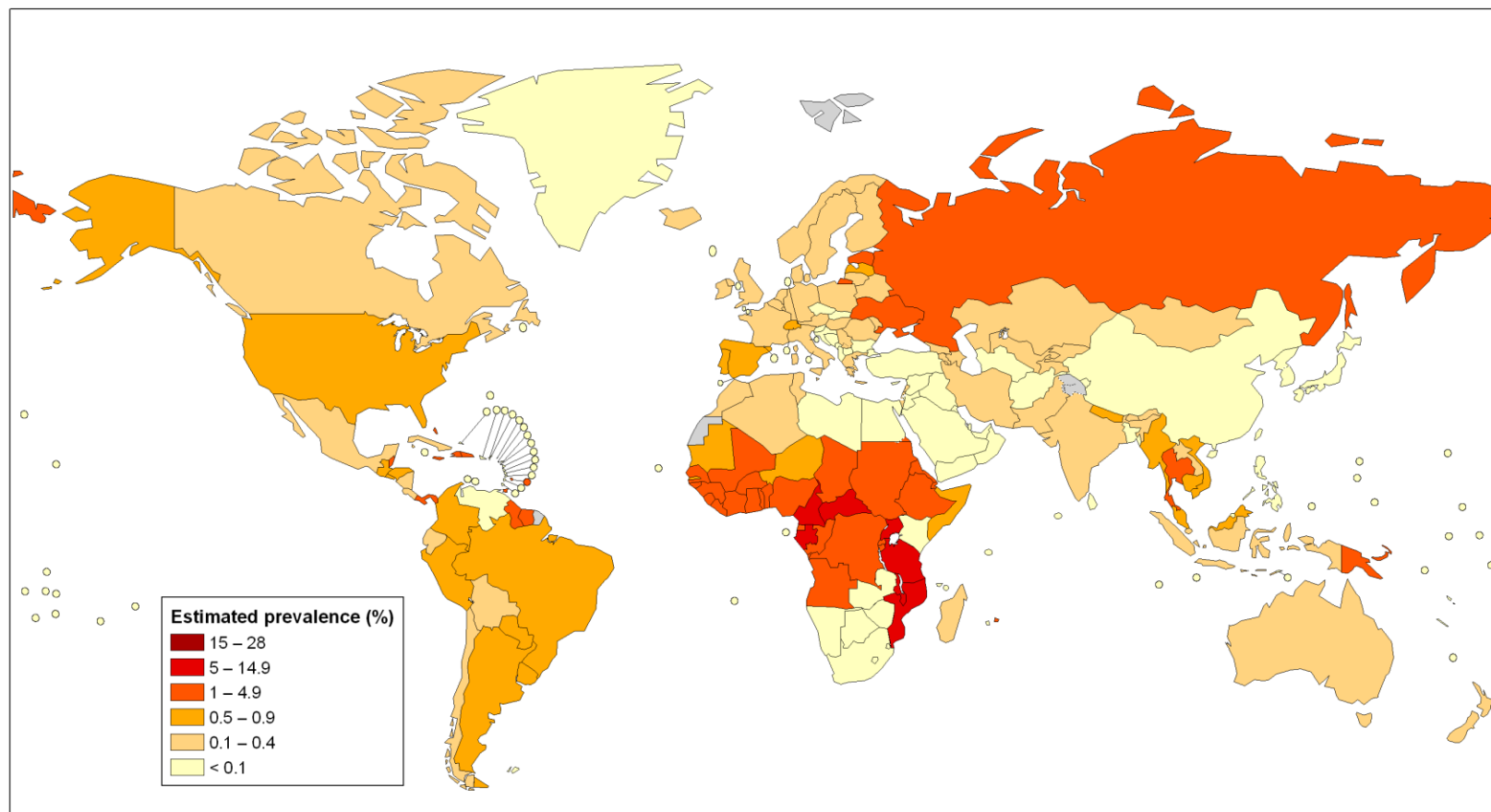


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HIV estimated prevalence among population aged 15–49 years (%), 2007



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Spatial distribution of health events



Variations on the appearance of health events are consequence of population structure, population density and variations in the remaining risk factors.

Health determinants depend on individual characteristics, such as age, sex and genetic factors, but also on lifestyle variables, for instance smoking and diet, along with another environmental and occupational exposures.



- Knowledge about the spatial distribution: Are there areas with higher risk than others?
- Possible relationship with environmental factors: Is the spatial distribution of the disease somehow related to the spatial distribution of a risk factor measured at the same aggregation level?
- Location of the high risk areas: Are high risk areas geographically clustered or randomly spread?



- Disease mapping.
- Ecological regression (geographical correlation studies).
- Assessment of risk in relation to a point source.
- Cluster detection.



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