

ANALYSIS OF HOSPITAL DISCHARGE DATA TO DESCRIBE HEALTH STATUS OF RESIDENTS IN ITALIAN POLLUTED SITES

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Background and Aims: This study derives from SENTIERI Project, aimed at implementing a multi-disciplinary and multi-phase process leading to a full epidemiological characterization of Italian Polluted Sites (IPSs). SENTIERI Project analyzed mortality of residents in 44 IPSs for 63 causes of death, for which the epidemiologic evidence indicated a potential association with pollution in IPSs. The aim of the present study is to analyze hospital discharge data of residents in IPSs, with special focus on causes already studied in SENTIERI Project.

Methods: Hospital Discharge Record (HDR) is a synthesis of the patient's medical record and it is mandatory for both in-patients and out-patients and contains, for each hospital discharge in Italy, social and demographic data of the patient (i.e. age, gender, place of birth, place of residence) and clinical data ("main" diagnosis and up to 5 other diagnoses, procedures, outcomes). Diagnoses and procedures are coded using the International Classification of Diseases, 9th revision, Clinical Modification (ICD-9 CM). HDR data referring to year 2008 were analyzed calculating standardized hospitalization rates and relative risks (RR) using as reference the Region where the IPS is situated.

Results: As an example, Gela area (South of Italy), where a large chemical/petrochemical complex is located, shows significantly increased risks of hospitalization for all causes (RR=1.29, 95%CI 1.26-1.31), all tumors (RR 1.10, 95%CI 1.04-1.18), circulatory (RR=1.25, 95% CI 1.20-1.30) and respiratory diseases (RR=1.24, 95% CI 1.17-1.31), as also found for the mortality analysis.

Conclusions: In order to characterize the health status of IPSs residents, besides mortality data, HDR have to be analyzed. HDR have been created for administrative purposes and thus not necessarily contain complete clinical data but they do have potentials, such as the international system of codification used and the routinely and exhaustive collection, with no additional resources necessary.