

**IDENTIFICATION OF SOURCES AND MECHANISMS IN
DETERMINATION OF HEALTH EFFECTS FOR PROSPECTIVE STUDIES
AMONG RESIDENTS LIVING NEAR THE SEMIPALATINSK NUCLEAR
TEST SITE**

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Background: Residents living near the Semipalatinsk Nuclear Test Site (SNTS) in Kazakhstan were exposed to external and internal radiation resulting from fallout from tests conducted at the site. Studies of this population can provide important information about the long-term health effects of low to moderate radiation exposures. Two separate registries were previously established for this purpose, both with the participation of international collaborators; one developed by the Kazakh Scientific Institute for Radiation Medicine and Ecology (KSI) and the second by National Nuclear Center (NNC).

Objectives: The EU project SEMI-NUC began in April 2013. Main objective is to assess the feasibility of establishing a long term prospective cohort to study health effects based on the two registries at KSI and NNC. One of the project's tasks is to identify mechanisms and sources for ascertainment of both cancer and non-cancer outcomes and to determine feasible outcomes for a future study.

Methods: Information was collected from each registry to describe their mechanisms and sources for cancer and non-cancer outcome ascertainment. Then, the distribution of cause of death was compared between the two registries for a random sample of twenty persons from each of 11 villages, near SNTS, who resided in the village during 1949-1963, and were confirmed to have been dead.

Results: Both registries used residential records (household books), birth certificates, marriage certificates, and death certificates issued by the local vital statistics registry and interviews for ascertaining mortality and causes of death. Further, KSI collected additional detailed medical information.

Up to date we have identified sources and mechanisms for the mortality data. Our preliminary data that combines available information from both registries shows the following distribution of causes of death in randomly chosen samples from 11 villages: cardiovascular diseases - 45.5% in the KSI registry and 44.2% in the NNC

registry. Cancer deaths made up 18.5% and 12.8% of death in the KSI and NNC registries, respectively.

Conclusion: Regarding mortality, there is information of sufficient quality available. The evaluation of incidence data from relevant sources (e.g. cancer registries, local health care centers etc.) for this group of people is underway.