

DISCUSSION ON “STUDY OF CHRYSOTILE ASBESTOS IN RUSSIA”

Rationale of the ASBEST study

1. A historical cohort study of cancer mortality among workers in a chrysotile asbestos mine and its processing mills in Asbest, Russian Federation, is being conducted as a collaboration between the International Agency for Research on Cancer (IARC) (lead investigator, Dr Joachim Schüz), the Scientific Research Institute of Occupational Health of Russian Academy of Medical Sciences (lead investigator, Dr Igor Bukhtiyarov), the Institute for Risk Assessment Sciences, Utrecht University, The Netherlands, and the Yekaterinburg Center for Prophylaxis and Health Protection in Industrial Workers. IARC was invited to join the study in order to provide its epidemiological expertise.

2. The Uralasbest facility is the world’s largest operating chrysotile mine, representing about 20% of current world production. Cohort enumeration is ongoing and is expected to exceed 30 000 workers employed between 1975 and 2010, approximately 20% of whom are women. Detailed occupational histories and over 90 000 measurements of gravimetric dust concentrations are available for estimating exposures. In engaging in this study the Agency asked four questions in common with all its research:

1. Is it a scientifically valuable study?
2. Can the study be conducted to a high scientific standard?
3. Is the study of public health relevance?
4. Can the study be conducted free from vested interests?

3. Chrysotile and all other forms of asbestos are known to be carcinogenic to humans. However, this study offers an important opportunity to add more detailed information about the risk of cancer in exposed populations. The principal objectives are: to further characterize the exposure-response relationship between chrysotile and cancers already established to be caused by asbestos and to add to the information available about the association with chrysotile exposure of other cancers for which the evidence for causality is currently still limited. With a large number of women, the cohort is expected to provide further information about the risk of cancer among women exposed to chrysotile.

4. The large size of the cohort, the high proportion of women, the large number of exposure measurements, the long follow-up period and data retrieval and access to original written records for exposure assessment are strong methodological features which provide a unique opportunity to deepen knowledge of the effects of exposure to chrysotile on the risk of cancer in exposed populations.

5. The study is of important public health relevance. First, it will establish more detailed information on the carcinogenicity and related cancer burden of this single largest source of chrysotile worldwide and will provide important information directly relevant to Russia and to all the countries that currently import from Uralasbest, or have done so in the past. Second, this is the most comprehensive surveillance of this large population of asbestos miners and millers, to investigate their cancer risk.

6. The Agency has put in place a number of measures to ensure that the study is conducted free from vested interests. Notably these comprise:

- Approval of the project by the IARC Ethics Committee (IEC).
- Establishment of an independent Scientific Advisory Board (SAB), including the current Chair of the IARC Scientific Council, with defined Terms of Reference. The SAB oversees the project and provides an annual, independent review of progress to the Director, IARC and to the Director, SRIOH, and the report will also be provided to the IEC <http://asbest-study.iarc.fr/team/index.php>
- Publication of a peer-reviewed article on the study rationale in Cancer Epidemiology (Schüz J et al., A retrospective cohort study of cancer mortality in employees of a Russian chrysotile asbestos mine and mills: study rationale and key features. Cancer Epidemiology (2013), <http://dx.doi.org/10.1016/j.canep.2013.03.001>).
- As with any occupational epidemiology study, the one in Asbest involves access to exposure data from the industry concerned, but the industry has no role in collection or provision of the outcome (health endpoint) data. Outcomes are being obtained independently of exposure information. IARC has full access to original paper records to perform quality control checks.

7. In line with all of its research projects, the Agency would withdraw from the study if the scientific integrity is judged at any point to be compromised.

8. Further information is available at <http://asbest-study.iarc.fr>