

SHANGHAI HEALTH STUDY

Main Messages

As part of their ongoing individual product stewardship and safety and health programs, a consortium of petroleum and chemical companies is sponsoring a scientifically rigorous research project to further the current understanding of the human health effects of benzene.

The research project's purpose is to gain a more refined understanding of the relationship between benzene exposure and associated cancer risks. The studies utilize cutting edge, state-of-the-art technologies to advance the scientific knowledge of benzene-induced disease and potential prevention strategies.

This new approach to better define the risks from benzene exposure could impact future decisions on health-based air, water and occupational standards for benzene worldwide. While benzene is recognized as a human carcinogen, what is not understood is how cancer or other related diseases may be caused, the interactions that may occur between benzene and genetic material, and the role biomarkers may play in adding to existing knowledge.

The study is a project of Fudan University Medical Center, the University of Colorado Health Sciences Center, and Applied Health Sciences (an independent U.S. research firm). Other key participants in China include the Shanghai Municipal Center for Disease Prevention and Control and the Shanghai Institute for Public Health and Supervision.

The research program has met the rigorous requirements of three separate Independent Review Boards; the research program has also attained the approval of two separate and independent scientific and ethical review panels. Finally, the research also meets the Council for International Organizations of Medical Sciences (CIOMS) guidelines for medical research involving human subjects. The scientific and ethical review panels will remain involved as consultants throughout the project; permission to adjust the research protocols in any way also requires prior review and approval from each institution's Independent Review Board.

Study sponsors are committed to seeing that the Shanghai Health Study in as open a manner as possible consistent with ensuring the investigators' research independence in conducting the study, analyzing the data, and publishing their conclusions. The sponsors' goal is for the study to contribute to the accepted body of scientific research on benzene consulted by decision makers in government and industry.

A state-of-the-art clinical and molecular laboratory is being built on the Fudan Medical University campus. The laboratory supports the research project and the Shanghai medical community and will remain at Fudan once the project is completed. This sustainable technology transfer is an important aspect of the project design.

The data from a wide range of benzene exposures in Shanghai, China provides a rare opportunity to conduct meaningful research on the health effects of human exposure to benzene. The unique historical database combined with cooperation of local regulatory authorities and the partnership with scientists in Shanghai form the basis for an exciting scientific collaboration. The joint Sino-U.S. benzene research and analysis is projected to take about five years. Results will be published, with final publications anticipated in 2007/8.

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Additional Questions and Answers

Q: Who are the funders?

A: Current funders:

- BP
- ChevronTexaco
- ConocoPhillips
- ExxonMobil
- Shell Chemical
- Additional funding from Marathon

The American Petroleum Institute is the project administrator.

Q: How were the funders selected?

A: A consortium of petroleum and chemical companies are sponsoring the SHS as part of their ongoing individual product stewardship and corporate responsibility programs.

Q: How much will the SHS cost?

A: About \$26 million program total for all costs including:

- operations for five years estimated to identify case studies;
- staff training, data collection, and analysis;
- study revisions recommended by the scientific and ethics panels;
- patient privacy protections;
- constructing a state-of-the-art laboratory at Fudan University in China; and
- laboratory operations for research and clinical tests.
 - The on-site lab provides cutting edge technologies and diagnostic capabilities without necessitating shipping human tissue samples to the U.S. for testing.

Q: Why are petroleum and petrochemical companies the only funders?

A: The petrochemical industry has long taken a lead role in researching benzene health effects. However, any interested company or group is invited to participate.

Q: Why are these company funding the study?

A: It is important for understanding the health effects of benzene, which is an important part of our product stewardship responsibilities. We have a responsibility to actively study and understand our products.