National Institute of Miners’ Health, Nagpur (NIMH) is an autonomous institute established under Ministry of Mines, Govt. of India with the objective of promotion of occupational health and prevention of occupational diseases among the workers employed in mining and mineral based industries. The Institute is engaged in research and developmental activities relating to occupational health, work place monitoring etc., in mines and mineral based industries. The Institute also conducts training programme for development of manpower in these fields.

The main objectives of the Institute include:

- Promotion of health and prevention of diseases among persons employed in mines and mineral based industries.
- Research & development to ensure safe and healthy extraction of the country’s mineral wealth.
- Assessment of health hazards in the work environment of mines and allied industries for regulatory and remedial measures.
- Develop human resources in the field of occupational health, hygiene and safety.
- The Institute is providing technical support services in health surveillance, workplace airborne dust monitoring, noise exposure profile, vibration related health risk studies, ergonomic assessment of HEMMs, etc. to mines and mineral based industries.

Facilities available

The institute has adequate infrastructure, equipments and trained manpower to conduct health surveillance studies for occupational diseases and hazard monitoring of workplace as required under Mines Act, 1952 and subordinate legislations and research in occupational health and hygiene relating to mines. This includes -

- Health surveillance for notified diseases.
- Audiometry, Spirometry, electrocardiography.
- Personal exposure assessment for noise, dust and vibration
- Risk assessment of work environment for dust, noise and vibration.
- Determination of free silica (using FTIR) in airborne Respirable dust, heavy metals (using AAS), etc.
- Research facilities relating to biomarkers in occupational diseases.
- Assessment of health risk due to vibration in mining machineries.

The institute is also developing expertise in health impact assessment and sustainable development relating to mining projects.

Pursuing the vision of “Safe Mines and Healthy Miners” with the mission “Indian mining and mineral industry free from occupational diseases”, the Institute with its limited resources, has carried out following work in the year 2011-12:

Workplace Monitoring Studies. Respirable dust survey

- Airborne Respirable Dust Studies & Free Silica analysis at Rajshee Cement Limestone Mines, Ultratech Cements Ltd., Malkhed Road, Gulbarga Dist, Karnataka.


Vibration Study

- Whole body vibration studies at Ultratech Cement Limited, Karnataka.

Health Surveillance Studies

- Detection of Silicosis among Stone Mine Workers from Karauli District
- Periodical Medical Examination of employees of Gujarat Mineral Development Corporation:
- Evaluation of medical records of Iron Ore Mine Workers of M/s Mineral Enterprises Ltd:
- Periodical Medical Examination of employees of Rajasthan State Mines and Minerals (RSMML)

Science and technology Projects

Following are the S&T Projects under taken by the Institute. -

- Development of a protocol for evaluation of vibration hazard potential of mining equipment
- Equipment vibration study
- Epidemiological Study
- Systematic study of potential biomarkers of occupational diseases in miners

Pilot study on Health Status of Mine workers and nearby Population around Iron Ore Mines

The workers engaged in mining of Iron Ore are at risk of exposure to iron ore dust which invariably contains silica. While exposure to respirable silica can cause silicosis, excessive exposure to iron ore dust can lead to siderosis. Siderosis is an occupational lung disease also known as Iron Ore pneumoconiosis caused by inhalation of dust or fumes containing iron or oxides of iron particles. There is evidence to suggest that persons working in Iron Ore mines are at higher risk of lung cancer and other respiratory diseases. There may also be some adverse effect on the health of general population living nearby Iron Ore mines.

The proposed project will be carried out in Iron ore mines of west Singbhum District of Jharkhand. Objectives of the project:

- Evaluation of dust exposure profile of selected workers in iron ore mines.
- Qualitative Evaluation of potability of drinking water in and around iron ore mines.
- Prevalence of Iron ore pneumoconiosis amongst selected mine workers.
• Health status evaluation of school children and general population residing near iron ore mines

As proposed in the project an exploratory visit to the district has been made to select the study mines and area. NIMH has planned to carry out the study in Meghatburu iron ore mine and Kiriburi iron ore mines of SAIL located in West Singbhum district of Jharkhand.

The funds to the tune of `31.73 Lakh as first installment have been released by the Ministry of Mines.

New Project proposals

Science and Technology Projects

• Studies on Health Status of women workers in Manganese Mines
• Study of dust exposure profile and Prevalence of Silicosis in Stone Mines.
• Training and Certification in ILO Classification of Chest Radiographs for Pneumoconiosis
• Development of a Noise mapping model in opencast mine using GIS and GPS
• Exploration of biomarkers for prediction and early detection of silicosis.

Collaborative Projects

• Investigation & studies on effects of mineral based dust specially Coal, Iron Ore Mines
• Investigation & studies on effects of continuous operations of HEMMs including effects of vibration, noise & ergonomic health risk to operators.

Clientele sponsored projects

• Work Place Monitoring in Steel Authority of India Limited
• Workplace monitoring in Mangense Ore India Limited (MOIL)
• Periodic Medical Examinations at GMDC Limited
• Workplace monitoring in Neyveli Lignite Corporation Limited
• Respirable dust & noise study in Mysore Minerals Limited
• Respirable dust & noise study in Sesa Goa Limited
• Respirable dust & noise study in J K Cements Limited
• Respirable dust & noise study in Associated Cement Company Limited (ACC)

The institute is in the process of submitting a project proposal on “Capacity Building at National Institute of Miners’ Health” to create and strengthen infrastructure facilities at NIMH and develop state-of-the-art centre of excellence on health issues relating to miners and mining community and provide technical support services to Indian mining industry and regulatory agencies to meet national and international obligations.

Financial Performance of Institute

Over last few years, the Institute has improved its financial performance. `30.00 Lakh against IEBR for the year 2011-12 is anticipated.

Important events/achievements

National Institute of Miners’ Health has signed the Memorandum of Agreement on Academic Exchange with Faculty of Medicine, University of Fukui, Japan and Central Chest Institute of Thailand for sustained academic exchange and cooperation in education and research on chest medicine and occupational health for the purpose of preventing occupational respiratory diseases. The Memorandum also envisages organization of workshops on ILO Classification of Chest Radiographs of Pneumoconiosis for training and certification of
medical officers of mining industry in detection and prevention of Pneumoconiosis. The first workshop under the agreement is proposed to be held in September 2012 in collaboration with International Labour Organization.

NIMH stall at ISC EXPO-2011 in 98th Indian Science Congress 2011:

National Institute of Miners’ Health participated in Pride of India Exhibition in the 98th Indian National Science Congress from January 3-7, 2011 held at SRM University, Chennai. The five-day long congress was inaugurated by Prime Minister Dr. Manmohan Singh on January 3. The congress was attended by over 7,000 delegates from India and abroad, including six Nobel laureates and several eminent scientists from across the world. The stall of National Institute of Miners’ Health attracted a large number of visitors. NIMH newsletter “Arogya Khanik” was highly in demand throughout the exhibition. NIMH showcased the infrastructural facilities available for workplace monitoring, occupational health surveillance and various research projects undertaken by the institute. Students, researchers, government officials found this institute unique in its objectives and desired to interact with the institute in future.

Visit of Dr. Sunita Hirani for rotational training under NIMH-UCSF Educational programme:

Dr. Sunita Hirani, a resident in Occupational Medicine completed a one month Rotational Training programme at NIMH in January, 2011 under NIMH-UCSF educational programme signed between the institute and School of Medicine, University of California, San Franciso, USA. During the training programme she was familiarized with the working of NIMH, the role and function of DGMS and enforcement of Occupational Health statute in Mines. She visited Kandri Manganese Ore and Kamptee Opencast Coal Mine & PME Center & Regional Hospital. She also participated in various programmes conducted by NIMH during her visit.

Aarogya Khanik software:

NIMH has developed software named “Aarogya Khanik” for Health Surveillance of persons employed in mines as per Rule 29(b) of Mines Rule, 1955 and recommendations of 10th Conference on Safety in Mines. The software has enormous potential as a tool in health evaluation studies, generating reports as per Form “O” under Mines Rules and statistical analysis of the data. The software is compatible with thumb scanner and web cam and storing medical records of individual miner. The software also has search facility so that records of individuals can be researched through his name, ID or any other parameters. The Aarogya Khanik software not only reduces manual labour but also helps maintain a secure database that can be utilized as and when needed. The Institute plans to patent the software.
(a) Sishodiya P. K., Miners’ Health in India: Present Status and Future Priorities. In the proceedings of Fifth India-EU Seminar on Employment and Social Policy “Occupational Safety and Health”, New Delhi

(b) Shri Mandal B. B., Sarkar K., Chatterjee D., Sishodiya P. K., Health risk assessment of operators of HEMMs exposed to whole body vibration in Indian mines. In the proceedings of International Conference on Molecules to Systems Physiology (ICMSP 100), Kolkata

(c) Soni P., Pingle S. K., Tumane R. G., Jawade A. A. Study on Protein Biomarkers in Municipal Solid Waste exposed Workers. In the proceedings of International Conference on Molecules to Systems Physiology (ICMSP 100), Kolkata

(d) Mandal B. B., Sarkar K., Chatterjee D., “Classification of mining equipments used in India according to their vibration hazard potential”