

“Regional Workshop on Initiatives Towards Making Health Care Toxics Free”

November 25th 2009

Hotel Pacific, Dehradun, Uttarakhand

by



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Inaugural Session:

Welcome Address, Satish Sinha, Associate Director, Toxics Link

Welcoming the workshop participants, Mr. Sinha explained the objectives and set the context of the workshop. He said that Uttarakhand and Himachal Pradesh were unique states because of their topographical variety. He also said that because of such uniqueness they required unique developmental solutions. Be it any developmental issue or the concerned issue of Biomedical Waste (BMW). He went on to complement various partners of Toxics Link in Uttarakhand for their support and encouragement, which included Govt. agencies, Voluntary Organisations, healthcare establishments and other agencies. Quoting a newspaper report on consumption of natural resources, he drew a parallel between natural resource depletion, waste generation and the issue of BMW management at source.

Stressing on the importance of waste management Mr. Sinha said that it was waste problem in Surat that led to Plague. Talking about the legal instruments in waste management he mentioned that it was only in late '80s the legal instruments came into being under the overarching Environment Protection Act of 1986. Continuing his deliberation on legal instruments, he also raised the issue of evolving new regulations on electronic and nuclear waste.

Flagging off the issue on BMW, Mr. Sinha mentioned that India has a compliance level of 50-60% with regard to BMW management & handling rules 1998, which needs to be improved. He explained that every waste needed different treatment option because of its material properties. He also explained how in this context BMW management was especially important. He further added that India, as of now, has 170 centralised BMW treatment facilities. Each of them is supposed cover 10000 beds and is supposed to cover 150-200 km. both in the Urban and Rural areas. Toxics link played an important role in forming the act along with the central govt. Taking a leaf out of its' understanding of policy and regulations and years of working with various implementing partners, Toxics Link has been able to develop an understanding about the various aspects of BMW management. The understanding has led to the conclusion that mindset changes and behavioural adaptations are more important than resource constraints while dealing with the problems related to BMW management in India.



Flagging off the second issue of mercury in healthcare settings, Mr. Sinha said that there was a lack of knowledge about managing mercury in India. While most of the other nations in the world were talking about a complete phase-out of mercury from all usage by 2030, India is still taking its first steps in managing mercury. He warned that the writing is on the wall; a binding treaty on phasing out mercury among the nations can soon be expected. Hence India needed to get its' act together very soon.

Keynote Address: Dr. G.C. Bounthiyal, CMO, Dehradun



Dr. Bounthiyal started his deliberation by complementing 'Toxics Link' for its' continuous involvement in the field of BMW management. Taking the idea of using mercury in healthcare instruments forward he mentioned that mercury, which was used abundantly in sphygmomanometers, thermometers and dental amalgams; have neurotoxic and nephrotoxic properties. Citing a recent Delhi Govt. order, Dr. Bounthiyal said that hospitals in Delhi would have to be mercury-free by 2010. He also mentioned about the various mercury-free alternatives, which could be used in such healthcare equipments.

Coming back to the issue of BMW management, Dr. Bounthiyal said that the Ministry of Environment & Forests (MoEF) and the Central Pollution Control Board (CPCB) began to dwell upon a legislative framework on BMW since 1995. After the BMW Management and Handling Act, 1998 came into force;



incinerators were touted as the most appropriate BMW treatment option. Later, further scientific studies indicated that they also release toxic gases, which could be improved by design changes. The apex judiciary, Supreme Court of India, also acknowledged this fact.

Talking about the BMW treatment options in Dehradun Dr. Bounthiyal said that city has no incinerator. The nearest incineration facility was at the premises of Bharat Heavy Electrical Limited (BHEL), Haridwar. Waste was collected from different healthcare facilities in the city and disposed off at BHEL, Haridwar for incineration.

Explaining the larger picture of BMW, Dr. Bounthiyal explained that out of the total waste generated at the hospitals, 10-20% were infectious waste. Hazardous waste constituted about 15-20% of the infectious waste. At the local level, Doon Hospital produced 3kg/per bed/day of infectious waste. Ms. Pahal Enterprise, a private company, was made responsible for collecting the waste. Stressing on the importance of a well-planned waste collection system Dr. Bounthiyal said that earlier, hospitals in Dehradun used to throw placenta in the general waste collection bins and stray dogs used to pick them. Now following Pahal's intervention the situation has improved dramatically.

While talking about the whole state Dr. Bounthiyal cited Uttarakhand's geographical peculiarity as a constraint to install and operate centralised BMW treatment facilities such as incinerators. Elaborating on the common practices of disposing and treating BMW in the state, he said that cemented Holes (6x6x6m) were used for disposing sharps, while 2-4 m deep uncemented holes covered by mud were used for disposing infectious waste

Dr. Bounthiyal went on to add that colour coded (Yellow, Red, Blue/Translucent White, and Black) waste collection bins were already used in Dehradun for waste segregation at source. He also added that following his suggestion concerned departments in the govt. administration would now prepare a list of registered healthcare facilities in Dehradun and that the list would also include a note on their BMW disposal facilities.



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Inaugural address: Dr. H.C. Bhatt, Director, Medical & Health Services, Dehradun, Uttarakhand



Dr. Bhatt began his address by talking about the long history of evolution of mankind. He said that human biological system only recognizes the chemicals, which had interactions with life system during its evolution. Chemicals, which came out of industrial revolution, have no recognition for life system.

Citing a newspaper report on over-consumption of resources, Dr. Bhatt rued the fact that markets today drive our consumptive behavior, which was actually challenging our very existence. He stressed on the fact that the issue was a serious one and needed attention.

Acknowledging his responsibility towards community, Dr Bhatt called for greater efforts from all the stakeholders towards BMW management. He also stressed on the importance of including finer details in policymaking, which would be helpful for executive agency for implementation and supervision at a later stage. He argued that policy should not only help policymakers but also help the executing agency.

To strengthen his case he cited the example of needle cutters, which were purchased and distributed by a central authority. But the respective user agencies that would cut, burn and dispose them, lacked the technical knowhow to ensure a smooth functioning. Adding on to his argument, Dr. Bhatt said that small issues like



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these need attention in policy making. On the implementation part, he also emphasised on the lack of resources as a major impediment.

Dr. Bhatt hoped that recommendations coming out of this workshop would be streamlined and sent to the policymakers for a concrete policy on BMW management in the state.

Technical Session I: Bio Medical Waste Management in Healthcare



Session Chair: Shri Satish Sinha

Presentation 1- Shri Ankur Kansal, Environment officer, Uttarakhand Environment Protection & Pollution Control Board

Shri Kansal presented an overview of BMW management in India. He discussed the salient features of BMW management rules in India. He also discussed the various types of hospital waste, sources of waste generation, different standards for waste disposal & treatment following the legal mandate. Narrowing down his focus, he went on to discuss the status of various health care facilities in Uttarakhand including their authorisation and



disposal facilities. During his presentation he also mentioned that at present Uttarakhand has only one common Bio Medical Waste Treatment and Disposal Facility (CBWTF). This facility was situated in Bhagwanpur, Roorkee and was presently covering the districts of Roorkee, Haridwar, Dehradun, Vikas Nagar and Rishikesh. The Central and State governments have now decided to subsidise the new CBWTF Installations. The Directorate of Health alongwith the Uttarakhand Environment Protection & Pollution Control Board were now calling for expression of interests for installing new CBWTFs in the state.

Presentation 2- Dr. R. P. Bhatt, Joint Director, Training, Department of Health, Dehradun

Dr. Bhatt presented the State Strategy and Plan on Infection Control & Bio-Medical Waste Management for Uttarakhand (IC&BMWM). He did a quick review of phase-I of implementing state strategy in this context. He stressed that the level of awareness on BMW management had increased among the various stakeholders because of the state intervention. More deep burial pits were being constructed for waste disposal and infection control practices were also initiated at the project sites. He mentioned that so far deep burial and incineration were practiced as major sources of waste disposal and treatment in first phase of the project.

On the lessons learnt part he said that the project interventions, which were tried in isolation, were not successful. He also rued the fact the most of the trained staff persons were being transferred to non-project sites, which was also hampering the progress of the project. He also stressed that the government order regarding non-transportation of infectious waste also led to some element of confusion among the project staff. Dr. Bhatt called for greater coordination among all the concerned administrative bodies (Directorate of Health, Medical and Family Welfare, UKHSDP, UEPPCB and Local Bodies) in order to solve such problems.

Discussing the proposed strategy for BMW management in the state, Dr. Bhatt said that geographic, hydrologic and demographic peculiarities of the state were taken into consideration while formulating the strategy. He said that 60% of the population, which covered 25% of area in the state; live in the plain areas. These areas generate approximately 1600 kg/d of waste. CBWTFs have been planned in Haidwar and Haldwani to treat this waste. Whereas, rest 40% population live in remote, inaccessible hilly areas. These areas generate 400kg/d of waste, which require local level innovative waste treatment solutions (anaerobic digesters etc.). He assured that the state has already come up with stop gap waste treatment options for these remote hilly areas till the innovative waste treatment were in place.



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While talking about the innovative waste treatment solutions Dr. Bhatt sought the technical assistance of Toxics Link in identifying the best practices, capacity building of the medical staff persons and advocating benefits of such solutions to the policymakers.

Dr. Bhatt said that the state govt. was also planning mini CBWTFs in Srinagar and Almora as long-term waste treatment options. He also assured that the rest of the district hospitals would be provided with in-house waste treatment facility.

Dr. Bhatt concluded by saying that the state govt. has already planned an organisational structure and a monitoring and evaluation plan in order to ensure effective implementation of this proposed strategy.

Presentation 3- Mohammad Tariq Gaur, Toxics Link, New Delhi

Mr. Gaur shared his experiences of implementing waste management system in a hospital. He discussed the various components of implementation, including the planning phase, formation of a waste management committee, importance of a well-defined waste management policy, occupational safety and health plan, waste audits including tracking down movements of infectious waste, setting up a model ward etc. His presentation underscored the importance of waste segregation at source. He also dealt with some practical problems related to implementation of waste management system in the hospitals, which included problems related to trainings, attitudinal problems and procurement of equipments.

Presentation 4- Dr. Pratima Gupta, Department of Microbiology, Himalayan Institute Hospital Trust, Dehradun

Dr. Gupta gave a brief history of waste management at HIHT hospital in Dehradun. She explained how HIHT hospital had grown up from infancy to teenage in the area of BMW management. She discussed the waste management policy and the infection control programme at HIHT hospital. She also discussed the bio-medical waste management systems and the methods adopted for waste segregation at the HIHT hospital. In addition to the above, she went on to explain how mercury spills were contained at HIHT.

While discussing the various achievements of HIHT hospital in BMW management she mentioned that HIHT hospital had incorporated various elements of BMW in its course curriculum and how it was able to adapt the BMW regulation according to its suitability. She also explained how HIHT had emerged as a centre of excellence in BMW management through immunisation waste management, training of nurses, and by adopting the “no incineration” policy within its premises. Not reusing gloves and giving away awards for “best housekeeper of the month” were two major highlights of HIHT’s BMW management policy. Dr.



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Gupta attributed the success of HIHT in BMW management to a dedicated team of people supported by a caring administration and relentless monitoring efforts.

Presentation 5- Dr. Saravjeet Singh, Consultant, BHEL, Haridwar

Dr. Singh talked about various technologies for treating BMW in Uttarakhand. He spoke in length about the various technical nuances of the incinerator installed in BHEL. He also stressed on the importance of waste segregation at source so that only a small percentage of waste was incinerated and the rest was treated on-site. Dr. Singh also informed the participants that the incinerator installed at BHEL had a breakdown of late, which meant that no waste could be incinerated till the problem was fixed.

Dr. Singh raised a concern about the large percentage of (more than 60%) unregistered healthcare facilities in Uttarakhand. He was apprehensive about the way BMW was disposed off in these unregistered facilities. He informed that mixing of common waste with infection waste was a common occurrence in these facilities. In order to avoid such gross mismanagement of BMW, he called for an enhanced involvement of all the stakeholders and a proactive administration. He also reiterated the need for behavioural changes among the medical and non-medical staff persons dealing with BMW management. He argued that BMW management in Uttarakhand is more of a managerial issue rather than a technical issue.

Open Discussion

1. Questions were raised about the monitoring of regulations related to BMW management rules and the role of Uttarakhand Environment Protection & Pollution Control Board to curb any violation
2. The fate of plastics in BMW was also under scrutiny. Some of the participants suggested that a possible remedy could be reuse and resale of plastics. Entrepreneurship opportunities were also explored at the level of primary and community health centres in order to ensure safe disposal of BMW, especially for the waste, which did not require incineration.
3. A suggestion was made about using AD syringes for curative purposes alongwith immunisation in order to prevent reuse of syringes.
4. Inspired by the HIHT example, some of the participants suggested the option of carrying the immuniser with the sharps container while going for a vaccination programme in the remote hilly areas, which would prevent the use of needle destroyer at a later stage and would thereby prevent needle injuries.



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5. The concluding thought of the session was that no regulation can mandate implementation. Successful implementation depends on the way one was able to adapt the regulation on a case to case basis.

Technical Session II: Managing Mercury Waste in Healthcare



Session Chair: Dr. R.P. Bhatt

Presentation 1- Ragini Kumari, Toxics Link, New Delhi

Dr. Kumari talked about mercury in healthcare settings and its global phase-out. She spoke about the use of mercury in healthcare, various health impacts and the mercury cycle in nature. She also informed the participants about the various legislations and standards of mercury in India. She showed how the staff persons and patients in the hospital are at risk due to presence of mercury in indoor air. She talked about the initiatives taken by various state governments to phase-out mercury from healthcare settings.

She reasoned lack of a government policy, higher cost of mercury-free alternative health care equipments, calibration issues and inadequate information about occupational hazards as major impediments for phasing out mercury from healthcare settings in India.



Presentation 2 &3- Dr. Kathleen McKeehan and Dr. Yogesh Saxena, HIHT, Dehradun

Dr. McKeehan started her deliberations by mentioning a long institutional association between Toxics Link and HIHT. She then went on to talk about a 5 year pilot project funded by multiple donors, which involved research into mercury-free alternative healthcare equipments. While taking the participants through the various steps of research she showed that the aneroid blood-pressure measuring instruments were found to be the best alternative to replace mercury-based usual sphygmomanometers. She also mentioned that though digital instruments are robust, they are expensive and the results are yet to confirm themselves.

Acknowledging the fact that it would not be easy to set up a standardisation committee in India, Dr. McKeehan suggested that one may think of buying British Hypertension Society (BHS) approved blood pressure measuring instruments. One obstacle in this regard could be the high Customs tax levied by Government of India on imported non-mercury BP Instruments and Thermometers.

Dr. McKeehan said that research results show that aneroid instruments were sensitive and hence a verification programme needed to be developed and implemented in order to ensure their proper working. In conclusion, she found that standardised and verified blood pressure measuring instruments were solutions to the problems related to mercury-free alternatives.

Dr. Yogesh Saxena talked about implementing mercury-free healthcare setting at the HIHT hospital. He stressed more on the acceptance of non-mercury instruments by users. He informed that HIHT has formalized a verification protocol of non-mercury instruments to build trust among the users. He also informed that verification was done both at the hospital and field settings. He stressed on the fact that regular feedback from the users have strengthened their belief on non-mercury instruments. His parting thought was that all the stakeholders (the Govt. bodies, hospitals, donor agencies and multilateral agencies etc.) need to work together in order ensure that healthcare settings were kept mercury free and that the alternatives were scientifically approved and verified.

Presentation 4- Dr. Anil Gautam, People's Science Institute (PSI), Dehradun

Dr Gautam presented two interesting case studies related to mercury in the environment. One was on the mercury poisoning due to large thermal power plants in the Singrauli region. The other was on the groundwater contamination due to an abandoned UCIL plant at Bhopal. Acknowledging the fact that his presentations do not directly relate to mercury in healthcare settings, Dr. Gautam stressed on the fact that one needs to understand how mercury gets accumulated in the various components of the environment. He



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also raised a concern about dumping mercury-laced waste in deep burial pits citing the example of UCIL plant Bhopal.

Open Session

1. Questions were raised about mercury spillage and what one needs to do in case of a spillage. The answer to the question was that very little information exists in India about mercury containment. The priority would be to contain and collect the spillage before it spread to large areas. One suggestion was to develop a repository of information and available technology for mercury containment.
2. The issue of manufacturing aneroid blood pressure measuring instruments in India was also raised. The house concluded that one may think of manufacturing them in India by subjecting them to strict international protocols as mandated by BHS. One suggestion was to get them standardised by BHS following manufacturing.
3. Intervention at the highest level of policymaking to reduce the Customs tax on import of non-mercury healthcare equipments was also raised by the house. Some of the participants suggested that Toxics Link should take the lead by virtue of their years' of expertise in policy advocacy.
4. Training of staff persons from healthcare facilities, creating holograms/labels for biohazards, developing IEC materials related to BMW management in vernacular language were other important issues raised during the open session.
5. Important recommendations that came out of the workshop were:
 - a) Segregation of waste at source is an important but often underrated component of BMW management, which needs to be addressed.
 - b) Solutions for BMW management should never be tried in isolation. Rather they should include all interacting perspectives; administrative, managerial and technical.
 - c) Designing an unbiased Monitoring and Evaluation system for BMW management system are the keys to successful implementation.
 - d) Tools like Right to Information could be used to procure information about BMW management in the state and to keep a vigil on state's performance in this regard.