

APHA Meeting Notes - “Water and Public Health” November 7-11, 2009

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APHA Environment Section Web link: <http://www.apha.org/membersgroups/sections/aphasections/env>

The 137th Annual Meeting of the American Public Health Association was held in Philadelphia, PA from November 7-11, 2009. The theme of this years meeting was “Water and Public Health”. With many sessions focusing on the issues of water and health, it was clear that the problems would be compounded by climate change. Several sessions focused specifically on the impacts of climate change on water and health.

Water is a finite and non-renewable resource and the changing climate is a stressor on this precious resource. Currently, 20% of the world’s population lives in water scarce areas and it is estimated that this percentage may increase with changes in weather patterns due to climate change. It is predicted that the South Asian monsoon which is a predictable source of water for large populations could be delayed and in fact may be reduced. With climate change it is predicted that seasonal patterns of rainfall will be much more variable and the number and severity of droughts is expected to rise. These changes will in turn lead to decreased water availability and impact water storage capabilities worldwide. The unpredictability of rainfall could lead to decreasing water tables. Under climate change scenarios, it is also projected that the ambient temperature will increase over time and the number of wildfires will increase. These changes can give way to emerging microbial pathogens, which will cause increased waterborne diseases, and more particulate matter in the raw waters.

Climate change is changing the living conditions for many worldwide by stressing agriculture, water availability and leading to increases in extreme weather events. These stresses on livelihoods are also leading to ‘environmental refugees’ who move into areas which lack infrastructure and planning that can affect water quality and water availability. In Africa, it is expected that the change in water availability will affect traditional agricultural practices, drive populations to urban and peri-urban areas, and threaten water supplies. In the U.S. thousands of environmental refugees migrated after Hurricane Katrina hit New Orleans. In this case many have moved to rural areas which do not have adequate water infrastructure to support the increase in population. Native American tribes near New Orleans who have inhabited coastal areas for generations are now moving inland to avoid the catastrophic flooding they have experienced six times in the last five years. Human waste is the primary polluter of raw waters and it is estimated that 80% of rivers in China are depleted and cannot support aquatic life. In the U.S., about 40% of rivers are too dangerous for drinking or swimming. These various conditions lead to challenges in the management of water treatment plants.

Though the sessions at APHA highlighted the stress that climate change will have on water quality and supplies, several possible solutions were discussed. It was suggested that the U.S. needs a climate service to provide authoritative information and standard metrics for climate decision making that will enhance lives and livelihoods. Given the climate change projections of increased and more severe storm activity and associated flooding, public health emergency response plans need to incorporate environmental hazards such as contaminants, and prepare rapid response assessment tools for these environmental hazards that may occur outside of the usual timeframes. The primary recommendation was that the effects of global climate change on water and health can be mitigated; however, it requires political will of our leaders to be engaged in the discussion and take action. As public health professionals, it is our duty to be engaged and help raise awareness and explain the science behind the issue of global climate change and its impacts on water and health.