

unpredictable. Over the years, preparedness has gained recognition as a critical component of overall public health management for public health emergencies triggered by infectious disease outbreaks, natural hazards, terrorism, and other causes. *Front-line preparedness* means that public health leaders and administrators must be able to communicate information, roles, capacities, and legal authority to all emergency response partners during planning, drills, and actual emergencies. The recent increased threat of terrorism, coupled with the ever-present dangers posed by disasters caused by natural hazards and public health emergencies, clearly support the need to incorporate preparedness and emergency response into the Indian system. Various programs focusing on different aspects of health emergency preparedness and response have been conducted in India, but there are clear gaps during the response phase of public health emergencies. Public health becomes an indispensable pillar of the national security framework, and to respond to the challenges, planners must think in the broader context of causes as well as symptoms. An attempt is made to identify the gaps and challenges in developing a comprehensive approach to improving public health emergency management in India.

Keywords: emergency response; India; planning; preparedness; public health

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(220) Hospital Template Tool Kit for the Effective Evaluation and Management of Victims of a Botulism Mass-Casualty Incident

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Botulinum is known as the most poisonous toxin. A recent mathematical model has indicated that 1 gram of botulinum toxin in commercially distributed milk consumed by 568,000 people would generate 100,000 casualties. Whether the exposure is caused intentionally or naturally, multiple botulinum patients will present with a unique set of recognition and management imperatives. These imperatives will stress a medical infrastructure that currently is understaffed, inexperienced, and lacking in immediate resources needed to deal with such a threat. While strategic discussions involving anti-toxin caches, ventilator supply deficits, and surge capacity continue, there has been a noticeable lack in the literature regarding the tactical aspects associated with the management of large numbers of botulism victims. This is compounded by the fact that, often times, initial manifestations may be subtle, overlooked, or dismissed easily, and can lead to sudden deterioration of the patient. Therefore, a tool-kit of templates has been created to assist healthcare providers in the recognition, evaluation, and management of botulism victims. This tool-kit contains botulism-specific physician orders, nursing documentation, evaluation templates, patient monitoring forms, anti-toxin administration forms, and discharge instructions. These templates are meant to supplement or be incorporated into the existing management protocols of a hospital. The templates are internet-based so they can be

downloaded as needed should an incident arise. There is no cost to end-users. They also may be utilized for training purposes. With this tool-kit, the initial and ongoing management of multiple botulism victims will be enhanced regardless of the level of experience or training of the healthcare provider.

Keywords: botulism toxin; hospitals; management; mass-casualty incident; patients

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(222) Characterization of Acute Watery Diarrhea Outbreak in Ethiopia's Oromia Region

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Introduction: In late June 2006, Ethiopia's Oromia Region was affected by an outbreak of acute watery diarrhea (AWD), subsequently confirmed to be *Vibrio cholerae* 01. Despite control efforts, the outbreak quickly spread from the original zone of West Arsi to four neighboring zones within the Oromia Region.

Methods: The current assessment, conducted during the last two weeks of September, addressed the zones of Guji, Bale, and East Shoa. Surveys were administered to health bureau staff, case treatment center (CTC) staff, and community members. A convenience sample was used to assess both CTCs and community members.

Results: Geographically, the AWD cases occurred along the Ganale River. There was a trend observed of adult males being disproportionately affected. Overall, the infection rates were low (0.03% to 4.12%), although the CTC data likely underestimate the true values. The CTC case fatality rates ranged from zero to 6.4%, but again these data likely underestimate the true case fatality rates since community deaths were not included. The community response depended on the village chairmen and the strength of community mobilization varied according to the zone. Medical management generally was appropriate and was based largely on Médecins Sans Frontières (MSF) cholera treatment guidelines.

Conclusions: This outbreak primarily resulted from insufficient access to clean water and from poor sanitation. Future epidemics undoubtedly will occur unless these basic deficiencies are addressed properly. In this particular instance, the outbreak was brought under control by a prompt and effective response at the community level.

Keywords: Cholera; community-level response; Ethiopia; mortality; outbreak

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(223) Health Disaster Management: Balkan and Mediterranean Network

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In the past decades, the hazards and risks associated with disasters threatening civilian populations in the Balkans and Eastern Mediterranean have worsened. This presentation reports on the collaboration between Greece, Egypt, and Turkey. This collaboration features activities in public health

and disaster management as a means to develop appropriate training and networks with neighbors with additional aims to deploy “health diplomacy” as part of the process to improve human security, tolerance, and reconciliation as well as to ascertain disaster risk. The process is ongoing and is being conducted with the respective Ministries of Health and the international community. Public health and disaster response management was conceptualized as a single unitary instrument in foreign policy development as well as an integral part of the understanding of and response to unwelcome events. A tentative health disturbance model was employed utilizing the Utstein Template (UT), which also was being examined as a basis for training of health disaster managers and public health professionals. From such collaboration and related activities, socio-economic development can be promoted and health systems strengthened. A case will be made for more specific application in the sensitive region of the Balkans, as an operational aid in terms of societal preparedness. It stresses the management function within the context of organized society and the harmonization of disaster response. A tentative declaration awaiting ratification has been drafted between Greece and Turkey. Acknowledgements to Knut Ole Sundnes and Marvin Birnbaum.

Keywords: coordination; disaster management; public health; response

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(224) Urban Solid Wastes as a Major Public Health Disaster in Nigeria

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Currently in Nigeria, most urban cities are experiencing an increased rate of environmental degradation, with solid wastes of various dimensions dumped along the streets, market places, behind houses, and along drainage channels— all arising from increasing population, urbanization, and uncoordinated industrialization. Apart from destroying the aesthetic appeal of these urban cities, these wastes constitute a disastrous public health nuisance, as they contribute to the transmission of parasitic infections. An investigation of all the stages of integrated solid waste management in Nigeria (which includes sorting, collection, storage, and transportation) indicated serious public health implications. In addition to the various communicable infections and upper respiratory tract infections, there are other emerging threats: Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) can be contracted from sharp healthcare wastes and problems of avian flu and other zoonotic infections can be transmitted through poor hygiene and disposal practices. Some of the recommended disposal methods, such as incineration, have public health consequences through the emission of dioxins and other toxic/carcinogenic substances. The current challenge calls for all stakeholders (governments, indigenous and non-indigenous private sector actors, civil society organizations, and all people) to harmonize their activities towards promotion of sustainable waste management procedures. Some of the technologies being applied must be reviewed and improved for better wastes

management and wealth creation. International concerns involved in Ecopreneurship also should capitalize on the wonderful and attractive investment climate provided by Nigerian Government and consider investing in this sector to help arrest the disaster.

Keywords: disease; management; Nigeria; public health; sustainable; waste

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(225) Road Safety Investigation, a New Perspective?

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Road safety has been considered an intrinsic aspect of road traffic, in which accidents are an unwanted but inevitable byproduct of the system. Due to mechanisms of diminishing returns, policy-making strategies consider present safety performance levels as outstanding, without much perspective for drastic reduction of the present fatality and injury rates. Changes in the road system consequently focus on environmental and congestion issues.

However, in extrapolating trends in motorization and traffic volumes, the World Health Organization (WHO) forecasts road accidents to be the third highest cause of death in the next two decades worldwide. The WHO and the United Nations propose a paradigm shift towards road safety as a public health issue. Focusing on the public health aspects of road safety may promote societal awareness of high-risk activities.

In order to improve knowledge about accident and injury causation, this contribution advocates safety investigations in road traffic on a similar methodological basis as in aviation, shipping, and railways. This advocacy is based on experiences with several in-depth analyses of road accidents conducted for the Dutch Road Victim Organization VVS.

In addition to this practical approach, a more theoretical approach is explored by applying Paul Slovic’s Dual Process Theory. This theory is used to examine the relationships between the notions of “ratio” and “affect”, with the hope that it will help to clarify the difficulties associated with the introduction of a new perspective for road safety policy-making.

Finally, suggestions are made to improve the quality of road accident investigations and to reassess the role and involvement of organizations of road victims and their relatives.

Keywords: Dual Process Theory; public health; road safety; road traffic crashes; World Health Organization

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(226) Pandemic Influenza: An Integrated Approach to Health Service Planning in the Avon Area

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Background: In the UK, there has been much national publicity and government interest in the potential for the emergence of a new pandemic strain of influenza virus and its potential impact on the health of the population, industry, and commerce.^{1,2} The Department of Health (UK) recently