What’s new, what’s hot, what’s timely? If you don’t have time to search the Internet for the latest developments that might impact your work environment, you just might find some of this information in this “Capsule” column. Please e-mail any comments or suggestions to felix.gmuender@bh.com.sg or to Co-Editor Barbara Johnson at barbara_johnson@verizon.net or Co-Editor Karen B. Byers at karen_byers@dfci.harvard.edu.

Reduction of Sharp Injuries, Early Warning System for Medical Examiners, Ebola-Vaccine Development and Tips for Lab Workers Planning to Work in Low-Resource Countries

Sharps Injury Reduction Using a Sharps Container with Enhanced Engineering: A 28-Hospital Nonrandomized Intervention and Cohort Study

Sharps accidents pose a considerable risk in biosafety laboratories and should be eliminated by a non-sharps policy if practicable. If sharps cannot be avoided, sharps containers, “safe” sharp tools, and good procedures in combination with appropriate training are necessary to minimize sharp risks. Unfortunately, sharp injuries still happen, which indicates that the root causes need to be identified to further minimize accident rates. In response to this, Grimmond et al. (2010) report on an enhanced sharps container that can help to reduce sharp accidents in the healthcare sector. Healthcare accident statistics are useful for the biosafety community to identify the root causes of sharp injuries because there are many more healthcare workers than biosafety laboratorians dealing with sharps. The authors found that many avoidable sharp accidents happen when sharps containers are not designed properly in combination with violation of good sharp disposal practices including overfilling, unsafe closure, shaking, openings that allow hand access, etc. The authors report that 11.4 percent of sharp accidents are container-associated. Grimmond et al. (2010) completed field tests with a commercially available, foolproof sharps container. With this container, the container-associated accident rate fell from 11.4 to 2.2 percent. The authors conclude that good sharps container design can significantly reduce container-associated sharps injuries.


Guidelines to Implement Medical Examiner/Coroner-based Surveillance for Fatal Infectious Diseases and Bioterrorism (“Med-X”)

Because pathologists and coroners examine sudden, unexplained, and violent deaths, they may frequently be exposed to infectious agents that are of public health concern or that could include bioterrorist agents. Therefore, it is essential to recognize potential cases as early as possible, on the one hand to notify the public health authorities and on the other hand not to miss a potential case of bioterrorism. Nolte et al. (2010) report on a medical examiner model (“Med-X”) that is based on symptoms and allows for correct prediction of the causative agents in 81 percent of infections. Fifty-eight percent of these infectious diseases were notifiable by public health standards. The authors used the Med-X model, originally developed by the New Mexico Office of the Medical Investigator in 2000, to create a guidance document for medical examiners, coroners, and their public health partners. The authors also quote relevant literature on biosafety considerations for autopsies.


Recent Advances in Ebolavirus Vaccine Development

Ebolaviruses are considered very high-risk biological agents because their fatality rate is typically around 90 percent. Laboratorians working with this virus run a high risk of fatality because no licensed vaccine and no treatment are available. Richardson et al. (2010) report on significant advances in the development of a single-dose, post-exposure vaccine that proved to be successful in the non-human primate (NHP) model. A post-exposure vaccine is important in case of a local outbreak, in biodefense settings, and in diagnostic laboratories. The article
Healthcare Workers and Researchers Traveling to Developing-World Clinical Settings: Disease Transmission Risk and Mitigation

Kortepeter et al. (2010) report on the risks health workers and researchers traveling to developing-world clinical settings face when they decide to work in low-resource countries. These risks differ considerably from those typically considered by tourists or business travellers. The article focuses on these little known and rarely investigated exposure situations. In low-resource countries, the endemicity of many infectious diseases is typically much higher than in highly industrialized countries, not only among patients, but also among other staff in healthcare settings and research laboratories. In addition, the protections available in high-resource countries, such as personal protective equipment, safe tools and equipment, and engineering controls, may be missing or of a lower quality in low-resource countries. The authors provide many practical tips, such as how to create a sharps container from a soda or detergent bottle. However, the article’s focus is on raising awareness. The infectious diseases that circulate most frequently in low-resource countries are discussed, as well as modes and means of transmission among people, in wards, and in the laboratory. Based on World Health Organization (WHO) and Centers for Disease Control and Prevention (CDC) recommendations and the authors’ own experience (which includes but is not limited to the Uniformed Services University of the Health Sciences, Bethesda, Maryland and the Naval Medical Research Center, Silver Spring, Maryland), a list of comprehensive pre-departure prevention measures and supplies is compiled for easy reference. The article is a must for microbiological and biomedical researchers and healthcare workers (and their employers) who plan to work in a resource-limited setting.


IFBA Declaration on Advancing Global Biosafety and Biosecurity

From February 15-17, representatives from the global biosafety and biosecurity community participated in an international conference on Global Biosafety and Biosecurity in Bangkok, Thailand. The conference sought to identify urgent gaps and priorities and recommend action to advance biosafety and biosecurity with particular attention to building sustainable capacity where it is most needed.

Recognizing that biosafety and biosecurity are important elements within the greater framework of strengthening global health and security, recommendations for action were developed by 160 participants from 36 countries from all regions of the world. Priority goals and projects to help address gaps and needs were identified. Participants recognized the need for innovative approaches to develop affordable biosafety and biosecurity capacities appropriate for those areas of the world with limited resources.

The conference concluded that the International Federation of Biosafety Associations (IFBA) should serve as the visionary and coordinator by bringing together the major stakeholders in order to promote the advancement of biosafety and biosecurity globally.

Read the IFBA Declaration on Advancing Global Biosafety and Biosecurity at: www.internationalbiosafety.org