Introduction to the Need for a Special Focus on Healthcare Worker Safety

There is still room for improvement in the area of safety and infection control for patients and healthcare workers by lowering the risk of foreseeable accidents, injuries, preventable infections and preventable exposure to hazardous drugs.

The toll of healthcare workplace injuries and illnesses is also a significant problem that needs to be addressed through national policies. For workers in every industry and every sector of the economy, the prevention of avoidable and foreseeable accidents, injuries and exposure to hazardous biological and chemical risks is taken for granted as a matter of occupational health and safety under applicable law.

Implementing comprehensive guidelines and mandates to enhance safety for patients and healthcare workers would yield three positive outcomes: raising the quality of care; reducing avoidable accidents and injuries; and acting as an effective control on healthcare costs.

Occupational exposure to dangerous biological agents, such as blood-borne pathogens, including hepatitis B virus (HBV), hepatitis C virus (HCV) and human immunodeficiency virus (HIV), poses a serious health and safety risk to healthcare workers worldwide. Even the smallest skin puncture caused by a needle or other sharp device can expose healthcare workers or healthcare facility employees to more than 30 blood-borne pathogens,[1] which can cause serious and potentially life-threatening infections. In addition, only the slightest amount of infected plasma is required for HBV transmission.[2]

Nurses are subject to the largest number of blood exposures because these events occur most often in patient rooms and the operating theatre. However, doctors and ancillary medical staff — including lab professionals and housekeepers — are also vulnerable to blood exposures before, during and after use, if contaminated products are not properly handled and disposed. With the use of safety-engineered devices and the application of best practices for infection control, however, the majority of these exposures are preventable.[3]

The World Health Organization (WHO) has identified healthcare-associated infections (HAIs) as a leading cause of preventable morbidity and mortality.[4] The cost of treating avoidable HAIs is substantial and could be reduced significantly with enhanced safety and infection control.

The safety of healthcare workers is invaluable not only for the workers themselves, but also for their families, workplaces, communities, industrial sectors and the nation as a whole. For the prevention of foreseeable accidents, it is necessary for the government, employers, workers and all parties concerned to comprehensively and systematically implement preventive measures in an integrated manner.

Healthcare workers who transport, prepare, administer and dispose of hazardous drugs can be exposed to these toxic chemical agents in the air or on work surfaces, clothing, medical equipment and other areas. As a result, both clinical and nonclinical workers are at risk for exposure when they handle hazardous drugs or touch contaminated surfaces, if safe handling precautions are not followed.

Frequent exposures to even very small volume of hazardous drugs used for cancer chemotherapy, antiviral treatments, hormone regimens and other therapies have serious health consequences for workers who come in contact with them. [5] National guidelines in the United States have been established for handling hazardous drugs, but compliance with these guidelines is not required and adherence has been reported to be sporadic.[6, 7, 8, 9]

In 2004, the U.S. National Institute for Occupational Safety and Health (NIOSH) warned the public that working with or near hazardous drugs in healthcare settings may cause skin rashes, infertility, miscarriage, birth defects, and possibly leukemia or other cancers that can be irreversible even after low-level exposures.[10]

The lack of adherence to existing voluntary guidelines is a safety risk for healthcare personnel and comprehensive standards must be developed and enforced to ensure the safe handling of hazardous drugs.

Employers have a responsibility to eliminate or control foreseeable workplace risk. For healthcare workers, sharp object injuries are a foreseeable workplace risk and have been identified internationally as being a significant problem, particularly needle stick injuries and the exposure to hazardous drugs. The greatest risk from needle stick injuries is transmission of blood-borne viruses such as HBV, HCV, and HIV.

As a result of the increase in the handling of hazardous drugs, the WHO predicts a 50 percent increase of cancer cases over the next 20 years as the population ages.[11]

The increasing number of cancer cases will require more potent chemotherapy drugs and will elevate the risk for occupational exposure of healthcare workers to such drugs.

In many circumstances, investigational and experimental drugs should be considered hazardous until proven otherwise. In addition, chemotherapy drugs and other hazardous drugs are reportedly used to treat non-malignant diseases like arthritis and multiple sclerosis. Uses for them have also expanded into the veterinary field.

In summary, in the shift to a prevention-oriented paradigm, policies specifically directed at the enhancement of patient and healthcare worker safety and the prevention of the exposure to hazardous drugs risks have been insufficient.

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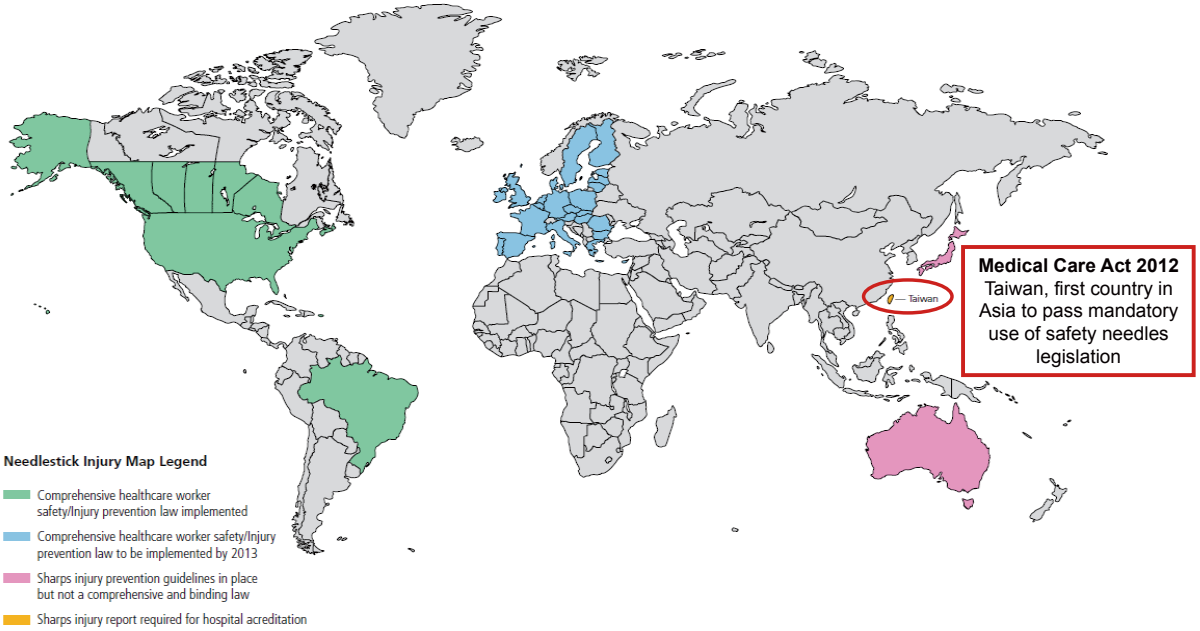
Comprehensive Guidelines and Mandates to Enhance Safety for Healthcare Workers

Global Needlestick Injury Prevention Activity



Medical Care Act 2012
Taiwan, first country in Asia to pass mandatory use of safety needles legislation

WHO New Injection Safety Policy and Global Campaign

Each year, at least 16 billion injections are given worldwide. The WHO and Safe Injection Global Network (SIGN) initiative aims to promote the rational and safe use of injections.

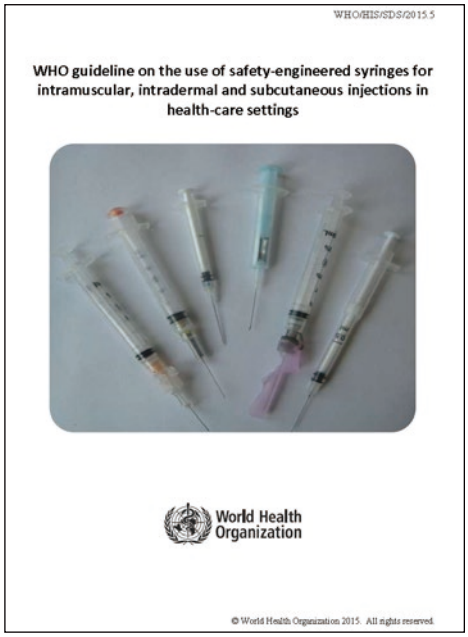
Key initiative objectives are:

(1) to prevent reuse and needlestick injuries through global communication campaigns and healthcare worker training;

(2) to better ensure injection safety through the use of safety engineered injection devices; and

(3) to leverage past WHO SIGN network findings

Source: WHO, 2015: http://www.who.int/injection_safety/en/



Source: WHO, 2015: http://www.who.int/injection_safety/global-campaign/injection-safety_guidline.pdf?ua=1

Closed System Transfer Devices Throughout the Safe Handling Continuum

The toxicity of hazardous drugs (including many anti-cancer agents) and the dangers of prolonged exposure to them have been proven to cause hair loss, skin rashes, infertility, miscarriage, birth defects, and even leukemia or other cancers in healthcare workers.

Safe Preparation

Safe Transportation

Safe Administration

Safe Disposal

The use of a closed system transfer device (CSTD) in conjunction with other safety precautions such as gloves, gowns, masks, and vented preparation hoods presents a proven way to increase safety levels when preparing, transporting, administering, and disposing of hazardous drugs.