

diseases because they realised their insufficient training and feared the possible consequences. These obstacles could be removed by 'a thorough training in fever nursing, which embraces a knowledge of the nature of infectious diseases, their modes of transmission and methods for their prevention.' HCWs' concerns did not change greatly over the following 100 years, nor did the validity of the proposed solution: but scientific and technical knowledge progressed. Several life-threatening pathogens were increasingly identified as causing epidemics involving HCWs and patients in the successive decades, including tuberculosis, 'serum' hepatitis and smallpox: recommendations and codes of practice for hospitals and laboratories were issued, but many institutions and HCWs were still not taking adequate precautions to reduce infection risks. HIV gave an unprecedented impulse to HCWs' safety, promoting Universal Precautions against bloodborne infections, and airborne precautions against the HIV-associated resurgence of tuberculosis. With the decrease in the fear of occupational HIV, however, HCWs' compliance with preventive measures dropped, and SARS hit. The risk of communicable disease lost its historical significance to acquire practical relevance, claiming many lives before an effective reaction ended the epidemic. SARS stimulated developments in alert systems, isolation precautions, design of barrier garments, training in donning and doffing, pre and post-exposure management. Nonetheless, Ebola found international organisations ill-prepared and frontline workers under-equipped and untrained, which sometimes advocated dramatic choices between the lives of patients and HCWs' safety. If we want to learn from experience, HCWs' safety standards must be global: promoting renewed understanding and prompt identification of risks and precautions, and concentrating efforts and resources to strengthen preparedness in areas where pathogens emerge, are our inextricable priorities.

#### 1621b PROTECTING THE HEALTHCARE WORKER FROM NEEDLESTICK INJURIES: A HIERARCHICAL APPROACH

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Needlestick injuries (NSI) continue to pose a significant risk to healthcare workers (HCWs) worldwide. Though the risk of acquiring bloodborne viral infection is low, it is not negligible. The psychological consequences of exposure can also be significant. Many exposures are entirely preventable. Applying the hierarchy of risk controls, a much used concept in the discipline of occupational hygiene, is important in addressing all occupational hazards. Elimination or isolation of a microbial hazard, though possible in the laboratory, is not an option in the clinical setting. However, engineering controls have been evolving in recent decades. In the 1990s, the safety technology advocated was costly and impractical so that prevention of exposure largely relied on education and training to optimise human behaviour in handling sharps. A decade later, safety engineered devices (SEDs) had become more technically sophisticated. However, diverse mechanisms of action ensure that their correct use is not always intuitive so training and supervision are required. These activities are administrative controls, and, though costly, are less effective in the hierarchy than are engineering controls. Personal protective equipment

has a lesser role to play in protecting HCWs from NSI but is useful for preventing mucocutaneous exposures.

The scientific literature has confirmed the efficacy of engineering controls and this has been underpinned by legislation, led by the United States in 2001, followed by the European Council Directive on Sharps in 2010.

However, technical solutions alone are insufficient to mitigate this hazard. In working to reduce injury in our organisation, we identified significant systemic obstacles within the hospital which when addressed, helped to reduce our injury rates. We also suggest that an understanding of the psychology of behaviour change at both individual and organisational levels is helpful in providing support for NSI prevention programmes.

#### 1621c ADDRESSING INFECTIOUS – RELATED CONCERNS IN HCWS: AN INTEGRATED APPROACH

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Promoting best practices for safe and high quality patient care and extending the principle that patient and worker safety are intimately linked are basic objectives of the Quality Plan of the Spanish Ministry of Health. This presentation focuses on those initiatives aimed at the creation and implementation of safe and quality care for patients in hospitals and safe working procedures for health personnel. There are specific issues considered of vital importance in order to achieve safe and quality care in hospitals in a bidirectional way. These include:

1. establishing a Culture of Safety,
2. creating a Patient Safety Plan,
3. addressing the Health Care Workers perception of risks,
4. performing Risk Assessments,
5. creating protocols for the handling of dangerous drugs,
6. establishing protocols for Infection Control,
7. establishing protocols for handling adverse events and
8. establishing bidirectional channels for the communication of information.

The purpose of the presentation is to serve as a reference of experiences, suggesting practical and viable ways that allow for the implementation of these concepts.

#### 1621d MANAGING EXPOSURES: WHEN THE UNDESIRABLE HAPPENS

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Health-Care Personnel (HCP) are at increased risk of acquiring occupational infections in the health care setting. A series of prevention strategies can be implemented to reduce the risk of those exposures, but it is agreed that education, training, personal protective equipment, safe procedures and work practices will not prevent all exposures and that there is a need of a number of interventions to further reduce the risk of acquiring an infectious disease after an exposure and in reducing the risk of secondary spread of infection. Postexposure prophylaxis (PEP) could be recommended following exposure