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

to a wide spectrum of viral and bacterial diseases, and might include vaccines, immune globulins, antibiotics, and antiviral medications. All health-care institutions should ensure to have systems in place to facilitate postexposure assessment, and have prophylaxis readily accessible for timely administration. The protocol should describe procedures for the rapid provision of medical care during all work hours (day, evening, and night shifts). Postexposure management approach will depend on the type and extent of exposure, characteristics of the infectious agent (eg, virulence, infectious dose), status of the source patient, the exposed person's susceptibility to infectious diseases of concern, and the relative risks and benefits of the PEP regimen in each individual situation. Occupational exposures should be considered urgent medical concerns to ensure timely postexposure management. Exposed HCP should be monitored for signs and symptoms of infection and for possible adverse effects from drugs. In the absence of PEP, recommendations for postexposure management are intended to achieve early identification of disease and, if present, referral for evaluation of treatment options. Management of exposures should always be fully documented and exposures reported to the appropriate administrative department. A key administrative component is provision of resources for maintenance of infection control and occupational health programs that are responsive to emerging needs.

1622 PREVENTION OF LOW BACK PAIN IN HCWS

Ruddy Facci*. *INSAT – Curitiba, Brazil*

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Round table discussion regarding the evaluation and prevention of Low Back Pain in Health Care Workers.

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1622b LOW BACK PAIN IN HEALTH CARE WORKERS: A GROWING FOCUS ON SECONDARY PREVENTION

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Low back pain (LBP) is a ubiquitous problem affecting nearly half of all workers in the health care (HC) setting. Hospital nurses report a 35 percent point prevalence and a 55 percent annual prevalence of LBP. Nursing is among the occupations ranked highest in work-related LBP, so substantial research efforts have been dedicated to understanding the interactions between workplace demands and worker characteristics that increase risk of LBP. Patient lifting and transfer is clearly the most prominent causal factor, and usual interventions include lift/transfer devices, no-lift policies, and ergonomic assessments.

Efforts to reduce physical ergonomic exposures in hospitals and nursing homes have met with some success, but engineering and policy solutions are only effective if coupled with sufficient worker training and participation. Besides the high physical exposures in the HC setting, research has also highlighted the importance of organisational and psychosocial factors in LBP incidence rates. These include high psychosocial demands (when paired with low job control), effort-reward imbalance, and low social support. Thus, LBP prevention efforts in the HC setting need to address psychosocial as well as physical job characteristics. Given the high prevalence of LBP among HC workers, one question is whether more efforts should be directed toward secondary prevention – focusing on job accommodation, return-to-work facilitation, and other aspects of organisational support to prevent long-term work absence and job loss after the initial report of LBP. Such disability prevention efforts, when instituted at the organisational level, have shown sizable cost benefits to employers and insurers, but their effects on long-term employee health and well-being lack sufficient evidence. These studies do, however, suggest that how HC organisations respond to individual workers with LBP may be equally important as their systemic efforts to reduce LBP incidence rates.

1622d WORK CONDITIONS IN BRAZILIAN HOSPITALS REGARDING PREVENTION OF LOW BACK PAIN

R Facci. *INSAT – Curitiba, Brazil*

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Introduction Low back pain is a very common problem among workers in the healthcare sector worldwide.

In the international scientific literature, healthcare workers involved in caring for dependent patients are among those most prone to acute and chronic musculoskeletal disorders, especially the dorsolumbar spine. According to WHO 2011, there are around 19.300.000 nursing staff members working in healthcare facilities around the globe (85% are women). Most healthcare workers manually handle patients on a daily basis, activity 'potentially' in terms of workplace prevention, thus hospital management to adopt effective risk assessment, management and containment measures. The large number of nursing staff are affected by musculoskeletal disorders, preventing them from performing activities for manually handling patients; the level of sick days taken due to musculoskeletal problems is extremely high. These aspects raise inefficiency, generate higher costs and lower the quality of care.

Methods MAPO Methodology (ISO TR 12296) has been used for evaluating the risk of low back pain among healthcare workers in 3 hospitals in Curitiba. One of the characteristic features of the MAPO Method is that it combines all the various risk factors into a single formula. Three hospitals in Curitiba (surgical and orthopaedic sectors) have been the target of this study.

Result The risk value in each sector/hospital has been established based upon the different patients, according to their diseases and workplace conditions.