Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.
Assembly TB declaration (2018) and has since engaged with UN agencies, the World Bank and other global TB funding organizations. There is a considerable need to expand primary prevention in the workplace as part of the global TB response.

**SPL07**

*Reconciling epidemiological and toxicological data: Some general principles and the example of firefighters*

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The fundamental relationship between toxicology and epidemiology is that increasing exposure results in an increasing response varying with the degree of individual susceptibility that at some point becomes either detectable and counted as an outcome or an increased density of cause that increases the frequency of a stochastic (random) response. Toxicologists count the magnitude of the response, epidemiologists count the frequency, and clinicians observe the new onset of outcomes that appear with exposure. A toxic agent may be the driver of the outcome or a contributing factor adding to or modifying risk. Firefighters demonstrate all of these effects as they occur together but outcomes are largely concealed or offset by lower personal risk factors. Epidemiology has therefore often been under-interpreted as a guide in terms of relative risk, a problem compounded by many methodological problems (chiefly low power, illogical aggregation of disease rubrics, dilution of risk estimates, and confounding. The data cannot be assumed to tell a simple story: interpretation requires understanding, not meta-analysis of phenomenology, which has been less helpful in etiological studies of firefighters than in other applications. What the investigator is usually seeking is an indicator of risk, which is not the same thing as the frequency of past experience. Epidemiology provides a summary of experience but it is a trailing indicator, because that experience happened earlier, in a different time and place. Looking backward, assessing causation in the individual case, one asks: “Given that something bad happened, what is the probability that it was causally related to the attribute in question?” but epidemiological methods apply to populations, not individuals. Causation analysis may benefit from Bayesian methodology to individualize risk estimates. Looking forward for prediction, in order to design more effective prevention, one asks: “Given the attribute, what is the probability that something bad will happen?” That requires a leading indicator, which more reliably emerges from an understanding of the mechanism driving the response. Looking forward, toxicology and biological markers (indicators), together with exposure science (the exposome) may have greater predictive potential than extrapolating from past experience imperfectly understood. The synthesis of epidemiology and toxicology needs to be taken further into analysis.

**SPL08**

*Child Labor in Conflict Settings*

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A high child labor rate is one of the greatest misfortunes that can be imposed on a society, destroying the innocence of the young, harming their health, and making them economically weak. Child labor is defined by the International Labor Organization as “work that deprives children of their childhood, their potential and their dignity, and that is harmful to their physical and/or mental development”. Around the globe, there is an estimated 152 million children affected by child labor; 72 million child laborers are in Africa, and 62 million are in Asia and the Pacific. While there has been a 38 per cent decrease of child labor globally, the progress against this phenomenon across regions has been uneven. In particular, conflict-stricken countries that continue to experience deteriorating political economy and governmental instability consequently show an increase in child labor rates, as demonstrated across the Middle East and North African region. Humanitarian crises, including conflict, often lower living standards which may result in reversals in progress to counter child labor especially in low- and middle-income countries. Children in circumstances of poverty, precarity and who come from marginalized minority groups are more vulnerable and at risk to child labor. While conflict settings exacerbate the threat posed to children, ensuring accurate and non-biased research in these settings is often difficult as a result of political and bureaucratic limitations. The hidden forms of exploitation that continue to occur in these contexts therefore require further research. This presentation aims to highlight the underlying causes for high child labor rates in conflict-stricken countries, such as political unrest, economic crises, and devastating wars.

**SPL09**

*The challenge of ensuring business sustainability during outbreak*

Adolfo Hernández

*BBVA, Department of Leader Occupational Health, Buenos Aires, Argentina*

Pre event:

All the aptitudes, attitudes, training and capacities for when the event happens are described.

Epidemic, pandemic event or outbreak:

Event: The event is any circumstance that requires an extra action, which goes through people and marks a before and after: floods, natural disasters such as the eruption of a volcano, outbreaks, epidemics or pandemics, in this case the COVID Pandemic -19.

Let’s refer to the Pandemic

The COVID-19 pandemic is a global pandemic currently underway derived from the disease caused by the SARS-CoV-2 virus. His first case was identified in December 2019 in the city of Wuhan, 9 capital of Hubei province, in the People’s Republic of China. The WHO recognized it as a pandemic on March 11, 2020, when it reported that there were 4,291 deaths and 118,000 cases in 114 countries.

In January 2020, when the personalities of the world of public and private health declared that Argentina would not be affected, I wrote the first infographic on COVID-19 that was disseminated by internal communications to all collaborators in Argentina.

We anticipate the regulations. In mid-February 2020 we began to isolate in quarantine employees returning from destinations abroad that had the outbreak. Before the ministerial norm and every day we looked at the evolution on the John Hopkins epidemiology map. We added countries to the list in all cases before the ministerial norm, analyzing the total number of cases, mortality, and the speed of progression.
In March we spoke with the ICOH Vice President for the Far East and Pacific Region and implemented the chinstrap prior to the WHO recommending its use.

We implement a protocolized response service to COVID from Monday to Monday from 9 a.m. to 12 p.m. in a company. We implement a system for reporting suspected cases and close contacts online.

COVID training online and via videoconference, with the possibility that they listen to us with the participation of families.

We treat people's physical and mental health. We provide workshops on resilience, support for critical incidents, online psychological first aid, telework organization, COVID and emotions, isolation management.

How to deal with the subject with children, with adolescents. Adaptation to new information and communication technologies.

Post Event OR epidemic outbreak or Pandemic: Post event

Participate in the return to work plan.

Generate the protocols for the new normal.

Update good business practices and safe work.

Assess what came to stay like telemedicine.

Transforming the healthcare opportunity to perpetuate it. Immerse yourself in the world of medicine based on big data and artificial intelligence.

Manage your own data with tools such as Google Data Studio, Powerpivot or PowerBi.

Finish incorporating virtuality as part of hard reality

**SPL10**

*Increasing urgency of psychosocial risk management in the changing world of work: the added value of linked surveys*

Irene Houtman

TNO, Leiden, the Netherlands

Psychosocial risks are changing and are becoming even more important. Digitization is one of the drivers and facilitates the exchange of information and communication, and aims to make the workplace more efficient by using artificial intelligence, robots and cobots. This development also supports globalization and sets the scene for large scale outsourcing where production is more and more situated in low-wage countries, in order to be sold and consumed or used in higher wage countries. In addition, in Europe anyway, tertialization takes place, where local (mainly public) services as well as the commercialized service sectors are increasing to either accommodate the greying work force as well as the search for new (digital?) products and services. This results in changed and new labour relations as well as changing ‘demands’ and autonomy or dependencies for the workforce, both for employers and employees. The urgency to monitor psychosocial risks in their multilevel context appears more important than ever. In addition, insight into the drivers and barriers of psychosocial risk management is compelling.

Can we link the indicators of a changing world of work to what is happening in organizations and in workers? Can we capture all these changes using the abstract and standardized way we generally measure psychosocial risks in surveys as we generally do? In this presentation we will discuss what we actually pick up of these changes in psychosocial risks as measured in Europe. Additionally, we will discuss the perception of psychosocial risks at work by employees as related to the perception hereof by employers (or their spokesmen) and risk management at the enterprise level. By not only considering the survey information on itself, but also linking information from respondents with different roles in the organization, or even by linking surveys that collect their data from different sources using multi-level modelling, we will show that additional information relevant for policy makers as well as practical information on drivers and barriers at the enterprise level may become available.

First we present the trends in digitization and in psychosocial risks at work and the awareness of these trends and their impact on employers as well as on mental and physical health outcomes of workers. Linking surveys to hard figures on morbidity and mortality show that there are significant and valid causal relationships between psychosocial risks and cardiovascular morbidity and mortality. These data may convince policy makers in countries where psychosocial risks are considered ‘not to exist’.

By linking surveys, interesting information can be gained on the topic of psychosocial risk awareness and risk management, as well as on its drivers and barriers at the enterprise level. When comparing the drivers and barriers of psychosocial risk management to those for general OSH risk management or physical risk management, the specific needs for stimulating psychosocial risk management at policy, as well as at enterprise level are highlighted. Using new technology in monitoring and by linking these data in the future, we will broaden our insights in effective psychosocial risk management.

**SPL11**

*Artificial stone and a new epidemic of silica-related diseases*

Ryan Hoy, Christina Dimitriadis, Deborah Glass, Fiona Hore-Lacy and Malcolm R. Sim

Monash University, Monash Centre for Occupational and Environmental Health, Melbourne, Australia

Background: High silica content artificial stone (AS) slabs have been imported into Australia since the early 2000s. The material rapidly became a popular choice for the fabrication of domestic kitchen benchtops. The initial Australian case of AS silicosis was reported in 2015. As in other countries where AS is fashionable, major health problems have emerged resulting from the failure to adequately control the exposure to respirable silica when working with AS. In the State of Victoria, Australia, there are an estimated 1500 workers in the stone benchtop industry.

Methods: As part of a government response, the Victorian Work, Health and Safety regulator (WorkSafe Victoria) developed and implemented a free comprehensive health assessment program. Protocollised primary health assessments, overseen by an occupational physician, included an occupational and health questionnaire, respiratory function testing (spirometry and gas transfer), and International Labor Organisation (ILO) categorised chest x-ray (CXR). Workers requiring secondary assessment underwent a high-resolution CT (HRCT) chest, blood tests (including autoimmune panel) and assessment by a respiratory physician. Consenting workers’ occupational and health assessment details were provided to Monash University for research.

Results: Between July 2019 and August 2021, 402 screened stone benchtop industry workers with a final assigned diagnosis were registered. 107 (26.6%) were diagnosed with silicosis, 89 with