'Professional pathology. Course of Occupational Diseases' (1930), as well as two manuals published in 1936 – 'Labour Hygiene' edited by V.Levitsky and 'Occupational Diseases' edited by G.Arnautov, I.Gelman and B.Kogan.

In the second half of the 20th century, the scientific and educational works of N.Lazarev, N.Pravdin, I.Razenzov, E. Andreeva-Galanina, L.Khotsyanov, Z.Smelyanskiy, A.Letavet, A. Guskova, I.Sanotsky, B.Velichkovsky, V.Artamonova, and of course N.Izmerov.

It was under the editorship of N.Izmerov, for the first time in Russia, the 'Russian Encyclopaedia of Occupational Medicine' (2005) and 'Professional Pathology. National leadership' (2011).

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OCCUPATIONAL HEALTH IN RUSSIA: SCIENCE AND THE DEVELOPMENT OF SOCIETY

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10.1136/oemed-2018-ICOHabstracts.539

Russian scientists in XIX century Fedor Erismann, Alexander Pogozhev, Alexander Nikitin, Vladimir Svyatlovskiy, already at the early stages of Russian industry development began to think about improving working conditions. With the emergence of new high-tech industries during the XIX-XXI centuries the scientific priorities of OH research have also changed. By the end of the XIX century, with the transition of the main labour of workers from crafts to industry, new directions of these studies also arise. The division of industry into extractive, processing and smaller subspecies led to the emergence of such a concept as sectoral occupational health.

This was most vividly represented in the USSR: already 20 years after the victory of the Great October Revolution, 18 research institutes were active in the country. Due to the presence of various industries and agriculture in the regions, they specialised in studying local issues of OH.

The Leningrad and Gorky institutes were pioneers in the study of toxicology and vibration disease: in the northeast of Russia and Volga-region there are many heavy engineering and chemical industries. The Kiev and Saratov institutes have always been more focused on agricultural workers's health. Donetsk, Krivoy Rog and Novokuznetsk institutes dealt with the problems of diseases of miners and workers in the mining industry. The Yerevan and Tbilisi institutes studied the issues of preserving the health of tea-growers, workers in the tobacco and food industries.

At the turn of the 20th and 21st centuries, special attention is paid to studying the impact of computer and new information technologies on worker's health. The appearance in this regard of many new diseases adds them to the classification list of occupational diseases.

The development of new technologies and generates new risk factors and entails the development of new directions in the formation of the modern state of OH.

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THE 95TH ANNIVERSARY OF THE WORLD'S OLDEST SCIENTIFIC INSTITUTION FOR OCCUPATIONAL DISEASES

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10.1136/oemed-2018-ICOHabstracts.540

June 20, 1923, in Moscow was founded the world's oldest scientific institute of OD. It was organised as a scientific and clinical institution for the study of OD in close connexion with the hygienic methods of analysing and evaluating working conditions.

From the first days the institute continues to actively develop the preventive direction of domestic medicine, being the scientific and methodological centre of the country for a comprehensive study of the impact of occupational workers' health factors and the development of scientifically based measures to prevent their adverse effects.

The development of theoretical foundations for establishing general patterns and mechanisms of the influence of factors of the production, non-productive environment and the labour process on the workers' health was actively pursued with the aim of justifying effective methods for the prevention, diagnosis, treatment and rehabilitation of OD; studying medical and social problems of the health status and dynamics of workers in connexion with demographic shifts, changing production conditions, the environment and migration processes; Improvement and development of new preventive technologies that ensure the preservation of workers' health; Including the safety of nanomaterials and nanotechnologies; development of principles and methods for using the data of socio-hygienic and epidemiological studies of production contingents in the system of insurance medicine, depending on the state of working conditions and their consequences (morbidity, mortality, disability, etc.); development of scientifically based approaches to the assessment and management of occupational risk, taking into account modern concepts.

It is enough to name Ivan Razenzov, Nikolai Pravdin, Zinoviy Smelyansky, Lev Khotsyanov, August Letavet, Igor Sanotsky, German Suvorov, Elena Vorontsova, Angelina Guskova, Nikolai Izmerov to understand the level of the scientific potential of the institution. In 1975 the Institute became the WHO Collaborating Centre of OH, and in 1992 held the first meeting of the WHO CC of OH.

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WORKPLACE INTERVENTIONS WITH RESPECT TO RISK MANAGEMENT MEASURES AND THEIR IMPACT ON EXPOSURE LEVELS TO HAZARDOUS SUBSTANCES – LITERATURE REVIEW

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10.1136/oemed-2018-ICOHabstracts.541

Introduction Intervention studies play an important role in supporting and complementing scientific validation of results of non-intervention assessments of the efficacy of risk management measures (RMMs) under controlled conditions. We are reviewing a collection of published workplace intervention studies with particular focus on studies assessing the impact of the implementation of RMMs on changes in occupational exposure to hazardous substances with a very broad scope spanning a variety of approaches at a variety of workplaces in different industries.

Methods Workplace interventions were defined as events aimed at reducing occupational exposure to hazardous substances at the workplace due to a change in RMMs or where reductions occurred as a side effect, e.g. due to changes in the production process. Intervention studies published in

English from 1999 up to January 2017 were considered for inclusion based on a systematic search of Pubmed.

Results In total 50 intervention studies have been included in this review including, but not limited to, studies in the metal industry (10), hospitals (4), bakeries (3), on welding (6) or dust in construction (4). Overall the interventions reviewed have succeeded at reducing exposure levels. However, a direct comparison of a specific RMM among different studies, even when focussing on one specific sector of industry, remains difficult due to the heterogeneity in assessment methods; in addition, the quantification of the impact of individual interventions on exposure remains difficult as the majority of studies assessed the implementation of a set of different RMMs.

Conclusion There is evidence that decreases in workplace exposure levels to hazardous substances followed a variety of workplace interventions in a variety of industries underlining the benefits of implementing RMMs at workplaces.

747 THE POLITICS OF DUST SUPPRESSION IN SPANISH COAL MINING, 1944–1975

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10.1136/oemed-2018-ICOHabstracts.542

Introduction Historiography has revealed a complex combination of scientific, technical, socio-political, economic, and cultural factors affecting the identification of occupational risks and the adoption of corrective measures and compensation schemes. In the case of coal dust, the late recognition of pneumoconiosis as an occupational disease of coal workers in the 1940s was largely because the hazard of silica overshadowed that of coal dust. In the case of Spain, the coal mining industry had a period of expansion in the 1940s and 1950s, when its traditional lack of competitiveness with British coal was overcome by autarchic protectionism under Franco regime. This gave rise to an intensification of workloads and the worsening of working conditions, converting coal workers' pneumoconiosis into the main industrial disease in Franco's Spain. The preventive approach to coal dust problem has received scant attention from historians. Thus, the aim of this paper is to explore the politics of preventive approaches against coal dust diseases during the Franco regime.

Methods A historiographical analysis of the rich documentation kept in the archives of Spanish coal mining companies has been carried out.

Results Apart from medical monitoring, very little action was taken on dust suppression until the early 1960s. Despite the costs of compensation in this period, employers failed to take voluntary action to address the dust problem. Changing strategies developed after nationalisation of the sector in 1967.

Discussion The growing labour unrest and political concerns about rising pneumoconiosis rates in the late 1950s led to the updating of the Code of Mining Safety Regulations (1960), which for the first time included regular dust control measurements. After nationalisation, the new public corporation (HUNOSA) focused more on prevention than compensation, developing a more technical approach to dust suppression.

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CARLO VALLARDI (1886–1962). AN ASSISTANT OF LUIGI DEVOTO DEPORTED TO MAUTHAUSEN CONCENTRATION CAMP

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10.1136/oemed-2018-ICOHabstracts.543

Introduction Carlo Vallardi, assistant of Luigi Devoto (1864–1936) at the 'Clinica del Lavoro' in Milan, is an often-forgotten figure in the history of Occupational Health.

Methods The historical investigation was conducted on documents belonging to the Ravelli Archive of the 'Fondazione Memoria della Deportazione' in Milan.

Results Vallardi was born in Milan on 2 March 1886; he belonged to a family of famous publishers. Graduated in Pavia in 1907, he began to attend as a volunteer at the Institute of Internal Medicine directed by Carlo Forlanini (1847–1918). After a short period of research in Berlin, Vallardi returned to Milan, where he began to attend the Clinica del Lavoro, focusing mainly on chronic phosphorus poisoning and lead intoxication. In 1913, he started to work at the Fatebenefratelli Hospital in Milan. During the years of World War I, he was called up as a medical officer at the front, where he conducted scientific studies on amoebic dysentery among troops. After the end of the war, he returned to Milan and continued his clinical work at the Fatebenefratelli Hospital. He openly contested Fascism. Arrested for his political ideas in March 1943, he was first transferred to the deportation camp in Fossoli, and then to the Mauthausen-Gusen concentration camp. Thanks to his knowledge of German language and his clinical skills, he was assigned to the camp hospital. As a result of this position, he managed to save the life of several prisoners, and avoid the gas chamber. Vallardi died in his hometown on 17 December 1962.

Conclusion The passion for the clinic and for scientific research – especially in occupational toxicology – and the acts of heroism in the years of deportation make Carlo Vallardi a model and an example to follow.

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PREVENTION OF OCCUPATIONAL DISEASES: DERIVING LESSONS FROM JOURNEY OF SURVEILLANCE

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10.1136/oemed-2018-ICOHabstracts.544

Introduction To prevent and manage the economic and societal burden due to occupational diseases (ODs), countries should develop strong prevention policies, effective health surveillance and registration systems. The present study aims to contribute to development of an effective surveillance model for occupational and work-related diseases at national level for prevention and management of ODs as well as identification of priority actions and interventions in Turkey.