Structure of OD in RF shows than maximal part of OD are diseases caused by physical agents (48.85%), hearing impairment caused by noise and disease caused by vibration including. The another main ODs were: ODs caused by chemical agents as well as occupational respiratory and occupational skin diseases. There are absent post traumatic stress disorders and dramatic low level of occupational cancer. Over 2002–2014, total of 498 cases of occupational cancer was registered, that is less than 0.3% of minimal expected number of cases.

This is connected with peculiarities of OD registration system and underestimation real level of OD. All this justifies the need of occupational diseases diagnosis, prevention and compensation system improving in the RF.

The goal of occupational surveillance is to document and characterise occupational hazards or adverse health effects; to monitor trends over time; to identify emerging problems; to generate hypotheses for research; and to evaluate the effectiveness of interventions. The U.S. Bureau of Labour Statistics collects and maintains data on occupational injuries, illnesses and fatalities and makes it available to the public. The gaps in the US national system are supplemented by a variety of other resources. This presentation will describe the US national system, the challenges to obtaining complete and accurate information, other sources of data and linkage methods that can fill the gaps, and recommendations for a more comprehensive system. Occupational surveillance challenges are universal and the potential ways to overcome them can be adapted according to local needs.

Continuous updating of criteria documents and guidelines is helpful in the improvement of recognising and reporting of occupational and work-related diseases. But these documents focus on known exposure-disease combinations. Meanwhile work, work settings and work procedures are continuously changing which can lead to new occupational health risks. In those cases the occupational physician who has to establish an aetiological diagnosis can usually not rely on existing criteria. He needs to go from deductive reasoning – going from the ‘general’ knowledge to the ‘specific’ case – to a more inductive reasoning in which he gets from the observation of a specific case to a more general hypothesis about the potential causal relation with work exposure. This searching for the unknowns in work and health is a process with lots of uncertainties and few underpinning research.

Other scientific fields like pharmacovigilance may help us out. Pharmacovigilance is the approach to detect new and emerging adverse effects of drugs after their release in the market. This type of post marketing surveillance is characterised by gathering signals, strengthening signals, validating signals and acting on signals can be copied and used to detect new and emerging health risks in work situations. This could be addressed as occupational safety and health (OSH) vigilance. Within the MODERNET network, several methods and approaches of OSH vigilance are being explored and implemented, such as datamining in existing databases (e.g. French RNV3P), investigating reported cases in sentinel surveillance schemes (e.g. Norwegian RAS, SENSOR-Pesticides USA), investigating unusual events (e.g. French GAST, and HHE-program USA) and reporting and assessing new and emerging risks (e.g. SIGNAAL, OccWatch, and THOR-extra). International collaboration is imperative to detect rare signals earlier, to strengthen and validate signals easier, to have a wider variety of expertise available, to use scarce resources more effectively, and to increase dissemination to relevant stakeholders.