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## **Protection of medical staff through hepatitis B vaccination: Serological and epidemiological data from hospitals in Bulgaria**

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In Bulgaria, the protection of medical staff through hepatitis B vaccination is arranged based on the Ministry of Health Regulation №4/2002 and is a responsibility of the employer. In 2008-2010 three surveys were carried out to assess the level of staff protection against hepatitis B. We present an overview of the results of these studies discussed in parallel. Hepatitis B vaccination coverage of healthcare personnel (HCP) varied substantially between different hospitals (23% to 85%) according to the prevalence study in 2010 and between different services/units (63% to 91%) based on the self-report questionnaire survey in 2008. In parallel, significant differences between hospitals exist in post-hepatitis B vaccination seroprotection rate (28% to 60%) as it was shown in the seroprevalence study, 2007. As a potential impact of vaccination, a substantial reduction of newly acquired HBV infections in HCP was found with up to 3-fold lower anti-HBc prevalence when compared with the general population of the same age groups tested in the 1980s. A high antibody response rate ( $\geq 95\%$ ) in the first months after the hepatitis B vaccination and a decline of protective antibody to an undetectable level in one-third of the staff tested 10-15 years post-vaccination was demonstrated, in line with other similar studies. Our results showed that among hospital-based medical staff an average of 47% had not received hepatitis B vaccination and 36% were still susceptible to HBV. Further efforts should be focused on ongoing education to improve HCP knowledge of and to overcome their concerns about the vaccine.

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