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INFECTIONS WITH A(H1)2009 INFLUENZA VIRUS IN POLAND DURING THE LAST PANDEMIC - THE EXPERIENCES OF THE NATIONAL INFLUENZA CENTER.

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On 11 June 2009, WHO declared the outbreak of influenza pandemic caused by novel A(H1N1) virus of swine origin. In Europe, the first cases were confirmed in the United Kingdom and Spain in the end of April 2009. Since then, the National Influenza Center (NIC) in Poland, located at the Dept. of Influenza Research, National Institute of Public Health-National Institute of Hygiene (NIPH-NIH), immediately took necessary actions to manage this public health threat and as the first step to introduce appropriate methods of laboratory diagnostics. This study presents epidemiological and clinical data on patients considered by physicians as suspected to be infected with pandemic A(H1)2009 virus, from whom clinical specimens were collected and sent for testing to NIC, NIPH-NIH. All these specimens originated from outside the sentinel influenza surveillance system and a decision which patient should be swabbed was made by physician. This study includes data from the date of the first specimen collection (28 April 2009) until the end of pandemic announced by WHO on 10 August 2010. During this time, among a total number of 6311 specimens collected all over the country (non-sentinel and sentinel specimens), 988 (15.7%) were received and tested by NIC, including 798 from non-sentinel sources (80.8%) and 190 specimens from sentinel influenza surveillance network (19.2%). The non-sentinel specimens described in this study, were tested by PCR: conventional RT-PCR assay to detect influenza type A with using primers M30F2/08; M264R3/08 (NIID, Tokyo) and in the case of specimens positive for influenza A - one-step real-time RT-PCR assay to detect the pandemic virus A(H1)2009 according to the CDC rRT-PCR Protocol (version 2009). In 145 cases of non-sentinel specimens, infections with the pandemic virus were confirmed (18.2%). The first laboratory-confirmed case in Poland was diagnosed on 6 May 2009. The highest number of the non-sentinel specimens were received by NIC in week 30/2009 and 31/2009, while since week 49/2009 the number of specimens gradually decreased as Voivodship Sanitary Epidemiological Stations become able to perform laboratory diagnostics of A(H1)2009 virus. The highest proportion of specimens was received from patients aged 15-44 years and the highest number of laboratory confirmed cases was found in the age group 15-25 years. In 45% of patients with laboratory confirmed infection, history of travel to other countries was registered, mainly to Spain. In 18.6% of the infected patients, contact with the previously confirmed cases in Poland was found. Most of the tested patients were not vaccinated against seasonal influenza in the epidemic season 2008/2009 or 2009/2010. Among 88 patients with the confirmed infection from whom clinical data were available, the most common symptoms

were fever ?38°C (72.7% of patients), cough (50%), sore throat or myalgia (26.1%). Taking into consideration EU clinical and epidemiological criteria of novel influenza A(H1)2009 case, all of them were met in 40.7% of the swabbed patients, despite the fact that NIC together with the National Influenza Pandemic Committee prepared recommendations on that. There were received specimens from persons without any reasonable indication for laboratory testing for the pandemic virus, specimens collected incorrectly (e.g. specimens with too much volume of transport medium, specimens collected too late after the onset of symptoms, specimens stored too long) and documentation attached to the specimens without basic information on the patient and/or physician who ordered the testing. All the above weaknesses resulted in unnecessary costs and overload of health care units and the staff of NIC. The presented data showed that in the case of the next influenza pandemic an improvement should be achieved especially in the area of communication between different pandemic players. More attention is also needed to ensure that requirements included in different recommendations are known and used in practice.