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What do we know about influenza vaccine uptake in europe?

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In Europe, influenza vaccination of the elderly and other high-risk populations is seen as an important practice, it is both life- and costsaving.

All European countries have influenza vaccination recommendations for high-risk groups. Despite these recommendations there is considerable variation in influenza vaccine uptake rates between European countries. This observation motivated ESWI to initiate a study. The study was performed by the Netherlands Institute for Health Services Research (NIVEL) in cooperation with the European Influenza Surveillance Scheme (EISS). The first part of the study was an inventory of the availability of uptake figures among European countries, while the second part studied the feasibility of a population survey to determine uptake rates.

The first part of the study started in 2001, with a survey among national influenza experts in 26 Western and Eastern European countries. It revealed that only 14 countries were able to provide uptake rates for the elderly. The uptake rates in these 14 countries varied from 15% in Romania, to 81% in The Netherlands. In Western Europe, Finland had the lowest vaccination rate (25%). For other at risk groups, even fewer countries could provide data. For instance, for the pulmonary diseases group, only three countries were able to report uptake rates, again the lowest was Romania (10%) and the highest was The Netherlands (75%). Some countries could not differentiate between specific diseases, but were able to provide data on the total high-risk group due to disease. In France, the uptake rate was 44% for this total high-risk group and in Germany about 50% (for people aged ³18 years).

The first part of the study confirmed that knowledge of uptake rates is limited. To improve knowledge, methods need to be developed for the collection of uptake rates. Information about vaccination rates can be gathered from general practitioners (GPs) who register patients who have had a vaccination. In most countries, the GP is the main person to administer vaccines. In some countries public health organisations also take care of this task. Besides keeping track of the number of vaccinations, computing uptake rates requires population data about disease prevalence. In countries where the population is enlisted to a personal GP, this can be realised. In most European countries this is not the case. Here, population denominators, essential for computing uptake rates, should be established using other methods. A second possibility for collecting vaccination information is a population survey, asking a sample of the population whether they have had a vaccination and whether they belong to a high-risk group.

To confirm whether a population survey is a reliable method of data collection, the second part of our study was carried out. In The Netherlands, patients are enlisted in a general practice, and a monitoring system for influenza uptake based on the GP information system, already exists. Therefore, the results of the survey could be compared with reliable uptake rate information. A questionnaire was sent out to households in The Netherlands and the response rate was 73%. Questions concerned vaccine uptake, pre-existing diseases and reasons to have (or not have) a vaccination. This resulted in influenza and influenza vaccination data for 4,037 people during the 2001–2002 influenza season. The uptake rates and size of different risk groups from the population survey were comparable with the results of the monitoring system. The size of the population sample (4,037 people) was sufficient in the four largest risk groups (the elderly, cardiovascular diseases, pulmonary diseases and diabetes mellitus) to be able to provide reliable uptake rates.

Results of the population survey indicated that the elderly were more likely to be vaccinated than people who are deemed high risk due to pre-existing diseases. The lowest uptake rates were among people with pulmonary disease, renal failure or compromised immunity.

Children (<18 years) were mainly vaccinated due to pulmonary disease. Two reasons were most frequently reported for refusing influenza vaccination. Firstly, people believed they did not qualify, especially high-risk groups <65 years old. Secondly, people believed they already had enough resistance to influenza. Among the elderly and people with pulmonary disease, one in 10 thought that influenza would not seriously affect them. The elderly, in particular, refrain from vaccinations because of bad experiences in the past, such as getting influenza despite vaccination and feeling bad after a vaccination. Cost and distance as other reasons for not being vaccinated were not factored into the study, because they are not applicable in The Netherlands. Vaccination in The Netherlands, including GP consultation, is free of charge for those at risk. In less densely populated countries, distance to the GP's office may play a significant role, especially for the elderly.
 Comparable data for uptake rates enable countries to learn from each other's strategies and improve vaccination rates. Reliable uptake rates are essential for the discussion of pandemic planning.

With survey data, uptake rates can be collected in an efficient and relatively cheap way. An advantage is that other questions, for instance on reasons to comply with influenza vaccination, can be added. The lack of insight into uptake rates among at risk groups in Europe could be solved in the short term by carrying out such a survey. However, monitoring real uptake rates will provide more reliable data. In the longer term, a uniform monitoring system could be developed, preferably in cooperation with ESWI and EISS. Such a system would have to deal effectively with differences in healthcare system characteristics.

REFERENCES

1. Kroneman M, Paget WJ, van Essen GA. Influenza vaccination in Europe: an inventory of strategies to reach target populations and optimize vaccination uptake. Euro Surveill 2003; 8:130–138.
2. Kroneman MW, van Essen GA, Tacken MAJB, Paget WJ, Verheij R. Does a population survey provide reliable influenza vaccine uptake rates among high-risk groups? A case study of The Netherlands. Vaccine 2004. In press.