

## NEWS FROM JAPAN

Earlier this year a two-day conference was held in Naples, Italy (31st May-1st June 1997) entitled "Should vaccinations be compulsory or free choice?" Doctors from various areas of the world were invited to present the situation in their country and also to highlight problems surrounding some of the vaccines.

I (Informed Parent) recently received a copy of the presentation made by Dr Yamamoto entitled 'Why Japanese Government had to cease compulsory vaccinations.' A viewpoint from a pediatrician. Reproduced here are some the points he presented (The English translation is reasonably clear.)

## INFLUENZA IN JAPAN

Mass influenza vaccination programmes for school aged children had been started in 1960, and about 3 million children were vaccinated. In 1976, the compulsory vaccination system had been introduced and 17 million children from primary to high school had to be vaccinated twice annually. This was a unique vaccination programme in the world, which the government believed would avoid the social influenza epidemics. This was a wrong hypothesis which was not verified for a long time.

Since the 80s the vaccination uptake was constant at about 60% every year but the incidence rate per 100,000 changed from 5 to 60 without concern to the vaccination rate. Since 1989 the vaccination uptake decreased rapidly to 20%, but the incidence rate did not increase.

### ***Influenza incidence rate between non-vaccinated city and neighbouring vaccinated cities -***

#### **1984**

City A ceased compulsory Influenza vaccination in 1980.

City B to D continued compulsory vaccinations.

City A - The number of school children were about 25,000 City B - Number of school children were about 21,000. Statistically, they were almost the same groups.

The results

City A - Vaccination uptake below

1%. Influenza incidence 43%

City B - Vaccination uptake 90%

Influenza incidence 40%

City C - Vaccination uptake 77%

Influenza incidence 43%

City D - Vaccination uptake 76%

Influenza incidence 52% A similar study was documented in 1985 with similar results. It was an important epidemiologic study for compulsory influenza

vaccination programme to be ceased.

### **ADVERSE REACTIONS TO INFLUENZA VACCINATION**

A **mass study of adverse reactions** against the influenza vaccine was conducted in 1987 involving about 400,000 children.

The total adverse reaction rate was 254.3 per million. (10 per million children had complained of neurological symptoms.)

This study was revealing, since from 1971 the government had changed the flu vaccine from a whole body type to a split particle type announcing that adverse reactions were almost nothing with the new one. The previous type, used in the 1960s had resulted in between 5-9 deaths occurring every year.

In 1987 the government changed the vaccine from compulsory to free choice.

From 1972 to 1979, a total number of 142 children and families sued the government for damages. The total number of deaths were 50, severe developmental retardation were 65, and intractable epilepsy were 35.

In 1992, the government lost the case in the court after about 20 years of legal proceedings.

Source: <http://whale.to/vaccines/flu7.html>

## **Three year follow up study of national influenza vaccination practices in Japan**

**S Morio, N Okamoto, A Kawamoto, A Suyama, M Okamoto and H Nakayama**

Department of Hygiene, Faculty of Medicine, Tottori University, Japan.

**STUDY OBJECTIVE**--To evaluate new national influenza vaccination practices which were started in 1987 under a revised law in Japan. **DESIGN**--This was a three year, nonrandomised cohort study with information collected by questionnaire between 1989 and 1991. **SETTING**-- Eight primary schools in the city of Yonago, Tottori, Japan. These schools were selected from 23 schools in the city. **PARTICIPANTS**-- Altogether 4251 pupils (1355 boys and 2896 girls) in years 1-4 of the eight primary schools were included in this study, and followed up. Three years later, data for 1619 pupils (768 boys and 851 girls) were obtained and analysed. **MAIN RESULTS**--The one-winter seasonal incidence rates of influenza-like disease were 13.4%, 29.9%, and 10.3% in 1989, 1990, and 1991 respectively. The incidence rate of influenza-like disease in fully vaccinated pupils was significantly lower than that in unvaccinated pupils in 1990, but not in 1989 or 1991. Stepwise multiple regression analysis showed that the incidence of influenza-like disease had a statistical relationship with the frequency of vaccination and the school year ( $R^2$  was 0.0148). Standardised parameters of the frequency of vaccination and the school frequency of vaccination and the school year were -0.089 and -0.080 respectively. **CONCLUSIONS**--The preventive effects of influenza vaccine are not strong. There must be some unknown factors that affect the incidence of influenza. This vaccine is useful for pupils in the early school years who seem to have less resistance. All pupils should not be inoculated with the vaccine to reduce influenza transmission in the community or school.

<http://content.nejm.org/cgi/content/extract/344/25/1946>

## **Vaccinating Japanese Schoolchildren against Influenza**

*To the Editor:* Reichert et al. (March 22 issue)<sup>1</sup> compare excess mortality in Japan and the United States from 1949 through 1998. They conclude that vaccination of schoolchildren against influenza, the only independent variable assessed, reduced mortality from influenza among older persons in Japan from about 1970 through 1990. However, the authors compare populations with completely different economic and demographic characteristics. This approach most likely confounded the results. In addition, older persons living in multigenerational families also have contact with unvaccinated adults.

In the United States, the proportion of persons 65 years of age or older rose slowly from . . .

**Influenza**

## **Recent findings from Japan, Canada and the United States illuminate research in influenza**

2006 SEP 19 -- Investigators in Japan, Canada and the United States have published new influenza data.

Study 1: Influenza vaccination reduces incidence of influenza-like illness among community-dwelling elderly.

According to a study from Japan, "A population-based cohort study was conducted during the 2003-2004 season to examine the effectiveness of influenza vaccine among community-dwelling elderly."

"The subjects consisted of 4,787 elderly, ranging from 65 to 79 years," said Megumi Hara and colleagues at Saga University. "We either interviewed the elderly directly or their families regarding acute febrile illness, hospital visits, hospitalization, and death by telephone every month. The vaccination status and physician-diagnosed clinical influenza (referred to as clinical influenza) were determined based on data obtained from the city office and hospitals, respectively. Influenza-like illness (ILI) was defined as an acute febrile illness ( $\geq 38.5$  degrees C) during the epidemic period."

"After adjusting for confounders, vaccination decreased ILI significantly (odds ratio [OR], 0.38; 95% CI, 0.17-0.85), but not clinical influenza (OR, 0.76; 95% CI, 0.28-2.06)," the researchers reported. "The results were inconclusive for preventing hospitalization for influenza or pneumonia (OR, 0.37; 95% CI, 0.09-1.47) and death (OR, 3.68; 95% CI, 0.75-18.12), due to the inadequate sample size."

They concluded, "The influenza vaccination was thus found to be associated with a decreased influenza-like illness during the epidemic period in community-dwelling elderly."

Hara and associates published the results of their research in *Vaccine* (Effectiveness of influenza vaccination in preventing influenza-like illness among community-dwelling elderly: Population-based cohort study in Japan. *Vaccine*, 2006;24(27-28):5546-5551).

For additional information, contact Megumi Hara, Department of Preventive Medicine, Faculty of Medicine, Saga University, 5-1-1 Nabeshima, Saga 849-8501, Japan. [harameg@cc.saga-u.ac.jp](mailto:harameg@cc.saga-u.ac.jp).

Study 2: Influenza vaccination of health-care workers alone does not reduce influenza in elderly people at institutions.

According to a study from Canada and Italy, "Our aim was to review the evidence of efficacy and effectiveness of influenza vaccination of health-care workers in reducing cases of influenza-like illness, influenza, complications from influenza, death from influenza, and death from all causes among the elderly people they care for in institutions. We searched 11 electronic databases in any language and identified two cluster-randomized controlled trials with moderate risk of bias and one cohort study at high risk of bias that addressed our questions."

"Staff vaccination had a significant effect on influenza-like illness (vaccine effectiveness [VE] 86%, 95% CI 40-97%) only when patients were vaccinated too," said R. E. Thomas at the University of Calgary in Canada and collaborators at Cochrane Vaccines Field in Italy. "If patients were not vaccinated, staff immunization had no effect. Vaccinating health-care workers did not appear efficacious against influenza (RR 0.87, 95% CI 0.46-1.63)."

"There was no significant effect of vaccination on lower respiratory tract infections: (PR 0.70, 95% CI 0.41-1.20)," reported the investigators. "Deaths from pneumonia were significantly reduced (VE 39%, 95% CI 2-62%), as were deaths from all causes (VE 40%, 95% CI 27-50%). These findings must be interpreted in the light of possible selection, performance, attrition, and detection biases."

Thomas and associates published the results of their research in *Lancet Infectious Diseases* (Influenza vaccination for health-care workers who work with elderly people in institutions: a systematic review. *Lancet Infect Dis*, 2006;6(5):273-279).

For additional information, contact R. E. Thomas, Department of Family Medicine, University of Calgary, Calgary, AB T2M 1M1, Canada. [rthomas@ucalgary.ca](mailto:rthomas@ucalgary.ca).

Study 3: Influenza vaccination is cost-effective in community-dwelling elderly persons.

"Studies assessing the clinical and economic benefits of vaccination in the elderly have used different clinical outcomes (e.g., hospitalizations for pneumonia or influenza vs hospitalizations for respiratory and cardiovascular causes) and different outcome periods (e.g., peak versus total influenza season) on which to base estimates of clinical effectiveness and cost effectiveness. We explored the implications of these varying approaches by comparing two health economic analysis models of influenza vaccination of community-dwelling elderly persons," scientists in the United States report.

"We developed computerized models using clinical data from three large U.S. HMOs for the 1998-1999 and 1999-2000 influenza seasons," said Kristin L. Nichol at the University of Minnesota and collaborators in the U.S. "The primary health economic model used a broad definition of clinical events and outcome period and included hospitalizations for all respiratory and cardiovascular events that occurred during the entire influenza season. The alternative model used more restrictive definitions and included pneumonia or influenza hospitalizations occurring during the peak influenza season."

The researchers reported, "The results of Monte Carlo simulation showed that,

with the more inclusive primary model, influenza vaccination resulted in net medical care cost savings due to fewer respiratory or cardiovascular hospitalizations of \$71/person vaccinated (5th-95th percentile \$32-118) and net savings of \$809/year of life saved (5th-95th percentile \$331-1450). In contrast, the alternate model found costs of \$3.50/person vaccinated (5th-95th percentile \$-11 to 5) and net costs of \$91/year of life saved (5th-95th percentile \$-309 to 126)."

The investigators concluded, "Our findings confirm that influenza vaccination of the elderly is most likely cost saving and supports policies and programs that advocate routine immunization of all persons 65 and older. They also highlight how different outcome definitions can influence the results of health economic analyses."

Nichol and her coauthors published their study in *Vaccine* (Influence of clinical outcome and outcome period definitions on estimates of absolute clinical and economic benefits of influenza vaccination in community dwelling elderly persons. *Vaccine*, 2006;24(10):1562-1568).

For more information, contact Kristin L. Nichol, Veterans Administration Medical Center, Minneapolis, MN 55417, USA. nicho014@umn.edu.

Keywords: Minneapolis, Minnesota, United States, Influenza Vaccine, Vaccine Efficacy, Vaccine Safety, Influenza Epidemiology, Influenza Virus, Geriatrics, Health Maintenance Organizations, Immunology, Immunotherapy.

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