

## Pandemic planning in Canada

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**Abstract.** A Canadian plan for pandemic influenza was completed by the National Advisory Committee on Immunization in 1988. Its development took several years and involved consultation with provincial public health and laboratory authorities, the licensing body, manufacturers of influenza vaccine and antiviral agents, and representatives in the USA and UK. Key decisions in creating the pandemic plan include: (1) aiming for federal-provincial consensus on use of vaccine and antiviral drugs, (2) a selective vaccination approach (high-risk persons plus essential workers), (3) bulk purchasing and distribution of vaccine through the public sector, (4) leaving antiviral drugs on the open market, (5) careful planning of the communications strategy, and (6) increasing inter-pandemic use of flu vaccine in

target groups. The plan addresses recognition of a pandemic; activation of a Pandemic Influenza Committee whose membership and responsibilities are spelled out; the federal-provincial decision making process; influenza vaccine considerations; amantadine and other antiviral agents; estimates of target group size, vaccine uptake, manufacturing capabilities and time frames; and communication considerations. Since 1988, influenza vaccine use has increased considerably in Canada and experience has been gained with amantadine. Manufacturing capability within Canada for influenza vaccine has also been enhanced. It is now time to update the plan, especially the targets, and to make sure that everyone involved remains aware of the assigned roles.

**Key words:** Influenza, Pandemic planning

### Introduction

Being so close to the United States, Canada is very influenced by American policies, and in 1976 took part, as they did, in a mass swine flu vaccination campaign. Feeling that things didn't go quite as smoothly as they might have, the federal government decided it would be a good idea to have a plan ready for real pandemic influenza and the National Advisory Committee on Immunization (NACI) was asked to develop this plan. As a member of NACI, I worked on the project over a five-year period. The working committee was kept small but it consulted widely with laboratory people, provincial health authorities, the Bureau of Biologics (the Canadian licensing body), manufacturers, as well as the CDC in Atlanta and the UK. The plan was finalized in 1988 and is now about five years old.

### Key decisions in creating the plan

*Federal-provincial consensus on use of vaccine and antivirals.* Health is a provincial authority in Canada but the last thing one wants in an emergency situation is for ten provinces to develop ten different sets of recommendations.

*A selective vaccination approach.* Rather than attempting another mass vaccination campaign, the focus should be on preventing severe morbidity and mortality through vaccination of high-risk persons, using the same high-risk categories as in ordinary years, i.e. chronic conditions and persons 65 years of age and older. Essential workers would be added to minimize disruption of important services. It is recognized that this approach might have to be modified, depending on the actual pandemic situation, the nature of the virus and the population susceptibility.

*Bulk purchasing of vaccine and its distribution through the public sector.* Ninety percent of vaccine is already distributed through the public sector. It is proposed that all provinces buy their vaccine through one central source (federal government) and not go directly to manufacturers. This way coordinated and equitable distribution can be assured. Until public sector needs are met, for high-risk persons and essential workers, vaccine would not be available commercially.

*Leave antiviral drugs on the open market.* It proved too difficult to develop a public distribution scheme for amantadine. Also, from talks with the manufacturer, shortages didn't appear too likely.

*Plan communications strategy carefully.* To avoid conflicting messages it is important to achieve consensus in the recommendations and to designate spokespersons for each province. Important medical and public health associations are to be included because they can be of great help in educating health professionals and the public.

*Increase inter-pandemic use of flu vaccine (and antivirals) in target groups.* This is the best way to build up manufacturing capability and the vaccine distribution system, and has proven an effective strategy. With probable delays in getting vaccine during a pandemic, there is likely to be increased demand for amantadine. Few Canadian physicians or public health staff were familiar with its use; therefore it was particularly important to get some experience with amantadine.

### Overview of the plan

*Activation of the pandemic plan.* Influenza surveillance is done by the Laboratory Centre for Disease Control. A small team is suggested with whom they can consult, when pandemic alerts come from elsewhere in the world.

*Pandemic influenza committee.* This committee has members from NACI, provinces, public health lab system, Bureau of Biologics, resource people (e.g. manufacturers and invited experts), observers from the army, provinces, medical associations, etc. Its key responsibilities are:

- to confirm pandemic potential and assess its expected impact,
  - to make recommendations for vaccine, amantadine, enhanced flu surveillance and the communications strategy,
- and as the pandemic progresses:
- to receive regular updates on spread and impact of disease, and supplies of vaccine and amantadine,
  - to redefine target groups based on priority and supply, and
  - to monitor vaccination programs and adverse reactions.

*Federal-provincial meeting.* The first meeting of the pandemic committee would be followed very closely by a federal-provincial meeting to share information, achieve consensus on a coordinated national approach and make arrangements for bulk purchasing of vaccines.

*Influenza vaccine considerations.* The plan includes details on:

- Target groups – estimates of population size
- Estimates of vaccine uptake and pandemic vaccine requirements

- Time lines for vaccine production
- Vaccine sources and supply – two manufacturers sell flu vaccine in Canada, but one imports its supplies from the USA. These were embargoed during the swine flu year forcing Canada to obtain emergency supplies from Australia. The company that manufactures within Canada could not meet pandemic needs on its own.

*Amantadine.* Recommendations and details on availability and distribution are included.

*Summary of roles.* This is a particularly useful part of the plan.

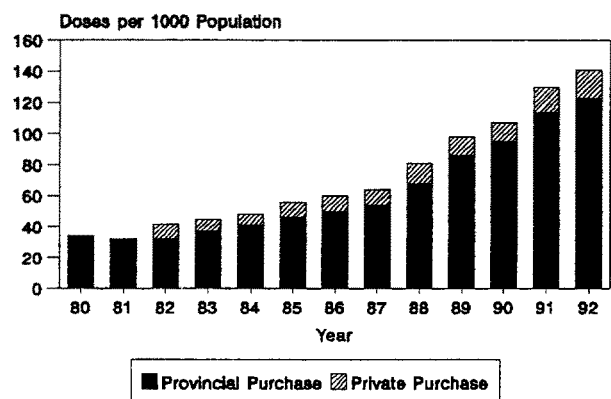
### Implementation of the plan

Copies were distributed to the provinces. There have been some positive moves towards self-sufficiency in vaccine production. The Canadian manufacturer recently developed their first split virus vaccine and their yearly sales are increasing.

To increase inter-pandemic use of flu vaccine, the annual recommendations prepared by NACI were strengthened [1]. Attention was drawn to provincial variation in providing free vaccine, and many provinces made changes in their program. Annual promotional campaigns have been held. Similarly amantadine is now included in the annual flu recommendations and is being used more.

Figure 1 shows that the amount of flu vaccine distributed in Canada has increased by 75% in the last five years (Dr. David Fedson, personal communication). Almost all has been purchased by government and is provided free to high-risk people, with almost all provinces now following the NACI recommendations.

As a result, Canada has already achieved the targets set out in the pandemic plan five years ago (Table 1). At that time, about 20% of the high-risk population was vaccinated, using about 1.6 million



**Figure 1.** Influenza vaccine distribution in Canada. The 1980 and 1981 data are for total purchase only. *Source:* Dr David Fedson.

**Table 1.** Estimates of influenza vaccine requirements

| Year                            | Estimated vaccine uptake in high-risk persons | No. of vaccine doses |
|---------------------------------|---|----------------------|
| 1986                            | 20%   | 1.6 million          |
| Pandemic Plan Projection (1988) | 40–50%  | 2.7–3.4 million      |
| 1992                            | 45%   | 3.6 million          |

vaccine doses a year. In a pandemic it was anticipated that 40–50% of high-risk people would be vaccinated (based on swine flu experience), therefore requiring 2.7–3.4 million doses. From 1992 data that target has already been reached. However, almost certainly one would expect higher demand in a pandemic so these figures will need to be revised upwards.

Earlier this year Canada held a consensus confer-

ence on influenza [2]. One of the recommendations was to update the pandemic plan and to redistribute it, because so few people knew of its existence. The development of a pandemic plan is extremely valuable but keeping it current and making sure everyone knows their role is always a challenge.

## References

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2. Canadian Consensus Conference on Influenza. *Can Commun Dis Rep* 1993; 19: 136–146.

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