

Pandemic Planning

A practice management guideline



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Respectfully submitted:

Dr. Debora C. Matthews
Dr. Stephen Roth
Dr. Chad Robertson

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INFLUENZA VIRUSES

While there are four types of influenza virus (A, B, C and D), only influenza A and B viruses cause seasonal outbreaks in humans, and only influenza A viruses have been known to cause pandemics. Examples of Influenza A viruses are SARS, H1N1 and Covid-19.

Aquatic birds are the natural hosts for influenza A viruses, although a wide range of species can be infected and significant disease outbreaks can occur in poultry, pigs and other species. Most of these animal influenza virus strains do not cause disease in humans although occasional human (zoonotic) infections occur, usually through close contact with infected poultry or animals.

Influenza pandemics or worldwide epidemics occur when an influenza A virus to which most humans have little or no immunity acquires the ability to cause sustained human-to-human transmission leading to community-wide outbreaks. Such a virus has the potential to spread rapidly worldwide, causing a pandemic.

WHAT IS A PANDEMIC?

A pandemic is a global disease outbreak. An influenza pandemic occurs when a new flu virus emerges for which people have little or no immunity, and for which there is no vaccine. The disease spreads easily person-to-person, causes serious illness and death, and can sweep across the country and around the world in very short time. As a result, advanced, large scale planning is required.

Pandemics historically occur three to four times each century. The first pandemic was recorded in 1590. In the last century, three influenza pandemics killed millions of people. During each of these pandemics, the greatest death rates were among those under the age of 60. The 1918-1919 pandemic (Spanish flu) had a high impact, killing an estimated 30,000 to 50,000 people in Canada and 20 to 50 million people worldwide. The impact of the 1957 (Asian flu) and 1968 (Hong Kong flu) pandemics was considered moderate, whereas the 2009 (H1N1 or 'Swine' flu) pandemic had a lower impact.

While every pandemic is different, some common characteristics can be recognized:

- The pattern of disease is different than in seasonal influenza.
- They may arrive outside of the usual influenza season and typically have more than one wave of illness.
- The total duration of a pandemic is likely to be 12 to 18 months.

- During a pandemic, the new virus replaces other circulating influenza strains. Afterwards, the pandemic strain becomes part of (and may dominate) the mix of seasonal influenza A viruses.
- During seasonal influenza, most hospitalizations and deaths occur in the elderly and persons with underlying health conditions, whereas, in a pandemic, disproportionately more severe disease and death is seen in young people and in persons without underlying health conditions.
- There is a gradual reversion back to the typical seasonal morbidity and mortality pattern over the decade following the pandemic.

PRE-PANDEMIC PLANNING

There were many important epidemiological observations from the 2009 pandemic to take into account in future planning and response. Although historically pandemics have occurred three to four times per century, there is no predictable interval. It should not be assumed that the 2009 pandemic has provided a respite during which preparedness efforts can be relaxed.

While most seasonal influenza strains emerge in East/Southeast Asia, the same is not true for pandemic influenza; the 2009 pandemic emerged in Mexico. An influenza pandemic could emerge anywhere in the world, and there may be very little lead time before Canada is extensively involved.

Pandemics often first arrive outside the usual influenza season (e.g., in late spring or summer) and typically have more than one wave of infection. However, this is not true in all circumstances or in all areas. A small first wave is often followed by a larger second wave, but the relative size of pandemic waves may vary. The speed of spread may also vary — pandemic waves can be intense or more spread-out over time. An intense wave would put more stress on the health care system.

The impact of any pandemic is not predictable. The last four pandemics demonstrated that population impact can vary from low to high and is not the same in all populations or settings. It is important to consider all possibilities and make plans adaptable for different circumstances. This will help ensure that the response is proportional to the evolution of the pandemic in any specific community.

Further the effect interventions are also unpredictable. Novel viruses could be resistant to antiviral medications and/or pandemic vaccine production could be delayed or unsuccessful. The extent of vaccine uptake and adoption of public health measures is also unknown. Furthermore, interventions could have unintended consequences.

WHY DO DENTISTS NEED TO PLAN FOR A PANDEMIC?

The overall goal of pandemic preparedness and response is first to minimize serious illness and overall deaths, and second to minimize societal disruption among Canadians as a result of the pandemic.

As responsible health care providers, and employers, we must be prepared for that eventuality. Although it has yet to transpire, the dental profession may be asked to assist provincial authorities carrying out its responsibilities in the event of a pandemic. Dentists may be called upon to assist in vaccinations, dispensing medications and surveillance of health outcomes. Dentists need to plan for managing their practices during a pandemic from both a financial and an organizational aspect.

FINANCIAL CONSIDERATIONS OF A PANDEMIC INFLUENZA OUTBREAK

During a pandemic, dentists may experience a reduction in the number of patients presenting for treatment. This will, of course, reduce the gross revenue generated by the practice. Some expenses will be reduced due to the decreased patient flow, but office expenses will remain unchanged.

Dentists should consider how staffing issues would be handled during a pandemic that affects attendance at dental offices. Payroll policies should be in place to deal with decreased staff needs, staff absenteeism or unwillingness to work. These arrangements should be discussed with employees beforehand, so that all employees are aware of these office policies when a pandemic occurs.

The Canadian Dentist's Insurance Program (CDSPI) has a program that will help dentists during a pandemic. CDSPI now offers a Pandemic Outbreak Extension as part of the Triple Guard Insurance policy. The Triple Guard policy now automatically, at no additional cost, includes the replacement of up to \$1,000 of gross practice income per day. There is a \$20,000 annual aggregate limit. Additional insurance can be purchased. Additional coverage up to \$2,500 per day, with a \$50,000 annual aggregate limit, is available for approximately \$300 per year. Additional coverage up to \$5,000 per day, with a \$100,000 annual aggregate limit, is available for approximately \$600 per year. It is important to emphasize that the coverage is in effect only on days the dental office is closed by regulation of a civil authority.

Appropriate selection of Pandemic Outbreak Extension insurance will reduce the financial impact of an outbreak. The policy will provide some financial security for the office, the staff and the dentist.

PRE-PANDEMIC PLANNING

Although the impact of a pandemic is unpredictable, it is advisable to expect a major disruption in critical community services. The following considerations outline extreme measures in the event our local community is affected by a pandemic. However, as we have seen with the Covid-19 virus, even if infection rates and risks of infection are low in Nova Scotia, the supply chain and financial markets can be seriously affected. Now is the time to ensure you:

- Strictly enforce hygiene policies and universal precautions. Ensure staff follows the principles of respiratory hygiene/cough etiquette and wash their hands frequently with soap and water.
- Screen patients carefully. Patients with fever and cough should be advised not to come to the office until asymptomatic.
- Always ensure you have an adequate supply of critical office and dental supplies. This should include gloves, masks and eye protection shields. Not only will the supply chain be disrupted during a pandemic (or as in the case of Covid-19, before a pandemic is determined) it will take some time for suppliers to recover to pre-pandemic mode.
- Maintain a current list of office staff contact numbers. Plan how you will operate your office with reduced numbers of staff (and likely patients).
- Familiarize yourself with local public health contacts.

MINIMIZING IMPACT:

In the event of a pandemic, minimizing impact is essential.

1. Isolate infected individuals.
 - a. Any staff with signs and symptoms of influenza must be immediately removed from clinical activity and transferred to the local health authority for isolation and treatment.
 - b. Any patient with signs and symptoms of influenza must be immediately transferred to the local health authority for determination of next steps.
2. Once a vaccine is available, arrange vaccination of yourself and all staff as soon as feasible; although a vaccine is generally not available for some time after the onset of a pandemic.

3. If the Practice Remains Open:
 - a. Continue to enforce strict patient screening and appropriate infection control policies.
 - b. Enforce whatever infection control processes are deemed necessary by public health officials during procedures where exposure would be likely (i.e. procedures that produce aerosol).
4. If the Practice Closes: Keep staff up to date about situation and projected reopening of the office.

PANDEMIC LINKS:

Government of Canada

<https://www.canada.ca/en/public-health/services/diseases/flu-influenza.html>

Public Health Agency of Canada

<https://www.canada.ca/en/public-health.html>

Government of Nova Scotia

https://novascotia.ca/dhw/cdpc/documents/Respiratory_Response_Plan_for_Public_Health.pdf

<https://novascotia.ca/coronavirus/>

<https://novascotia.ca/flu/>

American Dental Association

https://success.ada.org/en/practice-management/patients/infectious-diseases-2019-novel-coronavirus?_ga=2.267405259.416802745.1582898844-587212189.1582721698

Canadian Dental Association

<https://vimeo.com/394211542>

CDSPI

<https://www.cdspi.com/could-your-practice-be-required-to-shut-down-due-to-coronavirus/>

World Health Organization

<https://www.who.int/emergencies/diseases/novel-coronavirus-2019>