



Family & Community Medicine  
UNIVERSITY OF TORONTO

# RECOMMENDATIONS FOR AN IMPROVED PANDEMIC RESPONSE PLAN IN TORONTO

## A PRIMARY CARE PERSPECTIVE

Prepared by the Department of Family and Community Medicine, University of Toronto

February 8, 2010

# **Recommendations for an improved pandemic response plan in Toronto: a primary care perspective**

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## **PREAMBLE**

H1N1 presented a huge health system planning challenge particularly in Toronto due to the city's size, diversity, and complexity. As H1N1 Primary Care Lead for the Toronto Central Local Health Integration Network (LHIN) from October to December 2009, I had the unique opportunity to work together with many stakeholders including the LHIN, the University of Toronto Department of Family and Community Medicine (DFCM), Toronto Public Health, the Ontario College of Family Physicians (OCFP), and the Ontario Medical Association (OMA). Despite a difficult situation, I was struck by the cooperation and commitment demonstrated by the people working behind the scenes at these different organizations and the collaborative relationships that were built during a challenging time.

The following report is an attempt at documenting many of the lessons learned specific to the primary care response to H1N1 in Toronto. It draws on the experience and observations of a variety of family physicians practicing across Toronto as well as family physician leaders intimately involved in pandemic planning at the local and/or provincial level. Although the report is at times critical, we do not intend it to lay blame on any one individual or organization. Rather, we view the report as an opportunity to start an open dialogue around enhancing intersectoral collaboration during a future pandemic and other potential health system challenges.



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## ***FLU ASSESSMENT CENTRES (FACs)***

### **Recommendations**

- 1. The provincial and local pandemic plans should identify a lead planning agency for Flu Assessment Centres (FACs). The roles and responsibilities of public health units, Local Health Integration Networks (LHINs), and hospitals should be clearly defined and disseminated broadly.**

In Toronto, it was unclear which agency was taking the lead regarding planning for FACs. Toronto Public Health (TPH) had a subcommittee engaged in planning for FACs well before H1N1 and most health service providers in Toronto assumed that they were taking the lead. However, between the first and second wave there was confusion around this point. TPH stated that they would not have the personnel to run both FACs and mass immunization clinics. Many health service providers interpreted this to mean that TPH was no longer going to be involved in FAC planning. The TC LHIN eventually became involved to try and facilitate FAC planning with TPH and other organizations (e.g. hospitals, Community Health Centres). Many health service providers then wondered whether the LHIN was now the lead FAC planning agency. The LHIN, however, did not have expertise in FAC planning and considered itself a facilitator. It eventually became clear that TPH considered itself the lead planning agency for FACs and was interested in partnering with others to provide support/expertise regarding FAC set-up but that they could not provide the personnel required to operate an FAC.

Overall, the lack of clear leadership regarding FACs was suboptimal. Many health service organizations and local leaders were anxious prior to the second wave about the system's capacity to effectively manage high ILI volumes. As well, detailed planning for FACs occurred too close to the start of the second wave which likely contributed to the delay in opening FACs in Toronto.

- 2. There should be a robust local surveillance system for monitoring influenza activity. The surveillance system should ideally capture influenza-like illness (ILI) volumes both in emergency departments and in community family physician offices. Local ILI activity should then be communicated clearly to various stakeholders.**

Local surveillance of ILI volumes was suboptimal in Toronto and likely contributed to suboptimal timing of Toronto FAC openings.

Kingston had an ILI surveillance system based on ED data that was reported by the public health unit to health service organizations on a daily basis during the height of the second wave. This surveillance system helped ensure logical timing regarding opening and closing of their FACs.

**3. There should be a clear local trigger for opening and closing of Flu Assessment Centres that is based on concrete surveillance data.**

Early in the FAC planning process, TPH indicated that they would decide when FACs would be opening/closing. However, the local pandemic plan did not identify a specific trigger and as the weeks progressed it eventually became clear that there was no specific trigger for opening of FACs.

Most FACs felt that they opened past peak. At least one FAC site indicated that it had been ready earlier but that TPH delayed the opening because TPH was not ready. It seemed that the impetus to open FACs was related to ER volumes but not volumes in community primary care offices.

All five FAC sites in Toronto experienced lower than expected volumes. The busiest sites (e.g. Humber River Regional Hospital, Southeast Toronto Family Health Team, The Scarborough Hospital) averaged 20–25 patients per day. These sites were all located in or nearby a hospital. The two community FAC sites saw very low volumes (<5–10 per day) and closed within a couple of days of opening. Opening of all FAC sites was labour intensive and although it was a good learning experience for the sites, it came at a high cost (both in terms of actual resources spent and opportunity cost).

**4. The opening and closing of Flu Assessment Centres locally should be coordinated and well advertised to the public.**

As mentioned, FACs in Toronto experienced lower than expected volumes. This may be related to the timing of the opening being past peak. However, it could also be related to staggered openings, varied operating hours and suboptimal advertising. (In contrast to Toronto, Kingston FACs all opened on the same day and all sites had the same hours of operation).

FACs reported that the public was confused about the purpose of FACs (e.g. some thought it was a travel clinic). One FAC bought their own outdoor sign to advertise their services and called themselves a “flu walk-in clinic” which led to increased patient volumes.

**5. Staffing for FACs should ideally come from outside the primary care sector.**

During the recent pandemic, primary care physicians were already busier than usual seeing ILI patients and providing vaccines to patients in their offices. It does not make sense to staff FACs with providers who are already seeing large ILI volumes in the community and who would have to shut their clinics to work at an FAC thereby forcing their own patients to seek care at an FAC or ED. For these reasons, hospitals such as North York General, planned to draw broadly from their medical and surgical hospital staff and not just primary care physicians in the event that they needed to open their FAC.

**6. Documentation forms used in FACs should be tested in advance by front-line providers and be compatible with commonly used Electronic Medical Records (EMR) software.**

ILI assessment forms used at Toronto FACs were paper-based and often cumbersome to fill.

**7. Local pandemic plans should clearly outline where FACs will be located and who they will be run by. FAC partner agencies should be engaged well in advance by the lead local FAC planning agency.**

Prior to the pandemic, TPH assessed the suitability of some potential FAC sites from an infection control perspective. Many of these sites were non-health care sites such as community centres. Site visits to many of the potential primary care FAC sites in Toronto were conducted in October 2009, very close to the start of the second wave. Planning was therefore rushed.

Some FAC sites indicated that they had been engaged briefly prior to the pandemic by TPH around FAC planning but there was lack of clarity around how/if things would move forward until very close to the second wave.

**8. Local pandemic plans should clearly detail when and how primary care physicians would be engaged during a pandemic.**

Many primary care physician leaders in Toronto felt that TPH did not effectively engage the primary care sector.

TPH did engage with the CHC sector both prior to the pandemic and again with the facilitation of TC LHIN. However, Family Health Teams and other large primary care organizations could have been better engaged by Toronto Public Health specifically around Flu Assessment Centre planning and provision of enhanced flu services. (Family Health Teams associated with hospitals generally worked closely with their respective hospital sites around providing extra capacity to see ILI patients should hospital EDs become overwhelmed).

TC LHIN and TPH elicited a commitment from CHCs in fall 2009 to provide extra ILI services daily to unattached vulnerable patients. However, CHCs were reluctant to advertise these services broadly as other primary care organizations had not been engaged to provide similar commitments and it was unclear whether volumes would thus be overwhelming for CHCs. A broader engagement of the primary care sector by the LHIN/TPH may have enabled more ILI patients to be managed within the existing primary care structure.

**9. Future pandemic planning should specifically address enhancing capacity to assess children with ILI.**

The Hospital for Sick Children experienced the most overwhelming ED volumes in the city. Many of the visits were likely related to heightened anxiety among parents because of the death of the 13 year old child at the beginning of the second wave. Better public education/messaging from public health authorities via the media may have improved the situation.

**10. MOHLTC should conduct an evaluation of FACs that were opened across the province to identify best practices and lessons learned. The evaluation should also consider how many patients were seen at FACs in various jurisdictions and whether they were a cost-effective way of managing ILI patients.**

FAC planning and execution varied tremendously across the province presenting a unique opportunity to learn and adopt successful practices for future responses. FACs were opened at great cost (both financial and opportunity cost) so their effectiveness should be critically appraised.

# **VACCINES**

## **Recommendations**

### **1. Primary care should be the default distribution network for immunizations during a pandemic.**

The public is used to accessing the seasonal flu vaccine from their family doctor in Ontario just as they are used to accessing medications from pharmacies. Just as pharmacies were the logical distribution network for Oseltamivir, family doctors would have been the logical distribution network for the H1N1 vaccine. In large cities, in particular, family doctors would have been able to immunize more people, more quickly, with less wait time than a few large immunization clinics. Family doctors would also have been able to accurately and easily identify high risk individuals and arrange for vaccination to their vulnerable patients (e.g. homebound elderly).

Instead, during the first 2-3 weeks of vaccine distribution, many family physicians had to turn away large numbers of patients who called their clinic to receive vaccine.

### **2. Public Health Units should focus their efforts on immunizing vulnerable groups or those who would have difficulty accessing the vaccine through the primary care network. E.g. housebound elderly, mentally ill, those living in shelters, those without a family doctor, etc.**

Toronto Public Health did vaccinate many of these vulnerable groups (e.g. those living in shelters) but perhaps they could have better focused their resources if family physicians were allowed to help more with vaccine distribution.

### **3. Hospital inpatients should be considered a vaccine priority group and receive vaccine from hospital staff during their stay. Hospital outpatient clinics should be encouraged to vaccinate certain priority groups (e.g. pregnant women, children, people with respiratory disorders, immunocompromised individuals, etc) and receive appropriate amounts of vaccine to do so.**

Anecdotally, there was an incident of a very ill inpatient (admitted to the ICU with respiratory problems) who was discharged from hospital without the vaccine (despite family request) and later readmitted to the ICU with respiratory complications secondary to H1N1.

In Toronto, some hospitals made decisions to provide vaccine in specific outpatient clinics but many were reluctant due to uncertainty regarding how much vaccine they would be receiving.

**4. Family physicians and their office staff need expedited, easy access to vaccine.**

It was difficult for some family physicians and their staff to access the vaccine for themselves in a timely manner. It did not make sense for physicians to wait in long lines at mass immunization clinics when they had very busy practices including large volumes of ILI patients.

In future, hospitals should allow physicians without privileges practicing in their catchment area to be immunized via the hospital along with their office staff.

**5. Vaccine data reporting requirements should be streamlined and clear from the outset. Only information that is required should be collected and reasons behind the data collection requirements should be made clear.**

The original vaccine data reporting form requested detailed information on priority groups while later forms wanted just total numbers vaccinated – if the latter is all that was needed, this is what should have been requested from the start. Reporting of adverse events was considered critical by MOHLTC but was not included in the original form. Reasons for data collection and its proposed use were not clearly communicated to front-line providers.

**6. Vaccine data reporting should take advantage of existing technology wherever possible. For example, reporting sheets should be compatible with common Electronic Medical Records (EMR) used in family practice and public health units should be flexible to accept reports generated by EMRs (vs. only paper).**

Toronto Public Health did not allow submission of EMR reports that provided the same information as that required on the paper data collection sheet. This policy resulted in unnecessary duplication of work for some practices at a time when front-line providers were already very busy.

**7. In case of a vaccine shortage, it should be clear which organizations/practices will be receiving vaccine, how much they will be receiving, in what priority, and why. The distribution process, timelines, and method of prioritization should be communicated clearly to health care providers.**

In Toronto, there was a private medical clinic that received large quantities of vaccine and at the same time, a large hospital did not receive enough to vaccinate all of its employees.

Many family doctor's offices did not find out until the last minute how much vaccine they would be receiving and had to repeatedly cancel vaccine clinics they had organized.

Toronto Public Health does not routinely participate in the logistics of vaccine distribution. Future pandemic vaccine distribution schemes should consider using

usual methods of vaccine distribution (e.g. via the Ontario Government Pharmacy) coupled with clear guidelines around how vaccine requests from organizations should be prioritized.

**8. Vaccine packaging should be flexible to allow distribution in quantities smaller than 500.**

The inflexible packaging exacerbated the vaccine supply problem by limiting how many providers the vaccine could be distributed to. It also led to potential waste at some community physicians' offices with smaller patient populations.

**9. There should be clear, consistent communication from the province regarding who should be getting the vaccine. Provincial guidelines should be consistent with national guidelines and health care providers should be notified of guideline changes directly prior to the media or public.**

Many providers were frustrated to hear about changes in guidelines first from the media or from their patients. In particular, recommendations regarding which type of vaccine (adjuvanted vs. unadjuvanted) and dosing for pregnant women and children changed frequently and were sometimes ambiguous.

**10. Physicians should be notified in advance of potential priority groups for vaccination so that they can proactively prepare a list of their patients who meet the relevant criteria.**

Many practices now have the ability to identify specific populations (e.g. pregnant women, people with diabetes) using their EMR. With advance warning, physicians could prepare lists of patients in priority groups who could be contacted when the vaccine was available. Such an approach would minimize waiting and help ensure the most vulnerable receive the vaccine.

## **OFFICE PREPARATION, N95 MASKS, and N95 MASK-FIT TESTING**

### **Recommendations**

- 1. MOHLTC should review whether N95 masks should continue to be recommended in OHPIP as routine protection for community providers assessing influenza-like illness (ILI).**

A randomized-controlled trial by Loeb et al. published in JAMA in October 2009 compared the effectiveness of a surgical mask to a fit-tested N95 respirator in preventing influenza infection in 446 nurses in working in tertiary care hospitals in Ontario<sup>1</sup>. They found that use of a surgical mask compared with an N95 respirator resulted in non-inferior rates of confirmed influenza.

- 2. MOHLTC should study primary care physicians' views and use of N95 masks during the pandemic.**

Considerable anecdotal information suggests that many family physicians used surgical masks in their offices instead of N95 masks during the pandemic. Relevant study questions include the following: what proportion used N95 masks when assessing ILI; what proportion used surgical masks; what proportion were mask-fit tested and where did they receive testing; what proportion had office staff mask-fit tested; what proportion provided N95 masks to office staff; how many wanted to use N95 masks but couldn't access masks or mask-fit testing in their community in a timely manner, etc.

Answers to these questions would help identify gaps in knowledge/practice that should be addressed in future pandemic plans.

- 3. There should be a local organization responsible for organizing mask-fit testing for community physicians and addressing questions/concerns about access to masks and other supplies.**

In Toronto, there was no organization that organized mask-fit testing for community providers prior to the start of the second wave. The H1N1 Primary Care Lead for TC LHIN eventually worked with the Ontario College of Family Physicians (OCFP) to organize fit-testing sessions. The session was organized for early November. Interest in the session, however, was lower than expected. Family physicians with hospital privileges were able to access mask-fit testing via hospitals. However, physicians' office staff and family physicians without hospital privileges were generally not able to access mask-fit testing via hospitals. Some hospitals did offer mask-fit testing to community physicians but this service was generally not advertised. In the middle of the second wave, when approached via

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<sup>1</sup> Loeb M, Dafoe N, Mahony J, John M, Sarabia A, Glavin V, et al. Surgical Mask vs N95 Respirator for Preventing Influenza Among Health Care Workers: A Randomized Trial. JAMA. 2009 November 4, 2009;302(17):1865-71.

the TC LHIN's executive committee, TC LHIN hospitals eventually agreed to open their mask-fit testing services to community physicians and this service was advertised via the University of Toronto DFCM website.

In some jurisdictions, public health units took the initiative to organize fit-testing for community physicians and office staff but this was not done in Toronto.

Other options to consider in future plans include advertising an accurate list of local private companies that could provide the service at physicians' offices (this was eventually done via the DFCM website) or engaging the local OMA chapter to organize testing for its members.

- 4. It should be clear prior to the start of a pandemic, what types of N95 masks would be available in supply kits for family physicians so that they can be appropriately fitted ahead of time.**

MOHLTC made clear what types of masks were in the provincial stockpile. However, only a portion of these were released from the stockpile to family physicians and it was unclear at the time of their release which masks physicians would be receiving. It would have additionally been helpful if physicians had the opportunity to specify which masks they would prefer to receive given what they or their staff had been tested for.

- 5. There should be an agency responsible for assisting community family physicians in general office preparation, infection control, employer duties, etc prior to the start of a pandemic.**

In Toronto, some public health leaders assumed that family physicians were familiar with OHPIP when in reality, most were likely not aware it existed. Many physicians would have been particularly open to advice around office preparation between the first and second waves of the pandemic. However, during that time, there was little to no communication from MOHLTC or public health to family physicians. Prior to the start of the second wave, the MOHLTC and Toronto Public Health websites did not have many resources to guide office preparation. In contrast, British Columbia's Centre for Disease Control had very practical material on-line that was directed specifically at community physicians. In some jurisdictions, public health units sent personnel to family physicians' offices before the pandemic and/or between the first and second waves to determine if their office was adequately prepared. This should be considered in all jurisdictions, particularly for large practices and walk-in clinics.

Another potential strategy would be for the MOHLTC/public health to work with the OMA to educate their members.

- 6. To aid with future pandemic planning, MOHLTC should study what proportion of healthcare workers became sick during the pandemic.**

## **COMMUNICATION**

### **Recommendations**

- 1. There should be one trusted clear provincial source of information and one trusted clear local source of information for front-line health care providers. Key information should be summarized and sent on a regular schedule in a familiar format to prevent information overload.**

Overall, many family physicians felt that communication during H1N1 was much improved in comparison to SARS. However, many felt bombarded with too much information with the same information often sent by multiple different organizations. Most organizations/recommendation summaries referenced the same source which was helpful. Many family physicians felt that the communications sent by the OMA summarizing guidelines etc. was very helpful and succinct.

In Hamilton, they developed a newsletter that contained consistent headings that was sent once weekly to family physicians that summarized key information in an easy-to-read format. The University of Toronto DFCM created a website to meet the needs of local primary care physicians for up-to-date, clinically relevant information.

- 2. National and provincial guidelines should be consistent and provided in a user-friendly format for clinicians.**

National and provincial guidelines regarding ILI management and vaccine dosing/priority groups often differed resulting in mixed messaging to front-line clinicians.

The Ontario guidelines were generally not presented in a user-friendly format for clinicians. For example, the 16 page guideline on ILI management was too long and detailed and even the algorithms summarizing guidelines spanned too many pages. In contrast, the Public Health Agency of Canada released a one-page (double-sided) tool that was user-friendly and summarized pertinent information succinctly. The latter, however, contained information that was slightly different from the Ontario guidelines.

In Ontario, the Centre for Effective Practice (CEP) was hired to produce a short brochure summarizing guidelines for ILI management, vaccination, and office preparation that was eventually distributed to all primary care physicians and nurse practitioners in the province. However, there was a considerable delay in finalizing the contract for CEP and as a result, the guidelines were released much later than would have been ideal. As well, guidelines changed so rapidly that the paper version of the brochure quickly became out of date.

**3. The MOHLTC and public health units should develop more user-friendly websites with pages that specifically address physician needs.**

The physician H1N1 website from British Columbia's Centre for Disease Control and the H1N1 website developed by the University of Toronto Department of Family and Community Medicine were two examples of user-friendly websites that contained information pertinent to primary care physicians in one location. All key communications from MOHLTC and public health units should be easily found on the website.

Most documents should be posted in html format (not just in PDF format) so that they are easily searchable and hyper-linked to other relevant pages.

**4. MOHLTC and public health units should all have health care provider hotlines that are active during a pandemic including on evenings and weekends. The answers to frequently asked questions on these hotlines should be posted on the website.**

MOHLTC did have such a hotline and the hours were eventually extended which was very helpful. Toronto Public Health also developed such a hotline within the first 1-2 weeks of the pandemic and this was also very helpful. However, neither organization posted the answers to frequently asked questions on the hotline which likely would have prevented numerous calls and enabled clinicians to provide better care.

**5. Treatment guidelines should be sent to physicians prior to being released to the media or public and should be published well enough in advance of their expected use.**

Ontario's guidelines for ILI management were released very late (e.g. after the second wave of ILI began appearing in communities). Similarly, the MOHLTC frequently answered questions document was released near the end of the second wave.

Many physicians lamented hearing about changes in vaccine priority groups first from the newspaper (as opposed to direct communication).

Press releases should be posted immediately to the MOHLTC website so primary care leaders can reference them accurately.

**6. The MOHLTC should consider developing its own email/fax list for physicians so it does not have to rely on the OMA to distribute its messages. Emails should contain all important information in the body and not require recipients to check multiple websites for details.**

Many physicians are unlikely to check websites for updates and should be notified via email/fax of important changes. Most Important Health Notices (IHNs) were sent via email or fax but these often did not contain all critical information and

instead required physicians to hunt for the relevant documents on the MOHLTC website.

Relying on external organizations to communicate to physicians results sometimes in a delay in members receiving relevant information.

## **GENERAL RECOMMENDATIONS**

### **1. Public health units, the Local Health Integration Network (LHIN), and primary care need to develop better working relationships in Toronto.**

Local pandemic responses were most effective in jurisdictions where public health and primary care had existing strong working relationships. In Toronto, the Toronto Central LHIN played a key role in bringing together different health service organizations to work together; other LHINs may be able to play a similar role in other parts of Toronto. A formal qualitative study should be done to highlight best practices across Ontario with respect to collaboration between primary care and public health.

### **2. A more effective pandemic response could be organized if public health and LHIN boundaries were aligned.**

Toronto Public Health boundaries currently encompass five LHINs making it challenging to work collaboratively and consistently with all potential partners.

### **3. Primary care could be better engaged during an emergency response if the primary care system was more structured.**

The Ontario College of Family Physicians (OCFP) and Ontario Medical Association (OMA) should consider how to develop stronger outreach mechanisms to their members, for example, to better gauge physician needs, better communicate in emergencies, and enhance local networks for collaboration/support.

### **4. Toronto Public Health should consider restructuring their pandemic primary care subcommittee to include more representation from front-line family physicians and consider expanding the focus of the committee to disaster planning more generally.**

The current primary care subcommittee has few practicing family physician representatives. Disaster planning (e.g. for the upcoming G20 summit) requires similar primary care engagement and has overlapping issues to general pandemic planning.

### **5. Toronto Public Health and/or Local Health Integration Networks should consider hiring a locally practicing family physician during the pandemic to aid with organizing the local primary care response.**

During the H1N1 pandemic, primary care leaders in Toronto felt that primary care concerns were not being sufficiently addressed. They advocated for the Toronto Central LHIN to hire an H1N1 primary care lead to aid with engaging, informing, and organizing primary care locally around the pandemic response. The primary care lead was able to work with TPH, TC LHIN organizations, the OMA, the OCFP and others to address issues such as access to masks and mask-fit testing, problems with vaccine distribution, planning for Flu Assessment Centres, and improvement of communication. The position was created in October 2009 but would have been even more effective if created earlier.