Universal influenza immunization

Were Ontario family physicians prepared?

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ABSTRACT

OBJECTIVE To explore family physicians' experiences during the first year of Ontario's universal influenza immunization program.

DESIGN Qualitative study using in-depth interviews.

SETTING Thames Valley region of southwestern Ontario.

PARTICIPANTS A maximum variation sample of nine family physicians selected by snowball sampling after initial consultation with a local family physician advisory committee.

METHOD Interviews were audiotaped and transcribed verbatim. Analysis was sequential, using a combination of editing, immersion, and crystallization. Interview transcripts were read by individual members of the team who met to compare findings at several stages during data collection.

MAIN FINDINGS The program affected family physicians because immunization strategies designed for immunizing high-risk patients needed to be modified to deal with greater numbers of patients. While generally supportive of the program, physicians found it difficult to implement. Responses reflected ongoing conflict between individual and public health priorities, particularly regarding children and pregnant women.

CONCLUSION The program could have been more effective if the culture and climate of Ontario family practice had been considered during its development and implementation.

RÉSUMÉ

OBJECTIF Examiner les conséquences pour le médecin de famille (MF) de la première année du programme ontarien de vaccination universelle contre la grippe.

TYPE D'ÉTUDE Étude qualitative à l'aide d'entrevues en profondeur.

CONTEXTE Région de la Thames Valley au sud-ouest de l'Ontario.

PARTICIPANTS Un échantillon le plus variable possible de neuf MF sélectionnés par la méthode «boule de neige» après consultation avec le comité consultatif local de médecine familiale.

MÉTHODE Enregistrement des entrevues sur ruban magnétique, suivi de leur transcription intégrale. Analyse séquentielle des données par une méthode alliant édition, immersion et cristallisation. Après une lecture individuelle des transcriptions, les participants se sont réunis à divers stades de la collecte de données pour comparer leurs observations.

PRINCIPAUX RÉSULTATS La nécessité de vacciner un plus grand nombre de patients, et non seulement ceux à risque élevé, a forcé les MF à modifier leur stratégies de vaccination. Même s'ils sont généralement d'accord avec ce programme, les MF l'ont trouvé difficile d'application. Les réponses reflétaient un conflit latent entre les priorités individuelles et celles de la santé publique, notamment en ce qui concerne les enfants et les femmes enceintes.

CONCLUSION Ce programme aurait pu être plus efficace si son développement et sa mise en œuvre avaient mieux respecté la culture et le climat propres à la pratique de la médecine familiale en Ontario.

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In July 2000, the Ontario government announced a program of free universal influenza vaccination for the winter of 2000-2001.[1] The program, known as the Ontario Universal Influenza Immunization Program (OUIIP), heralded a substantial change in influenza prevention in Canada, which had formerly been characterized by subsidized immunization of high-priority groups (health care workers, people older than 65, and people with chronic medical conditions.)[2] Universal influenza immunization was supported by intervention studies suggesting that vaccinating infants and young children against influenza reduced transmission within families and communities.[3-7] Vaccinated healthy adults have been reported to have 30% to 40% fewer influenzalike illnesses, visits to physicians, and lost work days.[8]

The OUIIP aimed to vaccinate 60% of low-priority and 90% of high-priority patients against influenza. Adults received a single dose; children aged 6 months to 9 years not previously exposed to the vaccine received two doses 1 month apart. The vaccine was not approved for infants younger than 6 months. The program was promoted by a print and electronic media advertising campaign.

More than 5 million Ontarians were vaccinated in the first year of the OUIIP.[9] In Middlesex-London alone, some 80 000 doses were distributed in 1999 and some 270 450 in 2000, a 238% increase. Since the vaccine could be administered only by injection, it was clear that the program was going to increase primary care providers' workload.

Studies have highlighted the importance of primary care physicians in administering vaccinations in the community.[10,11] As a first step in understanding the effect of the OUIIP on family physicians, we used qualitative techniques to explore their experiences during the first year of the program.

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METHODS

The study used in-depth interviews with a maximum variation sample of family physicians in southwestern Ontario. These physicians practised in London (population 350 000) and several small semirural communities. Most primary medical care in the region is delivered by family physicians.

Sample

We used a snowball sampling method to identify participants. Three participants were suggested by family physician members of an advisory board of the University of Western Ontario's (UWO) Thames Valley Family Practice Research Unit. These three family physicians (all of whom agreed to participate) suggested another 10 primary care physicians whom they thought would provide alternative or differing views.[12] All potential participants were contacted by letter and then telephoned by a member of the research team. Nine physicians were interviewed (three from the initial contact and another six following the snowball sampling). Two declined and two were not interviewed because theme saturation had been reached.

Data collection

A semistructured interview guide with open-ended questions was developed. It was oriented to themes previously determined by literature review and discussions with the family physician advisory committee. Interviews lasting 45 to 60 minutes were held during March and April 2001 at participants' workplaces or homes.

Analysis

Interviews and interviewers' field notes were audiotaped and transcribed verbatim. Transcripts were read independently by members of the research team to identify key words and themes, then coded and further analyzed using QSR Nud*ist software.[13]

Initial analysis occurred consecutively: two members of the research team read transcripts independently and met after several interviews to compare findings on themes, patterns, and connections. Summary descriptions of important themes were then discussed with the other investigators. Consecutive analysis allowed ongoing modification of the interview guide to clarify patterns and connections in the data.

The research team met after the fifth and ninth interviews. The interviewer reported, and the study team independently and collectively confirmed, that no new themes had been identified in interviews 8 and 9 and that theme saturation had been reached.

A second phase of analysis involved an investigator and a research assistant new to the data independently identifying meaningful segments of text and sorting them into categories or groups. These categories were explored for patterns. A final process resulting from prolonged immersion in the data allowed crystallization of important themes reflecting participants' experience.[14] Again, findings were discussed with the research team.

Participants received summaries of the interviews and were invited to correct and clarify them. Further member checking involved presentation of preliminary study findings to two informal family practice research seminars involving family practitioners, residents, and academics from UWO and two other Ontario medical schools.

The study was approved by the Review Board for Health Sciences Research Involving Human Subjects at UWO.

FINDINGS

The nine physicians varied by experience, sex, practice type (traditional family practice or community health centre), and practice location (semirural or urban). Two participants worked in the same practice (**Table 1**).

Table 1. Characteristics of participants

CHARACTERISTIC	NUMBER
Practice setting	
• Urban	7
• Semirural	2
Practice type	
• Solo	3
• Group	6
Sex	
• Male	6
• Female	3
Reimbursement	
• Salaried	1
• Private, fee-for-service	5
• Academic practice	3
Years in practice	
• <5	3
• ≥5	6

The OUIIP challenged primary care physicians to find ways to deal with the increased demand on their practices. All were struck by the extent to which the OUIIP was accepted by the community, but their attitudes to the program and their reported participation in it varied. Despite general support, their reflections on their experiences were underpinned by feelings of isolation and wariness. Underlying much of this were the competing priorities of community health and individual benefit.

Initial response to the OUIIP

All participants were surprised by the announcement of the OUIIP; most learned of it through the media or from correspondence from the local health unit. Their degree of support for the program varied. More experienced family physicians were concerned about the justification for the program and its implications for their practice. "My responses were first, 'How are we ever going to do this?' second, 'Where is the evidence that this needs to be done?' and third, 'This seems to be a political decision.'"

Another believed that the process seemed to "...get people's backs up. I think my first reaction was, well, I don't know who is going to do this but it's not going to be me—where am I going to fit this into my day?"

Nevertheless, most participants endorsed the ideas behind the program, particularly in light of the severe 1999-2000 influenza season in Canada: "It was a great idea. Last year we saw a lot of flu so I thought the whole vaccine thing was good." Another stated. "It's a pretty big undertaking to try something like this in a province as populated as ours. [I wondered] how were we going to do it? …there was a little trepidation, but it was with a great deal of enthusiasm that we took it on…." Most seemed to accept their responsibility to support the strategy. "If this is what the government wants to do, then we will sort of comply with it."

Planning a strategy

All reported using an opportunistic approach to vaccinating high-risk patients in previous years, believing that, "Because they are high-risk patients, their visits are frequent, so you don't really need to go looking for them; 95% of them show up in the office within that 2- to 3-month window that you are wanting to be giving flu vaccines, so you can just wait for them to come."

Participants were surprised by communities' awareness of the OUIIP and by the consequent demand for vaccines. While fearing initially that their practices would be overrun, most found the demand for vaccinations manageable even though they reported having to make a range of organizational changes. Many reported using nurses to administer vaccines. While several participants reported running occasional evening and weekend immunization clinics, most (including all solo practitioners) said they only offered immunizations in the context of normal consultations: "If it is a 15-minute appointment, use the 15 minutes any way you like. If the patient wanted to use some or all of their time to talk about the vaccine, it was fine. It's their agenda."

One participant's large-group practice had made major organizational changes to deal with the OUIIP. The practice held staff planning meetings, advertised with posters and literature within the practice, and held dedicated flu clinics. The perceived success of the experience sparked a plan to expand for the next winter: "Next year we may advertise in the grocery store, arena, [and] high schools and also offer the vaccine to those who don't see their doctor—we will extend advertising, start it sooner, have a neighbourhood vaccine clinic."

There were some secondary benefits from the program. Several felt that the publicity campaign attracted more high-priority patients to come for vaccination. "A greater proportion of those over 65 and those over 50 with medical conditions and children with asthma came in…. Suddenly there was no reason not to get the vaccine." Low-risk patients also came in. [The flu vaccine] "brought people to the office who would not normally come in, giving us a chance to review their medical status and their [other] immunizations."

Several commented that, at the practice level, the planning required to deal with the OUIIP had a positive effect on staff morale: "A certain esprit de corps developed."

Isolation

Physicians felt alone and relatively unsupported in their participation in the program: "Communication-wise, we felt out of the loop …I mean there weren't strategies that were presented as ways we could handle it. We were left to deal with it on our own."

Participants believed that public health units did not fully understand the logistics of administering vaccines to family practice populations. Many participants reported difficulties with obtaining vaccines: "They told us to order for 60% of our low-priority patients. When we called [the Public Health Unit] and said we needed 16 000 doses, they freaked."

While participants whose practices embraced the program thought their practices benefited financially from participating in the OUIIP, others were unconvinced that the program fitted with the realities of running a family practice. "It was more than a loss leader, it was a dead loss. We are expected to provide the service at great inconvenience to ourselves and with remarkably little benefit to the public. I felt it was beyond the call of duty." In the absence of additional infrastructure support, participants needed to balance the requirements of ongoing patient care with those of the vaccination program. As one solo practitioner reflected: "I would never be able to have an evening clinic where I just gave flu shots because people would come in expecting everything and anything else." While supportive of the concept, this practitioner shared the views of many in suggesting:

> So I figured the way it was set up, there were so many clinics being run in the city, that if people wanted the vaccine in off hours, they could find it somewhere. I thought it was okay because I really still questioned whether all these people really needed the vaccine.

Caution and doubt

Several felt compromised in offering vaccinations to patients they thought had been falsely reassured of the program's safety by the OUIIP's advertising strategy:

> I think that the ads were a bit simplistic for me. I mean if you watch the American ads on TV they always show a disclaimer at the end when they're talking about drugs. The Ontario ads never did that. It made me feel like I was the bad guy in the flu vaccine thing because I was telling people about the cons, and there is a risk with this, but it is all up to you. That bothered me a bit.

Several expressed similar anxieties to one participant who asked: "Who is responsible if [a patient] gets Guillain-Barré syndrome? What are we to do and what answers do we give to the community?"

> Even physicians who supported the program did so conditionally. While seemingly well motivated to vaccinate elderly and high-risk patients, participants had reservations about the vaccine's efficacy for healthy adults and children. Many wondered whether these

> low-priority groups needed protection from what they saw as "an unpleasant illness, but not a big risk illness." While they believed that children were potential reservoirs of infection, they doubted that protection against influenza would outweigh the disadvantages of adding two more vaccines to what they saw as an already crowded immunization schedule. This concern was reinforced by parental attitudes: "The younger children, they already get two or three shots in their first year. Some of the parents decided that two more shots would be overwhelming."

There was a consistent concern about vaccine safety for pregnant women.

> Well, I just worry about giving anything to pregnant women, period;… it takes a lot to push me to give them drugs just because I don't think we can ever be a 100% sure of that, and this is life growing inside and I don't want to be left doubting. Now if their health was at risk, or whatever, then it's a different story altogether.

Respondents reflected on the competing priorities of population and individual health.

> From a public health perspective, trying to immunize the whole population makes sense. On an individual basis, to immunize a young, healthy person to prevent them from getting the flu, I would say [to my patients] you can take it or leave it.

Reflecting on their experiences, participants noticed that they had seen few cases of active influenza in the 2000-2001 winter. One of the academic family physicians commented:

> Maybe there was little influenza anywhere this year. We have to compare [Ontario] with Quebec, Manitoba, Michigan, and New York. To my understanding, there has not been an influenza program of this magnitude carried out anywhere: [it was] an intellectual crime to do it without preparing to do a rigorous evaluation.

DISCUSSION

No other studies have examined the effect of universal influenza immunization on primary care practitioners. The study aimed to explore the experiences of family physicians involved in a new and substantial public immunization program. While it was clear that they were willing to participate in the OUIIP, their experiences suggested that there were barriers to optimal implementation of the program. While some barriers were structural (and relatively easy to address), others were associated with physicians' attitudes toward universal influenza vaccination. The findings offer insights into family doctors' experiences and provide directions for both further research and health policy development.

The OUIIP was a new program that deviated substantially from past efforts to prevent influenza in Ontario. The surprise associated with its launch and difficulties in distributing the vaccine will likely diminish with experience. It seems important, however, for public health authorities to better understand the organizational and perceived financial effect of programs, such as the OUIIP, on family physicians. This issue could become more important in the context of family physicians' increasing workload and decreasing hourly income.[15]

Other nations have learned that partnership between government and community practitioners can assist implementation of large immunization programs.[16,17] In particular, government assistance with mailed patient reminders[18] and removal of cost barriers[19,20] have met with considerable success.

The specific challenges faced by solo practitioners (who form 25% of the Canadian family practice work force)[15] and the program's unanticipated benefits for practice morale are important as we undergo primary care reform (PCR).[21] Ontario's current PCR proposals aim to develop real or virtual group practices and to make it easier for family doctors to employ nurse practitioners and other allied health staff.[22] Both strategies could ease the pressures on family practice of major public health initiatives.

Program justification

Public health policies rely on clear evidence of efficacy, cost-effectiveness, and safety. Our participants did not believe such evidence was presented by the OUIIP in 2000-2001 and felt compromised by what some viewed as an overly positive advertising campaign. Participants' reservations about the justification for the program were echoed in the conclusions of a systematic review of 20 randomized trials.[23] Future iterations of the program should be mindful of the caution and wariness expressed by our participants, particularly in view of the strengthening culture of evidence-based medicine and of physicians' anxiety about medical litigation.[24]

Low-risk populations

Our data suggested that practitioners' belief in the efficacy of and risk associated with vaccination affected decisions to immunize low-risk patients. In particular, our findings confirmed Zimmerman's observation that primary care physicians are uncomfortable administering influenza vaccine to pregnant women and children.[25] With children an important reservoir for community infection,[5,26,27] future research should focus on understanding practitioner and systemic barriers to vaccinating them. Comments on pregnant women and children highlighted an internal dilemma when physicians were faced with the competing priorities of individual health care and population health.

Limitations

Since only nine physicians, all of whom practised in southwestern Ontario, were interviewed, our findings might not be generalizable to other areas. Physicians practising in larger cities or remote areas might have reacted differently to the immunization strategy. Although the snowball sampling technique actively sought alternative and contrary views, other practitioners might have had different attitudes not captured in our data. Also, qualitative methodology cannot capture relative proportions of physicians implementing various strategies or the effectiveness of their approaches.

Conclusion

The OUIIP invited an effective partnership between the Ontario Ministry of Health and Long-Term Care and primary care physicians. Although family physicians were generally supportive of the program, our findings suggest it might have been easier to implement and would have had greater effect if it had been better integrated with the culture and climate of Ontario family practice.

Editor's key points

- In 2000-2001, Ontario announced a program of free, universal influenza vaccination. Ontario was the first jurisdiction in North America to expand coverage beyond high-risk patients.
- Family physicians, who provide most vaccinations, were not consulted or considered before introduction of the program and were initially surprised by it. Acceptance was variable: a large concern was how to accommodate the increased demand for vaccination. Most practices had to make organizational changes.
- In making these changes, physicians felt isolated and unsupported in their participation in the program. No provision was made to help them accommodate increased demand.
- Often, physicians were in conflict between their desire to support a public health campaign and both their and their patients' skepticism about the safety and efficacy of the vaccine, especially for children and pregnant women.

Points de repère du rédacteur

- En 2000-2001, l'Ontario a institué un programme de vaccination antigrippale universel gratuit, devenant ainsi la première institution publique en Amérique du Nord à étendre cette couverture aux patients ne présentant pas un risque élevé.
- Même si la vaccination relève en majeure partie des médecins de famille, ceux-ci n'ont été ni consultés ni considérés avant l'instauration du programme, et ils ont d'abord été surpris. L'acceptation a été variable: le défi de répondre à l'accroissement de la clientèle à vacciner a amené la plupart des établissements à effectuer des changements organisationnels.
- En apportant ces modifications, les médecins de famille ont constaté leur isolement et le peu de support accordé à leur participation au programme. Rien n'avait été prévu pour les aider à répondre à l'augmentation de la demande.
- Les médecins étaient souvent partagés entre leur volonté de participer à une campagne de santé publique et le scepticisme qu'ils partageaient avec leurs patients concernant l'efficacité et la sécurité du vaccin, notamment pour les enfants et les femmes enceintes.

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Contributors

Dr Russell *proposed the qualitative method, reviewed transcripts and confirmed themes, and drafted the manuscript.* **Dr Sutton**, *principal investigator, proposed the concept, designed the study, recruited participants, read transcripts and identified themes, and reviewed all drafts of the manuscript.* **Dr Reid** *reviewed the manuscript and contributed to revisions.* **Ms Beynon** *participated in formative research team meetings and reviewed drafts of the manuscript.* **Dr Cohen** *advised the research team on participants for a maximum variation sample, validated preliminary findings,*

and reviewed drafts of the manuscript. **Dr Huffman** *contributed to the concept, assisted in validating the findings, and reviewed the final manuscript.*

Competing interests

None declared.

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