

"Keep it short and sweet"

Improving risk communication to family physicians during public health crises

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Abstract

Objective To identify recommendations from family physicians in Canada on how public health agencies and professional organizations might improve future crisis and emergency risk communications.

Design Qualitative content analysis.

Setting Canada.

Participants Sixteen family physicians who have experienced a public health crisis.

Methods Semistructured interviews were conducted with 16 family physicians practising in various regions across Canada who had experienced what they defined as a public health crisis. These events included environmental crises, like forest fires and hurricanes, and infectious disease crises, like the SARS (severe acute respiratory syndrome) and H1N1 outbreaks. Interview transcripts were coded using an inductive qualitative content analysis method, specifically focusing on recommendations from participants on how to improve risk communication to family physicians in the event of a future public health crisis.

Main findings Based on their personal experiences, participants had many explicit recommendations on how to improve risk communication strategies in the event of a future public health crisis. These included having a single trusted source of information; having timely and succinct communication; having consideration for learners; ensuring access to information for all physicians; improving public health and family medicine collaboration; having crisis information for patients; and creating communication infrastructure before a crisis occurs.

Conclusion This research provides thoughtful and varied considerations and advice from practising family physicians on how to improve risk communication from public health agencies and professional organizations to this group in the event of a public health crisis. With improved communications between these bodies and family physicians, practitioners will be better informed and prepared to provide the best possible care to their patient populations during such events.

Editor's key points

- ▶ This qualitative study of recommendations from family physicians on how to improve risk communication revealed a desire for a single source of trustworthy information. Information should be timely, succinct, and feasible for family physicians to integrate into their daily practice (eg, a bullet-point update sent to them via e-mail).
- ▶ Social media outlets can be used as an additional method of communicating risk information to family physicians during an emergency risk event, especially to new practitioners and recent graduates. Participants recommended that risk communicators should consider the distinct information needs of learners. Helpful information to give to patients (eg, in the form of handouts, pamphlets, or electronic resources) was consistently desired.
- Study participants recommended increasing collaboration between public health agencies and family physicians to acknowledge a consideration and respect for practitioners working on the front lines during such events. They noted that information dissemination infrastructure should be in place before a crisis occurs, and that such infrastructure requires regular testing.

Points de repère du rédacteur

- ▶ Cette étude qualitative des recommandations exprimées par des médecins de famille sur les façons d'améliorer la communication des risques a fait ressortir leur souhait d'avoir une source unique d'information fiable. Les renseignements devraient être fournis en temps opportun, et être succincts et pratiques pour que les médecins de famille puissent les intégrer dans leur pratique au quotidien (p. ex. mises à jour sous forme de listes de points, acheminées par courriel).
- ▶ Les médias sociaux peuvent servir de moyen additionnel pour communiquer aux médecins de famille des renseignements sur les risques durant une situation d'urgence, en particulier aux nouveaux praticiens et aux récents diplômés. Les participants ont recommandé que les responsables de la communication des risques tiennent compte des besoins distincts des apprenants en matière d'information. Le désir de recevoir des renseignements utiles à remettre aux patients (p. ex. sous forme de documents à distribuer, de brochures ou de ressources électroniques) a été constamment mentionné.
- ▶ Les participants à l'étude ont recommandé d'accroître la collaboration entre les agences de la santé publique et les médecins de famille afin de tenir compte et de respecter les professionnels qui travaillent aux premières lignes durant de telles situations. Ils ont souligné que l'infrastructure de diffusion de l'information devrait être en place avant la survenance d'une crise, et qu'une telle infrastructure doit être testée régulièrement.

«Courte et brève»

Améliorer la communication des risques aux médecins de famille durant des crises de santé publique

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Résumé

Objectif Déterminer les recommandations de médecins de famille au Canada concernant les façons dont les agences de santé publique et les organisations professionnelles pourraient améliorer les communications lors de crises et de risques urgents futurs.

Type d'étude Analyse qualitative de contenu.

Contexte Canada.

Participants Seize médecins de famille qui ont vécu une crise de santé publique.

Méthodes Des entrevues semi-structurées ont été effectuées avec 16 médecins de famille de diverses régions au Canada qui ont vécu des expériences qu'ils qualifient de crises de santé publique. Parmi ces situations figuraient des crises environnementales, comme des feux de forêt et des ouragans, et des flambées de maladies infectieuses, comme le SRAS (syndrome respiratoire aigu sévère) et le H1N1. Les transcriptions des entrevues ont été codées à l'aide d'une approche inductive d'analyse qualitative du contenu, en insistant spécifiquement sur les recommandations des participants concernant les façons d'améliorer la communication des risques aux médecins de famille dans l'éventualité d'une future crise de santé publique.

Principales constatations En se fondant sur leurs expériences personnelles, les participants avaient de nombreuses recommandations explicites pour améliorer les stratégies de communication des risques dans l'éventualité d'une future crise de santé publique. Parmi celles-ci : une source unique d'information fiable; des communications opportunes et succinctes; la prise en compte des besoins des apprenants; l'assurance d'un accès à l'information pour tous les médecins; l'amélioration de la collaboration entre la santé publique et la médecine familiale; des renseignements sur la crise à l'intention des patients; et la mise en place d'une infrastructure de communication avant la survenance d'une crise.

Conclusion Cette étude de recherche a permis de dégager divers éléments à prendre en compte et des conseils réfléchis, exprimés par des médecins de famille en pratique active, concernant les façons d'améliorer la communication des risques à ce groupe par les agences de santé publique et les organisations professionnelles dans l'éventualité d'une crise de santé publique. Grâce à de meilleures communications entre ces organisations et les médecins de famille, les praticiens seront mieux informés et prêts à offrir les meilleurs soins possible à leurs populations de patients durant de telles situations.

amily physicians might be considered the principal providers of primary medical care in Canada and, in the event of a public health crisis, are therefore integral to the timely delivery of critical medical services.1 As part of the front-line defence during a public health crisis,² it is important that family physicians have access to appropriate, timely, and adequate risk information and knowledge to maintain trust-based relationships with their patient populations and ultimately to improve their patients' health. When a public health crisis occurs, such as the severe acute respiratory syndrome (SARS) epidemic in 2003 or the H1N1 pandemic influenza outbreak in 2009, family physicians are required to translate complex information from public health agencies and professional organizations to their patient populations. Reviews conducted of these events outline the necessity for improved risk communication of appropriate and timely information to family physicians.^{2,3} More recently, outbreaks of infectious diseases such as the coronavirus COVID-19 and the Ebola epidemic in West Africa have again emphasized the importance of "robust emergency preparedness and response systems"4 for such public health crises and other healthrelated emergencies. Family physicians require effective risk communication to perform their jobs safely and effectively under these circumstances.

Effective risk communication is not a singular method of information flowing from "experts" to recipients; rather, it is a 2-way dialogue between those with technical risk knowledge and information and an individual, group, or community in order to exchange information about, knowledge of, and experiences with a risk or risk situation.5 However, beyond the general agreement that risk communication is a reciprocal process, different definitions of this concept often include unique variables and understandings.6 A crucial aspect of appropriate and effective risk communication is involving those who will use the knowledge and information, and those who might be affected by the outcomes, in planning communication strategies.7 Still, public health policies on risk communication planning and strategies are typically created from a top-down perspective at large international organizations8 to be interpreted by a national public health agency, and then are further modified or adjusted to meet the needs of health professionals at the provincial, regional, or municipal level. Although groups such as the World Health Organization do consult with member countries for guidance and policy implementation regarding emergency preparedness, surveillance, and response,8 such top-down risk communications often do not result in timely, relevant, and accurate information being distributed to family doctors. After the SARS outbreak occurred in Canada in 2003, subsequent reviews were conducted of the public health systems and communications in Canada. Further steps have been made to ameliorate risk communication regarding

public health crises to first responders, primary care professionals, and the public. Among these, organizations like Public Health Ontario and the BC Centre for Disease Control have been created to improve communications from public health agencies to practitioners working on the front line.

A scoping review exploring crisis and emergency risk communication to family physicians identified 38 articles relevant to this specific research area.9 Only 6 of those articles10-15 contained research or recommendations pertaining to Canadian family physicians; none of these qualitatively explored experiences and related recommendations from family physicians in Canada on how to improve risk communication in the event of a future public health crisis.9

Our objective for the portion of our study reported here was to identify concrete recommendations from Canadian family physicians to inform considerations on how public health agencies and professional organizations might improve crisis and emergency risk communications in the future.

– Methods —

This research—a qualitative content analysis—was designed and conducted as one component of a larger multimethod qualitative study on public health crisis and emergency risk communication to family physicians in Canada.9 The primary purpose of the overarching multimethod qualitative study was to explore how public health crises and the related risk communication surrounding such events are experienced by family physicians in Canada using a phenomenologic approach. Other publications from this work include a commentary on the evolving face of public health crises16 and a pending phenomenologic publication exploring what it might be like to experience or actually "live through" a public health crisis as a family physician in Canada.9

To appropriately engage the community of family physicians in Canada within and throughout the research process, a "virtual" Family Physician Research Advisory Committee (FPRAC) was established specifically for this research project. This virtual committee comprised 7 family physicians, representing a diverse demographic group, including varied practice locations (Nova Scotia, Ontario, British Columbia) and types of practice (eg, part of a family health team, working as a hospitalist). Members of this committee were selected from among family physicians identified through previously established professional and personal relationships with the research team, and those who confirmed that they were willing and able to commit their time and resources to the committee.

Study participant selection was primarily done through purposive sampling. In this research, the word purposive is understood to mean that the participants

were selected in a deliberate manner—ie, that they are family physicians who have experienced a public health crisis. Recruitment began with members of FPRAC identifying colleagues or co-workers who were willing to participate in this research project. Additional recruitment was done through snowball sampling via the same colleagues and co-workers of members of FPRAC, and by drawing on personal and professional relationships of the research team. Potential participants were e-mailed a personalized, 1-page study recruitment letter with contact information for participation. If a potential participant expressed interest, they were sent a study background and information sheet and a consent form, which he or she signed and dated and e-mailed back to the research team before participating in the study. There were no incentives offered for participation and no identified risks to participants.

Inclusion criteria were that participants must (at the time of the interview) be either a currently practising family physician or a retired family physician and have experienced a public health crisis during their time as a family physician or family medicine resident that directly or indirectly affected their practice.

We conducted interviews of approximately 1 hour in duration from June 2014 to March 2015. Interviews were held face to face whenever possible or via Skype video conferencing, and were audiorecorded upon consent for transcription purposes. Interview questions explored the experiences that participants had had with a public health crisis or crises. Each participant was specifically asked what recommendations he or she would propose for the improvement of risk communication strategies from public health agencies and professional organizations in the event of a future similar public health crisis. The interview guide and all other related study materials were approved by the University of Alberta's Health Research Ethics Board 1.

Interviews were transcribed verbatim and transcripts were analyzed using a content analysis method,17 specifically an inductive qualitative content analysis method.18 Qualitative content analysis is one of numerous analytic research methods that can be used to describe and summarize textual data.19 Relative to other forms of qualitative inquiry, such as grounded theory, data are interpreted with a lower degree of inference focusing on the contextual meaning of the text.20,21 Qualitative content analysis involves examining data intensely to classify large amounts of text into a manageable number of categories or themes representing similar meanings.²² One member of the research team (N.A.K.) conducted the interviews and transcribed, coded, and analyzed all transcripts. A second member of the research team (C.G.J.), with extensive experience in qualitative research methods and analyses, confirmed the coding and emerging themes.

Several steps were taken to ensure the trustworthiness of this research pertaining to confirmability,

credibility, and transferability.23 Confirmability was ensured through regular meetings among the researchers to discuss the analytic process and emerging themes. To ensure credibility, a summary of advice made by participants was prepared and sent back to each participant to ensure that we correctly understood and interpreted the recommendations. After participant verification via this member checking, the results were synthesized into 7 unique themes. Transferability of the results was enhanced by the inclusion of family physicians with different practice locations, years in practice, and experiences with public health crises. Within the Findings section we have attempted to display the different experiences and their related recommendations in their heterogeneity.²⁴ Saturation of unique themes was achieved.

- Findings –

Sixteen individual semistructured interviews were conducted with family physicians from different practice locations across Canada to directly generate data for the study. Six physicians had practice locations in Ontario, 2 in Nova Scotia, 1 in Manitoba, 5 in Alberta, 1 in British Columbia, and 1 in the Northwest Territories. Ten of the 16 participants were women. One participant was retired from practising medicine and the remaining participants practised in various clinical settings: general family medicine, infectious disease, clinical academic, and hospital settings. Number of years in practice, although not formally collected, ranged from approximately 1 year to more than 40 years.

Participants were asked to define what a public health crisis was to them. Although answers to this question varied, participants' responses focused on a central theme: an event that had the potential to negatively affect the health of, or increase health risks to, many people at once, sometimes with devastating consequences. All participants had explicit recommendations regarding how to improve risk communication strategies in the event of a future public health crisis or emergency risk event, indicating that certainly there is room for improvement in this arena. Recommendations came from a variety of public health crisis experiences. Crises included environmental events such as forest fires, hurricanes, and flooding. Experiences of infectious disease crises such as the SARS epidemic, the H1N1 influenza epidemic, and the 2014 Ebola outbreak in West Africa were also discussed. Regardless of the type of crisis, participants had specific experiential recommendations for more effective communication in future public health crises.

Single trusted source of information

Participants identified that a single trustworthy source of information would improve risk communication in the event of a future public health crisis. Important information during such events as the H1N1 pandemic influenza

outbreak (2009-2010) was rapidly changing, and physicians noted frustration in the receipt of information from several different sources. Interviewees indicated that accurate, up-to-date information from a single trusted informant, organization, or spokesperson in the event of a crisis is required so that they might address and inform their patients appropriately.

The most frustrating part was that information was coming uncoordinated from numerous different agencies. It's important for these agencies to collaborate and work together so that there's 1 stream of information instead of 10 different streams that you have to sort through. I think that ... the chief public health officer in Canada and through the network of public health medical officers is probably, in Canada, the best way to do it.

In addition to having a single trusted source of information, it was suggested that the information coming to family physicians "on the ground" be sequenced and organized in a way that makes sense for practising physicians.

If possible, 1 single message should be communicated. Second, layer the information as it's coming so that there would be 1 page, in bullet form, the critical things for protecting your patients, your staff, and the general public.

Timely and succinct communication

Participants universally emphasized the importance of timely and succinct communication. E-mail was recommended as a quick and resource-friendly method of disseminating crisis information updates to many people in a short amount of time. Interviewees outlined that information from public health authorities should be synthesized, summarized, and sent to physicians in bullet-point form, with the main points or updates clearly highlighted. In a busy family practice, there is rarely time to review lengthy documents or research papers, and during a public health crisis this time is likely to be diminished even further. Participants hinted that although information might be widely available, it is preferable to have details and facts sent directly to physicians themselves.

I want short and sweet relevant e-mails sent in a timely fashion. So if you don't have e-mail communication with the physician, then send it by fax. But don't send a 15-page fax; don't send a 15-page e-mail. Send me a flow sheet; send me something that's straightforward. Send me some kind of chart; send me some sort of quick synopsis of what I need to do. I don't mind having a link to something longer and more detailed if I want to read it. Send me an e-mail directly; don't just assume I'm going to go look it up myself. And then keep it short and sweet.

Early communication with family physicians was emphasized as an important aspect of good risk communication. Considering that family physicians are both recipients of risk information and communicators of such information to their patients, it is imperative that as a group they are informed of the facts and given updates regarding the crisis as soon as possible, even if those updates are only to confirm what is still unknown about the risks. Participants would like to see public health agencies and professional organizations collaborating and engaging with mainstream media (eg, television news, radio, social media) to have factual and timely risk communication with both family physicians and the public.

Communicate with us as soon as possible and create those guidelines soon. We need to have guidelines to be able to help our patients and also to be informed about all the news and preventative measures available. Media is very important because many people only buy newspapers, or are informed by what they watch on TV. Early communication; being honest about statistics, about cases that are critical; what exactly we should look for; and how to triage the patients the best way possible.

Consider the learners

Several participants detailed their experiences as residents or medical students during a public health crisis. These experiences allowed participants to reflect on considerations pertaining specifically to learners. Other participants provided advice from the perspective of a teacher or preceptor to ensure that learners are included in appropriate risk communication strategies from public health agencies and professional organizations.

We responded in the education side from the learner's perspective about what a preceptor can do to help their learner at the time of a disaster, because everyone forgets about the learners. Even on a smaller level if you have a code where a child dies, in a car accident or something, everyone forgets about the students all the time.

Participants thought that it was imperative to consider medical students' and residents' perspectives during a public health crisis, and to bear in mind that this group might have different communication considerations. For example, learners might depend more heavily on social media than on information from traditional media outlets, and students and trainees might have less access to or control over information and appropriate actions to take during a crisis.

I was a resident when SARS was around ... but during SARS it was more like, you're in "resident mode"; you just do what you're told. At that point I wasn't gathering the information myself; I was just doing whatever they told me to do.

Ensure access to information for physicians

Although participants overwhelmingly referenced e-mail as being the best method with which to communicate during a crisis, some participants detailed other methods, ranging from more traditionally employed vehicles for transmitting information (eg, fax machines) to social media information outlets (eg, Twitter, Facebook, YouTube).

E-mails are the best way to communicate. It comes and within minutes I'll know what I need to know, and if I need more information, I'll know where to look for it ... that's really helpful. Government agencies should also be more active in Twitter for communicating urgent information because there's a whole generation of health professionals who ... rely on social media. Public health needs to keep up with this. You can't transmit a lot of information on Twitter, but at least you can say "We posted guidelines; you can check them out here." And then have their website where it's accessible. The key is communicating the information.

Different methods of accessing information seemed to be related to the participant's years of practice; for example, more recent graduates tended to prefer social media or text messaging as a method for information access, compared with physicians in practice for many years, who preferred the more conventional or established methods like faxes

I never check my work e-mail from home, but social media on the other hand, it's so ubiquitous now. I find out from Facebook faster than anything else! I'm a member of a Facebook group, the "First Five Years of Practice," and they're really quick with things. Newer grads, it's more the way we're communicating now. Apps would also be good. I would much rather have a person come and talk to me, but I know that's not feasible in a lot of these situations. If there's a meeting and somebody was talking, at least you know you had the opportunity to ask questions that would be helpful. Same idea with social media: if there was a group where you could kind of respond and clarify that would be good, so it's not one-sided and didactic.

Improve public health and family medicine collaboration

Participants would like to see increased collaboration between public health agencies and organizations and family physicians who are working as part of the first line of defence in a crisis. It is important for good public health crisis risk communication that the people transmitting the information acknowledge their consideration

and concern for knowledge users. A sense that public health personnel were creating communication documents in isolation of those who actually use those documents was detailed

It lends credibility if you have a practising physician to be one of the information givers, because public health, right or wrong, has this reputation of people that pop out of the box whenever these crises occur and then they disappear again and we don't know anything about them. And a lot of them quite frankly are not great communicators. They pop out when there's a crisis and then they go back and we don't know who they are as individuals.

Some physicians also mentioned the public health responsibilities that are inherent to family medicine, and that an effort should be made by all players within the health care system to coordinate information sharing and responsibility with public health agencies during such events.

My biggest wish is for every family physician to actually understand their public health obligations. If we are truly family and community, it's not this dyad between the patient and the doctor. This idea of getting family physicians to look one level up, public health to look one level down, because now the locus of where care ought to be delivered in the 21st century is in that intersection.

Professional responsibilities such as ensuring that physicians are on appropriate e-mail lists, or that public health agencies have physicians' accurate and updated contact information, were referenced.

They [public health agencies] could be more aggressive about getting e-mails out to people. I went for so long without knowing that I could sign up for certain e-mail lists to be kept up to date with the best information. It would be nice if they had a list, like "These are the essential things that you should subscribe to, to be on top of things. Every doctor in Canada should probably be getting these e-mails." There's so much stuff out there, you don't want to get a million e-mails every day and you're not going to read them all.

Information for patients

Many participants mentioned that having information to give to patients would be helpful. That term specifically, helpful, was used almost universally to reference information for patients (eg, pamphlets, handouts). During a crisis family physicians have even less time than they regularly do to spend with patients, so having up-todate and accurate information to direct patients toward was emphasized as an important aspect of good risk

communication. Practical information was desired relating to disease processes or where to get more information as a patient.

For some physicians hard copies are still helpful. It is helpful to have information that you can implement in your clinic or handouts and pamphlets to give patients. It's also exceptionally helpful if there's a public health advertising campaign in the local media. If organizations like the Public Health Agency of Canada put an ad on TV saying "If you have these symptoms it's probably influenza; stay home!" it would be helpful.

Infrastructure and simulations in place before a crisis occurs

An overarching theme was that appropriate information dissemination infrastructure be in place before a crisis, and that such infrastructure be tested on a regular basis. Drawing parallels to the financial crisis of 2008,25 one participant recommended that agencies and organizations should run simulations or "stress tests" to improve communication and population health outcomes during future public health crises.

We should actually go through all of the recommendations from the SARS reports, and rather than just doing a tick-box exercise, "We've done that," do something like they've done with the banks in the aftermath of the financial crisis: run simulations and stress tests. It's one thing to say "We fixed it," but then you wait until the actual event occurs and you're going to be debugging systems, whereas if we did more simulations we would know whether things work or not.

Similarly, other physicians detailed various ways in which communication infrastructure could be improved between public health and primary care in advance of a public health crisis.

The key is to not wait until these events happen, but to have the infrastructure in place ahead of time; set up these communication mechanisms beforehand. They [public health agencies] should consider, every few months, sending a test e-mail out just to see which e-mail addresses become non-active over a 6or 12-month period.

Discussion -

These results suggest that Canadian family physicians have a variety of practical suggestions and considerations on how to improve risk communication in the event of a public health crisis. Family doctors have incredibly varied practices across the country and consequently

have varied experiences and proposals relating to public health crises and related risk communication processes. Suggestions on how to improve such processes to family physicians in Canada were detailed by participants based on their experiences and needs.

Previous research¹⁰⁻¹⁵ pertaining specifically to crisis and emergency risk communication to family physicians in Canada focuses only on infectious disease crises (eg, SARS, H1N1). Our work extends beyond the idea of a public health crisis as solely a communicable disease outbreak to include environmental or climaterelated crises. Study participants also confirmed previous investigations' results¹⁰⁻¹⁵ pertaining to how doctors in Canada tend to receive communications during and regarding public health crises—ie, via multiple sources, including postal mail, faxes, various media outlets (both traditional and newer social media outlets), and e-mail.

Participants recommended having a single source of trustworthy information. Information should be timely, succinct, and feasible for family physicians working "on the ground" during a public health crisis to integrate into their daily practice (eg, a bullet-point update sent to them via e-mail). Social media outlets can be used as an additional method of communicating risk information to family physicians and especially to new practitioners and recent graduates during an emergency risk event. Helpful information to give to patients (eg, in the form of handouts, pamphlets, or electronic resources) was consistently desired.

It is essential to set up effective partnerships between primary care and public health services to support physicians' capacity to respond to emergencies. 10 All sectors of the health care system must be included in pandemic planning and communications at the outset, and mechanisms must be established for information exchange among practitioners, committees, working groups, and government.12 Our study participants recommended increasing public health and family medicine collaboration to acknowledge a consideration and respect for practitioners working on the front lines during such events. Similarly, participants noted that appropriate information dissemination infrastructure should be in place before a crisis occurs, and that such infrastructure requires regular testing. Professional organizations, such as provincial medical regulatory authorities (eg, the College of Physicians and Surgeons of Alberta), are in a position to capitalize on existing infrastructure with access to physician members' active e-mail addresses, typically required to be updated on an annual basis as a component of maintenance of registration. With such existing infrastructure, professional organizations might consider coordinating with regional and perhaps even national public health agencies to compile a "master list" of annually updated contact information in the event of a future public health crisis necessitating widespread and immediate risk communication to physicians.

Participants recommended that risk communicators should consider the information needs of learners

(eg, residents, medical students), as this is a unique group with distinct information requirements. Our results suggest that explicit consideration of the needs of this population subgroup in crisis communication planning is warranted.

Such recommendations from practitioners who have directly experienced and responded to a public health crisis are important for public health agencies and professional organizations to consider. If these insights are considered or indeed adopted by public health and government authorities, the risk communication of public health crisis information to family physicians might be greatly improved, resulting in a more informed and prepared population of primary care practitioners. Informed and prepared family physicians will help to mitigate the effects that future public health crises might have on patient and population health in Canada.

Limitations

This research is not without limitations. Our findings are based on a convenience sample of 16 family physicians in Canada; therefore, a question remains as to whether the results reflect a selection bias in participant characteristics and are fully transferable to all family physicians in Canada and internationally. However, from the outset of this research it was not our intent to provide sweeping recommendations but rather to provide detailed qualitative considerations from family physicians who have experienced a public health crisis while in practice on how to potentially improve risk communications to primary care practitioners during such an event.

Qualitative analysis such as this research is inherently subjective.26 However, we actively attempted to "bracket" our own experiences or views when conducting this work. We believe that sufficient credibility was achieved through ongoing discussions among researchers on emerging themes and through sending participants member checks of a summary of recommendations and considerations and having them confirm our understanding and interpretations.

Conclusion

We provide varied and implementable considerations of how to improve risk communication to family physicians in the event of a public health crisis. If stakeholders capitalize on an increasingly diverse array of information channels and foster improved communications between public health agencies, professional organizations, practitioners, and others, family physicians will be better informed and prepared to provide the best possible care to their patients during such events.

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Contributors

Both authors contributed to the concept and design of the study; data gathering, analysis, and interpretation; and preparing the manuscript for submission.

Competing interests

None declared

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This article has been peer reviewed. Cet article a fait l'objet d'une révision par des pairs. Can Fam Physician 2020;66:e99-106