Title:

Improving Conversations with COVID-19 Vaccine Hesitant Patients: Action research to support family physicians

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Abstract: (165/200)

Societal and operational challenges familiar to family medicine have been given new form and urgency by the COVID-19 pandemic. Vaccination delivery and efforts to counter vaccine hesitancy have become focal issues for family medicine teams. Conducting action research, our team developed an interactive web-based Guide to improve clinical conversations around a broad range of vaccine hesitancies as presented by patients. The Guide was co-designed with family physicians in a process that included validation interviews and role-play interviews. The validation interviews sought to understand the pragmatic realities of vaccine hesitancy in family medicine clinical practice relative to relevant psychological theories. The role-play interviews drew out conversational strategies and advice from family physicians. The principles of Motivational Interviewing – an evidence-based approach to vaccine hesitancy conversations that supplements information deficit approaches – were then used to co-design the content and presentation of the Guide. User counts, stakeholder engagement, and web-based analytics indicate the Guide is being used extensively by family physicians. Formal evaluation of the Guide is presently underway.

Keywords:

Vaccine Hesitancy; COVID-19; Primary Care; Motivational Interviewing; Action Research; Simulated Patients

Introduction

COVID-19 has brought new twists on familiar challenges in family medicine. At both societal and clinical levels, longstanding policy and operational issues have been given new and more urgent forms by the pandemic. At the societal level, politically and socially determined inequalities in COVID-19 outcomes have reminded us of abiding disparities in access to care [1-3] and the rise of COVID-19 vaccine hesitancy (VH) has brought into question the very way we conduct our political lives [4]. In primary care's operational context, family physicians have encountered the familiar policy challenges of: integrating community-based responses with those of public health and acute care [5-8] and ensuring broader systems recognize primary care's response potential [9,10].

Central among these new twists on familiar challenges for family medicine have been efforts to contain the pandemic through vaccination [11,12]. From delivering mass vaccinations [13,14] to countering VH [15-17], family physicians, with their trusting relationships with patients, are key to improving vaccine uptake. With the literature indicating that the decision to be vaccinated is a "trust sensitive" one,[18] our team of 'action researchers' [19] identified an urgent need to bolster family physicians' understandings of the varied and emerging factors that contribute to COVID-19 VH.

Our hypothesis as we began our action research in January 2021 was that family physicians could benefit from focused and dynamic advice as they became *de facto* COVID-19 vaccine counsellors. In this article we describe the research and co-designed knowledge mobilization that led to the launch of our team's web-based resource, www.vhguide.ca (the Guide). The Guide is a pragmatic support for clinical conversations in adult primary care about COVID-19 VH. It was co-designed with, and is tailored to the needs of, family physicians as they talk with patients who present a range of VH.

Background

The psychology literature indicates there are at least three types of VH [20]. Specifically, VH has been shown to originate in personally held: 1) political views [21], 2) basic fears [22], and 3) trauma [23]. Commitments to libertarian or 'anti-science' positions have been shown to be at the root of a generalized mistrust of the government and health institutions that promote and deliver vaccines [17,24]. Similarly, fears for personal safety, anxieties around short- and long-term consequences of being vaccinated[25], and previous traumas have been identified as key factors in individuals' VH[26]. Traumas negatively affecting vaccine confidence may not just have occurred during interactions with health systems, but with formal institutions more broadly[27]. Efforts to counter these political, fear, and trauma-based hesitancies have often focused on education efforts that follow an 'information deficit model'[28]. Under the deficit model, vaccine counsellors provide additional facts, scientific detail, or information to their patients[29]. Research, however, has shown that relying on facts in hesitancy conversations that are, from the patient's perspective, about anxieties and values rather than scientific information, often backfires[30].

Methods

In January 2021, our team reached out to family physicians to investigate if, and how, the types of VH identified in the literature were presenting in adult patients in the Canadian jurisdictions of Alberta, British Columbia, Ontario, Saskatchewan, and Yukon. This preliminary research leveraged our ongoing relationships with the family medicine community established over the course of the pandemic[31,32]. As action researchers[19], our focus was on shortening the cycle between investigation and pragmatic knowledge mobilization. A key element in achieving this was our 'alongsider' approach to co-designing the research and its knowledge mobilization products [33]. The specific questions we went into the field with were: What types of VH are family doctors encountering in their daily practice? How are these types linked to, or separate from,

the political narratives, fears, and traumas identified in the literature? How are family physicians responding to the different types of VH they encounter?

To validate and expand on the psychology literature's VH findings, we conducted our research in two phases. ***Phase 1 Validation Interviews*** (n=10) were conducted with family physicians serving the adult population. These interviews identified the types of VH these doctors were encountering in their daily practice. We focused on understanding if, and how, the origins of VH – the political views, fears, and traumas in the psychology literature – were manifesting in everyday clinical conversations about the vaccines. The *Validation Interviews* allowed us to: nuance the literature to reflect COVID-19 clinical realities; and begin developing the Guide's interface so that it made intuitive sense to family physicians as they differentiated the various hesitancies presented by their patients. That interface (see Figure 1) formed the basis of the second phase of research, and ultimately the presentation of information in the Guide.

INSERT FIGURE 1 HERE

In ***Phase 2 Role-Play Interviews*** (n=15) we recorded sessions that elicited particular strategies for moving hesitant patients towards contemplation of a vaccine. Our team role-played 'patient personas' based on the hesitancy types we had validated in our Phase 1 interviews. The physician participants responded as if they were in a clinical conversation with that 'type' of hesitant patient, similar to the use of simulated patients in medical education[34]. In this way, these interviews collected conversational strategies family physicians were using to counter a broad range of hesitancies. Our approach was to use role-playing to crowdsource 'how to' advice from subject matter experts. In this way, we diverged from the traditional use of simulated patients to evaluate or assess learners, and instead used role-play sessions to gather and document emerging best practices and clinical wisdom from clinicians.

Both the *Role Play Interviews*, and transcript analyses, were structured by the principles of Motivational Interviewing[35] (MI) to identify and extract highly effective conversational VH strategies. The MI approach, which is concordant with the principles of 'trauma informed care'[36] and specifically designed to overcome the limitations of the 'information deficit model,' seeks to work with patients' particular perspectives, values, and motivations. MI techniques have been effective at improving the uptake of vaccines amongst hesitant patients in acute care and community contexts[37,38]. During the *Role Play Interviews* each VH-countering strategy deployed by participants was discussed using MI as a rubric to break out the elements that were key to its success.

Results

As the transcripts of the interviews were analysed, MI principles were again applied to develop four touch points for engaging with patients in culturally safe, respectful ways. Those four touch points emphasize the physician's role as an ally on the patient's health journey rather than as an expert with evidence to present. They are also consistent with best practices in the vaccine space[39] and are described in the Guide as the "EAASE steps". That acronym stands for: **E**ngage, **A**ffirm, **A**sk permission then **S**hare information, and **E**voke. The Guide's content, then, provides users with practical examples of family doctors: *engaging* with their hesitant patients; *affirming* their patient's concerns; *asking* them for permission prior to *sharing* new information and perspectives on the concerns; and *evoking* future states that motivate patients to reconsider their hesitancy.

The Guide was launched on July 12, 2021 with a range of family medicine dissemination partners including: The Alberta College of Family Medicine[40], the primary care-focused Centre for Effective Practice in Ontario [41], the Innovation Support Unit at the University of British Columbia[42]; the Alberta[43] and Ontario Medical Associations[44], and the 19-to-Zero project[45]. Our partners are committed to supporting the long-term development and successful deployment of

the Guide. As of September 2021, the Guide has had over 12,000 users and 80,000 page views.

Content on the Guide continues to be updated to reflect emerging priorities and VH trends. For instance, it now includes conversational material on how to counsel patients who reference the CDC's Vaccine Adverse Event Reporting System (VAERS), Ivermectin, and breakthrough infections – all topics which were not initial concerns included in the original release. Although users have always been able to contact us with suggestions or questions, we are presently commencing a formal evaluation of the Guide that will deploy user surveys and leverage website usage analytics.

Discussion

We used a multi-phased participatory 'action research' approach to build a dynamic COVID-19 VH resource for primary care clinicians. This resource was built alongside family physicians, helping to validate theoretical VH literature in the clinical realities of the pandemic. Using an adapted version of 'simulated patients' in role-playing sessions, our team sourced vaccine counselling strategies and advice from a wide range of physicians. The end result is a web-based resource that has been used by thousands of primary care clinicians around the world. Further evaluation is needed to understand the Guide's impact on VH discussions in primary care, and patient vaccine confidence.

Conflict of Interest Statement The authors declare they have no conflicts of interest.

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Figure 1

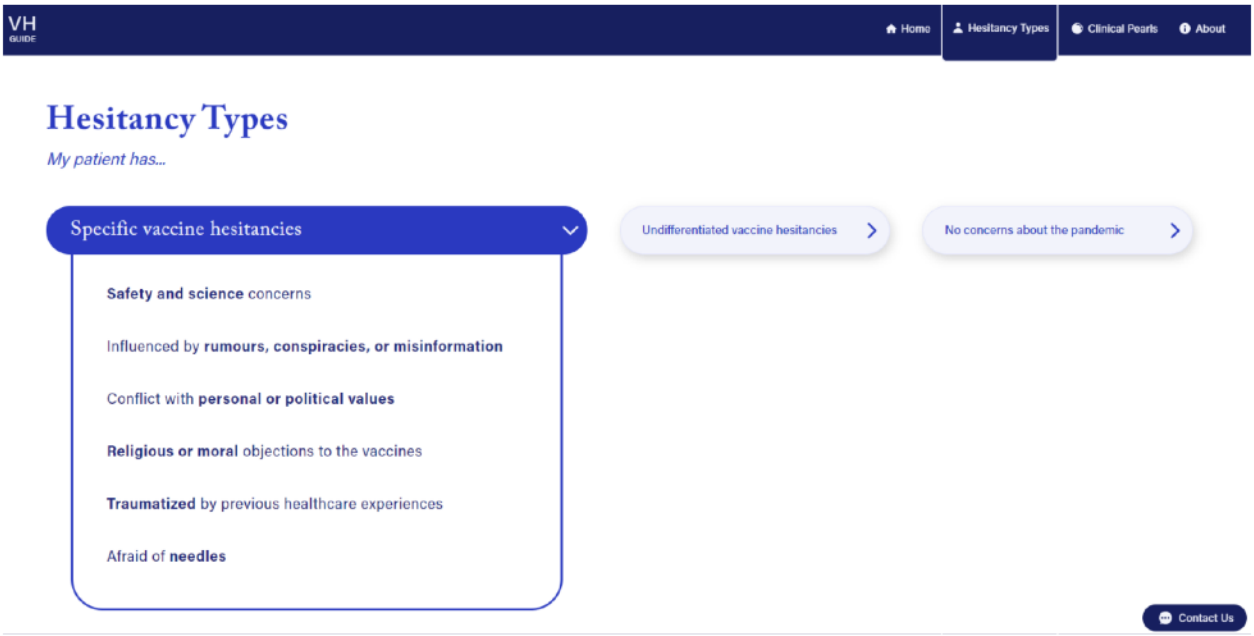

Figure 1: Example of the Guide's interface, with organized menus of COVID vaccine hesitancy 'types' that allow a user to locate targeted support for improving vaccine confidence.