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# Improving Psychological Health & Safety in Health Care Workers through Technology Based Support

## Final Evaluation Report

Prepared by the Department of Research and Innovation, User Testing  
and Evaluation Services Division, Eastern Health

This work was funded by a grant from  
NL Workforce Innovation Centre



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## ***Improving Psychological Health & Safety in Health Care Workers through Technology-Based Support***

is a research project led by Eastern Health and funded by the NL Workforce Innovation Centre (NLWIC).

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## Executive Summary

In 2019, Eastern Health received funding from NL Workforce Innovation Centre (NLWIC) to undertake a project with the goal of improving psychological health and safety in health care workers through technology based support. Collaborating with IBM, Eastern Health developed a novel chatbot that used artificial intelligence to provide relevant resources and supports to health care workers' text-based queries. Embedded in this application, which came to be known as the Employee Virtual Assistant (EVA), was a referral system for a simultaneously-developed peer support program called Peer-2-Peer (P2P). This service, facilitated by a cohort of Eastern Health staff who volunteered to receive peer support training and become peer supporters, gave Eastern Health employees access to support from fellow staff with similar experiences, a new service offering for the organization.

As a condition of the funding received from NLWIC, development of the EVA and P2P services had to be accompanied by an applied research project to inform the development of the application and to evaluate effectiveness. This consisted of four components, including a literature review, environmental scan, interjurisdictional scan, and an evaluation study. All are included in this report, but the most robust and extensively detailed was the evaluation study. Utilizing a mixed methods approach, various evaluation components were incorporated to formatively and summatively evaluate the EVA and P2P services. These methods included EVA usage data review, pre-post organizational psychological health and safety surveys, an EVA user survey, organizational Employee and Family Assistance Program (EFAP) utilization data review, a P2P peer supporter tracking form, a P2P user survey, and P2P peer supporter interviews.

EVA usage was consistent through the first year after the application launched in April 2020. In total, 3,509 meaningful interactions with the application occurred and about 70% of these represented first-time interactions by unique users. Feedback on the EVA application was generally positive, with many finding it helpful, and many reporting that they would use it again and that they would recommend it to others. The P2P component of the project received relatively low uptake, but those who did avail of the service provided positive feedback. There did not appear to be a substantial impact on EFAP uptake and in the midst of the COVID-19 pandemic, it would be difficult to solely attribute any change in demand to EVA alone. On a pre-post organization-wide survey assessing perceptions of psychological health and safety across Eastern Health, all average ratings were lower two years after EVA had been launched. However, many factors may contribute to these perceptions of the organizational climate and EVA use may have moderated negative perceptions of organizational support.

To conclude this report, interpretations of these findings and other factors such as the impact of COVID-19 on development, operations and evaluation of EVA and P2P are discussed. Finally, it is recommended that promotional efforts for these services are expanded and that similar and more expansive evaluation activities are thoroughly implemented if these service are to scale provincially or beyond.

## Literature Review and Background

The provision of healthcare to those in need is rewarding but also challenging, in part due to the excessive physical and psychological demands faced by those who provide these services. According to a survey of over 2,900 Canadian physicians, 34% screen positive for depression, 29% report a low level of social well-being, and 13% report low levels of psychological well-being.<sup>1</sup> Similarly, 30-40% of nurses are reported to experience symptoms of post-traumatic stress disorder.<sup>2</sup> As such, interventions to support employee mental health are essential to the preservation of professional quality of life.

According to Stamm,<sup>3</sup> compassion satisfaction and fatigue are the two concepts that make up professional quality of life. Compassion satisfaction encompasses all of the positive feelings associated with fulfilling a caregiving role and doing the job well. The pleasure derived from helping others leads to job satisfaction and feelings of accomplishment in the workplace, as well as pride in being able to contribute to the community.<sup>3</sup> Conversely, compassion fatigue refers to the negative feelings that can result from working in care-giving professions and is comprised of two separate sub-concepts: burnout and secondary traumatic stress.<sup>3</sup>

### Burnout and Secondary Traumatic Stress

Burnout is characterized by feelings of hopelessness and impressions that one's work is not making a difference.<sup>3</sup> It is typically defined as a combination of three main components: exhaustion, cynicism, and inefficacy.<sup>4</sup> Exhaustion reflects the fatigue and lethargy that can make the start of new shifts and the undertaking of new tasks seem intimidating and overwhelming. Cynicism constitutes a callous and indifferent view on the work being done, often stemming from the feeling that one's efforts will not result in meaningful change or contribution. This is similar to the third component of burnout, inefficacy, which encompasses the perception that one is incapable of performing their work to a reasonable standard, often as a result of the feelings of exhaustion or cynicism that go along with the condition. In this manner, the different elements of burnout interact and facilitate each other in a way that makes the condition very hard to resolve.<sup>4</sup>

According to a survey administered by the Canadian Medical Association, about 30% of Canadian physicians who responded reported high levels of burnout.<sup>1</sup> An even higher prevalence of the condition has been reported among physicians in the United States, with Medscape's most recent annual survey of over 12,000 physicians finding that 42% self-report they are experiencing burnout.<sup>5</sup>

In their systematic review of the causes and effects of burnout for physicians, Azam, Khan and Alam<sup>6</sup> found that the majority of studies reported workload as a key factor. Workload stressors include long and often unpredictable hours, a generally heavy workload from balancing many responsibilities that are frequently complex, and other factors such as patient overload and pervasive administrative

duties. Social aspects of the job were also found to have a strong influence on physician burnout. These included feelings of poor communication with and isolation from colleagues, a lack of a team culture, and feelings of resistance or uncooperativeness from patients. Other contributing factors to physician burnout were lack of incentive and professional development, lack of organizational support, job insecurity, and stressors from their personal lives.<sup>6</sup>

Other health care providers, like nurses, may face aggression and violence from patients that can, in turn, contribute to negative outcomes, including burnout.<sup>7,8</sup> In addition, according to NHS Health Education England,<sup>9</sup> the mental and physical conditions in which nurses work are often demanding and do not allow for teambuilding or socialization with coworkers. This fact, combined with the finding that a socially supportive workplace is crucial in helping nurses resist burnout,<sup>10</sup> means that the conditions in which nurses work facilitate burnout and prevent them from building a resilience to it.

The other form of compassion fatigue, secondary traumatic stress (STS) can occur when a healthcare worker is exposed to a patient's mental or physical trauma and is negatively affected by this exposure.<sup>3</sup> According to Callahan and colleagues,<sup>4</sup> the symptoms of this condition are similar to those of post-traumatic stress disorder, including avoidance of similar situations, recurring intrusion of memories of the trauma, and a lack of emotional affect. STS can also lead to feelings of a lack of safety in the workplace and can decrease the person's trust in others, including their coworkers. In comparing this condition to burnout, Callahan and colleagues recommend that STS is best conceptualized as a clinical syndrome that causes impairment, while burnout is subclinical and will typically only cause impairment if it is not treated.<sup>4</sup>

## Impact of Burnout and Secondary Traumatic Stress

The effects that burnout and STS can have on individuals can be described according to personal and organizational effects. In their review of physician burnout, Azam, Khan, and Alam<sup>6</sup> found that physician distress can impact performance in way of medical errors, risky prescribing and decreased empathy toward patients, all of which may impact patient safety and satisfaction; although, our ability to draw causal conclusions is limited by study design features.<sup>11</sup> In some cases, physician distress can lead to decreased productivity but also changes in professional career paths, sometimes resulting in physicians leaving the profession altogether. This can place strain on an organization's ability and capacity to deliver care.<sup>12</sup>

Like other organizations, compassion fatigue is a concern for Eastern Health (EH). To assess the psychological health and safety of the organization, a survey was administered by Vancouver Psych Health + Safety Inc.<sup>13</sup> Completed by 1,111 of the over 13,000 employees at EH, the tool measured fifteen psychosocial factors that affect employee health and wellbeing. Some examples of these factors are Civility and Respect, Psychological Job Fit, Clear Leadership and Expectations, and Protection from

Moral Distress. Two of the six lowest rated factors were Psychosocial Safety and Psychological Support. These psychosocial factors included items covering understanding of mental health by coworkers, level of support in the workplace when experiencing personal issues, the minimization of stressors in the workplace, and the effectiveness of the organization in dealing with threats to employee psychological safety.

Many psychological health and safety supports are currently available to EH employees. The most generalized and resource-intensive of these is EFAP. This program is meant to be a short-term and confidential service that offers assessment, referral, and follow-up to employees and their family members who are experiencing challenges regarding home and work life. Employees can either be self-referred or referred by their manager and all eligible individuals have a maximum of six one-hour sessions available to them. EFAP can assist with many types of personal issues, including addictions, anger management, grief, financial issues, mental health, family issues, workplace problems and others.

Other resources available to EH employees include a Critical Incident Stress Management program, conflict management training, an online course titled *The Working Mind* that is part of the organization's management training program, and online learning modules available to all employees. These include *Compassion Fatigue: The Cost of Caring*, *Conflict Management and Respectful Workplace*, *Managing Stress in the Workplace*, and *Mental Health for Employees*.

However, to complement existing resources, EH sought innovative solutions to provide employees with an autonomous, artificial intelligence driven platform for finding mental health resources and availing of peer support services. At time of inception, little was known about the effectiveness of peer support programs; however, since then, some research has emerged. Likewise, the advent of AI based mental health intervention has also increased in prevalence.

## Innovative Supports

### *Peer support*

The Mental Health Commission of Canada (MHCC) defines peer support as “support provided by peers, for peers; or any organized support provided by and for people with mental health problems and illnesses,” (p. 10).<sup>14</sup> As indicated by this definition, the crux of this type of intervention is the relatability of others who have been through similar experiences and the support that can result from this connection. This support can take the form of humanizing mental health challenges, promoting socialization, helping others learn coping skills and self-care techniques, imparting a feeling of control over one's mental health, and complementing other healthcare services by reinforcing changes recommended by professionals.<sup>15,16</sup>

Regarding the effectiveness of peer support, a seminal document by the Mental Health Commission of Canada acknowledges evidence that peer support is effective in reducing distress

symptoms and subsequent hospitalization, provides an avenue of social support, can result in cost savings for the health system, and provides an overall improvement in quality of life.<sup>14</sup> In the healthcare context, Paulson, Casile, and Jones<sup>17</sup> implemented an online peer consultation group with a sample of rural mental health professionals. They found that key benefits for mental health professionals included a reduction in feelings of isolation and the ability for all individuals to openly and safely share their experiences with their peers. Given the feelings of isolation and poor communication experienced by those with compassion fatigue,<sup>6</sup> the potential value of such an intervention is apparent.

According to a report by the Canadian Patient Safety Institute,<sup>18</sup> workplace peer support groups are on the rise in the healthcare system, but it is important to acknowledge some challenges that these programs can face. Firstly, the organizational climate must allow for the success of such a service.<sup>19</sup> This includes emphasizing the value and benefits of the program to employees and reducing strain on supporters by appointing a supervisor for them. Additionally, the program must be as anonymous and confidential as possible. Hu and colleagues found in their implementation of a physician peer support group that many avoided the sessions and others attended but did not actively participate.<sup>12</sup> Through interviews with these physicians and peer supporters, it became clear that the physicians felt they had to maintain their status as leader in their work environment and thus saw participation in peer support as an expression of weakness they felt they could not display. In this manner, an online psychological support model may be useful in offering typical peer support services with a layer of anonymity.

### ***Conversational agents***

Conversational agents, or chatbots, can be defined as any computer system that can engage in conversation with people through modalities like text, audio or imagery.<sup>20,21</sup> According to a review by Abd-Alrazaq and colleagues,<sup>22</sup> these systems can be categorized based on various factors including their platform (stand-alone software or web-based program), method of response generation (based on pre-coded rules and term recognition or artificial intelligence [AI] and machine learning), embodiment (whether they are depicted as a character/avatar or not), dialogue initiative (whether the chatbot or user leads discussion), and input/output modality (written, spoken, and/or visual). As such, there is a breadth of conversational agent formats as well as a multitude of needs they can fulfill.

Chatbots have been used for many purposes, including personal planning and customer service functions, but they have recently become prominent in various health contexts.<sup>20,22,23</sup> In their review of conversational agents created for the healthcare space, Montenegro and colleagues<sup>20</sup> analyzed 40 studies on healthcare chatbots and discussed various characteristics of these systems. They found that conversational agents in healthcare are developed for a myriad of purposes which they clustered into 6 categories: Assistance (help healthcare providers with daily tasks), Train (teach medical students through interaction with AI patients), Elderly (help older individuals learn and navigate health issues),

Diagnosis (take symptom reports and help provide diagnosis), Education (help patients and healthcare providers find and understand resources), and Prevention (provide preventive care for various health issues.)

Within these functions, chatbots will typically focus on a specific health domain, such as therapy, neurology, nutrition, mindfulness, or general practitioner-related health issues, among others.<sup>20</sup> Of note, Laranjo and colleagues<sup>23</sup> conducted a similar review of conversational agents in healthcare and found that the most common grouping of conditions addressed among the 17 studies they found was mental health issues. However, Montenegro and colleagues found that only six of the 40 articles they reviewed were based on physician-facing chatbots and none addressed other healthcare provider roles. Of these agents, none addressed the mental or physical health of the healthcare worker, instead focusing on educating, training or otherwise supporting physicians in diagnosis, decision-making or daily activities.<sup>20</sup> As such, a scarcity of chatbots intended to address the psychological health and safety of healthcare providers is evident.

Despite this dearth, the development of a conversational agent to support the mental health of healthcare workers has clear utility. As previously stated, Hu and colleagues provide evidence of stigma among healthcare providers who seek such support, and the anonymity and confidentiality of text-only communication with an online chatbot would alleviate this concern.<sup>12,24</sup> Such a service could offer healthcare providers an avenue to learn more about what they are going through and find resources to help them before seeking formal care.<sup>24</sup> As discussed by Mook, <sup>24</sup> conversational agents should be used to augment formal health services and not replace them, so they are well-suited to informal offerings like peer-to-peer support that can provide healthcare workers a safe platform to discuss their own health concerns without committing to treatment.

As this is a relatively nascent field of research, few studies have assessed the effectiveness of chatbots in providing mental health support. However, some evidence has been gathered to support the use of a particular chatbot named Tess to complement employee assistance programs. A randomized clinical trial found that among 75 students recruited from 15 US universities, those who were able to access Tess throughout the study period experienced significantly reduced symptoms of depression and anxiety by the end of the study. The control group, who were simply given access to an eBook on depression for the duration of the study, did not see any effect.<sup>25</sup> Rauws and colleagues,<sup>21</sup> the developers of the chatbot, discuss its utility as an affordable tool that can scale across organizations with many employees and augment the use of employee assistance programs, or be used instead of these programs in less severe cases. In this vein, a similar platform developed specifically for healthcare workers could have a positive effect in alleviating the aforementioned burden of compassion fatigue on the healthcare sector.

## The Current Project

To assist in the development and implementation of a psychological health and safety tool that incorporates chatbot and peer support features, EH staff sought funding through the Newfoundland & Labrador Workforce Innovation Centre (NLWIC). Upon obtaining a research grant, EH offered its Strategic Innovation Partners the chance to partner on the project. Of these partners, International Business Machines Corporation (IBM) was selected. IBM brought experience in chatbot development to the project with their Watson platform, a base AI application that could be adapted to fit the needs of the client.

The development of the chatbot platform began with an ideation and information gathering session facilitated by IBM staff wherein key stakeholders from EH collaborated on various aspects of the chatbot. Participants were grouped together and instructed to ideate on the terms, resources, psychological health issues that should be included in and covered by the application. Those involved were also asked to suggest potential names for the application. It was from this that the platform became known as the Employee Virtual Assistant (EVA).

Following the ideation session, IBM developed a working prototype of the EVA application with support from EH project leads. A pilot test of this initial build included 100 EH employees, of which 40 completed a subsequent feedback form. A summarization of this feedback can be viewed in Appendix A. Of note, 85% of respondents agreed or strongly agreed they liked the EVA application and 80% found it very or moderately helpful. Most expressed agreement that they found it easy to use (85%), they thought others would learn to use the application (87.5%), they felt confident using it (77.5%), they found the various functions of the platform were well integrated (72.5%) and they indicated they would use it frequently (62.5%). When asked which methods of communication would be most effective in introducing EVA to employees, 82.5% felt email would work, 70% felt notifications through the employee portal would spread the word, and others felt the intranet (57.2%) and posters (57.2%) would help too. Six of the 40 respondents (15%) suggested topics that should be added to or improved in the application, including more thorough information on matters such as gender equality, disability accommodations, and mental health conditions such as eating disorders.

From this feedback, EVA was updated to add more links to resources and supports and build a more comprehensive database of “intents,” the topics that the AI within the application uses as categories or themes with which to tag each user response. Examples include Feel\_Depressed and Symptom\_Eating\_Disorder. IBM and EH staff created a meticulous library of terms and expressions that would be commonly inputted by users when chatting with EVA. Each of these potential inputs was then categorized into an intent, so that when the EVA application received this term or phrase from the user, the AI would recognize it as belonging to a specific intent and respond with the appropriate information and/or resources related to that intent. For example, in keeping with one of the intents mentioned above, if a user typed “I am sad all of the time” as a message to EVA, the application would

recognize either the full phrase or parts of it as belonging to the Feel\_Depressed intent, and would then reply with information about depression and links to resources to help the user cope or seek help with what they are going through.

As the application was being populated and updated in preparation for launch, the EH project leads recruited 20 employees from across the organization to be trained as peer supporters. As outlined in the original proposal, a major outcome for the project was to implement a peer support service within EVA to allow anonymous access to care provided by others with similar experiences also working in EH. The Peer 2 Peer (P2P) program would be accessible only through the EVA platform, where the user could select an ideal peer based on their location, gender, whether they work in a clinical, non-clinical or management role and the experience they have with specific topics. The user could then contact the peer through email and coordinate a time to chat over the phone if email was insufficient. In this manner, EVA served as a gateway to the dedicated P2P peer support network for EH staff.

The 20 staff who volunteered to become P2P peer supporters all participated in peer support training created specifically for the program by Robyn Priest, Live Your Truth. Taking place over three days in February, 2020, all 20 volunteers participated in every session, which consisted of a mix of presentation material and applied, role-playing exercises. Seventeen peer supporters completed a subsequent evaluation form created by the company offering the training. The results of this evaluation were largely positive, with 94% of respondents reporting satisfaction with the training overall and 100% agreeing that the facilitators were knowledgeable, the training was well organized, the interactive activities were useful, and the printed materials were useful. Additionally, when retrospectively asked about their knowledge on relevant topics before and after the training, all average ratings were higher after the training with every respondent rating their knowledge of every topic as a three or higher out of five. Examples of these topics include peer support values, ethics/boundaries and self-care.

With the EVA application and P2P program both ready for rollout, a pilot launch with a small number of departments was initially planned for early April, 2020. However, with the emergence of the COVID-19 pandemic in NL in mid-March 2020, priorities shifted. The EVA app was not ready but the P2P program went live across EH on March 23, 2020 with referrals to the program being sent by division managers to the program coordinator. The full launch of EVA followed on April 20, 2020, with P2P referral then occurring exclusively through the virtual assistant, as originally intended. The application was made accessible to all EH staff by visiting [www.CheckwithEVA.ca](http://www.CheckwithEVA.ca).

In addition to the development of the EVA application and P2P program, the NLWIC research grant stipulated completion of an applied research project to inform the development of the application and to evaluate effectiveness. This consisted of four components, including a literature review, environmental scan, interjurisdictional scan, and an evaluation study. The literature review is summarized in the above section, as is the environmental scan of internal psychological health and

safety resources currently available to EH employees. The environmental scan of external resources that could supplement those offered internally was conducted by the project leads, the results of which were used to populate the EVA platform with the many links to local, national and global services available to our staff. Examples of these links are readily apparent when interacting with the EVA application at [www.CheckwithEVA.ca](http://www.CheckwithEVA.ca).

Through an jurisdictional scan, we were able to discover national and international organizations involved in the research and development of peer support programs and technology to support mental health through a variety of modalities. Our search focused on supports for public service personnel, specifically health care workers and first responders, peer support programs and the use of virtual agents or chat bots, similar to EVA. Three sources provided an understanding of approach and concepts to guide peer support development.

The Mental Health Commission of Canada (MHCC) has invested in the research and development of e-mental health and peer support programs for Canadians. [MHCC offers guides for both the practice of peer support and the training of peer supporters](#). The Canadian Patient Safety Institute (CPSI) developed *Creating a Safe Space: Strategies to Address the Psychological Safety of Healthcare Workers*. This manual provides an overview of what peer support is available in Canada and internationally. CPSI details best practice guidelines, tools and resources to create peer support programs. Australia's Ministry of Health developed Head to Health, a website that assists the user to find digital mental health services from across trusted mental health organizations. It includes a virtual assistant designed to help the user navigate Head to Health to find and access resources, based on the conversation flow.

The details of the evaluation study are outlined in the subsequent section. The main evaluation questions, developed by the by the EH project leads in consultation with the evaluation team include:

1. Will employees utilize this service, for what purpose, and how will users feel about it? Would they recommend it to another employee?
2. Will this new application and peer support program increase awareness of support services and programming among EH employees? To what degree will introduction of this new application and peer support program impact EFAP referrals?
3. Will employee engagement scores increase (in the area of mental health) after introduction of this application and peer support service?

## Method

### Participants

The evaluation focused on the impact of the new platform and peer support program when launched within Eastern Health. The Eastern Regional Health Authority (Eastern Health; EH) is Newfoundland and Labrador's (NL) largest regional integrated health authority, providing a full

continuum of health and community services, including public health, long-term care and acute (hospital) care. Of the 13,277 staff,<sup>27</sup> approximately 83% are female and 17% are male.<sup>28</sup> The majority of the staff complement is composed of nurses or hospital support staff, as well as physicians, management staff, allied health professionals, and laboratory and x-ray professionals.

## Procedure

### *EVA Utilization Data*

As part of their Watson platform, IBM logged all interactions with EVA since launch and included the date and time the interaction took place or the system was used, the number of messages inputted by the user, whether they were a first-time user, whether they received the EVA user survey prompt during their interaction, whether they requested peer support (along with the characteristics chosen for their peer if they did), and the various intents EVA registered from the user's messages. For the purpose of this evaluation, data collected between April 20, 2020 and April 20, 2021 were retrieved from IBM, representing the first year of EVA utilization following launch.

### *Organizational Surveys*

To assess organization-wide perceptions of psychological health and safety, an anonymous pre-post survey was sent through email to all EH staff (see Appendix B). The survey was first administered in March 2020, before the launch of EVA, and ran for 12 days. The second iteration occurred in February 2022, nearly two years after release of the application, and ran for nine days. The pre-survey, which was incentivized with a draw for a \$100 VISA gift card, included agreement scale items on perceived support, accessibility and availability of existing supports, organizational support for psychological self-care, and interest in an employee peer support program (to gauge the potential reception of the P2P service). Three of these closed-ended items were created by the evaluation team, while the remaining seven were adapted from previously administered organizational surveys. The source for two of these adapted items was an in-house employee engagement survey that was previously administered in 2015, and the other five came from the Guarding Minds at Work survey developed by Samra and colleagues.<sup>29</sup> An open-ended item also asked participants to indicate how EH could best support their psychological health and safety, particularly amidst the COVID-19 outbreak occurring simultaneous to this pre-survey.

The post-survey consisted of the same closed-ended agreement scale items, with the exception of the item that assessed interest in peer support. Additionally, respondents were asked whether they had heard of EVA, whether they had used it, how helpful they found it if they had used it, and whether they were aware of the P2P program. These items allowed segmentation of responses based on whether they were submitted by EVA users or those who had never used EVA.

To determine if organizational levels of perceived psychological health and safety changed in the time since EVA's launch, differences in responses between these two time points were compared.

## ***EVA User Survey***

A brief survey was embedded in the EVA application to gather user feedback on the application. The five-item survey assessed whether the respondent was a first-time user, impressions of the utility and usability of the application, knowledge of other EH psychological health and safety resources, and suggestions for how to improve EVA (see Appendix C). Hosted through the SurveyMonkey platform, a link to the online form was inserted into the dialogue stream of the EVA application and set to appear whenever EVA received a General\_Ending intent from the user, including messages like “thank you” and “goodbye.” The survey link was also accessible to anyone who started EVA and entered a message with a General\_Survey intent, like “I want to complete the survey” or “show me the survey link,” for example. In this case, EVA would prompt the user to verify they had actually used the application for its intended purpose before completing the survey. As such, the survey was to be completed only by those who had legitimately interacted with EVA to receive information on psychological health and safety issues and resources.

To promote use of the EVA platform and subsequent completion of the user survey, two incentive promotions were organized in the months following the launch of EVA. The first, in July 2020, was communicated via all-staff emails and an in-person booth with EVA branded merchandise. The promotion included a scavenger hunt where employees could use the EVA application to search for answers to specific questions. This helped promote the utility of the application to all staff, regardless of whether they felt they had a personal reason to use the platform. Additionally, staff were encouraged to fill out the survey and enter a contest to win an iPad, which was done by entering their name and EH email in a separate survey linked at the end of the original EVA survey. This ensured all personal information associated with contest entries was not linked to survey responses.

The second promotion occurred in October 2020 with emails sent to all staff promoting general use of the EVA application and mentioning the chance to win an iPhone by completing the EVA user survey. Once again, a separate contest survey link was attached to the end of the EVA survey so respondents could separately submit their name and email for the contest draw.

Responses to the EVA user survey were collected between April 2020 and April 2021, representing one full year of EVA availability to EH staff.

## ***EFAP Referral Data***

As mentioned above, the EFAP program provides psychological health and safety support to all EH employees who wish to avail of the service. Utilization data logged between April 2020 and March 2021 were collected from the program coordinators, as were overall EFAP referral numbers for three years prior to the launch of EVA. After EVA went live, the coordinators began asking every staff person who availed of EFAP whether they were referred to the service through EVA. As such, monthly frequency data and corresponding percentages among EH employees were collected.

### ***Peer Supporter Form***

To track uptake of the P2P service, facilitators were required to complete the Peer Tracker form after every peer support interaction they engaged in (see Appendix D). Hosted on Microsoft Forms, the form required facilitators to input information such as date, length and purpose of the peer support interaction, the participant's previous experience with psychological health and safety supports, the peer support techniques utilized by the facilitator during the session, and details of plans for future sessions if any were made. The facilitator was required to input their initials, the initials of the participant, and the date of their first interaction with that participant to form a participant code, allowing multiple sessions with the same participant to be tracked while preserving anonymity of the participant.

Facilitators were instructed to complete the form within 24 hours of their session, if possible, to ensure accurate completion. A session was operationally defined as any interaction with the participant wherein the facilitator provided words of support in line with their peer supporter training, whether through email chain, phone call or in person. This left some subjectivity to the facilitator as to whether short initial emails contained instances of peer support, so facilitators were instructed to submit a form when they were unsure to prevent loss of any seemingly inconsequential but potentially important information.

To ensure a large enough sample size to render summary statistics valuable, the data collection period for the peer supporter forms (as well as other P2P data sources detailed below) was expanded to the time of report writing, resulting in data gathered between March 2020 and February 2022 being included in the descriptive analysis.

### ***Peer Support User Survey***

Participants who engaged in a peer support session were sent a short, anonymous survey to gather feedback on their experience (see Appendix E). Consisting of 13 agreement scale items and one open-ended item, participants were asked whether the session was helpful, whether the facilitator practiced specific elements of peer support they learned in their training, whether they would avail of the service again, if they would recommend it, and whether they had any suggestions to improve the program. Facilitators were instructed to send the survey link to the participant after every peer support session. While this may have been repetitious for participants who engaged in more than one session, it was necessary to send the survey as quickly as possible after each session to gather accurate feedback. It was also unfeasible to only send the link after the participant had completed their last session as facilitators could not be sure whether the participant would avail of the service again in the future.

### ***Peer Supporter Interviews***

After the P2P service had been running for a full year, facilitators who had offered peer support at least once were interviewed to assess their perceptions of the program. These short interviews

included several questions about the facilitator’s experience with EH and reasons for becoming a peer supporter, their experiences thus far as a peer supporter, their impressions of the strengths and weaknesses of the program, suggestions for improving the program, and their intentions going forward with the program (see Appendix F). Interviews were anticipated to take 20-45 minutes and were all organized over Microsoft Teams, with one member of the evaluation team facilitating the interview and the other taking notes. The sessions were all recorded through the Teams platform, with verbal consent being obtained from the interviewees prior to starting each recording. To avoid quantification of these qualitative data, the extrapolated themes are descriptively summarized without percentages in the Results section below.

## Analysis

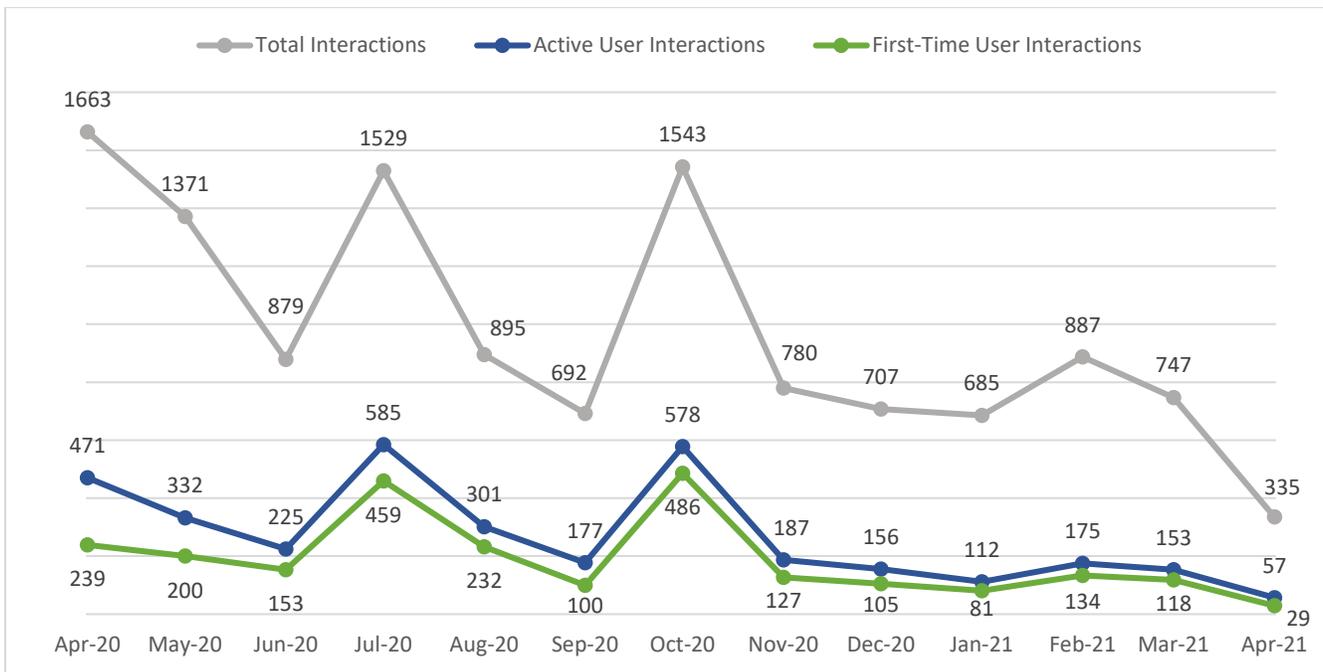
A mixed methods approach was used to gather data from various sources and assess the effectiveness of the EVA application and included P2P program. All descriptive and inferential analyses, including tests of difference, were conducted in SPSS Statistics (version 21)<sup>26</sup> and/or Microsoft Excel. All qualitative analysis was performed in Microsoft Excel using content analysis, the method of extracting dominant themes prevalent across the varied responses to each survey/interview item.

## Results

### EVA Utilization Data

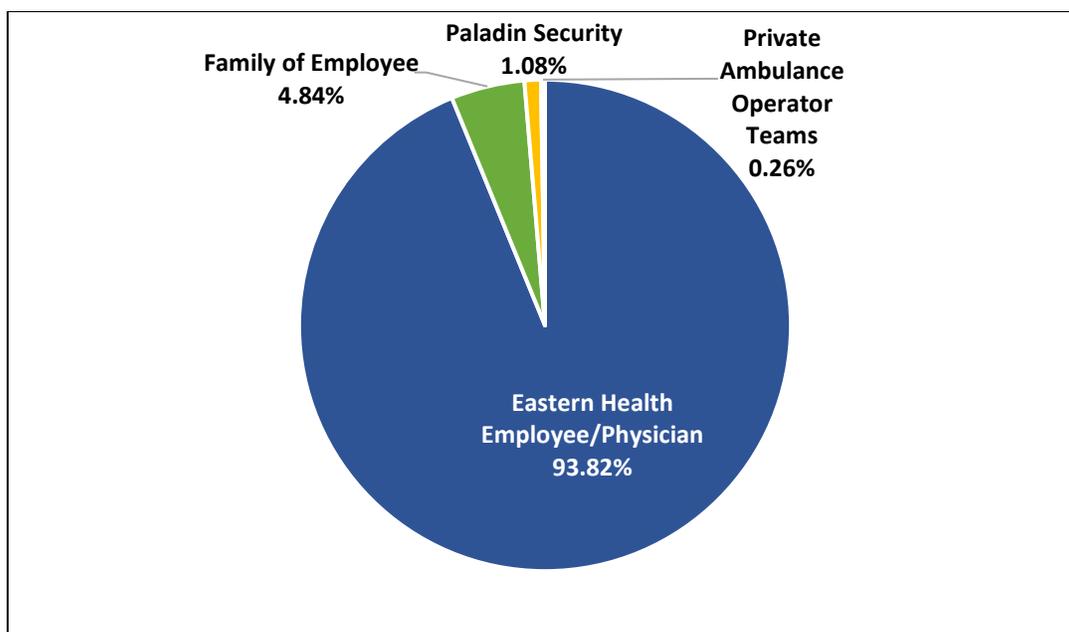
During the first year after the launch of EVA, there were 12,713 interactions with the application. Of these, 3,509 (27.60%) were interactions by active users, defined as any interaction where the user answers all upfront messages and questions (including an initial description of EVA, a question asking whether the participant is an EH employee, and a question asking if this is the first time the participant has interacted with EVA) and proceeds to enter a message and/or question for EVA. As such, active user interactions represent the subset of meaningful conversations with EVA, excluding any that simply opened the application and did not continue. Of these active user interactions, 2,463 (70.19%) were first-time users of the chatbot. As shown in Figure 1, all three of these metrics of usage (total interactions, active user interactions, and first-time user interactions) remained consistent throughout the year except for three notable spikes. The first occurred in April and May 2020 during initial launch. The second and third usage spikes, occurring in July 2020 and October 2020 respectively, coincided with promotional efforts to increase awareness of and interaction with the EVA app, as described above.

*Figure 1. Total, active user, and first-time user EVA interactions through first year after launch*



As depicted in Figure 2, a large majority of active EVA users were EH employees or physicians. The average length of these interactions with EVA was 549.90 seconds (nine minutes and 9.90 seconds). However, this was artificially inflated by some lengthy interactions with relatively few total messages, likely the result of the user leaving the EVA window open without triggering the General\_Ending intent to conclude the interaction. In actuality, 94.38% of conversations were less than 20 minutes long and the median conversation length was 177 seconds (two minutes and 57 seconds). The average number of messages entered by the participant during active user interactions was 10.41, meaning around seven messages were submitted after getting past the three typical upfront messages and questions.

Figure 2. Participant employment status among active user interactions (n=3,509)



The ten most common intents triggered by participants' messages are listed and described in Table 1. To reiterate, intents are the categories that the EVA artificial intelligence ascribes to the messages submitted by users. As such, intents can be conceptualized as the crux of meaning within the user's message, and are thus useful in determining the most common reasons why users seek support from EVA. In this respect, a majority of active user interactions included some request for descriptions and/or definitions of services included in EVA's backend knowledge base (57.31%). Many also used EVA as a source of recommendations for someone to talk to, whether in a one-on-one (45.11%) or group context (12.20%). Regarding the types of personal and/or health issues that active users turned to EVA with, stress (19.75%), general health (17.30%), and parenting (9.72%) were the most commonly cited.

Table 1. Ten most common intents in active users' EVA interactions (n=3,509)

Ranking	Intent	Description	Examples	# of Users	% of Active Users
1	Definitions	Requests for descriptions/ definitions of services	"Doorways program?" "explain to me what a Bystander Complaint is" "I need information about Conflict Management Services"	2011	57.31%

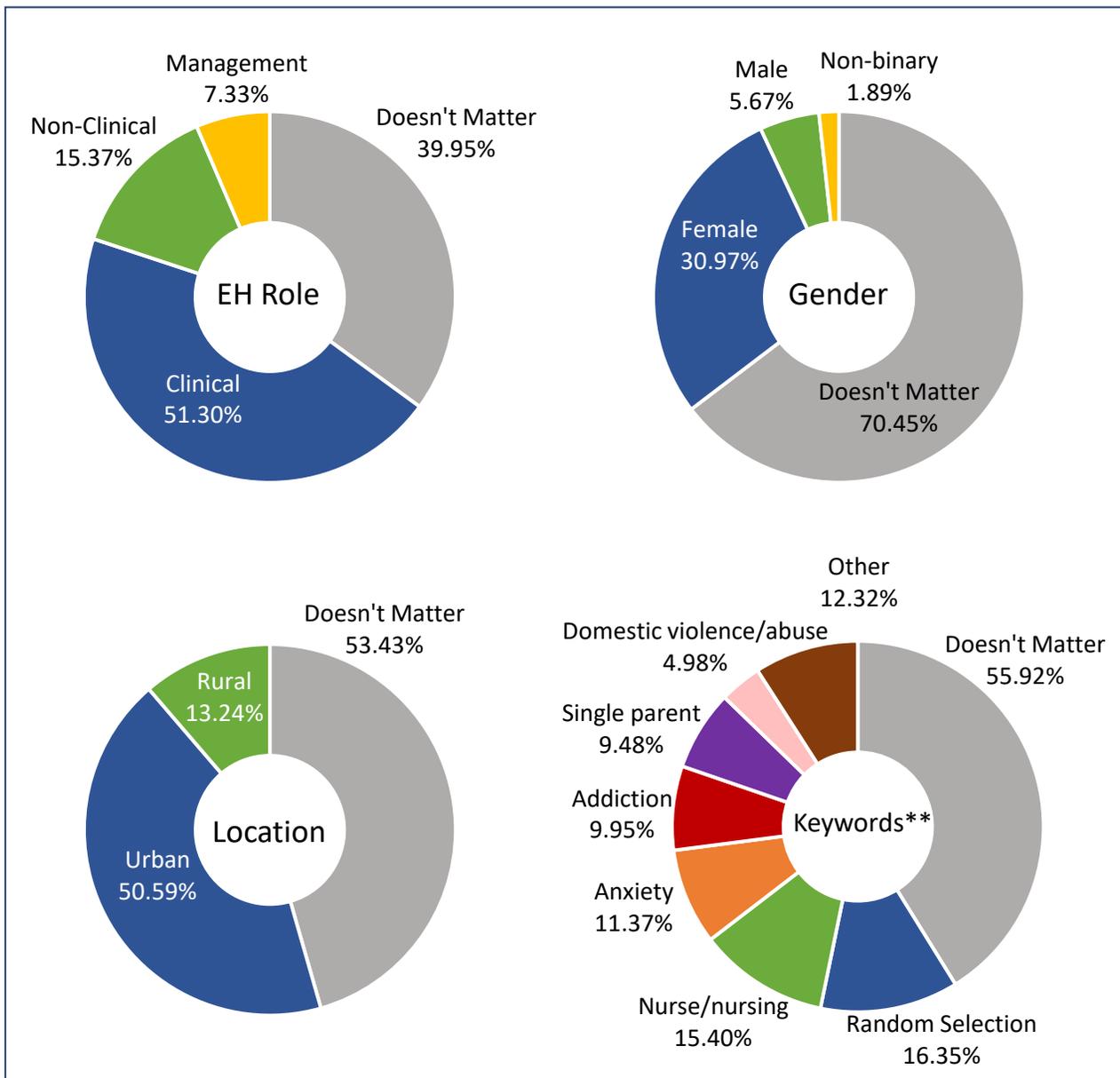
2	Recommend_Talking	Requests for someone to talk to	<p>“how can I access a Psychologist?”</p> <p>“I am looking for a family counsellor”</p> <p>“I need to see or talk to someone”</p>	1583	45.11%
3	Feel_Stressed	Reports of feeling stressed/ requests for support in alleviating stress	<p>“every little thing is stressful”</p> <p>“Help with stress in the workplace”</p> <p>“I am dealing with burnout and I need help”</p>	693	19.75%
4	General_Health	Questions about general health concerns/ requests for help dealing with general health concerns	<p>“I am not feeling well”</p> <p>“Information on disorders”</p> <p>“my family member is sick”</p>	607	17.30%
5	Recommend_Support_Program	Requests for a support group/ program to reach out to	<p>“I would like a support group”</p> <p>“I would like to connect to a peer supporter”</p> <p>“Is there online group support”</p>	428	12.20%
6	General_Parenting	Reports of issues as a parent/ requests for parenting support resources	<p>“I am looking for parenting supports”</p> <p>“I can’t control my child”</p> <p>“I’m worried about my teen and substance use”</p>	341	9.72%
7	Self_Diagnosis	Reports of uncertainty about symptoms/ requests for resources to get a diagnosis	<p>“i am struggling with emotional dysregulation”</p> <p>“I think i have bipolar”</p> <p>“google tells me I have ADHD”</p>	333	9.49%

8	General_Family	Reports of family issues/ requests for family support resources	“Feeling overwhelmed with family issues” “i dont know how to help my wife” “support for family issues”	305	8.69%
9	General_Workplace	Reports of issues in the workplace and work-life balance	“feeling unappreciated at work” “I can't focus on my job” “I dread going to work”	261	7.44%
10	Symptom_Conflict	Reports of conflict in professional and/or personal contexts	“having trouble with my coworker” “I am having a problem with bullying” “conflict with family”	258	7.35%

Of those who initially clicked on the P2P support option, 107 (21.62%) requested more information and then said “No” when asked if they would like to find a peer supporter. When prompted to indicate why they did not want to go through the intake process, many reported that they had some reason other than those listed (48.60%). The listed responses were that they were not ready (28.04%), they did not know enough about the program (14.95%), and they felt concerns about the confidentiality of the service (6.54%).

As evident in Figure 3, many users did not indicate a preference for specific peer supporter attributes. For those who did, many requested someone in a clinical role (51.30%) and someone located in the urban areas of the EH jurisdiction (50.95%), where most EH employees work. A substantial percentage also preferred a female supporter (30.97%). Many selected closed-ended options that were offered such as, “Random selection” (16.35%; this option was later removed as it did not sufficiently differ from “Doesn’t matter”).

Figure 3. Distributions of preferred peer supporter attributes selected by those requesting P2P support through EVA (n=423)



\* Users could select more than one option for each attribute throughout their EVA interactions so percentages do not add to 100%.

\*\* Only keywords with frequency percentages above 4% are included in this chart, the rest are combined in the "Other" category.

## Organizational Surveys

In total, 1,019 surveys were completed in full or in part in March 2020. Respondents were given the option to select “prefer not to answer” for the agreement scale items and any who did were excluding from the analyses presented below, resulting in different sample sizes for each item.

At follow-up nearly two years later in February 2022, a total of 931 surveys were completed. A total of 192 (23.94%) respondents reported they had used EVA before and 610 (76.06%) replied that they had not. However, 427 (70.00%) of those who had not used the application before reported that they had heard of it. Additionally, 436 (54.36%) of all survey respondents noted they had heard of the P2P program component.

Of those who had used EVA (n=192), 138 (71.88%) reported using it just once and 54 (28.13%) reported using it multiple times. EVA users were mixed on how helpful they found the application, with 39 (20.31%) reporting it was very helpful, 58 (30.21%) reporting it was moderately helpful, 52 (27.08%) reporting it was a little helpful, and 43 (22.40%) reporting it was not at all helpful.

As noted in Table 2, when considering all respondents, average agreement ratings decreased between the pre and post EVA implementation for EVA users and Non-EVA users. However, when post-survey respondents were limited to just EVA users, no significant decreases were noted for multiple items (items 5, 6, 7, and 9 in Table 2). In fact, all items except two (items 4 and 8), post-survey EVA users had a higher average agreement score than post-survey non-EVA users, and these differences were statistically significant for three items (items 2, 7, and 9, all  $p < 0.05$ ). To be further expounded in the Discussion section, this suggests that EVA use may have moderated some declines noted in survey responses.

Table 2. Pre-post comparisons of mean agreement values on organizational survey items, with statistically significant differences noted by " $p < 0.05$ " symbols

Item (p)	Pre	Post	
	Mean (All Respondents)*	Mean (EVA Users)	Mean (Non-EVA Users)
1. Employee health and well-being is strongly supported in this organization.	3.34 (n=1,012)	$p < 0.05$ 3.07 (n=192)	2.99 (n=610)
2. If I am experiencing a mental health problem, I know how to find the support I need.	4.00 (n=1,015)	$p < 0.05$ 3.83 (n=192)	$p < 0.05$ 3.45 (n=610)
3. My employer offers services and benefits that adequately address my psychological and mental health.	3.48 (n=1,012)	$p < 0.05$ 3.22 (n=192)	3.14 (n=610)

4. People in my workplace have a good understanding of the importance of employee mental health.	3.59 (n=1,012)	$p < 0.05$	3.32 (n=192)	3.33 (n=610)	
5. I feel supported in my workplace when I am dealing with personal or family issues.	3.57 (n=1,006)		3.39 (n=192)	3.31 (n=610)	
6. My organization provides support to staff when critical patient care incidents occur.	3.30 (n=972)		3.17 (n=192)	3.12 (n=610)	
7. My organization provides self-care tools to help me look after my own psychological well-being.	3.32 (n=1,013)		3.33 (n=192)	$p < 0.05$	3.09 (n=610)
8. Leaders in my organization support psychological self-care.	3.34 (n=1,008)	$p < 0.05$	2.98 (n=192)	3.06 (n=610)	
9. I know how to access mental health supports available through my employer.	3.93 (n=1,009)		3.93 (n=192)	$p < 0.05$	3.44 (n=610)

\* Sample sizes differ among pre-survey item means due to the exclusion of those who selected “prefer not to answer” for each particular item.

## EVA User Survey

In total, 724 users responded to the EVA user survey between April 20, 2020 and April 20, 2021. Of these, 650 respondents provided complete responses. Figure 4 depicts the monthly variation in responses during the first year after the launch of EVA. As discussed previous, promotional efforts in July and October corresponded to substantial spikes in survey completion. It must be mentioned that most responses to the survey did not actually go through the EVA application and were instead accessed through direct links sent in all-staff emails related to these promotions. Specifically, the survey prompt was accessed through the chatbot in 147 EVA interactions, meaning at least 577 (79.70%) survey responses resulted from the direct email link (the actual number is likely higher than 577 as we cannot tell how many of these 147 EVA users actually clicked the survey link after receiving the prompt).

Among all survey responses, most (84.12%) reported that it was their first time using the application, with the remaining 15.88% of responses coming from those who had used EVA before. Of this 15.88%, over half (53.57%) had used the tool once or twice before and a further 29.46% had used it three or four times, as depicted in Figure 5. Some respondents were consistent users of the application, with 5.36% reporting they had used it more than ten times in the past.\*

\* Some responses from frequent users may have been from testing staff or those actively working on the application whose repeated use may have been for development purposes.

Figure 4. EVA user survey responses through first year after launch (n=724)

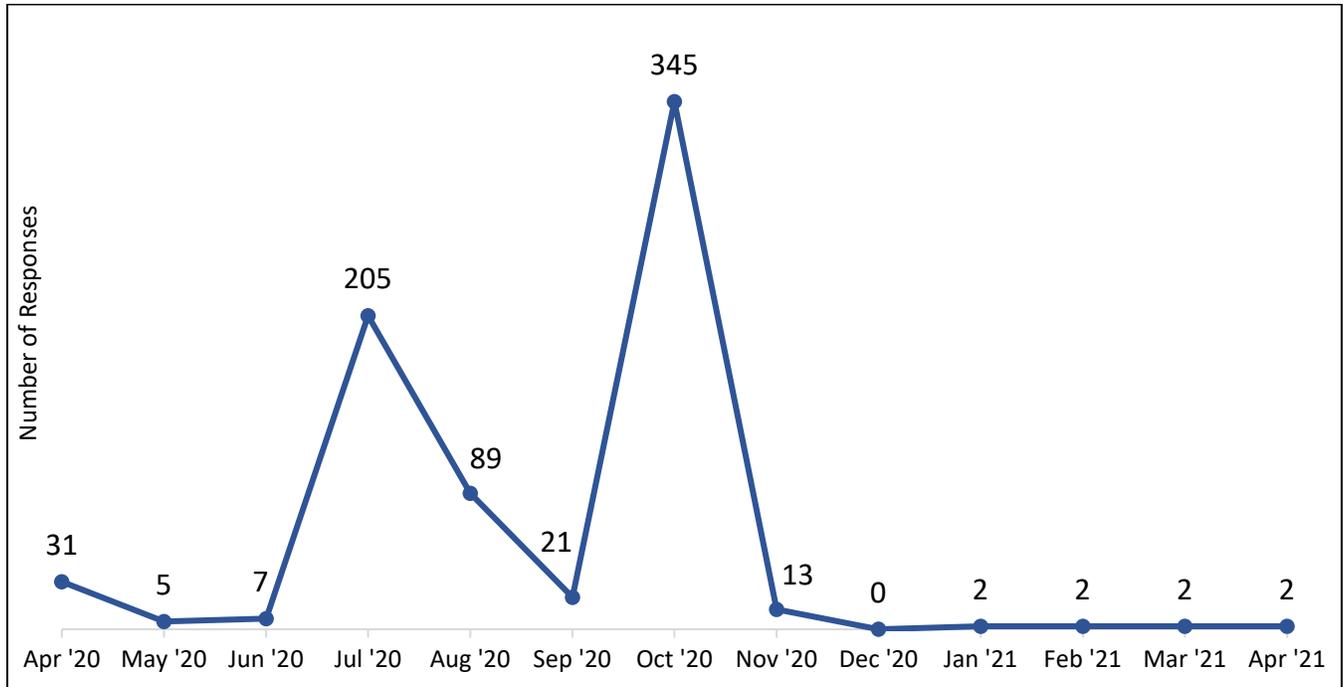
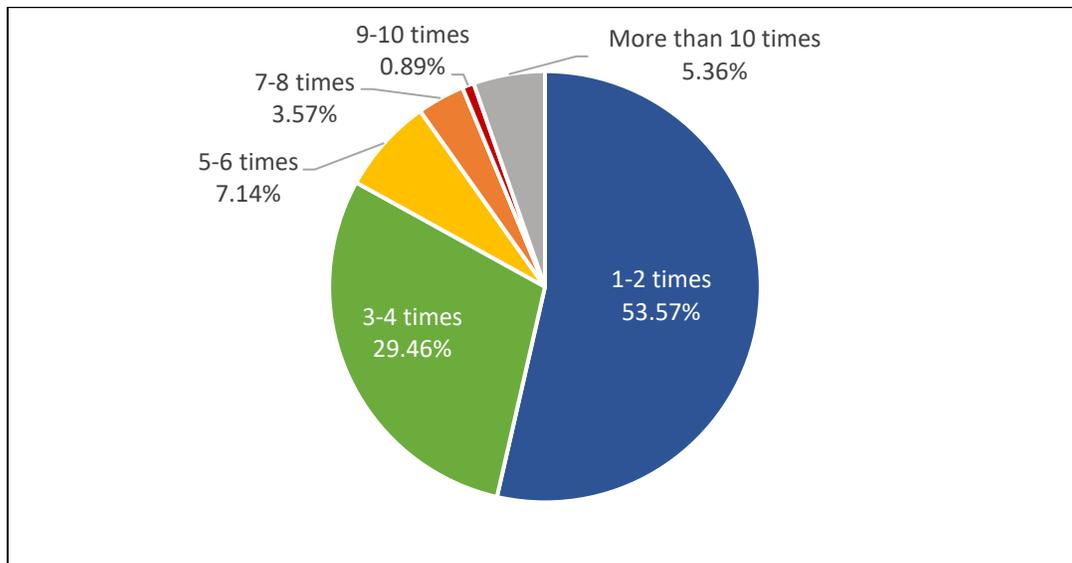


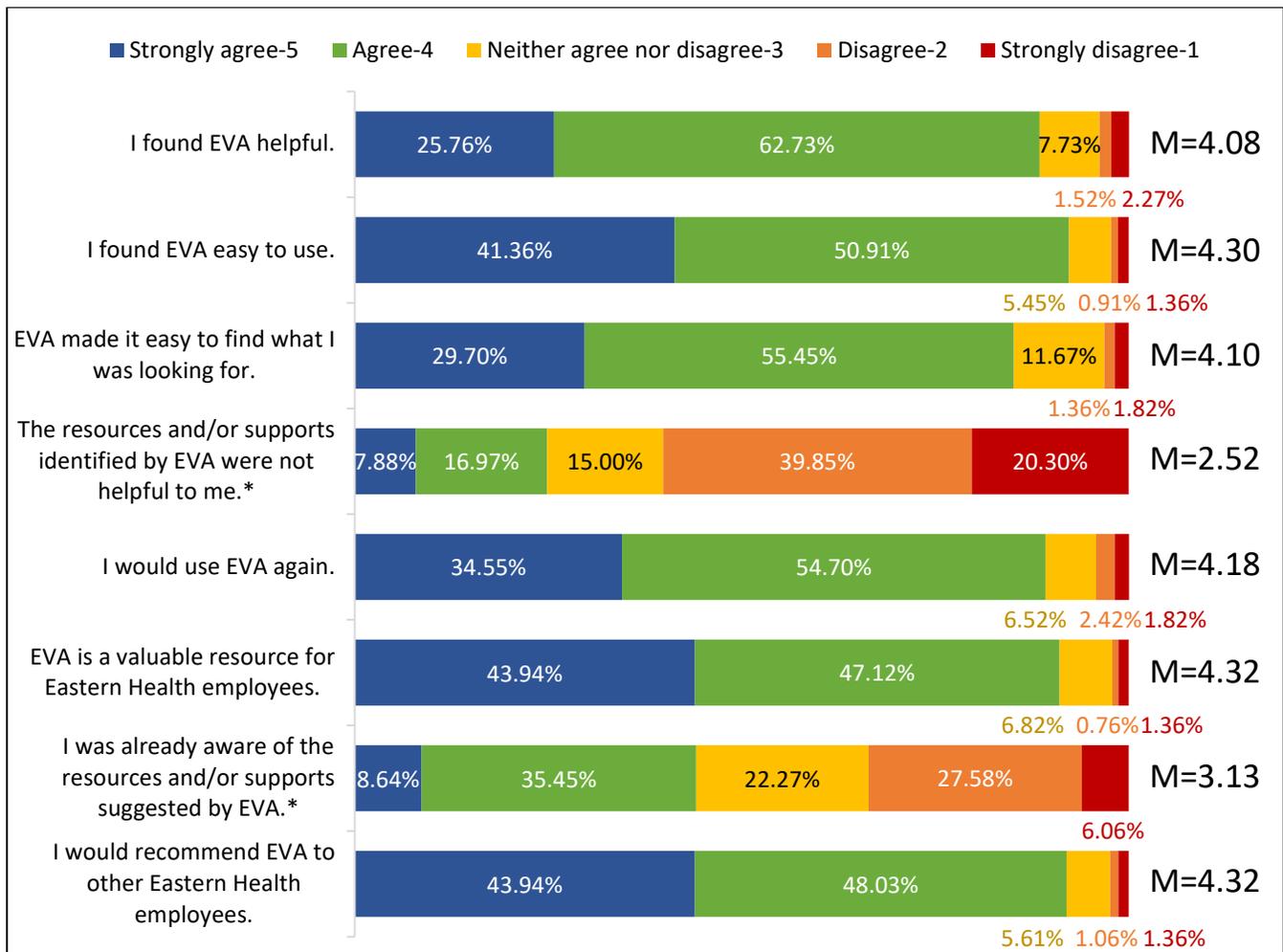
Figure 5. Number of times EVA was used among survey respondents who had used it before (n=112)



User perceptions of EVA tended to be positive, as portrayed by the response distributions and means for various agreement scale items shown in Figure 6. Specifically, overall impressions of the application were favorable, with most respondents agreeing or strongly agreeing that EVA was helpful (88.49%), that it is a valuable resource for EH employees (91.06%), that they would use it again (89.25%), and that they would recommend it to other EH employees (91.97%). Regarding use of EVA, most agreed or strongly agreed that they found it easy to use (92.27%) and that the application made it easy to find what they were looking for (85.15%).

*“I found it very helpful as I was able to get help for my friend and myself within a couple minutes. This is a great resource.”*

Figure 6. EVA user survey agreement scale responses and means (n=660)



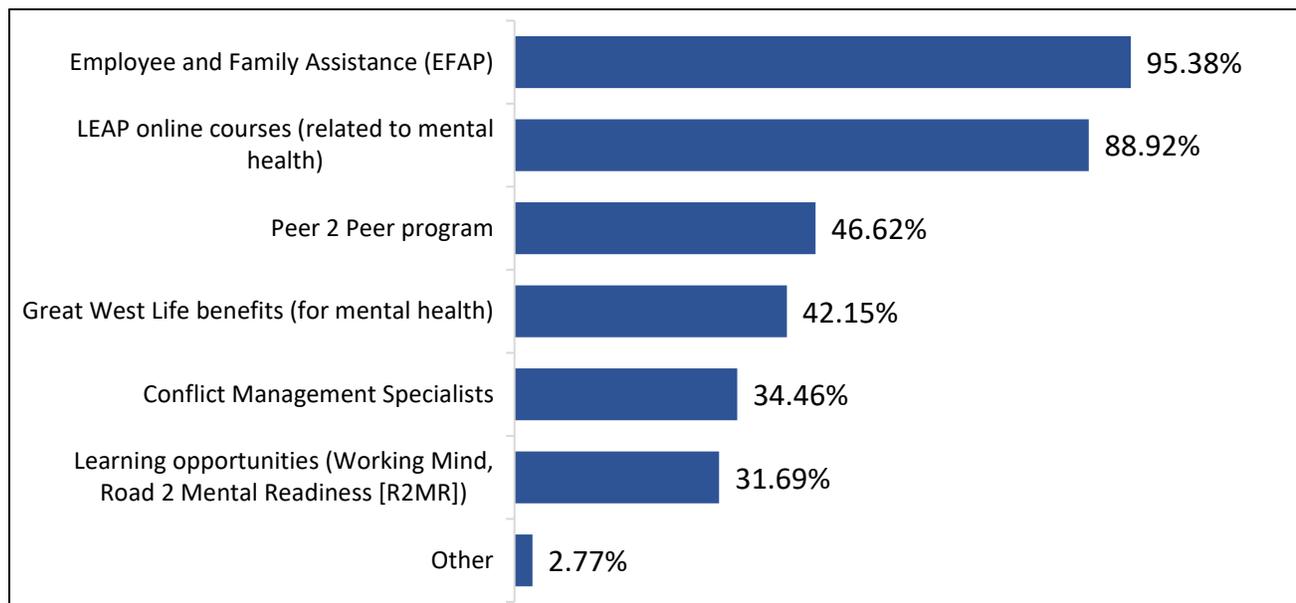
\* Note: Indicated items are negatively worded to control for response bias, so disagreement represents positive perception of the EVA application.

Two items, denoted by an asterisk in Figure 6, were negatively worded response distributions for both items were mixed, with 60.15% disagreeing or strongly disagreeing that the resources shared by EVA were not useful and more expressing agreement (44.09%) than disagreement (33.64%) that they were already aware of the resources EVA suggested to them. It should be noted that as both of these items refer to the resources suggested by EVA, they are not necessarily a reflection of the EVA platform but the services available and respondents' existing awareness of them.

*"I think [it's] a great starting point to help navigate. However more specific information (counsellors familiar with physicians, details of EFAP) were a bit lacking."*

As shown in Figure 7, respondents' awareness of internal EH psychological health and safety resources is relatively high. Specifically, most respondents had heard of the EFAP program (95.38%) and relevant LEAP online courses (88.92%). Many had also heard of the Peer 2 Peer program (46.62%), relevant Great West Life insurance benefits (42.15%), conflict management specialists (34.46%), and EH learning opportunities related to psychological health and safety (31.69%). Some respondents (2.77%) offered other resources they were aware of, including other internal resources such as the Employee Physician Navigator Line, and external resources like Bridge the Gapp, Doorways, and the Mental Health Crisis Line.

Figure 7. Awareness of other EH psychological health and safety resources among survey respondents (n=650)



Note: Percentages do not add to 100% as respondents were instructed to select all options they were aware of.

To conclude the survey, respondents were asked to provide suggestions for how to improve EVA. Of the 233 total responses, 136 (58.37%) were excluded from analysis as they did not offer any recommendations for the EVA application. Many of these comments included compliments or expressions of encouragement, appreciation or congratulations for developing and launching the resource.

Some also indicated they had not used the application enough to provide any suggestions, with a few respondents stating they accessed it just to complete the survey, presumably for the purpose of being entered in one of the two contest draws. Additionally, several comments indicated dissatisfaction with the application. Most of these were not negative but instead indicated the respondent did not think EVA was for them and that they required human interaction. However, a few were more vehement and insisted the application was not a suitable resource for psychological health and safety support.

Content analysis of the remaining 97 open-ended responses elucidated several recurring themes. The most prominent of these themes included suggestions for how to improve awareness and

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*“Make more employees aware of the service maybe through posters etc...”*

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uptake of the EVA application. Many of these recommendations generally encouraged more advertisement, information sharing and education for EH employees in an effort to spread the word and ensure staff are aware of the application and how to use it. Specifically, some suggested sending out more email reminders

and instructions for how EVA can be helpful, and others suggested posting more EVA signage and periodic booths setup in EH facilities. Several other recommendations within this theme suggested means for better conveying how EVA can be helpful for EH employees, as some noted that many staff do not currently know what to use the application for. These suggestions included introducing more closed-ended options or suggested inputs in EVA’s chain of responses as users are not always sure what to type to trigger certain topics, or even what topics EVA could provide them information on. A few respondents specifically mentioned the scavenger hunt activity that was part of the first EVA promotion initiative in July 2020, which gave participants topics and resources to access through EVA but left it up to them to figure out how to find them. Replication of this activity could enhance awareness and uptake of EVA among EH staff.

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*“I used EVA to get supports for my son and found the interactive tool user friendly and it generated immediate solution for my request.”*

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*“I found the EVA program could not assist me as I needed more personal one on one assistance.”*

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*“Topics need to be clearer. Hard to find exactly what you want.”*

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*“I was not sure of the topics EVA covered. The scavenger hunt was a helpful guide in knowing what to ask for...”*

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Two themes that were also somewhat frequent among those who offered suggestions were ideas of specific content to add to the application and recommendations for how to improve the functioning and user experience of the application. Regarding content additions, several users were unable to find specific resources they expected to be included in EVA’s library of support services, including more direct phone numbers or links to crisis services, links related to parenting, evidence-based psychotherapy resources, COVID-19-related information and supports, and links related to

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*“I think it should be more comprehensive. There were a number of things I said that EVA indicated it didn't understand...”*

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*“If there was a way to associate a face with EVA - I miss having a friendly face that I can relate to.”*

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motivation, among others. For added functionality and improvement of user experience, respondents submitted suggestions like imbuing EVA with more personality by enabling responses to casual conversation, rather than limiting all interactions to psychological health and safety topics. Regarding visual design, some suggested EVA should have a face to better replicate human interaction, and others encouraged augmenting the appearance of the platform with more visual elements, both in terms of images related to specific resources and supports and also by incorporating more of EVA’s branding and visual identity

throughout the application. Some also mentioned technical difficulties they experienced, such as unrecognized inputs when capital letters were used and display issues where EVA’s responses would not fit on the screen and would be difficult to view.

Some suggestions were relatively infrequent but were still mentioned by multiple respondents. Chief among these was the recommendation to enhance the accessibility of EVA. Most commonly suggested was the idea to develop a downloadable EVA mobile phone application that would circumvent the inconvenience of accessing the chatbot through a web browser and would make EVA more

accessible for those without regular access to a computer. Other accessibility-related suggestions included links to EVA being featured more prominently on EH internal websites and platforms, and also implementation of accessibility features in the application, like adjustable font size and color schemes. Not related to the accessibility of EVA but mentioned by multiple respondents was a suggestion to generally enhance psychological health and safety service offerings for EH employees, which could ultimately impact EVA in that these service offerings would be added to the platform once launched.

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*“EVA would be a perfect tool to have an app that employees could put on their phones. Not all employees have access to a computer...”*

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## EFAP Referral Data

As depicted in *Figure 8*, the total number of EFAP referrals had incrementally increased in the years preceding EVA’s launch and this continued in the year following introduction of the application. These totals include both new and repeat referrals and correspond to actual numbers of EH employees who accessed the service in that period. Additionally, controlling for the increasing number of total EH

employees, the utilization rate has also steadily increased in this time, reflecting an actual increase in utilization of the service across EH. In this case, each year corresponds to the fiscal year of the organization that runs from April to March of the following year. Of note, the difference between 2020/21 (the year following introduction of EVA) and 2019/20 (0.4%) is similar to the difference between 2019/20 and 2018/19 (0.5%), suggesting that EVA did not affect the trend of increasing utilization already observed for the EFAP service.

Figure 8. EFAP referrals before and after EVA launch

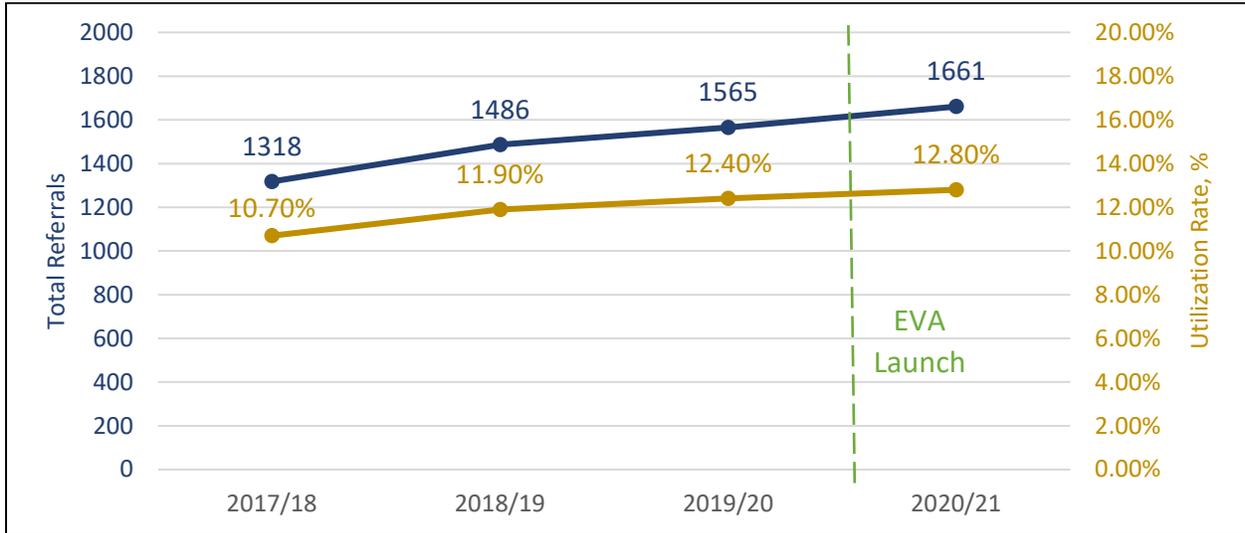
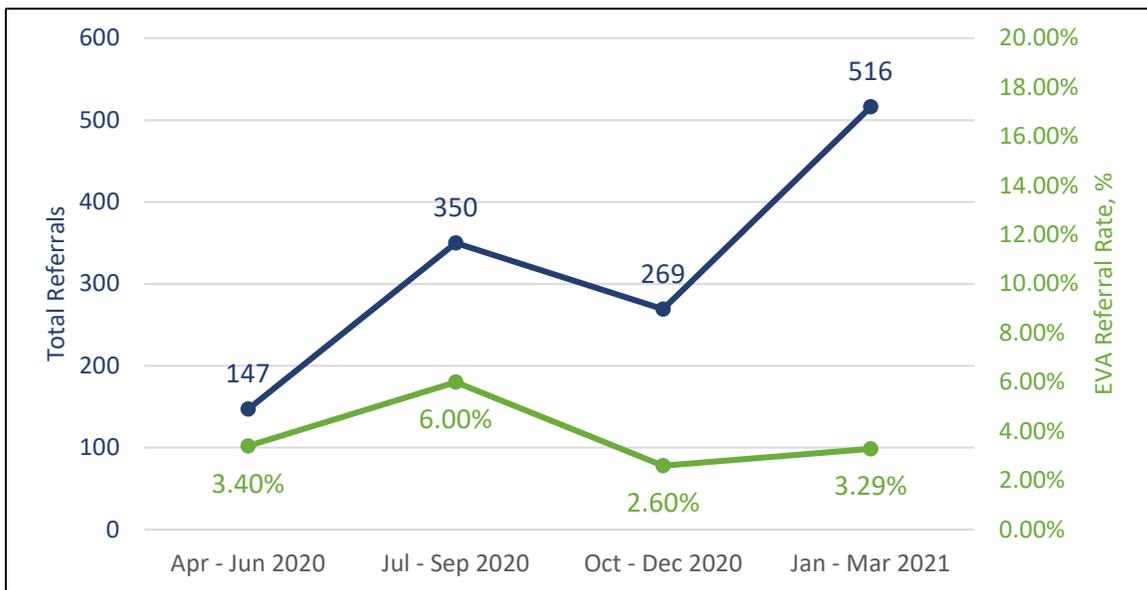


Figure 9. EFAP referrals and EVA referral rate per quarter, 2020/2021



Throughout the year following EVA's launch, the percentage of EFAP referrals that came from EVA were consistently low, peaking at 6.00% in the July-September 2020 quarter as depicted in Figure 9. This spike coincides with peak usage of the EVA application following promotional events, as discussed above. Of note, the total EFAP referrals for each quarter varied considerably throughout the year due to turnover and subsequent onboarding of one of the coordinators early in the year

## Peer Supporter Form

At the time of writing, a total of 33 peer support forms were submitted since the launch of the P2P program, each representing an interaction between a peer supporter and an EH staff member. As discussed in the Method section above, the number of interactions does not correspond with the number of actual peer support sessions that were held, as peer supporters were instructed to submit forms even when there was only initial communication with the participant and no support was given. Relatively few interactions occurred each month, with none or less than five occurring every month, except for a couple of months.

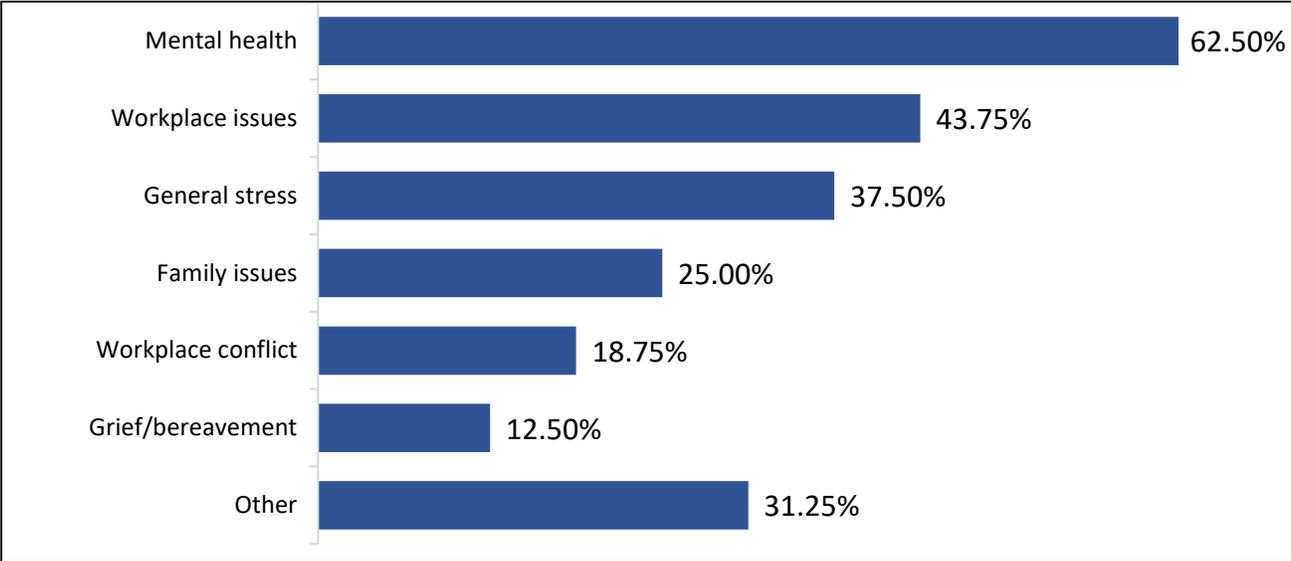
In total, 12 peer supporters submitted a form, suggesting a total of 16 participants interacted with a peer supporter in some capacity. Of these 16 participants, 14 disclosed their location, with most (68.75%) being from the Northeast Avalon and St. John's Metro region. Regarding their positions in EH, most (81.25%) occupied clinical roles. Most participants received one support session (56.25%), while some received up to five sessions (12.50%) and others did not receive a single session (12.50%). In these cases, the participants contacted a peer supporter through email but did not reply after the supporter responded to them.

Regarding the reasons why participants sought peer support, Figure 10 shows the most common reasons reported by peer supporters. Challenges with mental health (62.50%) and general stress (37.50%) were prevalent, as expected among those seeking some form of psychological health support. Topics such as workplace issues (43.75%, including subjects like workload and burnout) and workplace conflict (18.75%), both somewhat prevalent among participants, are matters for which a staff-centered peer support program is well-equipped to help, as fellow EH employees may be more capable of understanding nuances of the workplace that may help them appreciate these forms of struggles. Family issues (25.00%, including subjects like parenting) and grief/bereavement were also experienced by multiple respondents, while other topics like financial issues, relationship issues, COVID-19-related challenges and physical health problems were each reported by a small number of participant.

The 33 interactions reported by peer supporters varied in several ways, such as the length of the interaction, the peer support techniques used, and the communication method used. Regarding length, over half were 30 minutes or less (51.52%) and another third were between 31 and 60 minutes (33.33%). Three interactions lasted longer than one hour (9.09%), with one interaction lasting over 90 minutes (3.03%). Several methods taught in the peer supporter training were used consistently by supporters during these interactions, including validation of the participant's feelings (used in 81.82%

of interactions), active listening (75.67%), avoidance of judgement-laden language (63.64%), and use of open-ended questions (60.61%). Sharing a relevant personal experience was also relatively common (48.48%), but the use of other methods like talking with an empathetic tone of voice (30.30%) and exhibiting appropriate body language (3.03%) may have been limited due to the online, text-based nature of many conversations. Specifically, 66.67% of interactions occurred via email, while many others took place over telephone, either through a phone call (27.27%) or texting (3.03%). The lack of in-person peer to peer interactions that occurred could be a reflection of the COVID-19 landscape that arose concurrent to the launch of the P2P program.

Figure 10. Reasons for seeking peer support among P2P participants (n=16)



Note: Percentages do not add to 100% as supporters were instructed to select all applicable options for each participant.

### Peer Support User Survey

As acknowledged above, there was low uptake of the P2P program and, furthermore, the peer support user survey link was only shared with 10 of the 16 participants despite instructions to share with all. Less than five responded, therefore the results were suppressed to protect the anonymity of respondents. However, in general, responses were favorable, indicating that those who participated found the P2P program helpful.

### Peer Supporter Interviews

As detailed above, 12 of the 20 peer supporters who received the initial training actually interacted with participants in the P2P program. Of these 12, several were excluded from interview

recruitment because they had not conducted an actual peer support session (their only interactions were to setup sessions that did not come to fruition) or because they were no longer involved in the program when interviews were taking place. As such, five peer supporters were interviewed about their experience as a peer supporter. Due to this low number of interviewees, their responses were not thematically analyzed and will instead be presented in summary form.

Overall, all interviewees enjoyed and valued their role as a peer supporter. The supporters varied in their reasons for volunteering for the program, with some citing that they have always played an informal peer support role in their workplace and figured they would be well-suited to the positions, and others explaining that their own past personal difficulties allowed them to relate to the struggles of others. A common motivation for all interviewees, however, was the drive to provide whatever support they could to those who were seeking help.

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*"I am proud to say I am a peer supporter... I want to continue doing it."*

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All of those interviewed found the peer supporter training helpful, with some mentioning how engaging it was. However, a couple of interviewees remarked that the training could only prepare them so much and engaging in their first couple of peer support interactions really solidified many aspects of the training.

When describing the peer support sessions they facilitated, most only had email interactions with one or two participants at the time of interview. All interviewees mentioned that they were short interactions and that they did not have much opportunity to provide all of the peer support tactics they learned from training. Additionally, all those who interacted with participants via email were comfortable with their role and. One interviewee also noted that it was difficult to avoid attempts to solve the participant's problems, something that was discouraged during the training. They felt that with experience, they would find it easier to maintain the active listening tactic without being tempted to give problem-solving sentiments.

The main strategies supporters reported using were active listening, sharing resources and sharing similar personal experiences. Interviewees noted those they interacted with wanted to keep things as anonymous as possible. In this respect, those who availed of the P2P service appeared to be seeking an anonymous avenue of support, one of the foundational aspects of the program.

There was an acknowledgement that the P2P program has had relatively low uptake, and as such, has made little impact on EH staff in general. Despite this, a couple of peer supporters noted that regardless of uptake, it is good for the organization to be able to offer this service and it is likely a comfort to some staff simply because it is there if they ever need to avail of peer support.

Regarding the overall structure and service offered by the P2P program, several strengths and

weaknesses were noted. Some positive aspects of the service mentioned by peer supporters include the ability for the participant to select a peer supporter based on attributes like location, clinical role, etc.; the anonymity and confidentiality of the intake process through EVA; the quality and diversity of the group

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*"...as health care professions we help others and don't take the time to help ourselves."*

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of peer supporters, who showcase a breadth of personal and professional experience; and the positive impact the training has had on the supporters themselves.

Noted weaknesses of the P2P program include the fact that the intake process is tied to the supporters' P2P-specific emails, which can be inconvenient to manage; the number of steps required to navigate the intake process; and the potential for the responsibility to be overwhelming to the volunteering peer supporters if demand was steady. Some interviewees noted some external factors while discussing weaknesses of the program, like the general reluctance of EH staff to seek personal support in the midst of challenges facing the organization, like COVID-19; and the stigma that is often felt by those reaching out to mental health services. These factors are important to distinguish as issues pervading the organizational context in which the P2P program is embedded, not shortcomings of the program itself. Interestingly, some reported that having the program accessed through the EVA application increased accessibility by the fact that it is always online and can be navigated on any connected device, while others cited this as a weakness in that it may exclude some who are not comfortable using technology in this manner.

When asked why they think uptake of P2P peer support has been relatively low, peer supporters mostly felt the organizational factors mentioned above have made staff reluctant to engage with the program. Ideas to improve uptake largely centered on increasing awareness among EH staff through various avenues, including prominent messaging on the internal intranet platform, in-person marketing and promotion via pop-up booths and merchandise giveaways, and education about the program for those who attend Team Check-In sessions, another service offered to EH staff that will be detailed below.

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*"I do think over time people will use the peer supporters. ...I think it is a valuable resource for staff"*

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Lastly, when asked about the impact that being a peer supporter has had on them, all interviewees felt positive about their experience with program. Some prominent sentiments include that they have learned how to better listen and support people going through personal issues, both in a personal and professional context; and that they find the role fulfilling in providing others support when they need it.

## Discussion and Recommendations for Improvement

### Summary of Findings

The EVA chatbot application has been available to EH staff and accompanying peer support program has been available to EH staff since launch in April 2020. A total of 3,509 meaningful interactions with the application occurred in the first year. About 70% of these represented first-time interactions by unique users. Utilization numbers remained relatively consistent over this first year, aside from marked increases in use occurring as a result of promotional campaigns. The application

was mostly used by EH employees and physicians (93.82% of usage) and was accessed for a variety of reasons, including requests for description/definition of services, advice on various general health concerns, and redirection to various forms of counselling or support, including the companion P2P peer support program embedded in the application. Regarding P2P requests, many users had no preference for the characteristics of the peer supporter they were matched with.

Feedback on the EVA application was generally positive, with many finding it helpful, and many reporting that they would use it again and that they would recommend it to others. It was also considered easy to use by most and it made it easy for the majority of participants to find what they were looking for. However, when considering added value, many survey respondents found the resources suggested by EVA to be already known to them or otherwise not especially helpful. Suggestions to improve the application largely focused on increasing awareness of EVA, enhancing the user experience of the application and adding more resources and supports to EVA's content base.

Regarding other services with which EVA is tangential, there did not appear to be a substantial impact on EFAP uptake and given the current pandemic, it would be difficult to solely attribute any change in demand to EVA alone.

The P2P component of the project received relatively low uptake, with 33 documented interactions having occurred between participants and peer supporters at the time this report was written. This is in contrast to the 423 EVA users who answered all questions and indicated an interest in the peer support program via the application thus received a list of five peer supporters they could then contact. The discrepancy likely lies in the next step that the participant must take to choose one of the five supporters and send an email to reach out to them which was only done by 33 of the 423 EVA users who requested P2P. A potential explanation for this incongruity lies in the tendency for EVA to be used casually as a source of information rather than as a supportive intervention, a point expanded upon in the next section.

Of those who did reach out to the P2P program, 16 participants engaged in meaningful interactions with P2P supporters. The most common reasons for seeking the program included mental health, workplace issues, and general stress and the conversations tended to be brief and over digital platforms, a practicality of work during COVID-19. The few respondents who completed the P2P participant survey gave nearly unanimous positive feedback

Underlying all aspects of EVA and P2P usage and feedback are the wider perceptions that EH staff hold about the psychological health and safety climate across the organization; however, EVA use may have moderated negative perceptions of organizational support. Specifically, those who used EVA showed higher agreement than those who did not on three items: that they know how to find the support they need if they are experiencing a mental health problem; that EH provides self-care tools to help them look after their own psychological well-being; and that they know how to access mental health supports available through EH. These three items all capture elements of awareness and access

to support, suggesting EVA had a positive impact on this aspect of participants' organizational perceptions. Although one of these items was significantly diminished among EVA users compared to pre-survey respondents, the significant decrease on all items between pre- and post-survey respondents may reflect some larger diminution in organizational perception and/or climate between March 2020 and February 2022 that EVA usage may have helped to moderate.

## Impact of COVID-19

Before delving into explanations and interpretations of the above findings, the omnipresence of the impact of the COVID-19 pandemic must be conveyed as it is a lens through which all aspects of the development, operations and evaluation of EVA and P2P must be viewed to accurately comprehend them. Firstly, the launch of EVA and P2P was initially intended to be a pilot among select EH units and departments to allow tracking of all aspects of usage and perception among a small, defined population. With this plan, the application was originally intended to rollout in early April 2020, but the onset of the pandemic in late March 2020 made this unfeasible. Many of the selected departments became operationally unavailable for this trial and all in-person evaluation methods were not permitted or otherwise impractical. As such, EVA launched at the end of April to the entire organization, negating the possibility of implementing some of the evaluation activity as originally intended. The ability of the project leads to promote EVA and P2P through in-person presentations and workshops delivered to each separate EH department, as originally planned was also limited by the pandemic. This meant that, save for the two promotional events held in July and October 2020, all promotion of the application occurred through passive means such as posters, internal emails, intranet notifications and banners, and the occasional video meeting where someone familiar with the application may have promoted it to their colleagues. It is impossible to determine how this inability to promote EVA and especially P2P may have affected usage and uptake, but it is reasonable to assume it may have been higher if marketing efforts had rolled out as intended.

The COVID-19 pandemic may have also stymied the capacity of EH staff to engage with the application. Literature on the impacts of COVID-19 on healthcare workers has shown that rates of help-seeking behaviour are especially low among those dealing with the demand and strain that the pandemic has placed on the healthcare system.<sup>30,31</sup> One study on help-seeking behaviour and related factors among 3,417 Chinese healthcare workers who reported mental health concerns during the pandemic found the prevalence of mental health help-seeking to be much lower among their sample (12.7%) than the national average among adults with mental disorders (48%).<sup>32</sup> A potential source of these low rates of self-help is the high degree of burnout experienced by healthcare workers as a result of COVID-19. Two reviews of the incidence of burnout on healthcare workers during the pandemic cite that, although findings across multiple countries and hospital units have not been consistent, the general increase in workload and workplace strain resulting from COVID-19 directly correlate with

increased prevalence of burnout.<sup>33,34</sup> As explicated by Putnik and colleagues,<sup>35</sup> burnout may have this effect of impeding help-seeking behaviour in cases where healthcare workers feel a strong sense of responsibility and duty to their work and in cases where there is a desire to spend off-time doing something other than engaging in treatment. This aligns with sentiments expressed by some peer supporters and EVA project leads during interviews and informal meetings, that at the height of the pandemic, EH workers were just trying to get through the work day and did not prioritize their own self-care. In this manner, self-help activities like accessing EVA may have been negatively affected by the COVID-19 pandemic, and especially so for more involved processes like reaching out to the P2P program.

The P2P program may have been affected due to a shift to working from home and a cease in person-to-person interaction. The initial model for the program was to arrange virtual telephone meetings. Participant anonymity was a core tenet of the program and face-to-face meetings would lessen this, so the option for face-to-face was not planned. However, it may have become another approach to service delivery had there not been the realities associated by COVID-19. The limitations of online text-based interaction mentioned by peer supporter interviews, including inability to use tone of voice and body language to inform the support provided, the P2P service may have been more impactful for those who availed of it if this option was available.

In addition to the points above, COVID-19 may have impacted perceptions of organizational psychological health and safety measures. As previously described, all facets of psychological health and safety that were measured, including perceived support, accessibility of resources, and satisfaction with available resources, significantly decreased between the organizational pre-survey administered in March 2020 and the post-survey launched in February 2022. At the time of the pre-survey, organizational changes to address COVID-19 were just starting to take place, including work from home measures, redeployment, and suspension of select services. For many, the true impact of the pandemic may not yet have set in, and the situation may have been too new for COVID-19-related burnout to have taken hold. However, in early 2022 at the time of the post-survey, the province of NL was in the middle of a wave that had started in late 2021, which put an unprecedented load on the health system in terms of positive cases, hospitalization, and healthcare worker sick leave. Additionally, in the two years since the pre-survey, multiple COVID-19 waves had fallen on the province, each time retriggering restrictions and increasing workload for many healthcare workers. Lastly, a cyber-attack in late 2021 posed unparalleled challenges on the EH staff, with many being redeployed and some services again being suspended. Altogether, the combined impact of these circumstances likely introduced additional strain on health providers and support workers. As noted in the Literature Review at the beginning of this report, burnout is associated with decreases in perceptions of organizational support. As such, COVID-19, and the demands associated with it, may have placed additional burden on staff, leading to more burnout possibly resulting in decreased perceptions of organizational support. However, the

results also suggest a possibly moderating effect of EVA as the decreases were less pronounced among EVA users.

An alternate interpretation is that those who tried EVA may have largely been those who did not feel the most burnout. As discussed above, burnout can deter healthcare workers from seeking help, so perhaps many of those who took the time to use or simply try the application were staff who were not feeling the effects of burnout as intensely as those who did not try EVA. Thus, EVA users may not have reported higher organizational perceptions *because* they used EVA but because there is overlap in the participant profile of those who try EVA and those who have experienced less burnout and thus report higher organizational impressions. This suggests an avenue for future EVA evaluation to compare EVA usage and perceptions among those rating low and high on a scale that assesses symptoms of burnout.

### Other Considerations, Interpretations, and Limitations

Reframing the implications of the COVID-19 pandemic, this climate of increasing burnout and decreasing inclination to seek help may have been an ideal context in which to launch an accessible mental health support service like EVA. From conception, the chatbot was envisioned as an easily accessed, anonymous application that users can engage with to get information, while not necessarily playing a role in engaging the participant with these services aside from the built-in P2P intake process. As such, many EVA users likely accessed the application in a casual manner, curious to explore it and maybe pose questions they were genuinely interested in having answered, but perhaps not with the intention to seek out help for issues or challenges they were facing. There is evidence to support this interpretation in the common usage trends from EVA's backend data. First, the majority (72.40%) of the 12,713 users who opened the application did not proceed past the initial few questions and did not meaningfully interact with EVA. Of those who did get further (i.e. active users), the median length of their conversation was two minutes and 57 seconds, indicating that relatively quick interactions without much back and forth were the norm. Alternatively, this may suggest that many users went into EVA with a specific purpose and the AI chatbot provided the required support especially efficiently, but this is unlikely given that 70.19% of these active users were interacting with the application for the first time and were thus unfamiliar with it. Using a new service like this, with an AI chatbot element that would be unfamiliar to many, would likely prompt users who were turning to it as an intervention to thoroughly interact with it in an effort to see all relevant supports the application had to offer.

Additionally, the responses to the P2P intake questions indicate that users may have been using it in an exploratory manner, as suggested by the vast discrepancy between those who accessed this intake (n=423) and those who went on to contact a peer supporter (n=16). Further, when asked to identify keywords relevant to the types of issues they would like their supporter to be familiar with, 72.27% indicated it did not matter or that a random selection of peer supporters would be fine.

Additionally, three of the top four keywords that were entered were the ones suggested as examples in the question text (nursing, anxiety, and single parent), and while these may have legitimately been frequently requested support topics, at least some of these respondents likely entered one or multiple of the suggested words to proceed with exploration of the P2P intake process. Altogether, these findings suggest that many users accessed the P2P intake function, and EVA as a whole, with an exploratory impetus.

Although the P2P service did not receive much uptake, new services, separate from this initiative arose. For instance, EH developed a Rapid Response Team (RRT) service that included two main service offerings: Rapid Response sessions for units and individuals who recently experienced or were exposed to critical healthcare or safety incidents, automatically triggered by the RRT coordinator upon their discovery of any relevant critical incident; and Team Check-ins for units and departments to debrief on factors affecting their mental health and workplace satisfaction and engagement, available upon request. These sessions generally involved all staff of an EH unit or working team and were facilitated by trained mental health professionals who were also EH staff.

#### Considerations Across Sectors:

- The evaluation project has taken place within a health care setting during a challenging and ever-changing time. Doing so has provided experiences in understanding what resonates with employees and the limits to the support sought and accessed.
- The EVA technology and peer support offering allows for the resource to be available during health system transformation.
- Any sector introducing a chat-bot technology will benefit from these learnings, including the positive outcomes from broadening access to psychological safety resources. Further, it will allow an understanding for the need to wrap-around services with robust promotion for success.

## Recommendations

Given the findings and interpretations presented above, several recommendations can be made to improve EVA and P2P services, and more largely, EH psychological health and safety efforts going forward. These recommendations are as follows:

### 1. Increase marketing and promotion of EVA and P2P

On the post-survey sent to all EH employees, when asked how familiar they were with EVA, 76.06% of the 802 responses replied that they had never used it. Additionally, 22.79% of those who responded indicated that they had not heard of EVA before. Similarly, awareness of P2P was far from ubiquitous with 45.64% reporting they had never heard of this service. Ultimately, the goal for

EVA and P2P is to have all EH staff made aware that these services are available to those who need them.

In this respect, a concerted effort should be made to promote EVA and P2P in general using diverse modes of communication, but especially among staff groups who may not have yet been tapped. This can include in-person information sessions and presentations delivered across the organization, in particular to select units where there may not be much work completed through computers. These may be rural units and smaller healthcare sites that may not rely as much on computers for day-to-day function, and also employee groups and departments whose roles and responsibilities do not often necessitate computer use, like Environmental Services staff.

## **2. Engage employees in the design and communication of self-care resources**

Throughout the timeframe of this research the availability EVA, peer support and other mental health supports were regularly presented via email, at team meetings, and during all-staff calls. These approaches balanced raising awareness of resources against saturating the communication. Employees were consulted during the initial development of EVA. Designing a sustained promotion approach which includes employee owned and led components allows a better understanding of employee needs, and how they will access resources.

## **3. Expand evaluation activity to adequately assess all future expansions to EVA and P2P**

Throughout the course of the EVA and P2P project thus far, evaluation activities have been instrumental in assessing the impact and perceptions of these services, as conveyed in the findings presented above. It has also served a role in informing the implementation and continuous development of the application. For example, backend information on EVA usage was used to inform updates to the search terms, intents, and resources included in the AI script for the application. Additionally, an open-ended item on the organizational pre-survey was qualitatively analyzed to inform project leads and EH executive of the current psychological health and safety climate among employees at the start of the COVID-19 pandemic, giving them insight into the challenges faced and types of resources to focus on including in EVA. Furthermore, monitoring of the lack of uptake in the P2P program allowed project leads and other EH psychological health and safety program coordinators to see a gap in the services that EH staff were utilizing, setting the stage for the separate RRT program to be introduced.

These examples of research and evaluation informing the development and implementation of psychological health and safety resources highlight the essentiality of embedding evaluation in further development and expansion of these services going forward. With the continuance of environmental factors playing a role in the operations of EH services, there are continually new challenges faced by EH staff, and EVA has been and should continue to be updated accordingly. A

recent example of this is the cyber-attack that befell EH in late 2021, information and resources for which were added to EVA soon after the situation was explained to staff. Additionally, if the EVA and P2P programs are to expand province-wide and even beyond, the above evaluation methods should be adapted to those contexts and updated as necessary. One potential augmentation could be a measure of burnout in those who provide feedback on EVA and P2P going forward, to assess impacts of these services specifically on those suffering from burnout symptoms and to examine help-seeking behaviours among these individuals.

## Conclusion

In its totality, the journey of development, implementation, and evaluation of the EVA and P2P programs appears to have been a worthwhile endeavor. Many EH staff have used the EVA AI chatbot and provided positive feedback on their experience, and the P2P program, while receiving low uptake, serves to complement existing psychological health and safety resources. As with all such projects, obstacles were encountered but with action to address the above recommendations, EVA and P2P can continue to be an avenue of support to EH staff and others in the province who may require it.

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## Appendix A: EVA Pilot Test Infographic



**100**  
**TESTERS**

**40**

**SURVEYS  
COMPLETED**

**FOR A 40%  
RESPONSE RATE**



**80%**

**Found the solution very or  
moderately helpful**

**85%**



**Agreed or strongly  
agreed they liked the  
virtual assistant**

**HOW DO WE**

**REACH**

**EMPLOYEES?**



**82.5% felt email would  
work**

**Others felt the employee portal (70%), the  
intranet (57.2%) and posters (57.2%) would  
work too.**

## System Usability Scale\*



- 85% found it easy to use
- 62.5% indicated they would use it frequently
- 72.5% found the functions were well integrated
- 87.5% thought other people would learn to use the application
- 77.5% felt confident using the application



\*agreed and strongly agreed responses combined

## Appendix B: Organizational Surveys (Pre and Post)

### Pre-Survey

At Eastern Health we continuously strive to improve our services and create the best possible work environment for our staff. To assess the perceived psychological health and well-being of the organization and to assist with the planning of support services, we are asking all staff to complete the following feedback form. It will take less than 5 minutes to complete.

Your decision to participate is voluntary, and your responses will be anonymous and confidential.

Submission of your Eastern Health email is only required should you choose to enter the draw for a \$100 Prepaid VISA gift card. Your email will not be connected or associated in any way to the responses you provide in the feedback form. Should you prefer not to answer one or more items, a "Prefer not to answer" option is provided.

The feedback form must be completed in one sitting. You cannot save your answers and continue later. Only @easternhealth.ca emails can be entered for the gift card draw and duplicate email addresses will be disqualified, so please do not complete this feedback form multiple times.

This feedback form is hosted through SurveyMonkey. To learn more about SurveyMonkey's privacy policy, please click [here](#).

If you have any questions or concerns, please contact [Scott.Taylor@easternhealth.ca](mailto:Scott.Taylor@easternhealth.ca).

Some questions provided as per Guarding Minds at Work. Gilbert, Bilsker, Shain & Samra, 2018.

1. Please select your program from the dropdown list: [LIST COPIED TO TABLE BELOW]

Administration and Budgeting	Health Information Services and Informatics	Pastoral Care and Ethics
Cancer Care	Human Resources Client Services	Pharmacy
Cardiac and Critical Care Program	Human Resources Consulting Services	Planning and Decision Support
Central Staffing	Infection Prevention and Control	Public Health
Centre for Nursing Studies	Information Security and Privacy Office	Primary Health Care and Chronic Disease/Bell Island
Children and Women's Health	Infrastructure Support	Professional Practice and Aboriginal Health
Clinical Efficiency	Laboratory Medicine	Protection Services
Corporate Communications	Long Term Care	Quality and Risk Management
Community Support Program	Medical Device Reprocessing	Rehabilitation, Palliative and Continuing Care

Diagnostic Imaging	Materials Support	Research & Knowledge Transfer
Emergency Services and Ambulatory Clinics	Medical Services and Legal Counsel (NON- PHYSICIANS)	Rural Health
Environmental Services (St. John's)	Medicine Program	Surgical Services
Finance, Accounting and Internal Control	Mental Health and Addictions Acute Care	Workplace Health, Safety and EFAP
Food and Environmental Services (Outside St. John's)	Mental Health and Addictions Community	Prefer not to answer
Food Services (St. John's)	Paramedicine and Medical Flight Services	

2. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Prefer not to answer
I would use an employee peer support program if it was available to me.						
Employee health and well-being is strongly supported in this organization.						
If I am experiencing a mental health problem, I know how to find the support I need.						
My employer offers services and benefits that adequately address my psychological and mental health.						
People in my workplace have a good understanding of the importance of employee mental health.						
I feel supported in my workplace when I am dealing with personal or family issues.						
My organization provides support to staff when critical patient care incidents occur.						

My organization provides self-care tools to help me look after my own psychological well-being.						
Leaders in my organization support psychological self-care.						
I know how to access mental health supports available through my employer.						

3. Please tell us how you think Eastern Health can support your Psychological Safety, particularly during this challenging time.

Thank you for completing this feedback form! Your feedback will help us improve the psychological health and safety of Eastern Health.

Once you click "Done" you will be redirected to a separate URL to enter your email for the chance to win a \$100 Prepaid VISA gift card. Your responses will not be associated with the email entry

### Post-Survey

At Eastern Health we continuously strive to improve our services and create the best possible work environment for our staff. As part of an ongoing evaluation of the Employee Virtual Assistant (EVA), which was launched in Eastern Health in 2020, we are asking staff to complete the following survey. It should take less than 5 minutes to complete.

Your decision to participate is voluntary, and your responses will be anonymous and confidential. The feedback form must be completed in one sitting. You cannot save your answers and continue later. This feedback form is hosted through SurveyMonkey. To learn more about SurveyMonkey’s privacy policy, please click here.

If you have any questions or concerns, please contact [Scott.Taylor@easternhealth.ca](mailto:Scott.Taylor@easternhealth.ca).

Some questions provided as per Guarding Minds at Work. Gilbert, Bilsker, Shain & Samra, 2018.

1. How familiar are you with the Employee Virtual Assistant (EVA)?

- I have never heard of it
- I have heard of it but have never used it
- I have used it once
- I have used it multiple times

2. [If reported using EVA in Q1] How helpful did you find EVA when you used it?

- Very helpful
- Moderately helpful
- A little helpful
- Not at all helpful

3. Are you aware that Eastern Health has a Peer 2 Peer (P2P) peer support program?

- Yes
- No

4. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Employee health and well-being is strongly supported in this organization.					
If I am experiencing a mental health problem, I know how to find the support I need.					
My employer offers services and benefits that adequately address my psychological and mental health.					
People in my workplace have a good understanding of the importance of employee mental health.					
I feel supported in my workplace when I am dealing with personal or family issues.					
My organization provides support to staff when critical patient care incidents occur.					
My organization provides self-care tools to help me look after my own psychological well-being.					
Leaders in my organization support psychological self-care.					
I know how to access mental health supports available through my employer.					

Thank you for completing this feedback form! Your feedback will help us assess the impact of the EVA program in Eastern Health.

## Appendix C: EVA User Survey

Thank you for using the Employee Virtual Assistant (EVA)! This survey is for individuals who have used the EVA tool. It will take less than 5 minutes to complete.

Your decision to participate is voluntary, and your responses will be anonymous and confidential.

The survey must be completed in one sitting. You cannot save your answers and continue later.

If you have any questions or concerns, please contact [Scott.Taylor@easternhealth.ca](mailto:Scott.Taylor@easternhealth.ca).

1. Was this your first time using EVA?

- Yes
- No

2. [If No to Q1] About how many times have you used EVA?

- 1-2 times
- 3-4 times
- 5-6 times
- 7-8 times
- 9-10 times
- More than 10 times

3. Please think about your most recent interaction with EVA and rate your level of agreement with the following statements:

**a. I found EVA helpful.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**b. I found EVA easy to use.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**c. EVA made it easy to find what I was looking for.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**d. The resources and/or supports identified by EVA were not helpful to me.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**e. I would use EVA again.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**f. EVA is a valuable resource for Eastern Health employees.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**g. I was already aware of the resources and/or supports suggested by EVA.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**h. I would recommend EVA to other Eastern Health employees.**

1 Strongly Disagree	2 Disagree	3 Neither agree nor disagree	4 Agree	5 Strongly Agree
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. What other Eastern Health psychological health and safety resources/supports are you aware of? (Check all that apply)
- Employee and Family Assistance (EFAP)
  - Peer 2 Peer Program
  - Learning Opportunities (Working Mind, Road 2 Mental Readiness [R2MR])
  - LEAP online courses (Compassion Fatigue: The Cost of Caring; Conflict Management and Respectful Workplace; Managing Stress in the Workplace; Emotional Intelligence; Trauma, Post Traumatic Stress Disorder and the Healthcare Workplace; Mental Health for Employees)
  - Disability Management Support
  - Conflict Management Specialist
  - Great West Life Benefits (for mental health)
5. Please list any suggestions for improving EVA.

Thank you for completing this survey! Your feedback will help to improve the Employee Virtual Assistant (EVA) tool.

## Appendix D: Peer Supporter Form

The Peer Tracker Form is to be completed every time you provide peer support to a participant regardless of modality (email, in-person etc). If you meet with the same participant more than once, the form must be completed after each session with that participant. Every effort should be made to fill out the form as soon as possible after the peer support session occurs, and no later than 24h after.

1. Participant code (Your initials-participant's initials-DD/MM/YYYY date of first communication)  
e.g. SGT-MB-11032020: \_\_\_\_\_
  
2. Did the participant go through EVA to reach you?
  - Yes
  - No
  
3. Location where participant lives:
  - Northeast Avalon/St. John's Metro
  - Avalon East/Southern Shore
  - Trinity/Conception Bay
  - Placentia/Whitbourne
  - Clarenville/Bonavista
  - Burin Peninsula
  - Other (please specify: \_\_\_\_\_)
  
4. Participant's EH position:
  - Clinical
  - Non-clinical
  - Management
  - Not an employee
  
5. Date of this P2P interaction: \_\_\_\_\_
  
6. Was the interaction an initial communication, informal support, or a full P2P peer support session?
  - Initial communication
  - Informal support (e.g. just providing resources)
  - P2P session
  
7. Type of interaction:
  - Email

- Telephone
- Video call (Zoom, Teams, etc.)
- In person
- Other (please specify: \_\_\_\_\_)

8. Where did you meet? \_\_\_\_\_

9. Length of meeting:

- 15 minutes or less
- 16-30 minutes
- 31-45 minutes
- 46-60 minutes
- 61-75 minutes
- 76-90 minutes
- Longer than 90 minutes
- We did not meet

10. Reason(s) for requesting peer support: (Check all that apply)

- Addictions
- Family issues (including parenting)
- Relationship/marital issues
- Financial
- Mental health
- Physical health
- Workplace issues (e.g. workload, burnout, etc.)
- Workplace conflict
- General stress
- Grief/bereavement
- Unknown
- Other (please specify: \_\_\_\_\_)

11. Participant's previous experience with other EH psychological health and safety supports/resources: (Check all that apply)

- Employee & Family Assistance (EFAP)
- Peer 2 Peer Program
- EVA
- Learning Opportunities (Working Mind, Road 2 Mental Readiness [R2MR])
- LEAP online courses
- Disability Management Support

- Conflict Management Specialist
- Great West Life Benefits (for mental health)
- Unknown
- Other (please specify: \_\_\_\_\_)

12. Participant's previous experience with external mental health supports/resources: (Check all that apply)

- Doorways Walk in Clinic
- Bridge the gAPP
- Mental Health Crisis line (709 737-4668)
- Child/Adult Central Intake
- Psychiatric Assessment Unit
- Mobile Crisis Response Unit
- Mental Health Patient Navigator
- Online Counselling (TAO)
- CHANNAL
- Support Group (e.g. Alcoholics Anonymous)
- Unknown
- Other (please specify: \_\_\_\_\_)

13. Peer support techniques used (check all that apply):

- Active listening
- Validating feelings
- Sharing a relevant personal experience
- Using open-ended questions/phrases
- Avoiding judgment laden comments or language
- Appropriate body language (e.g. open stance, neutral facial expression)
- Empathetic tone of voice
- No peer support provided
- Other (please specify: \_\_\_\_\_)

14. What resource(s) or service(s) was the participant referred to?

- Employee & Family Assistance (EFAP)
- Peer 2 Peer Program
- EVA
- Learning Opportunities (Working Mind, Road 2 Mental Readiness [R2MR])
- LEAP online courses
- Disability Management Support
- Conflict Management Specialist

- Great West Life Benefits (for mental health)
- Support Group (e.g. Alcoholics Anonymous)
- Doorways Walk in Clinic
- Bridge the gAPP
- Mental Health Crisis line (709 737-4668)
- Child/Adult Central Intake
- Psychiatric Assessment Unit
- Mobile Crisis Response Unit
- Mental Health Patient Navigator
- Online Counselling (TAO)
- CHANNAL
- Other (please specify: \_\_\_\_\_)

15. Were plans made for another session?

- Yes
- No
- We did not meet

16. Type of communication for planned session

- Email
- Telephone
- Video call (Zoom, Teams, etc.)
- In person
- Unknown
- Other (please specify: \_\_\_\_\_)

17. Projected date of planned session: \_\_\_\_\_

18. Was the participant sent a link to the P2P Participant Survey?

- Yes
- No

## Appendix E: Peer Support User Survey

At Eastern Health we continuously strive to improve our services and create the best possible work environment for our staff. As such, the Peer 2 Peer (P2P) program was implemented to support the mental health and well-being of Eastern Health employees. To assess resource need and identify what could be improved over time, we are asking all P2P participants to complete the following survey after every P2P session. It will take less than 5 minutes to complete.

Your decision to participate is voluntary, and your responses to the survey will be anonymous and confidential. The survey must be completed in one sitting, you cannot save your answers and continue later.

This survey is hosted through SurveyMonkey. To learn more about SurveyMonkey’s privacy policy, please click [here](#).

If you have any questions or concerns, please contact [Scott.Taylor@easternhealth.ca](mailto:Scott.Taylor@easternhealth.ca).

1. Please indicate your level of agreement with the following statements.

	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	N/A
I found the Peer 2 Peer (P2P) support session helpful.						
I felt better after the P2P support session.						
During the session, the P2P supporter did <b>not</b> listen to what I was saying.						
I felt that the P2P supporter understood where I was coming from.						
During the session, the P2P supporter shared their own personal experiences in an effective way.						
During the session, the P2P supporter helped me explore options that were available to me.						
During the session, the P2P supporter communicated with me in a non-judgmental way.						
The P2P supporter was <b>not</b> a good fit for me.						

The P2P supporter discussed the limits of confidentiality with me.						
Since engaging in my P2P session, my ability to practice self-care has improved.						
The P2P program is a valuable resource for Eastern Health employees.						
I would use the P2P program again.						
I would recommend the P2P program to other Eastern Health employees.						

2. Please list any suggestions you have for improving the P2P Program.

Thank you for completing this survey! Your feedback will help us improve the P2P program.

## Appendix F: Peer Supporter Interview Protocol

As you may know, the EVA and Peer 2 Peer programs were launched early last year and we have been involved since the start in helping to determine what is working well with these services and what could be improved. In that way, we are going to ask you some questions today about your experience so far as a Peer Supporter with this program, as well as some question about the program in general. Your participation is voluntary so we really appreciate you taking the time for this interview, your opinion is very important to us. The info you provide will be combined with other responses in a way that will make them unidentifiable. We may also use quotes in our final report but your name or other identifying information will not be attached to them. We will record the session if you are alright with that. This is mainly as an assurance for us so that if we miss something while taking our notes, we can check the recording to ensure we accurately capture the info you provide. The recordings will be kept on our encrypted work computers on the EH shared drive.

- So, why don't we begin by you telling us how long you have worked with EH and if you work in a clinical or non-clinical capacity?
- What made you interested in becoming a peer supporter?
- I know it was a while ago, but tell me, how did you find the Peer Supporter training that you attended?
  - How well do you feel it prepared you for the role?
- How many sessions or peer support interactions have you had so far?
  - About how long were they?
  - When was the last one? Thereabouts.
- How do you feel about the support you offered during those sessions?
  - How comfortable did you feel providing support during the session?
  - Were there any forms of support you did not feel comfortable providing?
  - Were there any forms of support that were particularly effective or seemed to resonate with the participant?
  - Was there anything you feel you could have done to better support the participant?
- Based on your experience, do you feel the program is helpful to those seeking the service? Why or Why not? Tell us a bit about that?

- What impact do you feel the P2P program has had or is having on Eastern Health employees, if any? Talk about that.
- What impact do you think it could have and how so?
- In your opinion, what are the strengths of the P2P program?
  - What is it doing right as a mental health support for Eastern Health employees?
- In your opinion, what are the weaknesses of the P2P program or what can be improved?
  - How could it better support the mental health of Eastern Health employees?
- How has being a Peer Supporter impacted you so far?
  - Do you find it burdensome in terms of the time and effort required?
  - Have you found the role fulfilling in any way?
- How do you feel about your current level of participation in the P2P program?
  - Would you like to be more involved, less involved, or stay the same?
- Why do you think the P2P program hasn't had much uptake so far?
- What do you think could be done to address this lack of uptake?
- Do you have anything else you'd like to share?

## Appendix G: Dissemination

### Dissemination Plan - post ending of of the research project

At the conclusion of the research project outcomes will be shared with Eastern Health's senior management team. The learnings will also be shared with Eastern Health's Psychological Safety Committee and will inform future psychological safety programming and approaches. As EVA grows to a provincial scope the research learnings will be shared with partners and will inform EVA, peer support and related programs. Where opportunities emerge the project and research outcomes may be presented with community partners and at workshops/conferences.

### Dissemination Sensitivities

The final report and deliverables provide outcomes of the research project which considers 'will the use of technology to provide more accessible and timely employee mental health supports (including peer support) increase the organization's healthy workplace indicators?'. It is understood that NLWIC may disseminate the research project concepts, evaluation question, methodology, scope, design, and findings.

There are sensitivities and the following is not to be disseminated: employee feedback and survey outcomes, related data, and graphics. This information, taken within the context of the overall report, provides clarity and aligns with the report's findings/conclusion. However, if used in isolation will not provide an accurate understanding of the employee experience.