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VirtualCare
Privacy Impact Assessment (PIA)
Summary

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Executive Summary

Think Research Corporation ("Think Research") conducts a Privacy Impact Assessment ("PIA") on all new solutions developed as part of their suite of cloud-based software applications. The process of conducting a PIA ensures that an initiative or new solution does not intentionally infringe on privacy legislation and that the Privacy by Design principles are applied in all aspects of the product life cycle, from design to development to implementation.

Should an infringement be identified or suggested, a PIA will aid in determining the appropriate means to mitigate the privacy risks and to communicate these risks to senior management and the relevant stakeholders. This PIA will identify privacy requirements, any applicable risks and associated recommendations for VirtualCare, a patient engagement platform that allows health care providers, specialists, allied health and community support workers, and others to provide virtual care to their patients through direct messaging, audio-video conferencing, and secure document sharing.

The use of VirtualCare assists healthcare providers by replacing non-critical, in-office appointments with direct messaging or audio-video conferencing, which allows healthcare providers to deliver care or routine services to multiple patients in minutes. It also allows healthcare providers to easily accommodate their patients who face geographic, scheduling or other barriers to care in a timely and convenient manner. Patients are able to request appointments with their healthcare provider directly through VirtualCare for simpler scheduling without having to call ahead and travel to their provider's office. Patients are also able to receive relevant clinical notes or attach documents, educational materials, and links during the virtual visit, making an individual's health information easily accessible.

Think Research operates VirtualCare in accordance with applicable privacy legislation in the jurisdictions in which the services are provided, such as Ontario's *Personal Health Information Protection Act* (PHIPA). The original PIA was drafted in 2018 and has since been updated and refreshed in 2021. There are four (4) identified risks in total specific to this updated PIA.

Background

The development of the VirtualCare application originated from an initiative from the Ontario Telemedicine Network ("OTN"). OTN's overall vision and mission was to "Enhance Access to Primary Care Services" to help tackle barriers in accessing primary care by spreading and scaling virtual access to primary care services across the province. To assist OTN in achieving this undertaking, Think Research was retained as the vendor to deliver a primary care virtual visits solution. Think Research has since become an official Vendor of Record with OTN for its VirtualCare application.

Think Research designed and developed, in consultation from OTN and its delivery partner, the eHealth Centre of Excellence (eCE), an easy to use, user-friendly solution that allows patients to connect with their primary care provider or an associated provider via video conferencing, audio conferencing or direct messaging, depending on the patient's preference. The solution was designed to support a range of practice and incentive models, including both blended fee-for service ("FFS") and capitation-based models.

The proof of concept (PoC) project took place within the Waterloo-Wellington region. OTN engaged with patients in the region to identify their barriers to accessing primary care, as well as their preferences and priorities with respect to the use of technology and accessing services. The eCE was a partner in the Waterloo-Wellington region that helped identify and engage primary care providers to reduce barriers to adoption and support integration of these technologies into their clinical workflows. This PoC also involved the Women's College Hospital - Institute for Health Systems Solutions and Virtual Care (WIHV) as OTN's service provider in the evaluation requirements for the project. The evaluative partner was later changed to The Ottawa Hospital.

The PoC project has since been completed and use of the VirtualCare solution has expanded across Ontario and other provinces within Canada.

Solution Overview

VirtualCare is accessed through a web browser or dedicated smartphone app with integrated direct messaging. Whether using asynchronous messaging, real-time audio-video conferencing, or sharing clinical documentation between providers and patients, privacy and security safeguards and controls are embedded into the design and technical architecture of the solution.

Within the VirtualCare solution, healthcare providers are able to onboard patients quickly with batch invitations for digital sign-up. The invitations are then disseminated to patients' email addresses, where they can complete the registration process. Alternatively, VirtualCare also allows patients to self-register for an account and select their healthcare provider before requesting an appointment. At this time, the individual must be a known patient within the selected healthcare provider's patient roster.

When an e-visit is deemed clinically appropriate, the solution will allow for three distinct secure methods of communication - video conferencing, audio conferencing or direct messaging. The modality will be determined by the provider for each case based on the appropriateness, patient preference and provider judgement. The solution allows the modality of the interaction to change during the visit if deemed clinically appropriate by the provider. In the case of an urgent care or an emergency, the patient is reminded to go to the closest emergency department.

Multiple technical, administrative, and physical controls are in place to ensure the confidentiality, availability, and integrity of patient data. Think Research has also completed a Threat Risk Assessment (TRA) on the solution to ensure any risks are identified and mitigated in a timely manner. Think Research practices defence-in-depth, wherein multiple layers of security controls are implemented to mitigate the risk that a weakness in any one layer of defence may prevent a breach of sensitive information. Below are some examples of controls in place:

- The infrastructure is hosted on a Cloud Platform which is ISO 27001:2013 certified.
- Maintenance of strict access controls.
- Video and audio features are encrypted using Datagram Transport Layer Security (DTLS). DTLS is a communications protocol that is designed to secure datagram-based applications. It allows client and server applications to communicate in a way that is designed to prevent eavesdropping or tampering messages.
- Data is encrypted at rest and in transit via TLS 1.2 using 256-bit Advanced Encryption Standard (AES-256).

Legislative Authority

Personal Health Information Protection Act, 2004 (PHIPA)

The *Personal Health Information Protection Act, 2004* and its associated regulations, O. Reg. 329/04 were introduced in order to regulate the collection use and disclosure of personal health information (PHI) in the province of Ontario. The PHIPA regulation defines the requirements that the various stakeholders must meet and these requirements provide assurance to the Health Information Custodians (HICs) that PHI is managed appropriately and securely amongst agents, electronic service providers (ESPs) and/or Health Information Network Providers (HINP).

Compliance with PHIPA is a shared responsibility between end users of VirtualCare (e.g. healthcare providers), applicable contracting parties (e.g. OTN and eCE) and Think Research. Each of the healthcare provider's end users of VirtualCare will serve as the HICs and the legislative role that may apply to Think Research may vary depending on the client and the application(s) involved in any given transaction.

- As part of the contractual agreement with OTN, Think Research will be acting as an electronic service provider (ESP) under s.10(4) of PHIPA, "a person who provides goods or services for the purpose of enabling a health information custodian to use electronic means to collect, use, modify, disclose, retain or dispose of personal healthinformation..."[1]. Under the Master Services Agreement with OTN, Think Research is an electronic service provider to OTN, who is acting as the agent and Health Information Network Provider (HINP) to the HICs.

- Pursuant to s.17 of PHIPA, Think Research may be acting as an agent to a HIC, and is permitted or required "to collect, use, disclose, retain or dispose of the personal health information on the custodian's behalf only if, (a) the custodian is permitted or required to collect, use, disclose, retain or dispose of the information, as the case may be[2]".

- When permitting a healthcare provider to send prescriptions or test results to other providers, Think Research may also be acting as a HINP, under section 6(2) of O. Reg. 329/04. A HNIP "means a person who provides services to two or more health information custodians where the services are provided primarily to custodians to use electronic means to disclose personal health information to one another, whether or not the person is an agent of any of the custodians"[3].

Risks and Recommendations

The PIA identified some privacy controls that are associated with VirtualCare, as well as corresponding recommendations to eliminate or mitigate these risks. Risks were assessed in accordance with the Canadian Standards Association ("CSA") Model Code 10 Privacy Principles, as known as the 10 Fair Information Principles, as they apply to VirtualCare. Seven (7) risks were identified in the original PIA when VirtualCare was first launched, and have been solved. There were four (4) risks total (3 low and 1 medium) identified during this assessment.

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[1] *Personal Health Information Protection Act*, 2004, S.O. 2004, c. 3, Sched. A, s. 10(4) [PHIPA].

[2] *PHIPA*, s.17.

[3] O Reg 329/04, s.6 (2).

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Privacy Risk	Description	Recommendation	Risk Level and Status
Risk #1 – Accountability Updates to PHIPA to include provisions related to Consumer Electronic Service Providers	Bill 188 recently introduced several updates to PHIPA, including the new provisions related to Consumer Electronic Service Providers (CESP). Does VirtualCare constitutes as a CESP under PHIPA?	It is recommended that Think Research complete an assessment to determine if VirtualCare falls under the definition of CESP and meets the requirements. Based on this assessment, implementation work may need to be completed to ensure requirements are met. This particular provision is not yet in force in PHIPA.	Low Status: In progress
Risk #2 – Limiting Use, Disclose and Retention	For patient end users who may have inactive accounts for an extended period of time (e.g. 5+ years), there could be risk for holding data longer than required.	It is recommended that an email reminder notice be sent to those inactive users after a set period of time, asking them to confirm if they would like to continue to keep their account active. These individuals would be asked to contact their healthcare provider to confirm whether they want to continue using the application. Think Research may also provide the option of deactivating the account. By deactivating the account, the account remains dormant and all information is archived. Once they are ready to re-activate, the end user may contact Think Research.	Medium Status: In progress
Risk #3 - Openness Updating End User FAQs	End users need to be aware of VirtualCare functionality and features, as well as their own responsibilities in protecting their information when using the solution (e.g. don't use a shared computer when accessing VirtualCare). Think Research has supporting documentation that explains this, however a review is required to ensure this documentation remains current.	VirtualCare Frequently Asked Questions (FAQs) should be refreshed and updated to ensure they are current. Think Research may want to consider implementing a banner to notify end users when FAQs are updated.	Low Status: Closed

Risk #4 – Openness Description of services and safeguards in place to provide to HICs.	To fulfill PHIPA obligations as HINP when providing VirtualCare, HINPs must provide a plain language description of the services provided to the HICs, that is appropriate for sharing with the individuals to whom the personal health information relates, including a general description of the safeguards in place to protect against unauthorized use and disclosure, and to protect the integrity of the information.	It is recommended that Think Research upload the 2021 refreshed and updated VirtualCare PIA summary to the corporate website.	Low Status: Closed

Please contact Think Research's Privacy Office should you have any questions:

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