

Office of Virtual Health Connecting for health

# DIGITAL AND VIRTUAL HEALTH



eHealth 2023 Abstract: "The Virtual Health Atlas: Accelerated Prototyping on New Terrain" I acknowledge with gratitude, that we are gathered on the traditional, ancestral and unceded territories of many nations including the Mississaugas of the Credit, the Anishnabeg, the Chippewa, the Haudenosaunee and the Wendat peoples. These lands are also now home to many diverse First Nations, Inuit and Métis peoples who have cared for and nurtured the lands and waters around us for all time. I give thanks, as an Occupier, for the opportunity to live, work and support care here.





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## **OUR JOURNEY**



Solution



# WHAT IS AN ATLAS?

# atlas noun

### at·las ('at-ləs 🜒

- capitalized : a Titan who for his part in the Titans' revolt against the gods is
   forced by Zeus to support the heavens on his shoulders
- 2 capitalized : one who bears a heavy burden
- **3** a : a bound collection of maps often including illustrations, informative tables,
   or textual matter
  - **b** : a bound collection of tables, charts, or plates
- 4 : the first vertebra of the neck





## **THE PROBLEM**

Virtual and Digital health is complex, new, and takes time to demonstrate its value.

We recognize there is an opportunity for better coordination and collaboration across the province.







## **B.C. Digital Health Strategy Alignment 2023**

### OUR GOAL

A digitally-enabled health system trusted by all who use it.

### OUR VISION

Digital health services, tools and processes support a connected, safe, and trusted health system, empower all users and help address population health needs.

### **Objective 1**

**Empower Patients** 



Improve Provider Experience

### **Objective 3**

Establish a Connected Health System

### **Objective 4**

Enable the Business Enterprise



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## **HOW CAN THE ATLAS HELP?**



When investing in innovative technologies, it is important to the public that health care is utilizing leading edge technology and not falling behind.



Recent health literacy survey data suggests that the public need more confidence in distinguishing and using reliable health resources to make health-related decisions.



Insights show that **technical interoperability** is a priority as the digital health leaders, patients, and providers **demand** an improved and connected health system for information **exchange**.



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All data summarized from Canada Health Infoway (2022-23) Infoway Insights.

## **THE PAINPOINTS**

"The current system is **not intuitive** regarding finding resources."

"I want to learn about work across the province and expand on it versus starting something entirely new and different. We need to be set up for success."

"I want data on virtual health initiatives and to be able to filter things by clinical usage, need, and region."



"It would be so wonderful to be able to speak to what's happening in digital and virtual health across the province and identify trends."



### Marv linician and Practice Leader, Penticton, BC

"I want to search through and see the main contact if someone was involved with something similar to what we're trying to do, whether I'm trying to get a clinical objective, or use a similar tool and want to connect with someone. I can potentially expand on that work versus starting something entirely new and different " I want different permutations of data and be able to see the usage fi

all of the different virtual health initiatives, or if I wanted to filter things

Goals	Frustrations
<ul> <li>I need a way of tracking my competency around virtual health and evaluate it.</li> </ul>	<ul> <li>Current resources are difficult to navigate, or find the right information.</li> </ul>
<ul> <li>New technology is being introduced and I need to learn how to use that technology.</li> </ul>	<ul> <li>I can't be sure if information is up to date.</li> <li>I have very little time.</li> </ul>
<ul> <li>I would like to view case studies to learn from.</li> <li>I went to learn about regulations or policies that may affect the way I practice with new technologies introduced or mandated</li> <li>I want to learn how to evaluate clinical outcomes of new technology</li> </ul>	<ul> <li>There is very little professional practice resources in regards to digital and virtual health care</li> <li>How do I plan new workflows or practice changes when new technology is being mandated without known case studies?</li> </ul>
I want to look at evidence-based research and evaluation reports to help with my clinical decision making     I want to use the competency framework to help	<ul> <li>I want change via digital or virtual health solutions but I need more evidence and research to help introduce it</li> </ul>

#### · I want to identify funding opportunities based on the success of o models deployed and evaluated in othe

Access

I have access to a deskton, but my job has me moving around a lot and would require a solid mobil-

#### finding resources." 'It would be so wonderful to be able to speak to what's happening in virtual health across and identify trends. So you're going to be able to see where you could expand or build on." Enuctratio

Natalie

Hospital Admin Victoria BC 6 years old

"The current system is not intuitive regarding

Goals	Frustrations
<ul> <li>I need knowledge about a service delivery to be able to privile support to the cincuise delivering those services</li> <li>I varant to learn about here capabilities so that can update the practices in my own caparation update the practices in my own caparation.</li> <li>I varant to learn able to share resources with others easily</li> <li>I varant to learn any virtual and cágala haveh products in the market where 6 i start and what is already start in our system (soft result)</li> <li>Who can concert with that can provide ne more information about what has been don's in lived case to revisione to help inform my recommendations to programs i work with</li> </ul>	<ul> <li>Cover resources are difficult to noise, the first set of at enotyme to more than the intermediation.</li> <li>Loan the area if information is up to data.</li> <li>There are constrained were submitted database of submitted and predict the set attraction or system.</li> <li>Loan by register and a submitted or to the submitted or total and one system their or total and one that has been triad and one table to the submitted or total and one programs or submitted or total and one system their or total one constrained one programs or submitted or total in an one program of the area (submitted or total one or system).</li> <li>There as a lask data groups of the area (submitted or total one or submitted or total one programs) to see all operation data by least an or done already.</li> </ul>

#### Access I am usually on my desktop, but it is not unusual for me to be on a mobile device or laptop at home in th

evening.



## THE SOLUTION





## **Product Vision:**

## To become a center of excellence for digital and virtual health Mission :

Drive healthcare transformation through digital and virtual health collaborations, innovation and knowledge mobilization in BC.



## **HOW DID WE GET HERE?**







## METHODOLOGY & APPROACH



- 1. Utilize **RADaR (rapid and rigorous qualitative data analysis)** and **SAFe (scaled agile framework)** for requirements gathering
- Utilize iterative, just-in-time lean and agile approach to create a minimal viable product (MVP)
- 3. Utilize the MVP as a **proof of concept** for engagement with a wider audience

## **RADaR and SAFe**

### Rapid and Rigorous Qualitative Data Analysis (RADaR)

The RADaR technique is an individual and team-based approach to coding and analyzing qualitative data. It is most beneficial for producing project deliverables. It involves rigorously converting raw data through "data reduction" in all-inclusive data tables into a user-friendly format.

Source: Rapid and Rigorous Qualitative Data Analysis - SAGE Journals

### Scaled Agile Framework (SAFe)

"SAFe provides a scalable requirements model that demonstrates a way to express system behaviors: Epics, Capabilities, Features, Stories, Nonfunctional Requirements (NFRs)"

Source: <u>Scaled Agile Framework – SAFe Requirements model</u>





### Virtual Health Inventory



### Sketches



### Wireframe



### Prototype



## **CONCEPTUAL DESIGN & SKETCHES**



## WIREFRAME DESIGN

"A wireframe is a simple visual guide that represents the skeletal framework of a website or digital product. Think of it as the blueprint for your final design."

Typically used after concept sketching and before high-fidelity mock-ups.

https://www.figma.com/blog/how-to-wireframe/







BC Virtual Health Atlas

a tool for Healthcare providers and administrators

### Explore solutions around the province





### **Explore the Atlas**

See the dozens of programs and tools already implemented around BC. Hear stories from patients and clinicians.

Explore All of Virutal Health >



Advanced search ~		
11-HEIDI (HealthLink BC Emergency	BC Cancer VH Initiatives	
Dector-in-assistance) ECS integrated virtual EX physicians into the BT1 unatic call flow to empower patients to safely avoid outlief white.	BC Cancer has implemented and contin- expand the use of Zoom to enable anyw anywhere petient cost with vintual interp expansion planned on its roadmap	
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## **FINAL PROTOTYPES**





Search Keywords

Scope (i) Any

😍 Any

Any

Technology

🏟 Any

Health Authority

Any

O Any

Status Any

#### Virtually-Enabled Post-Covid Recovery Care in BC



#### Post-COVID Recovery Clinics implemented digital strategies to help increase access and improved experience for patients experiencing persistent symptoms after recovering from a COVID-19 infection. The strategies launched in winter of 2021 included the digital assess tool (which allows PCRCs to collect patient questionnaires with efficiency and...

ASK AN EXPERT

ATLAS **Clinical & Professional** Patients & **Digital Health Innovation** Initiatives & Health Systems Stories Planning \* Practice -Community -Exchange • Virtual care near me VH patient resources VH patient education **VH FAQs** 0 Trailblazing Virtual Health Our knowledge translation tool shares BC's virtual health initiatives to learn from one another and advance our collective practices. EXPLORE THE ATLAS > **A**Y Æ Initiatives > Stories > Lessons Learned > Resources > Explore BC's virtual health Discover people's virtual health Navigate outcomes, develop Access toolkits, frameworks, experiences and reflections landscape ments, metrics, and insights education, and helpful links Q Login PHSA VIRTUAL HEALTH ATLAS Health Systems Clinical & Profes Patients & Digital Health In Initiatives Planning \* Exchange BC interoperability guide endor showcase BC health data res STORIES son learner In their own words Lived experiences, data stories, articles, and team presentations offer diverse perspectives to inspire, inform, and NEWS PHILEASE Canada app conner bics to interpreters Deaf, Deaf-Blind a Hearing Patients HS Martiness Provide Harden Transmission Character to ssa Diaczum, a pediatric nurse practitioner at the BC With Video Remote Interpreting (VRI) BC Cancer patient Jennifer Robertson uses virtual The VRI initiative is the first ASL interpreting app for /irtual Health visits have cu tren's Hospital ealth visits for doctor appointments. ips to the cancer clini medics hing and graphic design, Lorem ipsum is a tead more about: Province-wide Z only used to demonstrate the ead more about: P ual form of a document or a typeface without rely re Initiative rpreting (VRI) on meaningful content. Lorem insum may be used laceholder before final copy is available. preting (VRI) ASK AN EXPERT

PHSA VIRTUAL HEALTH

Login

Q

Read more

#### PHSA VIRTUAL HEALTH ATLAS

Health System

Clinical & Professiona Practice

**Digital Health Innovation** Exchange

Q

#### Home > Initiatives

### Provincial Video Remote Interpreting (VRI)

#### 7 min read

Effective communication between patients and care-providers is a key ingredient for better patient outcomes.

Overview Lessons Learned Technology Solution Additional Resources Organizers & Collaborators

LANGUAGES BY AUDIO		LANGUAGES BY	LANGUAGES BY VIDEO	
240	27 1 A	<b>40</b> (Including ASL)		
RESPECT	SAFETY		APPROPRIATENESS	
EFFECTIVENESS	EQUITY			

These ratings are part of a self-assessment completed during content intake for this initiative. The assessment is based on the BC Health Quality Matrix Companion Guide and Canada Health Infoway technical dimensions of virtual health experience. Review the self-assessment rubric here.

### **Project Details**

Effective communication between patients and care-providers is a key ingredient for better patient outcomes. Even within the same language, definitions and meanings can easily be misconstrued, so it is important to address interpretation in a culturally meaningful way. VRI offers an alternative to interpretation in-person and via phone to help enhance communication between healthcare providers and patients who face language barriers.

BC is home to people who speak many different languages, including Punjabi, Cantonese, Mandarin, Farsi, German, Tagalog, American Sign Language (ASL), and more. Having access to language interpretation in physician appointments, hospitals, and other healthcare settings is an important part of delivering safe and linguistically and culturally appropriate care. For Deaf, Deaf-Blind, or Hard of Hearing (DDBHH) individuals, having access to sign language interpretation service when accessing health care is a constitutional right. The Provincial Language Service of Provincial Health Services Authority (PHSA), which offers interpreting services for health authorities and private physician offices in person and by phone, had received over 160,000 requests for interpreting services in 2019 alone. Virtual language interpretation provides additional access to language interpretation to help ensure equitable care for patients who face language barriers. This is needed now more than ever with the changes resulting from responses to the COVID-19 pandemic, including the dramatic expansion of virtual healthcare, safety precautions that limit the presence of a support person in ambulances and medical appointments who may be able to translate, and the use of protective masks that prevent DDBHH patients from reading lips and facial expressions.

#### **KEY GOALS**

 To ensure equitable access to health care for limited English proficient and Deaf and hard of hearing patients across the province To offer an alternative solution in additon to interpretation in-person and via phone To observe cost efficiency outcomes for both planned and unplanned health visits

#### Stories

Here are some stories of various VRI implementations for emergency services and other healthcare areas.



#### With Video Remote Interpreting (VRI)

In publishing and graphic design, Lorem ipsum is a placeholder text commonly used to demonstrate the visual form of a document or a typeface without relying on meaningful content. Lorem ipsum may be used as a placeholder before final copy is available.

#### Video Remote Interpreting (VRI)





The VRI initiative is the first ASL interpreting app for paramedics

Watch video



Spurred by positive feedback

View article

#### Lessons Learned

British Columbians who speak languages other than English or French and for those who are Deaf, Deaf-Blind, and Hard of Hearing (DDBHH), language barriers can lead to challenges and frustration when accessing healthcare. The VRI pilot project in 2020 in select clinical and hospital settings in the Lower Mainland received positive feedback from providers and patients - 97% of patients and 99% of providers reported wanting to continue using VRI - and the number of requests for VRI increased at the Vancouver General Hospital and Lions Gate Hospital

An evaluation of the year-long pilot initiative showed the following results for patients who face language barriers and patients who are DDBHH:



#### Reduced average length of stay in hospital, readmission rate, and average time in ED

A pre- and post-implementation comparison in a geriatric inpatient unit and ED at VGH showed statistically significant reductions in average length of stay (by >7 days), 7-day readmission rate (by 69%), and average time in ED (by 3 hours) for this population

#### Decreased rate of short-notice cancellation for interpreter requests

At BC Cancer Vancouver, the rate of short-notice cancellation (i.e. requests cancelled within 24 hours prior to start time) historically ranged from 10-15% but dropped to 10%

#### Reduced rate of unmet requests for an interpreter

The overall rate of unmet requests for an interpreter decreased from above 5% to below 5% (a statistically significance reduction) during the 2020-2021 fiscal year.



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ics to interpreters serving



Implementation, Sustained

Corporate Mobile Devices, SaaS, SMS, Tablets

Last updated: Nov 09, 2021

Scope Province-wide Healthcare or Speciality Area

All

Technology

Status

Target Patient Population Deaf, Deafblind, Hard of hearing, Limited English Proficiency

so it's ba

Log in

Patients &

Community

Initiatives &

## OUTCOMES & CONCLUSION



Office of Virtual Health Connecting for health Our processes helped us achieve:

- 1. Low-stakes, high-fidelity clickable wireframe prototype to showcase design and intended purpose
- 2. An MVP of the platform powered by an interactive content management system

# OUTCOMES & CONCLUSION





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Thanks for listening!

