Greater Hamilton Health Network

Building Community Health Together

Health Care Navigation Service
Formative Report
And
Phase Two Implementation Overview

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Document Control

Version History

Version	Date	Changes
1	March 7/22	Initial outline
2	March 15/22	Review suggested edits & Update with new information, added in notes from meetings
3	March 21/22	Final draft for distribution
4	March 23,2022	Added project outline, final edits, references
5	March 24,2022	Added executive summary, sent to stakeholders for feedback
6	March 29,2022	Added land acknowledgement, incorporates feedback from Primary Care, Community Pharmacy, revised budget with more details, added patient vignettes to body of report
7	March 30,2022	Final edits, added OH vision and next steps to document, revise project plan

Apporvals by GHHN Executive Council (to meet April 2022)

Name	Organization	Signature	Date

Contents

Land Acknowledgement

The work of the Greater Hamilton Health Network and its Partnership Council members takes place on traditional territories of the Erie, Neutral, Huron-Wendat, Haudenosaunee, and Mississaugas. Indigenous people who have lived here since time immemorial and have deep connections to these lands.

This land is covered by the Dish With One Spoon Wampum Belt Covenant, which was an agreement between the Haudenosaunee and Anishinaabek to share and care for the resources around the Great Lakes. We further acknowledge that this land is covered by the Between the Lakes Purchase, 1792, between the Crown and the Mississauga of the Credit First Nation.

The GHHN catchment area continues to be home to vibrant, diverse Indigenous communities who have distinct and specific histories and needs, as well as a constitutionally protected treaty. The GHHN is located next to Six Nations of the Grand River and Mississaugas of the Credit but most Indigenous peoples in the GHHN catchment area live in urban Hamilton. We honour this diversity and respect the knowledge, leadership, and governance frameworks within Indigenous communities.

We are grateful for the opportunity to live, meet, work, and are committed to engaging and building meaningful relationships and partnerships with the Indigenous communities, Six Nations of the Grand River, Mississaugas of the Credit and Urban Indigenous populations on this territory.

Acknowledgements

This report would not have been possible without the input of over 150 respondents who took the time out of their busy day to meet with the GHHN, complete the surveys and provide feedback into this report. These respondents represent stakeholders from all sectors in the GHHN which included Primary care ,community, urban core, mental health & addictions, patient advisors, racialised populations, congregate settings, pharmacy, Indigenous peoples, public health, shelter health, city housing and paramedicine. We'd like to acknowledge and extend our sincere thanks to providing valuable input into the creation of this report. It represents the voices of stakeholders across the GHHN and we hope it will be a valuable resource to advise OHW on the development of the HCNS and the execution of their Digital Strategy.

OHW Leads were instrumental in this report's completion and the GHHN thanks them for the support in providing timely communication during times where rapid pivots required reframing the acitivty.

Executive Summary

Meet Harold. He is a 56-year-old male with Diabetes, chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF). He's on multiple medications and is uncertain what each one does. He's also the sole caregiver of a 29-year-old woman who has autism spectrum disorder (ASD). He's on service with home care (HCCSS). Today Harold is feeling increasingly tired and depressed. He feels suicidal but is not wanting to commit suicide because he's worried about who will take care of his daughter.

It's the year 2006. Harold doesn't know who to reach out to for help. Although in existence he's not aware of Healthline, 211 or Telehealth. He has questions relating to his medications but his pharmacy is closed. He can't leave his daughter alone to go to the hospital and his Doctor can only see him in 2 weeks. He calls his care coordinator and leaves a message asking for help. Over the course of a day he continues to feel worse and by the evening has no choice but to call 911. Paramedics arrive and rule out any immediate life threat. His physical exam is normal, sugar is normal, his 12 - lead in non-diagnostic, his vital signs all appear normal except for slightly lowered blood pressure. He states his BP is "always low". Paramedics start an IV and transport him to the ED where he sits on offload delay for 4 hours. Once seen ED staff complete blood work and repeat the 12 lead EKG. His 12 lead is unchanged from recent ones performed @ 1 month ago. He is told to rest and follow up with his family physician asap. Harold's concerns regarding worsening depression are not addressed by the busy ED staff who have no access to Psychiatric services.

Each year the Ministry spends approximately $38.2M on programs intended to help connect patients with health and social services. This includes 211, Telehealth Ontario, The Healthline Information Network and Connex Ontario. There are numerous ways to access these services making it confusing for Ontarians who are seeking health related information.

Ontario Health's goal is to ensure that there is no wrong door for Ontarians when they are seeking healthcare navigation support. This will be accomplished by building a value based, connected, trusted and evolving service that is designed based on stakeholder input, human-centred design, and clinical oversight. This health care navigation service (HCNS) will be embedded within Ontario's Digital First for Health Strategy and will be accessible to all individuals including providers and member of the public.

Leveraging the OH vision the GHHN will work with multiple stakeholders across Haldimand, Hamilton and Niagara North West to ensure HCNS is created based on principles of equity, accessibility, evidence based information and user centric design.

This formative report focuses on the Health Service Directory (HSD) part of the Digital First for Health Strategy. This HSD should be the "one source of truth" for all components of the Strategy.
In order to understand the challenge, the GHHN undertook the following activities:

- Comprehensive Environmental scan - Canada, US, UK, Australia
- Rapid informal literature review
- Meetings with other jurisdictions – England, Reno Nevada, Queensland Australia and Alberta
- Meetings with GHHN Stakeholders representing multiple health sectors including Primary Care, Acute Care, Community Programs, Palliative Care, EDI Council, Patient Advisory Council, Vanier Towers, City Housing, Shelter Health Working Group
- Review of Assets & Directory Responses (N=105)
- Develop an initial implementation plan for 2022/23

This exploration yielded rich information which surfaced two key opportunities:

- Creation of a federated database where existing services (211, Healthline, ConnexOntario, Redbook) integrate into a centralised system used to manage information assets of the Digital First Strategy.
- Digital, Telephone and In-Person channels that utilize this information need to be aligned so that the information remains the same regardless of the access channel.

Prioritized Opportunity Statements

Analysis of the information gathered has identified a few opportunities for improvement.

Screening for urgent conditions

None of the available NAVIGATOR APPS displayed an initial screen advising the user what should warrant a 911 response.

Siloed workstreams within GHHN Alignment & Interoperability

Siloed short-term one-time funding requests and proposals that have been directed to individual partners within the same OHT result in multiple overlapping workstreams.

Unrealistic funding envelopes

Very short lead times and minimal funding prevents the full development of initiatives.

Equity and Access

Existing NAVIGATOR APPS lack a full set of features which ensure equitable culturally sensitive access to the information.

Missing Services

Although very comprehensive, existing assets may not provide a complete suite of programs to address patient needs.

Marketing & Public Engagement

In general, the public is not aware of 211, Telehealth, or Healthline leading to the default behaviour of calling 911 for many clinical problems.

Navigator resources are lacking

Many services do not have dedicated or consistent Navigators who are able to work with clients and assist with system navigation.

Lack of 24/7 support

Many services are not available 24/7 including pharmacy advice and mental health and addiction services.

Follow up & Care Coordination

Follow up care is often siloed between providers leading to delays in providing and coordinating care.

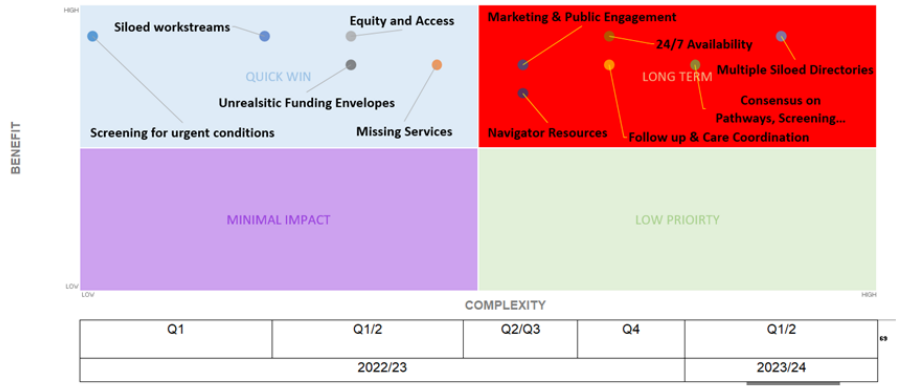
Consensus on Pathways, Screening Tools and Materials

There are several different pathways, screening tools and material utilized for the same clinical pathway resulting in inconsistent care and difficulty in system improvement.

Multiple Siloed Directories – Interfaces between existing HSDs

Multiple, siloed HSDs create potential duplication, challenges with synchronizing information, and multiple access points for similar information.

Each opportunity statement was ranked based on assessed benefit versus implementation complexity. These were then plotted on a benefit X complexity diagram. This information was then used to create high-level implementation plan spanning 18 months.



It's the year 2029. Ontario Health has executed its Digital Health Strategy and branded it Ontario HealthScape. Following a well managed media campaign most of the public is aware they can get health information online or by phone. Although his Doctor is available for virtual visits he can't get an in-person appointment for 2 weeks. Uncertain what to do he navigates to the Ontario HealthScape webpage. On the landing page, an artificial intelligence based interactive tool determines there is no immediate need for 911 and connects him directly to the emergency communication nurse (ECN). He states his chief complaint is weakness and depression. Entering this information into the system creates a list of over 200 possible causes. As the ECN collects information about his allergies, medications, medical history and current presentation, the system rules some of these out and presents evidence based information to the RN. After 5 minutes, the system recommends Harold be seen within 1-3 hours. Harold tells the RN that he can't leave his daughter alone. Recognizing that Harold may need on-scene assessment and some blood work the RN dispatches a mobile integrated health (MIH) unit. When the MIH unit arrives an in-depth physical and point-of-care blood work is performed. A virtual consult is set up between the MIH team, the ECN, and the virtual urgent care centre (VUC) to discuss disposition. His GP is contacted who joins the virtual visit. She knows Harold very well and is aware of the ongoing health issues. All parties determine that Harold does not need to attend the ED and can be followed up with at home. A community pharmacist is linked into the call to answer his medication related questions. An appointment is booked via the on-line booking portal for a next day follow up visit by the community RN. Harold's GP books an in-person appointment in 2 weeks. While in the home the MIH team shows Harold how to navigate the on-line portal which includes a wealth of information regarding his conditions, medications and a symptom checker that can route the information back to the ECN if the AI determines the need for RN advice. In response to Harold's concerns regarding depression the ECN connects him directly to the 24/7 mobile mental health team (MHAT who immediately conferences in on a 3-way phone call. MHAT is able to provide support and sets up regular check-ins with Harold including an in-person visit the next day. In addition, the ECN sends a referral, through OCEANS, to a volunteer organization that provides assistance with Harold's daughter should he need to go to the hospital. A referral is also sent to Ontario HealthScape for a person to go to meet with Harold and show him how the on-line system works. Prior to departing a complete note of the encounter is sent to Harold's care team including his GP.

Background

A Patient Vignette

Meet Harold. He is a 56-year-old male with Diabetes, chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF). He's on multiple medications and is uncertain what each one does. He's also the sole caregiver of a 29-year-old woman who has autism spectrum disorder (ASD). He's on service with home care (HCCSS). Today Harold is feeling increasingly tired and depressed. He feels suicidal but is not wanting to commit suicide because he's worried about who will take care of his daughter.

It's the year 2006. Harold doesn't know who to reach out to for help. Although in existence he's not aware of Healthline, 211 or Telehealth. He has questions relating to his medications but his pharmacy is closed. He can't leave his daughter alone to go to the hospital and his Doctor can only see him in 2 weeks. He calls his care coordinator and leaves a message asking for help. Over the course of a day he continues to feel worse and by the evening has no choice but to call 911. Paramedics arrive and rule out any immediate life threat. His physical exam is normal, sugar is normal, his 12 - lead in non-diagnostic, his vital signs all appear normal except for slightly lowered blood pressure. He states his BP is "always low". Paramedics start an IV and transport him to the ED where he sits on offload delay for 4 hours. Once seen ED staff complete blood work and repeat the 12 lead EKG. His 12 lead is unchanged from recent ones performed @ 1 month ago. He is told to rest and follow up with his family physician asap. Harold's concerns regarding worsening depression are not addressed by the busy ED staff who have no access to Psychiatric services.

Ontario Health (OH) Vision

Each year the Ministry spends approximately $38.2M on programs intended to help connect patients with health and social services. This includes Telehealth Ontario, Health Care Connect, Local Healthlines/ The Healthline Information Network, Health Care Options and Connex Ontario. There are numerous ways to access these services – multiple phone numbers and multiple websites – making it confusing for Ontarians who are seeking health related information.

Ontario Health's goal is to ensure that there is no wrong door for Ontarians when they are seeking healthcare navigation support. This will be accomplished by building a value based, connected, trusted and evolving service that is designed based on stakeholder input, human-centred design, and clinical oversight. This health care navigation service (HCNS) will be embedded within Ontario's Digital First for Health Strategy (figure 1) and will be accessible to all individuals including providers and member of the public.

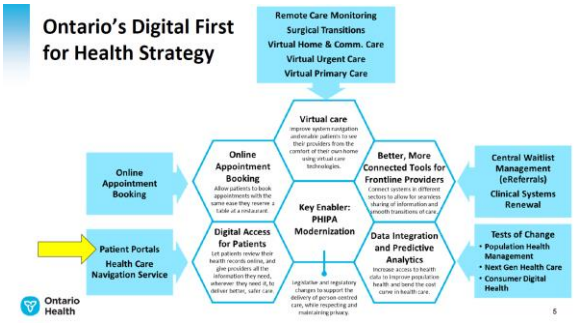


Figure 1: Ontario's Digital First for Health Strategy

Greater Hamilton Health Team (GHHN) Vision

Leveraging the OH vision the GHHN will work with stakeholders across Haldimand, Hamilton and Niagara North West to ensure HCNS is created based on principles of equity, accessibility, evidence based information and user centric design. This will be accomplished by working with multiple stakeholders in the community, acute care, and primary care to ensure equal representation of the unique needs each respective group represents.

Definitions

Initial scoping of this work demonstrated the need to clearly define terms. There are many interconnected components to HCNS which interface at various points within the user's journey. This work is focused on an analysis of the Health Services available within the GHHN and the various Health Service Directories that are accessed in provisioning this service. Table A provides a set of definitions for reference when reading this report. These definitions are based on those provided by OH as well as standard terminology used in other jurisdictions.

Table A: Definitions of various components of a Health Care Navigation Service

Term	Definition
Directory of Service (DoS) also known as a Health Service Directory (HSD) – note that HSD is the preferred term for Ontario	In its most generic form this is a database that includes a list of programs, hours of operation, referral criteria, services provided, clinical pathways, and other related information. It can *also* include standardized patient information such as information relating to allergies or prescription medications. In addition, it should include a standardized consent for sharing information across providers and services.
Patient Portal	A portal into an individual's patient record that is accessed via a secure log in.
Navigator versus NAVIGATOR APPS	To differentiate these two, potentially confusing, terms this report will use "NAVIGATOR APP" when referring to the software based tool and "Navigator" when referring to the person involved in providing navigation services. In the context of OH Digital, NAVIGATOR APP represents the software platform presented to a user either via a webpage or a smart phone app. NAVIGATOR APPs can be accessed anonymously for general information or symptom checking. They can also be accessed after identifying oneself to view their respective patient chart. Navigator refers to an HHR function within an organization where a team member provides navigation services to a client (1).
Warm Handovers	A warm handover occurs when there is human to human interaction. This can be in person, over the phone or via a virtual channel. This must occur between two or more providers *and* the individual seeking care. Warm handovers are when a patient is supported by their current provider in making a new referral or accessing a new service. Current service providers will either attend the new service provider with the patient, make the phone call together, or virtually apply with them online. Warm handovers are acknowledged as being the safest method to share information regarding the care a person has received.

Clearly defining the difference in services provided is also important in understanding how the HCNS will function. Table B summarises the different models. HCNS' goal is to move to a true Patient Navigation Model.

Table B: Comparison of various information access models. These can be accessed via phone and in person. Care -coordination by web access is currently not available.

Model	Find services	Help with access to those services?	Assess & coordinate actual access?	Anonymous access?	Need to identify themselves?	Support and active follow-up?	Population
Information & Referral	✓			✓		Little follow-up	All
Patient Navigation	✓	✓	✓	✓	✓	At times	All
Care Coordination	✓	✓	✓	✓	✓	Always	Usually registered clients

Approach

In order to achieve the deliverables for this project the GHHN completed the following activities:

- Comprehensive Environmental scan
  - Canada, US, UK, Australia
- Rapid Literature review
- Meetings with other jurisdictions
  - UK
  - Reno, Nevada
  - Queensland, Australia
  - Alberta
- Meetings with GHHN Stakeholders representing multiple health sectors:
  - Primary Care, Acute Care, Community Programs, Palliative Care, EDI Council, Patient Advisory Council, Vanier Towers, City Housing, Shelter Health Working Group
- Review of Assets & Directory Responses (@104)
- Develop an initial implementation plan for 2022/23

Limitations

With the emergence of the OMICRON variant many stakeholders were unable to help with the information gathering activities. In order to maximize efficiency existing relationships with various stakeholders enabled the HCNS lead to present the project to large groups of individual programs in a single meeting. There remain several key stakeholders who still need to contribute their voice to this development. Notably Indigenous, Black Health, 2SLGBTQ+ and the Francophone community will need to be further consulted during 2022/23 to obtain a more complete picture of their needs.

Comprehensive Environmental Scan

A comprehensive scan of NAVIGATOR APPS across Canada, US, England and Australia was completed. Details can be found in Appendix A. Of these, two are notable examples – Alberta's MyHealth and England's NHS111 . These sites have evolved over 8-10 years. They both include access to the patient chart, health related information, patient care handouts, medications, topics listed A to Z and various other tools to assist individuals seeking health information. When compared with the NAVIGATOR APPS in Ontario there are a few opportunities for improving Ontario's versions:

- Plain English is used by both sites
    - Example "Find a Doctor" versus "I want Primary Care"
- Information is stored in one centralised database accessible by users via a specific view.
- Very early on the user is screened for emergent conditions that would require a 911 response
    - For example, "Check it's not an emergency" screen is the first screen presented to a user on entering the NHS111 website

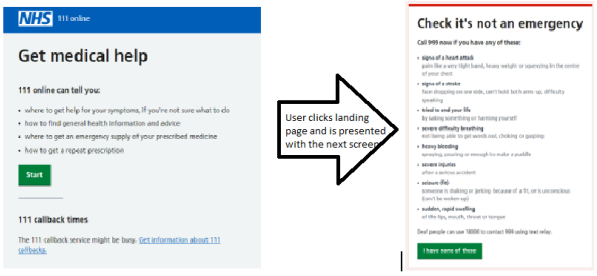


Figure 2: When a user access NHS111 online (https://111.nhs.uk/) and clicks "Get Medical Help" this screen appears to rule out the need for paramedic response.

- NHS111 offers access to text relay, translation, and BSL from the landing page
- NHS111 has been certified as a Class 1 medical device
- NHS Directories includes a suite of APIs to enable interoperability with other platforms
- NHS Directories has formal policies for managing members (see link)

Analysis of Current State in the GHHN

Assets & Programs

A total of **105 responses** were received from stakeholders outlining the current state in the GHHN. **Hamilton represented 69% and Haldimand accounted for 13% of the responses**. Others were not coded clearly with one response from Halton. Information for Niagara NW was missing. Populations served included all priority populations identified by the GHHN. In particular; seniors, mental health and addictions (adult and child), complex chronic disease, Francophone, rural and the LGBTQ+ community. **Absent from this was detailed information regarding Indigenous, racialized populations, immigrants and refugees**. Figure 2 below plots the various groups identified by the survey.

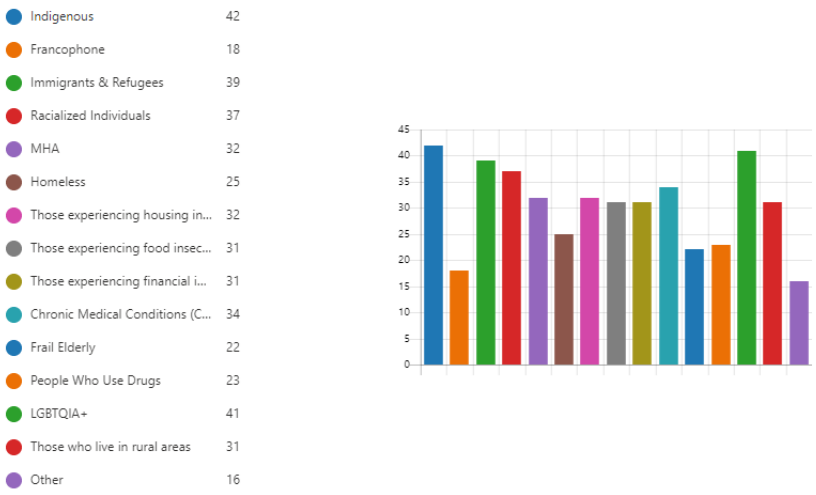


Figure 2: Populations served by programs within the GHHN

Population sizes served by each respective program varied widely from as little as 20 to as large as the GHHN's catchment area. **Francophone offerings** were provided by 28% of respondents while **Indigenous offerings** were claimed for 49% of the programs. However, **only 5% of respondents had an Indigenous Navigator on staff and less than one percent had a francophone Navigator**.

As shown in Figure 3, many programs provided **virtual care (86%)**. Of note 63% of these included telephone services and 27% included short messaging service (e.g. texting) a form of virtual care.

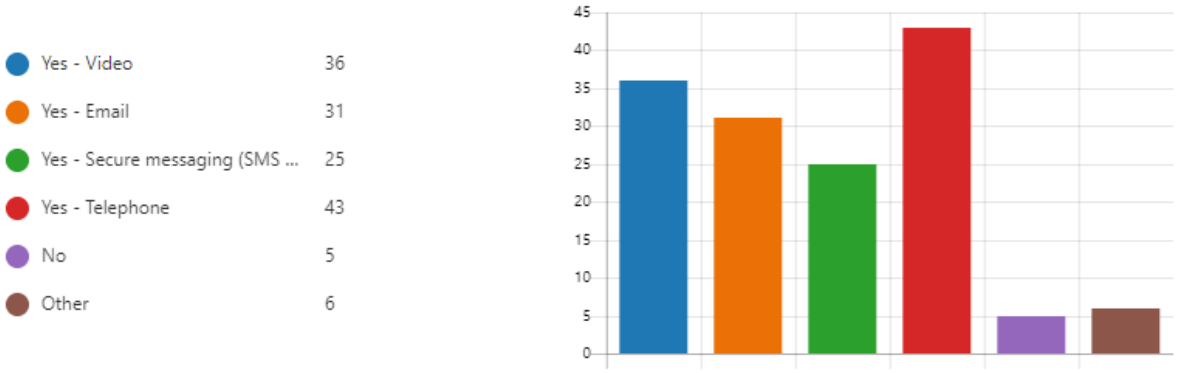


Figure 3: Organizations reporting access to virtual care options

Intake for services largely involved an initial intake session where the client was assessed for eligibility. Several services required a referral from another provider. **Only 6% allowed self-referrals**. Calls are first triaged by an intake coordinator and then subsequent follow-up appointments are booked. In some cases (32%) there is 24/7 coverage but many of the services are only provided during the day.

Of the respondents 24% that listed **warm handoffs.** All warm handoffs were completed between the client and provider(s). **Follow ups** are completed with clients at varying intervals depending on clinical needs. Some occur within hours while others occur periodically at scheduled times over a period of up to 30 days.

Programs employ various **escalation processes** for clients that deteriorate. Most respondents (34%) indicated that there is no escalation process in place. A 24-hour line is available in 11% of the cases. In 8% of the cases MHA related programs utilize COAST. A crisis service is used 15% of the time. For the remainder (23%) the escalation results in a call to 911.

Standardized screening tools are utilized by 66% of respondents. Most organizations use the same tool for specific presentations. For example, the Columbia Suicide Severity Screening Tool was consistently used to assess risk for suicide. In the case of CONNEX, respondents indicated that "CONNEX has a standardized tool" but did not elaborate on the precise composition of that tool. Some providers, such as Community Paramedic (CP) programs are not utilizing standardized clinical screening tools to their full advantage.

Of the respondents 32% provided **24/7 coverage**. Only 28% of MHA organizations provide 24/7 coverage. For example, Mobile Crisis Rapid Response Team (MCRRT) is available 365 days/year but only operates between 08:00-18:00.

Formal partnerships with the OHT exist for 88% of the respondents with 3.9% indicating unsure and the balance indicating that they did not have formal relationships. Of the respondents, 37% had formal relationships with organizations outside of the OHT.

Many indicate they have **long wait lists and services are maxed out**. **Concerns regarding stable base funding are common.** Many organizations have indicated pressure due to COVID. Several highlighted the **challenges associated with inadequate staffing** which results in delays of up to 24-48 hours. One potentially underutilised service is community pharmacy which indicated that pharmacies are interested in establishing closer ties with the broader health community.

Directory Usage

Of the 40 respondents which answered the surveys, **Health Service Directories (HSD) were used by only 10 (25%).** Many organizations utilized more than one HSD. One example is the City of Hamilton which used CONNEX, HealthLine, RedBook and 211. In some cases, staff would use existing directories as well as printed resources accumulated over the years. In one case, the team would consult a printed document of services that listed only phone numbers. Figure 4 below illustrates the breakdown of usage. Funding source was not known by 60% of respondents.

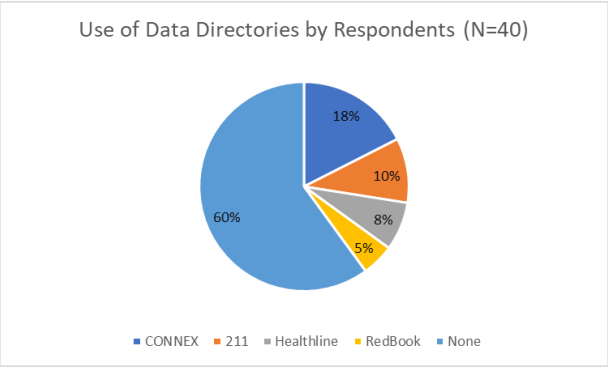


Figure 4: Chart showing HSD Directory Utilization

Many respondents accessed health services using **known and historical partners**. Being familiar with these partners and their responsiveness was a key factor in this behaviour.

Most respondents (98%) used the directories **most often to search for MHA services followed by community services (10%) and primary care (7.5%)**.

All respondents accessed the directories from a **digital platform** but only 60% felt that patients would access them in the same way. Although directories were considered **easy to use** (90% of respondents), only **50% of respondents felt the directories supported 90% of their day-to-day queries**. When asked about the comprehensiveness of the directories **40% felt that they did not include a complete set of services**. When they did yield information, **respondents felt that it was up to date 100% of the time**. Sixty percent felt that they supported easy transitions of care.

Some respondents noted that 211 does a very good job of providing information but needs to be updated more frequently. Another note indicated that **coordination/connection is needed between the various directories**.

All organizations stated that these directories were **accessible to patient and other visitors**. However, they commented that Healthline and 211 are "excellent but many of **our clients do not have on-line access, nor do they have the cognitive ability to adequately use these services**."

Notes from Stakeholder Meetings

While establishing the current state several meetings were arranged with stakeholders from various groups. Notes compiled provide further insight into specific stakeholder needs. This section collects several notable quotes from those meetings.

Table C: Notable quotes from interviews with stakeholders

Stakeholder	Quote	Notes
Public	"I don't want to be on hold for hours like that other service"	Directly related to 811 and the need to ensure calls are answered within a defined time period. From the environmental scan, the Australian and English systems define 90 seconds as acceptable.
Public / Indigenous / Francophone / Black Health / Urban Core Community Programs	'We want to be involved from the ground up not as an afterthought'	A consistent ask from many stakeholders. This emphasizes the importance of a true co-design approach with early stakeholder input.
Public	"What if I don't have a smartphone?" "Will the web's information be available via phone?"	Highlights the need to ensure multi-channel access into the system. Alberta, Australia, Reno Nevada and England all stated that there is roughly 50/50 access via digital and phone. This also highlights the need to have consistent information and access provided by both channels.

Table C (cont) : Notable quotes from interviews with stakeholders		
Public	"I don't want to waste my time only to be told to call 911 and repeat my whole story"	Highlights the need to have robust warm handover processes. In the case of Reno Nevada callers into their line can be immediately transferred to 911 along with the information that was gathered.
Public	"Where would I even start?" "What if I'm not sure about going to the emergency department?" "How do I know if what I'm experiencing is serious?"	This is an important consideration. NAVIGATOR APPS should be designed with plain language menus such as "I want to check my symptom". For example, in Alberta's MyAlbertaHealth there is a clear link to symptom checkers. Alberta uses "Find Healthcare" which then leads to an option for "Find a Doctor". This is more intuitive than "I want Primary Care" because many people may not know what Primary Care means. In addition, evidence from other jurisdictions indicates that access to a clinician, usually RN, is required to further define the problem *and* there needs to be an ability to dispatch a response unit to the person for hands on assessment
Indigenous	'I'm Indigenous and I want to speak with another Indigenous person or see Indigenous specific information.' Versus 'I'm Indigenous and I want to speak with another Indigenous person or see Indigenous specific information.' "All people involved should have education on Indigenous health needs and culture"	Indigenous individuals have unique needs that are probably best served by an Indigenous specific part of the NAVIGATOR APP and 811. They should have the choice to opt out and go to a non-Indigenous person as well. This highlights the need for personalization in the NAVIGATOR APPS.
Community Partners	"We would like to have more input into the development. Sometimes we feel our voice is not heard over the hospital's"	Greater involvement by community partners would lead to a more robust and usable service. Current NAVIGATOR APPS appear to be very hospital centric with little interactive features to help guide users to community services.

Populations identified by GHHN Health Equity Council	"There should be access to gender affirming care services" "Unique needs of the community" "Accessing culturally specific care is difficult"	From day one there needs to be stakeholder engagement and co-design to ensure that the service meets unique needs of individuals from the following 7 populations: • Indigenous • Francophone • Black Health • Immigrants & Refugees • Two spirit and LGBTQIA+ • People who use drugs Rural Health
Urban core	"System can't fail even once or they will never use it again"	When speaking of marginalised individuals exposed to a high deprivation index trust is a commodity that needs to be developed and protected. This would require a robust and accessible service that would most likely be in-person or phone rather than digital.
Palliative Stakeholders	"Need to focus on psychosocial / spiritual supports as well"	This appears to be lacking in the current NAVIGATOR APPS
Many stakeholders	'Funding needs to be more consistent. Ideally Navigator positions should be base funded'	Many stakeholders state that there is inadequate funding to provide 24/7 coverage. In one case, a person acts a volunteer navigator and communicates with clients only via email.
Primary Care	"There is very little funding for after hours supports"	Primary Care, as the central medical body for HCNS, should be funded adequately to provide 24/7 availability of a Navigator.
Community Paramedicine	"It seems like things are always changing" "It would be good to have one place to go and find information, send/receive referrals"	CP often relies on established relationships with one persons or persons. They are often unaware of directories such as 211, Healthline or CONNEX. On the other hand, other health sectors may not be aware of the services CP provide because they are not currently listed in any directory.

Other features requested include:

- Ability to change on screen language
- Ability to customize their screen layout and available options
- Text to speech or speech recognition for the visually impaired
- A symptom checker that gives advice in terms of where to go
- Easy to use menus
- Culturally sensitive terminology – e.g. supporting gender identity
- Ability to book appointments through the app e.g. COVID vaccinations
- Ability to view their own medical record
- Plain English descriptions
- One place for all health needs such as booking appointments for Dentist, renewing prescriptions, and viewing wait times in hospital EDs

Existing Ontario Health Service Directories

Ontario 211

Ontario 211 is part of a North American wide information and retrieval service. In Ontario, 6 independent organizations leverage voice over IP technology (VoIP) to operate as a single in-bound 24/7 contact centre that is quickly scalable to handle increased call volumes. In addition to the telephony channel Ontario 211 provides a web based tool as well. Ontario 211 is funded by Ontario Ministry of Children, Community & Social Services and acts as the backbone organization and transfer payment agency for the 6 organizations.

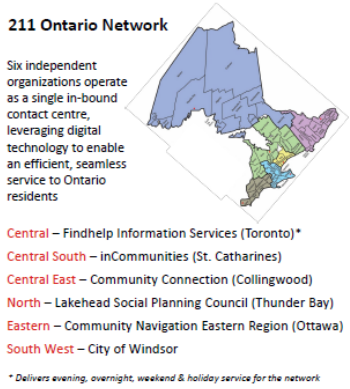


Figure 3: Six independent organizations form the Ontario 211 system

Over 60,000 services are available in 211. Records include information regarding services provided and criteria for access. Annually each of the services are contacted to update their information. In addition, 211 monitors news and social media for changes or additions to the services. Business intelligence is freely available to external parties.

All service Community Navigators are AIRS accredited and adhere to rigorous quality standards. Translation services are available in over 150 languages. Services are focused on determinants of health as well as crisis intervention.

Figure 4: 211's Community Navigators provide personalised assistance, connecting people with local services that support economic and social conditions.

In 2015, 211 partnered with the Georgian Bay Family Health Team (FHT) to create the Closed Loop Referral Pilot. This has evolved to 10 FHTs, 2 Paramedic Services and Three Hospitals. In 2021, this promising model helped 1224 individuals by connecting 50% of them to additional services and reducing 911 calls by 28%. Further evolutions have created the Community Information Exchange platform – a collaboration with South Georgian OHT, OCEANS eReferral Network and local service providers.

Technical infrastructure has evolved into a digital platform that enables cross-sectorial data integration to support care planning. An interactive BI tool is available for use to anyone who accesses the website. A snapshot of activity in the GHHN area is shown below.

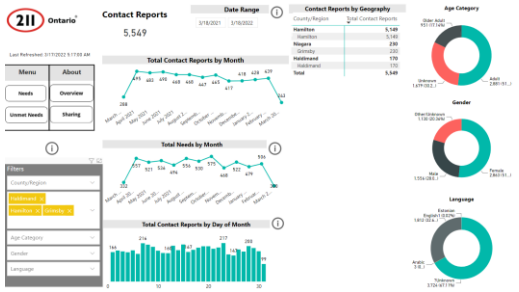


Figure 5: Screen capture of data between 03/18/2021 and 03/18/2022 - page 1 of 3

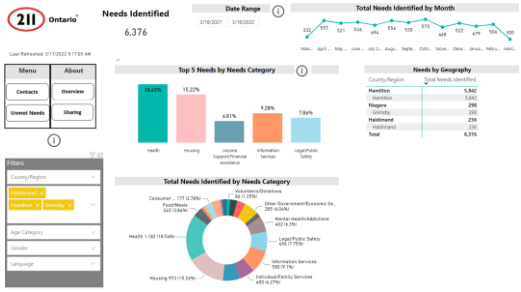


Figure 6: Screen capture of data between 03/18/2021 and 03/18/2022 - page 2 of 3

Figure 7: Screen capture of data between 03/18/2021 and 03/18/2022 - page 2 of 3

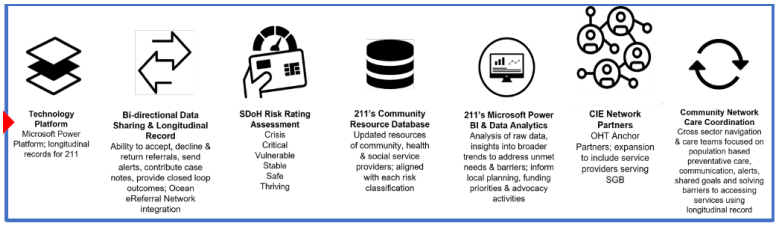


Figure 8: Ontario 211 technical infrastructure

Ontario 211 represents a robust mature information and retrieval platform that can be, and in fact has been, leveraged to support OHT integrated care.

Healthline

Healthline began as a collaborative project with several acute care hospitals. It was originally developed as a tool to find HCCSS related services. In 2012 the Ontario Association of CCACs selected thehealthline.ca to be the single provincial platform for what was then called CCAC services. Healthline is digital only and does nor provide a telephone channel access point. Funding comes from stakeholder and client services.

Figure 9: Healthline regions aligned to the LHIN boundaries

Approximately 48,000 records of service providers are maintained at 14 regional sites and visible through a single provincial portal. Dedicated data stewards are responsible for ensuring that these records meet internal standards as well as reviewing enrollment requests from external agencies. Healthline also maintains an automated data quality alert system that updates 6 times/day. Records are indexed based on geography as well as service type enabling users to quickly filter the records for their specific location and need. Healthline has created several bespoke views into the database and is able to create OHT specific views if needed.

Figure 10: View of Healthline data filtered to the HNHB location. Note that it can be further filtered down to specific cities within HNHB.

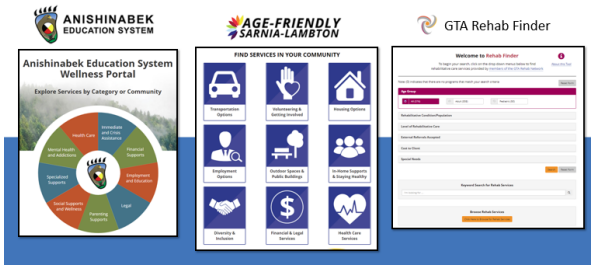


Figure 11: Examples of views into Healthline's database designed for specific partners.

Healthline represents another mature HSD in Ontario that is focused on digital access and enables a quick drill down to specific locations as well as customizable views into the data records.

ConnexOntario

ConnexOntario Ontario provides services related to mental health and addictions. In 2005 the MOH provided funding that allowed the consolidation of 3 separate services into CONNEX. These services are the Drug and alcohol Help Line, the Problem Gambling Help Line and the Mental Health Line. Services are available 24/7 however, partner agencies may not be available after hours or on weekend ConnexOntario is funded by the MOH. Access to services are available via multiple channels. Anyone can access the service.

Figure 12: Services can be accessed via a variety of methods

ConnexOntario provides access to many different type of services and can connect clients directly into them. There is no follow up once a client is connected.

Figure 13: Some of the services available to ConnexOntario clients. ConnexOntario has about 100 different services that their staff can search on.

Call takers are all trained in crisis intervention and can access detailed information regarding the partner agencies which ConnexOntario works with.

Organizations that are funded by HCCSS are mandated to report to ConnexOntario. This ensures that the database is kept up to date. Database has been expanded to include OHIP funded services, federal services, other provincial and municipal services. However, these are not mandated to report.

Health Data Liaisons (HDL) are responsible for collecting organization, site and programming information in each geographic region in Ontario. The team validate the information with the program validation contacts to ensure the data is accurate. The validation is conducted yearly with a program contact at the organization through any telecommunication methods. Organizations are asked to inform us of any changes to programming/organization data as soon as changes occur. The changes are all entered manually in our database called ConnexCentral. There are 4 HDLs managing 5 OH regions.

ConnexOntario is a mature HSD for MHA related information that can provide complete coverage of MHA related assets within an OH region.

Municipal/DSSAB

Municipal & DSSABs maintain several directories. In Hamilton, the library manages the "Redbook" which lists many services and organizations that span all determinants of health.

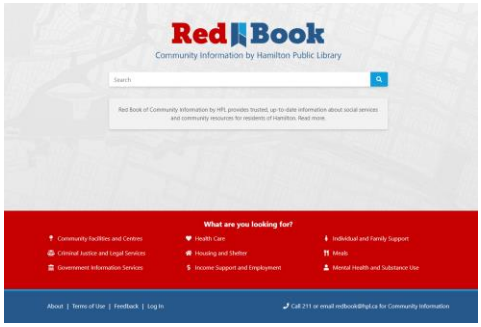


Figure 14: Landing page for Hamilton Public Library's Redbook.
Note that users are directed to call 211 for telephone service.

Some examples of available services include child care, homelessness, housing, and employment services. Funding is typically local via municipal taxes. In some areas, these resources are available on-line as well as via the 311 call centres. These call centres have access to contracted translation services.

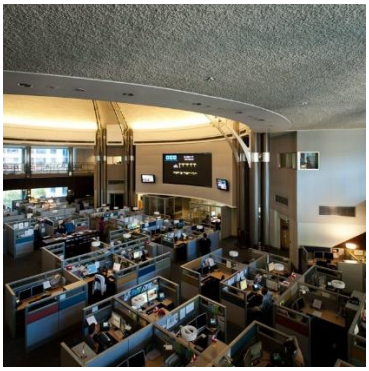


Figure 15: Toronto's 311 call centre

Municipal and DSSABs directories appear to be accessed via a 7-digit number. No information could be found regarding data quality processes.

Miscellaneous Directories

Several other directories are available. HelpSeeker is a Canada wide service that has over 250K services listed. One of the NAVIGATORS APPS points users to this service. Other directories accessed for information include Landlord Tenant Board, Google searches, Ontario Works, Ontario Disability Support and Housing Help Centre. Caredove has developed a navigation for the eastern region that incorporates online booking capacity.

Analysis – Two Key Opportunities

Analysis of Health Service Directories

Current Ontario's HSDs are separately managed databases with data updated by content management systems and call centres. Each directory (for example 211, Healthline, CONNEX) stands alone and may contain multiple versions of the same information at different stages of currency. This model is highly

reactive, can have a high frequency of change and is inefficient. Services may change their hours, have varying capacity for new patient, and even change their service offerings without the HSD being made aware of this. This surfaces risk and provides a single point of failure. Challenges with managing these directories are not unique to health care but span all similar activity (2).

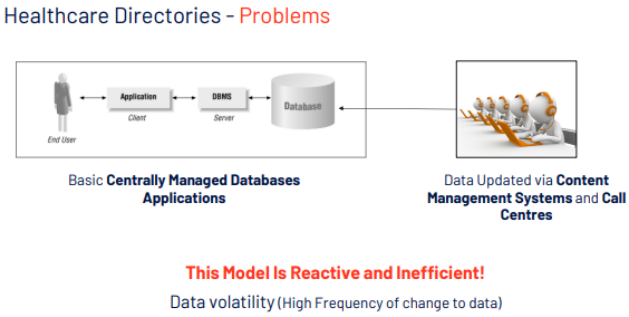


Figure 16: Traditional HSD (image from Building a Federated Data Dictionary Platform for Public Health, SPARK-AI Summit 2020 (Mark Paul / Anshul Bajpai)

One solution is to move to a [Federated Data Platform] that maps multiple HSDs into a single federated datastore. This mapping is done in a controlled way to ensure accuracy and timeliness. Each individual HSD remains intact but the database management, quality, updating and validating functions become centralised in one location.

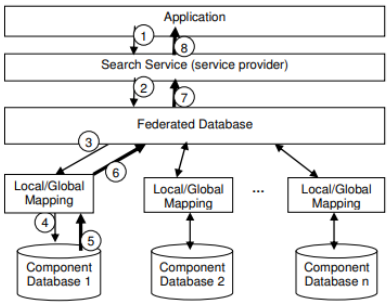


Figure 17: From Coetzee, Serena (3).. An analysis of a data grid approach for spatial data infrastructures.

Using a federated approach each of the known directories could be integrated. This would standardize record management, integrate back office functions, and allow each respective user a unique, personalised view into one source of truth.

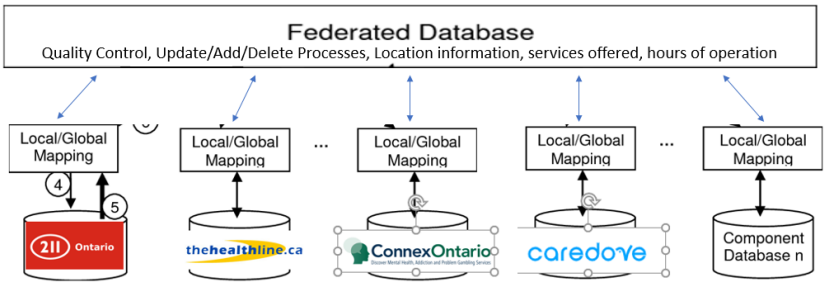


Figure 18: Possible configuration for a federated database soution

Analysis of Navigation Services – Digital, Telephone & In-person

Alberta, England and Australia have all indicated that individuals seeking health information will access the system approximately 50% via digital channels and 50% via telephone channels. It is important to ensure that both these channels access one single source of truth.

In terms of effectiveness several studies from the UK have questioned the utility of a telephone only navigation service. Sheffield University has completed work showing that telephone only advice is not often followed and can result in increased ED attendance (4,5,6). When accessing telephone advice Niagara has indicated individuals will still call 911 if a service is not available to provide the required level of care. For example, this can occur if a person needs urgent care but there are no 24/7 centres available. One recent analysis from Niagara Ontario shows that when connected to mobile integrated health models telephone based triage can reduce system level costs by 50% (7). Reno Nevada has created an integrated approach to supporting the needs of people who call into their RN led program. Initiated in 2012 the program integrates a nurse health line, alternate destination options for callers, and mobile response components that can provide hands on assessments to patients triaged as needing in-person assessment. Serving a population of 450,000 people and managing over 73,000 Figure 16 below demonstrates the favourable return on investment they have realised.

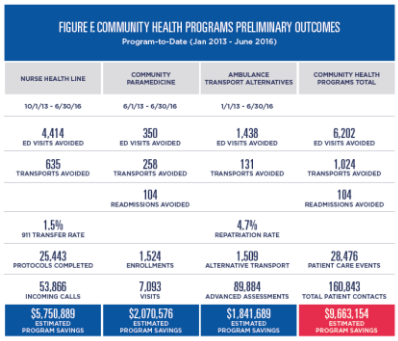


FIGURE E COMMUNITY HEALTH PROGRAMS PRELIMINARY OUTCOMES
Program-to-Date (Jan 2013 - June 2016)

NURSE HEALTH LINE	COMMUNITY PARAMEDICINE	AMBULANCE TRANSPORT ALTERNATIVES	COMMUNITY HEALTH PROGRAMS TOTAL
10/1/13 - 6/30/16	6/1/13 - 6/30/16	1/1/13 - 6/30/16	
4,414 ED VISITS AVOIDED	350 ED VISITS AVOIDED	1,438 ED VISITS AVOIDED	6,202 ED VISITS AVOIDED
635 TRANSPORTS AVOIDED	258 TRANSPORTS AVOIDED	131 TRANSPORTS AVOIDED	1,024 TRANSPORTS AVOIDED
	104 READMISSIONS AVOIDED		104 READMISSIONS AVOIDED
1.5% 911 TRANSFER RATE		4.7% REPATRIATION RATE	
25,443 PROTOCOLS COMPLETED	1,524 ENROLLMENTS	1,509 ALTERNATIVE TRANSPORT	28,476 PATIENT CARE EVENTS
53,866 INCOMING CALLS	7,093 VISITS	89,884 ADVANCED ASSESSMENTS	160,843 TOTAL PATIENT CONTACTS
$5,750,889 ESTIMATED PROGRAM SAVINGS	$2,070,576 ESTIMATED PROGRAM SAVINGS	$1,841,689 ESTIMATED PROGRAM SAVINGS	$9,663,154 ESTIMATED PROGRAM SAVINGS

Figure 19: Performance of the REMSA Telehealth line which integrates community response and alternate destination capacity into the telephone system. (from https://www.remsahealth.com/wp-content/uploads/2017/10/REMSA_A-Model-for-Better-Community-Health_eFINAL.pdf)

It is possible that artificial intelligence (AI) can be utilized to reduce the HR requirements for telephone based triage. However, attempting to utilize AI for the entire triage process may result in individuals gaming the system (8). Having said that, AI can be utilized for the initial screening and re-direction to the appropriate resource within the navigation service.

Reflecting on this evidence it appears that effective navigation services must include the ability to provide an actual physical assessment at an appropriate level of care. Depending on the clinical scenario, this assessment may be completed virtually. To be effective a navigation service will need to combine all elements into one integrated whole. This has been achieved in several jurisdictions in the form of clinical assessment services. Although beyond the scope of this report it is worth noting that combining 911 dispatch modernization with the creation of a health care navigation service may offer significant opportunities for cost avoidance. This is because both programs have very similar requirements. Furthermore, with the ability to link in virtual care initiatives this combination could lead to the creation of a fully integrated clinical hub which is aligned with Ontario's Digital Health vision.

Prioritized Opportunity Statements

Analysis of the current state, environmental scan and literature review has identified a few opportunities for improvement. Some of these may be easily implemented in a very short time while others may take months to years to be fully realized. Each opportunity statement was ranked based on assessed benefit versus complexity in solutioning. These were then plotted on a benefit X complexity diagram with suggested completion dates (see figure 17 below).

1. Screening for urgent conditions

None of the available NAVIGATOR APPS displayed an initial screen advising the user what should warrant a 911 response. It would be relatively simple to add a landing page that screens for urgent conditions requiring 911 access. This landing page could be modelled after the one from NHS111 (see figure 1 above) and vetted by an Emergency Physician.

2. Siloed workstreams within GHHN Alignment & Interoperability

Siloed short-term one-time funding requests and proposals that have been directed to individual partners within the same OHT result in multiple overlapping workstreams. Rather than separately funding pieces of the HCNS initiative a single envelope of funding, extending over 1-2 years, could be provided to support all related activities including NAVIGATOR APP, patient portal, on-line booking, health service directory development and UX design. From a regional perspective, a Senior Project Manager could oversee activity and work OHT based Project Managers.

3. Unrealistic funding envelopes

Very short lead times and minimal funding prevents the development of initiatives. OH organizations should be given a reasonable amount of time to complete stakeholder consultations and develop proposals. Funding should be sufficient to support a full project team for project's entire life span.

4. Equity and Access

Existing NAVIGATOR APPS do not have features which ensure equitable culturally sensitive access to the information. There is a paucity of support for those who do not have digital access at all. Many populations prefer phone access however the current Telehealth service is not able to provide the type of access that would be required for service provision or symptom checking. Effort could be directed at further stakeholder co-design to ensure that these needs are met.

5. Missing Services

Although very comprehensive, existing assets may not provide a complete suite of programs to address patient needs. These include determinants of health issues and small niche needs that can enable effective care delivery. One example is pet sitting. There have been a few instances where Hamilton Paramedic Service clients refused to attend their medical appointment because no one was available to care for their pet. In the past Zachary's Paws filled this need however the volunteer service is no longer available. On the launch of the next phase effort should be directed to identifying these niches and developing the required service program or adapting existing ones to fill the need.

6. Marketing & Public Engagement

In general, the public is not aware of 211, Telehealth, or Healthline leading to the default behaviour of calling 911 for many clinical problems. *Once ready for launch* a marketing and public engagement program should be developed to advise the public of the new service.

7. Navigator resources are lacking

Many services do not have dedicated or consistent Navigators who are able to work with clients and assist with system navigation. This was noted when speaking to the Trans Health, Indigenous and Francophone communities. Other programs expressed the same need for increased and stable funding for Navigator personnel. This is especially important for the marginally housed/ mental health & addictions and homeless population. This population mistrusts the system, will typically not access digital platforms and require in-person support when navigating the health system.

8. Lack of 24/7 support

Many services are not available 24/7 including mental health and addiction services. Many individuals experience crises during the evening and nights when services are not available. Extending the hours of operation to 24/7 may help prevent avoidable ED visits. This includes extending operating hours for urgent care centres, community paramedic programs, COAST and MCRRT. Another area that lacks 24/7 access is community pharmacy services. Many patients may be assisted by access to an after hour Pharmacy line that could provide information surrounding their medication, advice regarding reactions, or emergency supplies of prescription medication.

9. Follow up & Care Coordination

Follow up care remains siloed between providers which leads to delays in providing and coordinating care. Access to a common view of the patient chart would facilitate better care coordination. Integrated approaches between health sectors could enhance follow-up care by providing a seamless experience for patients. Integration of HCNS (including phone triage) with other virtual care programs could enable seamless transitions in care and east coordination between various health sectors.

10. Consensus on Pathways, Screening Tools and Materials

There are several different pathways, screening tools and material utilized for the same clinical pathway resulting in inconsistent care and difficulty in system improvement. Efforts could be directed to create cross-sectorial working groups who could adapt and design a set of standardized resources. In the long-term these resources would become a provincial standard and can be managed within the provincial health service directory system.

11. Multiple Siloed Directories – Interfaces between existing HSDs

Multiple, siloed HSDs create potential duplication, challenges with synchronizing information, and multiple access points for similar information. This situation could be eliminated by creating a single federated database. Moving all data management functions into the central database would provide economies of scale, standardized processes and a more robust process for managing data integrity.

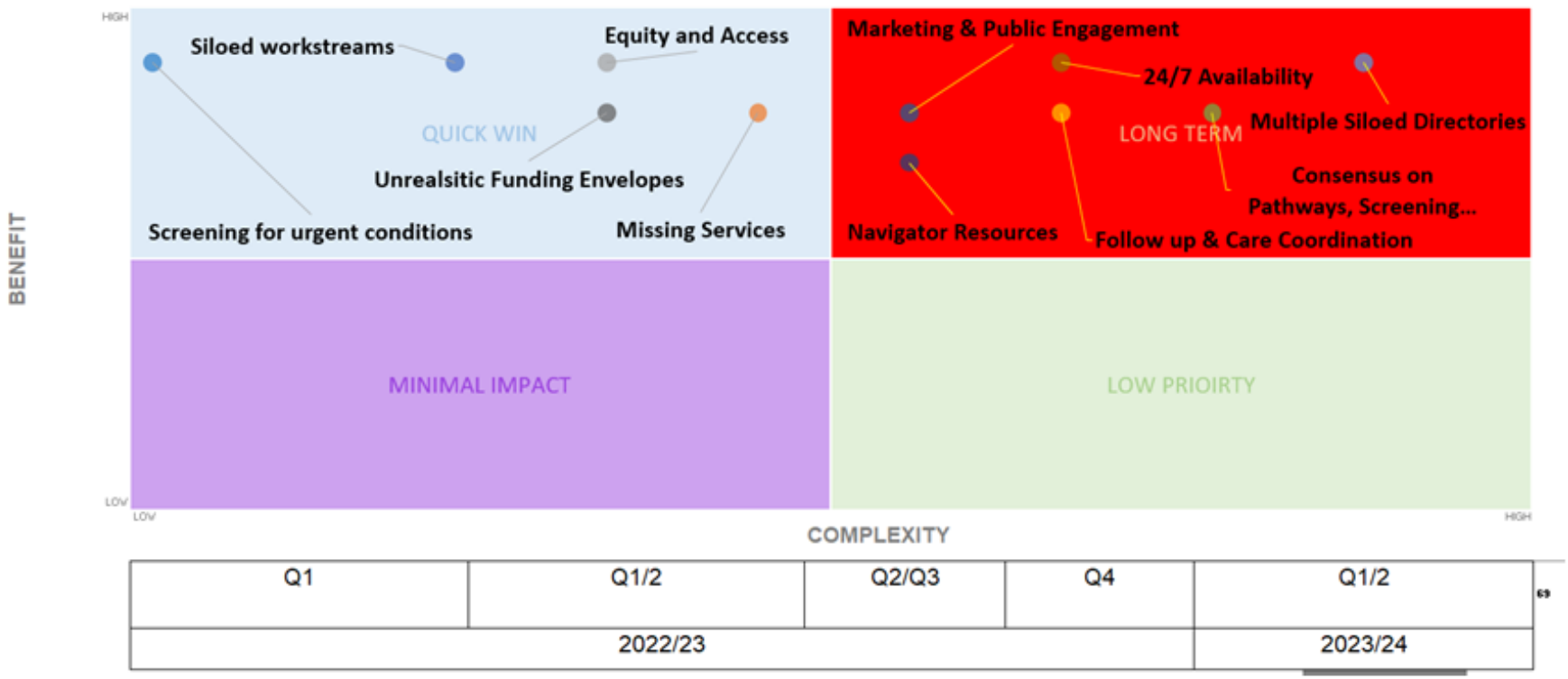


Figure 20: Benefit X Complexity plot. Milestones are aligned to quarters below the complexity axis.

Implementation Plan for 2022/23

Program Governance and Leadership

Implementation of the proposed opportunities will require stable and significant funding. Resources and expertise for each respective activity may be difficult to find on a local OHT level but may be more readily available on a regional or provincial level. Some activities, such as the creation of a federated database, may be more appropriately led from a provincial OH level. Other activities, such as enhancing Navigator staffing or addressing niche gaps in services are more appropriately led at the OHT level. Table C below lays out the suggested level for each of the opportunities.

Table D: Leadership and governance levels for each opportunity statement.

Opportunity	Leadership/Governance Level	Notes
Screening for urgent conditions	OHT / Regional	Each OHT provides a recommended script which will then be adapted by the multi-tenant working groups for inclusion in the provincial NAVIGATOR APP.
Siloed workstreams within GHHN Alignment & Interoperability	Regional / OHT	OH regions provide high level oversight of OHT activity to ensure alignment, economies of scale and no duplication.
Unrealistic funding envelopes	OH	OH provide sufficient funding, lead time for proposal development and longer time horizons for initiative development and evaluation.
Equity and Access	OHT / Regional / OH	OHT primarily responsible for advising on Equity related issues. This is sent up to Regional for review and consolidation and, finally, up to OH for integration with NAVIGATOR APPS, Navigation services and 811.
Missing Services	OHT	Each OHT identify and rectify local niche gaps and send up to Regional for spread and scale across other OHTs who have identified similar needs.
Marketing & Public Engagement	OHT / OH	Each OHT develop a marketing and public engagement plan (including patient co-design groups). This plan would be based on OH provided guidance and standards for messaging.
Navigator resources are lacking	OHT / OH	Each OHT would identify needs for Navigator resources and provide a proposal to OH for funding the required FTEs to support.
Lack of 24/7 support	OHT / OH	Each OHT identify areas needing 24/7 services and prepare a business case for funding enhanced 24/7 resources.

Follow up & Care Coordination	OHT / Regional / OH	Each OHT analyses the current state and provide Regional with a plan for creating an integrated system. Regional then supplies a report for OH who then would create a provincial standard for follow up and care coordination. OH could consider the cost/benefit to complete re-engineering of the existing TeleHealth service versus moving to a turn-key internationally recognized product.
Consensus on Pathways, Screening Tools and Materials	OHT / OH	Each OHT complete a review of existing materials and determine a standardized set for submission to OH.
Multiple Siloed Directories – Interfaces between existing HSDs	OH	OH work with vendors, 211, Healthline, CONNEX, DSSABS and Municipalities to create a centralised federated database and associated technical specification including a standardized process for adding/editing/deleting records.

GHHN Implementation Plan

This implementation plan assumes that the program governance and leadership structure above is implemented as listed. Further assumptions are:

- Sufficient funding for the creation of a Project team are released (see below) - @$800,000 for staffing alone
- TPAs are received prior to project initiation

Project Sponsor

GHHN Director

Project Team

Table D below lists the project team required for implementation.

Table D: Project Team Structure for 2022/23		
Role	Level	Main Accountability
Public Advisors	GHHN	Work in a co-design model for all phases of implementation
Senior Project Manager	OHW	coordinates efforts in each respective OHT
Project Manager	OHT	Coordinates efforts within an OHT
Digital Lead	GHHN	NAVIGATOR APP. UX Designer
Digital Lead	GHHN	Patient chart
Equity Lead	GHHN	Ensures Equity Council input is utilized in all design phases
Engagement Lead	GHHN	Manages communications and public engagement
Clinical Pathway Leads	GHHN	Led by Primary Care with input from relevant specialists and health care providers - provides clinical subject matter expertise, ensures pathways are evidence based and consistent across both digital and phone channels

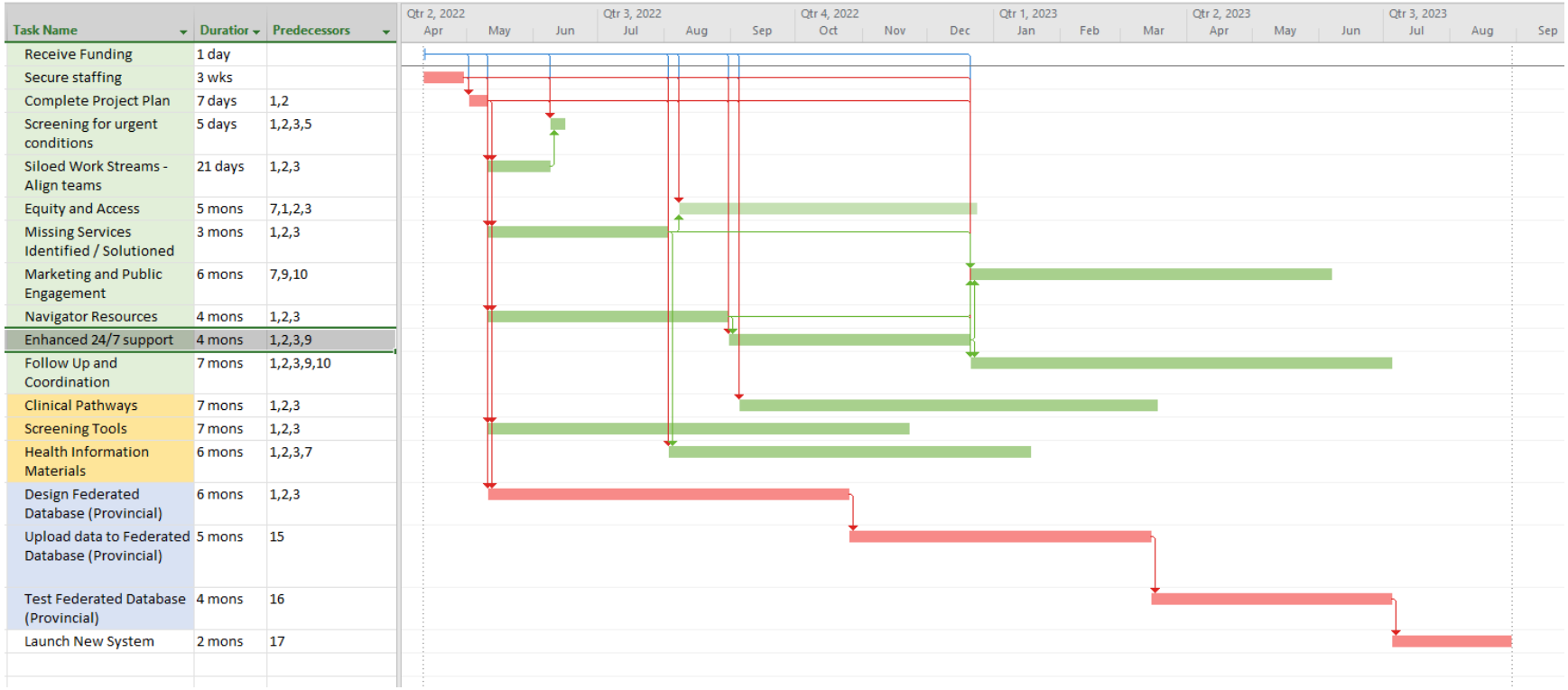
Leveraging existing partnerships, the net new costs would be for a Senior PM at the OHW level and OHT based PMs. Existing funding for digital leads (NAVIGATOR APP & patient chart) would need to be extended. An engagement lead and equity lead already exists in the current GHHN funding envelope and would be an in-kind resource. A Senior PM is estimated to cost @$150K/yr. Each OHT would need to be funded for one Project Manager as well at @100K/year additional costs. Details regarding funding would need to be finalised prior to project launch.

Working Groups

- Digital Health Secretariat –reports up to DHAC
- HSD Steering Committee – reports up to DHS
- Working Groups – separate working groups with representation to the HSD SC. All have at least one patient advisor
    - Inventory Completion and Review
        - Reviews current state for missing records
        - Provides input into technical specification for federated database
        - Translates existing records into required format for federated database
    - Multi-Tenant Working Group – includes UX designer, clinical pathway SMEs
    - Federated Database Working Group
        - Includes 811, UX Designer, Clinical Pathway, Equity, and Public Advisor representation
    - Equity Diversity Inclusion
        - Standing item in the existing GHHN EDI Council
    - Clinical Pathway Working Group
        - Acute Care, Community Care, Housing, Palliative Care, Mental Health & Addictions, Homelessness
        - Includes work related to care coordination and transitions in care
    - Marketing & Public Engagement
        - In addition to marketing and engagement this group would be responsible for ongoing review of existing assets and directories not captured during the discovery phase completed March 2022.

Project Plan Outline

Figure 18 below illustrates the milestones for this initiative assuming all conditions above are met. This assumes that there no delays and the project begins April 2,2022. Start date will be adjusted based on confirmed funding.



Task Name	Duration	Predecessors
Receive Funding	1 day	
Secure staffing	3 wks	
Complete Project Plan	7 days	1,2
Screening for urgent conditions	5 days	1,2,3,5
Siloed Work Streams - Align teams	21 days	1,2,3
Equity and Access	5 mons	7,1,2,3
Missing Services Identified / Solutioned	3 mons	1,2,3
Marketing and Public Engagement	6 mons	7,9,10
Navigator Resources	4 mons	1,2,3
Enhanced 24/7 support	4 mons	1,2,3,9
Follow Up and Coordination	7 mons	1,2,3,9,10
Clinical Pathways	7 mons	1,2,3
Screening Tools	7 mons	1,2,3
Health Information Materials	6 mons	1,2,3,7
Design Federated Database (Provincial)	6 mons	1,2,3
Upload data to Federated Database (Provincial)	5 mons	15
Test Federated Database (Provincial)	4 mons	16
Launch New System	2 mons	17

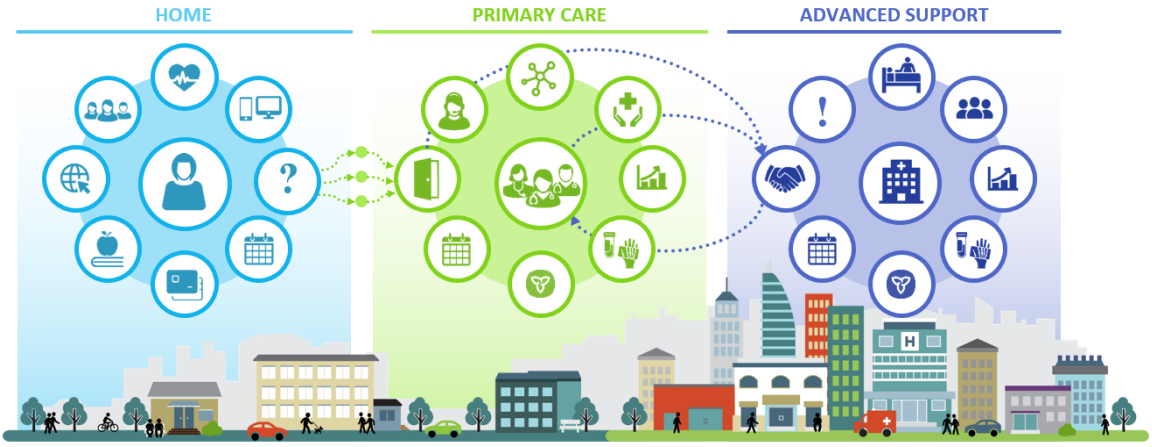
Figure 21: High level view of project plan. Red bars indicate critical path to ensure completion by Oct 2023. Green highlighted tasks – GHHN Lead
Blue highlighted tasks – OH Lead
Yellow highlighted tasks – combined lead between GHHN & OH

Critical Path – is shown as a red bar (any delay in these components will push completion date past 18-month point)

- Secure staffing / Complete Project Plan
- Design and execute federated database

Ontario Health's Vision for Integrated Care

OH's vision places Primary Care at the core of an integrated approach to population health. This integrated approach creates ONE team by linking home care, community paramedicine, public health, acute care , community pharmacy, LTC, MHA and many other programs into a central hub for providing care. At the heart of this will be HCNS – a federated database – that provides all parties access to vetted and standardized information.



A Patient Vignette – the future possible

It's the year 2029. Ontario Health has executed its Digital Health Strategy and branded it Ontario HealthScape. Following a well managed media campaign most of the public is aware they can get health information online or by phone. Although his Doctor is available for virtual visits he can't get an in-person appointment for 2 weeks. Uncertain what to do he navigates to the Ontario HealthScape webpage. On the landing page, an artificial intelligence based interactive tool determines there is no immediate need for 911 and connects him directly to the emergency communication nurse (ECN). He states his chief complaint is weakness and depression. Entering this information into the system creates a list of over 200 possible causes. As the ECN collects information about his allergies, medications, medical history and current presentation, the system rules some of these out and presents evidence based information to the RN. After 5 minutes, the system recommends Harold be seen within 1-3 hours. Harold tells the RN that he can't leave his daughter alone. Recognizing that Harold may need on-scene assessment and some blood work the RN dispatches a mobile integrated health (MIH) unit. When the MIH unit arrives an in-depth physical and point-of-care blood work is performed. A virtual consult is set up between the MIH team, the ECN, and the virtual urgent care centre (VUC) to discuss disposition. His GP is contacted who joins the virtual visit. She knows Harold very well and is aware of the ongoing health issues. All parties determine that Harold does not need to attend the ED and can be followed up with at home. A community pharmacist is linked into the call

to answer his medication related questions. An appointment is booked via the on-line booking portal for a next day follow up visit by the community RN. Harold's GP books an in-person appointment in 2 weeks. While in the home the MIH team shows Harold how to navigate the on-line portal which includes a wealth of information regarding his conditions, medications and a symptom checker that can route the information back to the ECN if the AI determines the need for RN advice. In response to Harold's concerns regarding depression the ECN connects him directly to the 24/7 mobile mental health team (MHAT who immediately conferences in on a 3-way phone call. MHAT is able to provide support and sets up regular check-ins with Harold including an in-person visit the next day. In addition, the ECN sends a referral, through OCEANS, to a volunteer organization that provides assistance with Harold's daughter should he need to go to the hospital. A referral is also sent to Ontario HealthScape for a person to go to meet with Harold and show him how the on-line system works. Prior to departing a complete note of the encounter is sent to Harold's care team including his GP.

Next Steps

This report is based on several assumptions that are yet to be confirmed. GHHN's Executive Council meets in April 2022 and will review the recommendations to finalise the plan and review funding requirements, governance structure, and overall approach. Once this is completed and funding is received GHHN will be ready to move forward on phase two work which will be funded under one envelope and include HSD, Patient portal, on-line booking and NAVIGATOR APP deliverables.

Additionally, phase two will require a formal evaluation plan. This could be led by the Centre for Integrated Care at St. Joes. This report does not present an evaluation plan because the final project plan may change substantially and will need to be finalised prior to evaluation.

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    - https://youtu.be/gy5f1zd2ynU

Appendix A: Environmental Scan

This section contains unformatted rough notes for reference. Information was obtained via interviews, internet searches and previously acquired knowledge.

Ontario

Hamilton Family Health Team

URL: https://www.hamiltonfht.ca/en/index.aspx

Contact:
Administrative Office
123 James St. N, Suite 300
Hamilton, ON L8R 2K8
Phone: 905 667-4848

Access: Rostered

Notes:

- Multidisciplinary health team
    - CRE, mental health counsellors, nurses, pharmacists, Pas, physiotherapists, psychiatrists, registered dietitians
- Some Physicians accepting new patients
- Managing my health website: https://www.hamiltonfht.ca/en/Managing-My-Health.aspx
    - On line health information:

Hamilton Family Medicine (HFAM)

URL: https://hfam.ca/

Contact:
contact@hfam.ca

Access: Rostered

Notes:

- Patient resource page: https://hfam.ca/patient-resources/
- COVID Care pathways : https://hfam.ca/clinical-pathways-and-evidence/
- Multiple clinical pathways:
    - COPD Pathway - https://hfam.ca/ec-ham/
    - Connected COVID Care Model
        - Primary Care
        - Virtual Care
        - COVID Care Clinic
        - Testing Centres
    - OH COVID Care pathways – developed by Dr Cathy Risdon
    - Virtual ED visits (urgentcareOntario.ca)

- ConfusedAboutCOVID.ca
- MacFHT has 24/7 access
- Solo / PHO groups – very little after-hours services
- EMRs and data sharing a challenge

McMaster Family Practice

URL: https://mcmasterfamilypractice.ca/mcmaster-family-health-team/

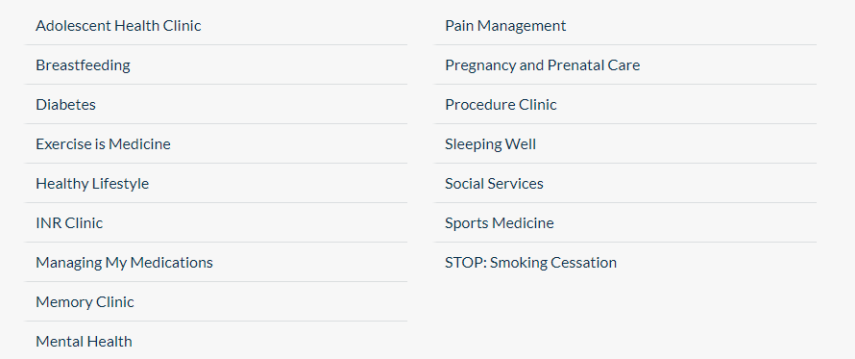
Contact:

David Braley Health Sciences Centre
100 Main Street West, 3rd Floor
Hamilton, Ontario L8P 1H6
(905) 546-9885

Access: Rostered

Notes:

- Programs:



- After hours 24/7 Physician 905-546-9885 #1
- Not accepting new patients
- Part of Vanier Hub (Dr Guenter)
- System Navigator - Our system navigator can assist you with questions or concerns about health and social services in your community. They can assist with providing information about local services, connecting you to these services, and with commonly used forms or documentation required by these services.

St Joe's / HHSC

- Projects
  - Patient Portal – St Joe's
  - Surgical Remote Monitoring – HHSC/ St Joe's
  - International Pt Summary / Clinical Connect – Dale Anderson
  - Virtual UC
    - https://www.urgentcareontario.ca/
    - Connects to St Joe's/HHS/London

        - Onboarding more hospitals – NH/Grey Bruce
    - ConnectMy Health
        - Patient portal
        - Based on Sunnybrook
        - Booking, messaging, scheduling
        - Uses SMS
        - Virtual care options
- Centre for Integrated Care – evaluation team led by Andrew Costa – YourCareplus.ca (UWaterloo / Grand River)
- MyHealthGPS
    - OCEANS – St Joe's https://www.oceanhealthmap.ca/ and https://support.cognisantmd.com/hc/en-us
        - DI
        - Connect MHAP
        - Heamtology
        - Nephrology
        - Plan to expand to central waitlist management
        - expensive
    - SPOK
        - Secure SMS in/out of org
    - IDENTOS
        - Identity / access
        - Used by HCNS apps
        - Working with SPOK
    - St Joe's Navigator
        - Carina, Tara, Andriana
    - EPIC
        - EMR
    - MyHealth GPS

Burlington OHT

URL: https://www.burlingtonoht.ca/

Contact:

ohtsupport@burlingtonoht.ca

Access: Many organization

Notes:

- Link mentions working with IDENTOS (http://www.identos.ca) Digital Wallet and Community NAVIGATOR APP (https://www.newswire.ca/news-releases/burlington-ontario-health-team-works-with-identos-for-a-digital-front-door-to-health-services-for-community-874450331.html) – June 23,2021

- Built online nav tool: https://www.burlingtonoht.ca/service/navigate-health-services/
- Really a set of hyperlinks to various existing programs
- No up-front triage of emergent conditions
- Phone app available
- Default to I&R Community Resource Specialists team if menu options don't fit (not 211)

Southlake OHT

- Lite version to start with bare minimum tiles
    - Uses only URLs
- Also uses IDENTOS
- Niagara holds infrastructure for it
- SRHC & St Joe's can directly alter tiles
- Full Project team – SPM, PM, Manager, Volunteers, PR, Comms, Tech team, Pt Advisors
- Tiles:
    - ConnectMyHealth
    - Provincial NAVIGATOR APP
    - 24/7
    - Online booking
    - Virtual Care
    - Data integration
    - Integrated health records

Niagara Health

URL: https://www.niagarahealth.on.ca/site/news/2019/04/09/niagara-health-navigator-ontarios-first-mobile-tool-for-integrated-care

Contact:

ohtsupport@burlingtonoht.ca

Access: Many organization

Notes:

- IDENTOS and nCipher
- Uses Ontario's "Trusted Account"
- Patient portal – test results, ED wait times, GP virtual visit
- All based on digital access
- Phone app available
- "Ontario trusted Account"
- Staff from Niagara Health
- Adding tiles for:
    - ConnectMyHealth
    - PocketHealth
- Based on input from hospitals, patient feedback
- Community not included

- Tiles:
    - Wait times for ED
    - Twitter, social media
- App Store/ Play Store – need to get developer account S/U
- Support – NH moving to IDENTOS
- Note – Ontario Trusted Account covers off all PHIPPA issues
- No triage at this time

Secondary Nurse Triage Systems – Niagara

- Same system utilized in Quebec, Australia, and Wales
- Nurses in dispatch utilize a system known as Emergency Communication Nurse System (ECNS)
- ECNS can be deployed as a standalone product (Reno Nevada and Australia) – it does not require a 911 dispatch centre
- This is an internationally based gold-standard for triaging symptoms and determining the appropriate level of care
- It is a very cost-effective turn key operation that provides all support, training, software and built in quality assurance tools needed for deployment
- Deployed in Quebec (Urgence Sante)
- 1998 – NHS Direct – 80 million calls
- In Australia – 16th year (Queensland Health)
    - @1000 calls/day increased to 5000 with COVID
- Remsa (Nevada)
    - Both routes 911 to ECNS and vice versa
    - ECNS is used as a telephone based health navigation service
- Whole country of Wales
- Important to have an HSD
- 214 protocols
- Callers can call directly into
- Can connect directly to external groups like Virtual ED
- Warm handoff to telehealth
- Can s/U appointments
- Level of care (ED, 12-24 hr.) leads to point of care (actual service providing that level of care)
- Most important piece is to have a DoS
- Can add customizable questions for evaluation
- Meeting with Australia
    - Original driver was diversion from ED
    - 5000 calls/day (Queensland 5.2 million people)
    - 150 FTEs RN – most part time, prefers this so they maintain hands on experience
    - Use advisors on the front end to triage need for RN
    - If caller has “symptoms” – go to RN else provide info, GP appointment…
    - More than just triage – e.g. smoker’s line…
    - Need CRM (MS Dynamics) – low code sits behind it – this allows easy data mining
    - Calls are all recorded
    - Point of Care – allows customized responses – user sets this

- Level of care – time to access – determined by low code
- If need ambulance – put on hold and three way with dispatch
- ECNS has
  - Built in QA
  - Full training program
  - Accreditation
  - Ongoing reviews by medical advisory group

Various Ontario

- Sarnia
  - Links to Healthline
  - Web page www.agefriendlysarnialambton.ca

Canada

Nova Scotia

URL: https://811.novascotia.ca/ https://www.nshealth.ca/

Contact: Medavie

Access: Many organizations

Notes:

- RN
- Translation service
- Top five most common reasons for calling 811:
  - Abdominal pain / discomfort
  - Chest pain / discomfort
  - Children's colds & coughs
  - Adult colds & coughs
  - Adult nausea & vomiting
- Uses same verbiage as OH… "Trusted Health Advice"
- Includes access to multiple services:

- Adding in virtual care - www.virtualcareNS.ca (based on Maple technology platform)
- Separate from 311

New Brunswick

URL: https://www2.gnb.ca/content/gnb/en/departments/health/Tele-Care.html
Tele-Care
Not well integrated

PEI

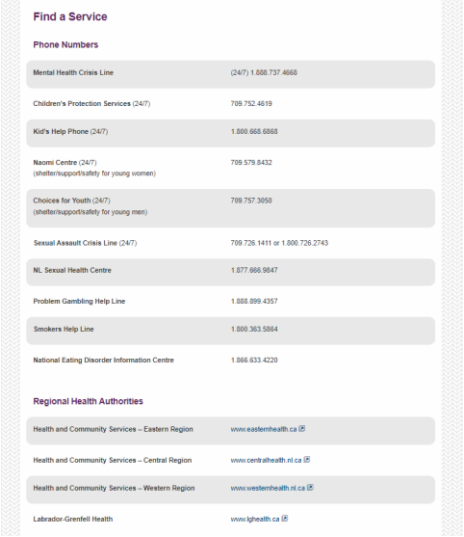
URL: https://www.princeedwardisland.ca/en/information/health-and-wellness/811-telehealth

- 811
- Phone advice by RN
- No mention of connections to other programs
- Link to list of health topics leads back to NS website (https://811.novascotia.ca/search-health-topics/)

Newfoundland & Labrador

URL: https://www.811healthline.ca/

- Access to ASL (https://www.811healthline.ca/asl-numbers/)
- Virtual visits available by appointment with RN
- Find a service link leads to hyperlinks to other services



Find a Service

Phone Numbers

Mental Health Crisis Line	(24/7) 1.888.737.4668
Children's Protection Services (24/7)	709.752.4619
Kid's Help Phone (24/7)	1.800.668.6868
Naomi Centre (24/7) (shelter/support/safety for young women)	709.579.8432
Choices for Youth (24/7) (shelter/support/safety for young men)	709.757.3059
Sexual Assault Crisis Line (24/7)	709.726.1411 or 1.800.726.2743
NL Sexual Health Centre	1.877.666.9647
Problem Gambling Help Line	1.888.899.4357
Smokers Help Line	1.800.363.5864
National Eating Disorder Information Centre	1.866.633.4220

Regional Health Authorities

Health and Community Services – Eastern Region	www.easternhealth.ca
Health and Community Services – Central Region	www.centralhealth.nl.ca
Health and Community Services – Western Region	www.westernhealth.nl.ca
Labrador-Grenfell Health	www.lghealth.ca

Quebec

URL: https://www.quebec.ca/en/health/finding-a-resource

- Listing of services
- Linked to (https://www.quebec.ca/en/health/health-system-and-services/service-organization/primary-care-health-and-social-services#c36138) “Info-Sante” and “Info-Social” – both 811 services
- Bothe are phone based
    - https://www.quebec.ca/en/health/finding-a-resource/info-sante-811
    - https://www.quebec.ca/en/health/finding-a-resource/info-social-811
- Utilize ECNS

Manitoba

URL: https://www.gov.mb.ca/betterhealth/index.html

- Website points to other services
    - RN led phone advice
        - “Health Links – Info Sante
        - https://misericordia.mb.ca/programs/phcc/health-links-info-sante/
    - Home care services https://www.gov.mb.ca/health/homecare/index.html
- Regional health authority model
- “TeleCare” Manitoba linked to the 811 webpage
    - Referral form for Diabetes / CHF to be used by PCP
- “Dial a Dietician” web page https://misericordia.mb.ca/programs/phcc/dial-a-dietitian/
- No obvious centralized NAVIGATOR APP

Saskatchewan

URL: https://www.saskatchewan.ca/residents/health/accessing-health-care-services/healthline

- “HealthLine” - 811
- Translation services, phone based
- Appears to be limited to MHA advice, education and support

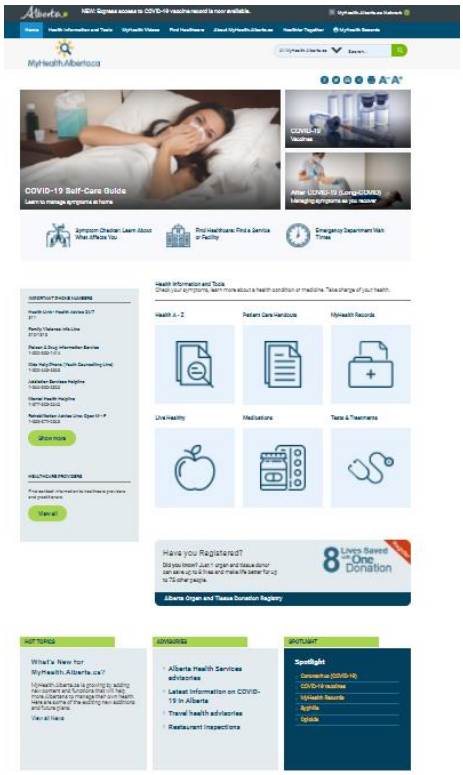
- On line version https://www.saskhealthauthority.ca/your-health/conditions-diseases-services/healthline-online
    - Wider service offerings
    - Good selection of self service options
- Reviewed by 2 Fam Med Physicians
- Patient can access results
- https://www.ehealthsask.ca/MySaskHealthRecord/MySaskHealthRecord

Alberta

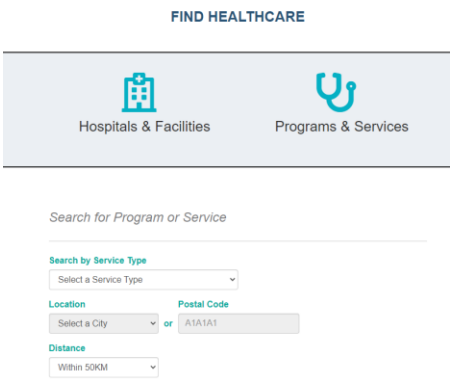
URL: https://myhealth.alberta.ca/Pages/default.aspx

https://www.albertahealthservices.ca/findhealth/service.aspx?Id=1001957&facilityId=1011654

- Launch page:



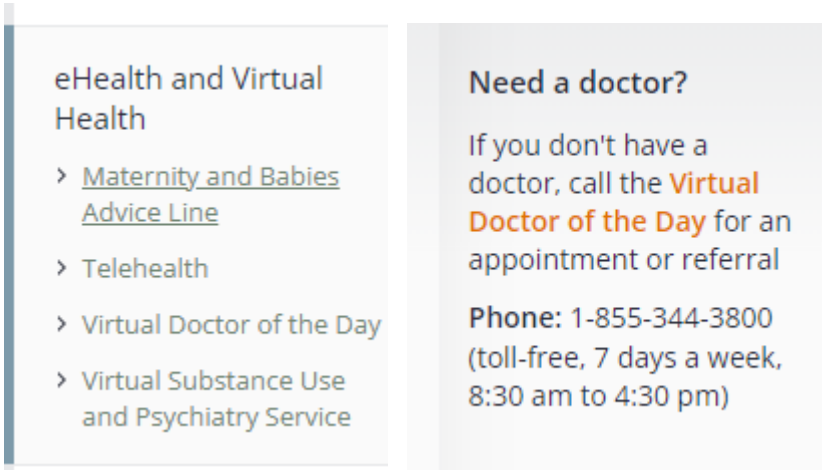
- Good resource for info re medications
- Overall health information page… https://www.alberta.ca/health-information.aspx
- Access to personal health records
- Symptom checker with on-line interactive tool that leads to dispositions
    - https://myhealth.alberta.ca/health/Pages/Symptom-Checker.aspx
- Extensive access via search tool



British Columbia

URL: Personal Health Info: https://www.healthgateway.gov.bc.ca/

- Care Compass: https://mycarecompass.lifelabs.com/
- from LifeLabs (available both in BC, Saskatchewan and Ontario) – has online booking tool
- https://www.healthlinkbc.ca/more/health-features/your-health-information
-
- MyHealthPortal – access to medical records
- On line 811 chat available as well
- https://www.healthlinkbc.ca/more/resources
- First Nations specific portal: https://www.fnha.ca/what-we-do/ehealth
    - Includes direct links to virtual care



- Split by health regions

- Surgical pre-admissions virtual clinic
- MyHospitalPal – paediatric specific tool
    - Augmented Reality application designed to ease children

Yukon

URL: https://yukon.ca/en/health-and-wellness/care-services/access-24-hour-health-advice-811

- 24/7 phone access
- Moving towards an electronic EMR (1Health) - https://yukon.ca/en/1health

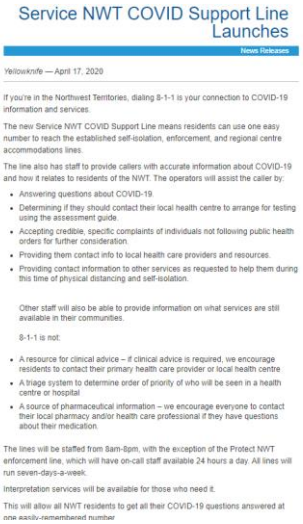
Northwest Territories

URL: https://www.nthssa.ca/en/services

- Straight forward listing of services

https://www.gov.nt.ca/en/newsroom/service-nwt-covid-support-line-launches

- Advice only – no triage/clinical information



Service NWT COVID Support Line Launches

News Releases

Yellowknife — April 17, 2020

If you're in the Northwest Territories, dialing 8-1-1 is your connection to COVID-19 information and services.

The new Service NWT COVID Support Line means residents can use one easy number to reach the established self-isolation, enforcement, and regional centre accommodations lines.

The line also has staff to provide callers with accurate information about COVID-19 and how it relates to residents of the NWT. The operators will assist the caller by:

- Answering questions about COVID-19.
- Determining if they should contact their local health centre to arrange for testing using the assessment guide.
- Accepting credible, specific complaints of individuals not following public health orders for further consideration.
- Providing them contact info to local health care providers and resources.
- Providing contact information to other services as requested to help them during this time of physical distancing and self-isolation.

Other staff will also be able to provide information on what services are still available in their communities.

8-1-1 is not:

- A resource for clinical advice – if clinical advice is required, we encourage residents to contact their primary health care provider or local health centre
- A triage system to determine order of priority of who will be seen in a health centre or hospital
- A source of pharmaceutical information – we encourage everyone to contact their local pharmacy and/or health care professional if they have questions about their medication.

The lines will be staffed from 8am-8pm, with the exception of the Protect NWT enforcement line, which will have on-call staff available 24 hours a day. All lines will run seven-days-a-week.

Interpretation services will be available for those who need it.

This will allow all NWT residents to get all their COVID-19 questions answered at one easily-remembered number.

Nunavut

- Just starting out
- URL: https://www.canada.ca/en/health-canada/corporate/transparency/health-agreements/bilateral-agreement-pan-canadian-virtual-care-priorities-covid-19/nunavut-action-plan.html (dated Nov 2021)

United States – Reno Nevada

https://www.remsahealth.com/community-health/nurse-health-line/

- ECNS deployed separately from 911, access via 7-digit number
- @3000 calls/ day
- Can connect directly to 911
- Always check first for needing 911
- Has telehealth capacity
- Can connect directly to virtual ED
- Able to schedule appointments
- Approximate costs $500K / 1.5 million people

UHK (NHS – England)

- Mature system, fully integrated
- Context is important:
    - "one" employer
    - "one" funder
    - "one' EMR
    - "one" governance
    - Public / public
    - Policy & Regs are aligned
    - Consensus across geography

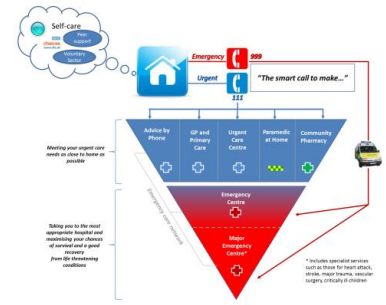
Keough Report – fundamental shift

- https://www.england.nhs.uk/wp-content/uploads/2015/06/trans-uec.pdf
- https://www.nhs.uk/NHSEngland/keogh-review/documents/UECR.Ph1Report.Appendix%201.EvBase.FV.pdf
- "All the public want to know is that if an urgent care problem ever arises, they can access a service that will ensure they get the right care when they need it. They do not want to decide whether they should go to an MIU, a WIC or A&E, or whether they should ring their GP, 111 or 999. We shouldn't expect people to make informed, rational decisions at a crisis point in their lives."
- 5 basic premises (details on page 22):
    - Firstly, we must provide better support for people to self- care
    - Secondly, we must help people with urgent care needs to get the right advice in the right place, first time.
    - Thirdly, we must provide highly responsive urgent care services outside of hospital so people no longer choose to queue in A&E

- Fourthly, we must ensure that those people with more serious or life-threatening emergency care needs receive treatment in centres with the right facilities and expertise in order to maximise chances of survival and a good recovery
- • Fifthly, we must connect all urgent and emergency care services together so the overall system becomes more than just the sum of its parts

- Page 23:

Figure 2: The proposed look and design of the new system.



Thames Valley Urgent Care Workshop

https://www.england.nhs.uk/south/wp-content/uploads/sites/6/2017/01/tvuecn-action-summit-2017-sessionV1.pdf

- Need to look at the whole UEC system – cannot look at elements in isolation

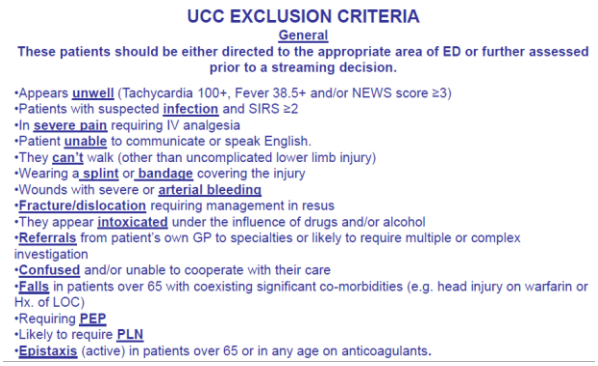
7 PILLARS OF URGENT & EMERGENCY CARE

SELF CARE		MINOR ILLNESS /INJURY		ACUTE/LIFE THREATENING		REHAB & MAINTENANCE
111 Online	111 Calls/ Clinical Hub	GP	UTCs	SCAS (ARP)	Hospital	Hospital to Home
Online symptom checkers	TV IUC	Urgent Care Hubs	Minor injuries	Nature of Call	ED life saving skills	Trusted Assessment
Online triage	Call handler to clinician ratios/Warm transfer rates	Streaming in ED	Diagnostics	Despatch on disposition	Streaming - Ambulatory care	D2A
	No decision in isolation			See and Treat	Streaming – Frailty	Care sector and market management
	Telemedicine			Hear and Treat	SAFER and Red2Green	BCF and DToCs
	Review of green ambulance and ED dispositions			Clinical triage	Integrated Discharge hub	Choice policy
					IPS	
					EDDs and clinical criteria for discharge	

CHANNEL SHIFT

HIGH INTENSITY USERS
'CARE SPACE' MODELLING

- Concept of a primary care home – right size to scale and the right size to care (slide 30)
  - 30-50 K people
  - Population health, personalization, provision of care, outcomes
  - Integrated multi-disciplinary workforce
  - Financial drivers aligned with needs of population



UCC EXCLUSION CRITERIA

General

These patients should be either directed to the appropriate area of ED or further assessed prior to a streaming decision.

- Appears **unwell** (Tachycardia 100+, Fever 38.5+ and/or NEWS score ≥3)
- Patients with suspected **infection** and SIRS ≥2
- In **severe pain** requiring IV analgesia
- Patient **unable** to communicate or speak English.
- They **can't** walk (other than uncomplicated lower limb injury)
- Wearing a **splint** or **bandage** covering the injury
- Wounds with severe or **arterial bleeding**
- **Fracture/dislocation** requiring management in resus
- They appear **intoxicated** under the influence of drugs and/or alcohol
- **Referrals** from patient's own GP to specialties or likely to require multiple or complex investigation
- **Confused** and/or unable to cooperate with their care
- **Falls** in patients over 65 with coexisting significant co-morbidities (e.g. head injury on warfarin or Hx. of LOC)
- Requiring **PEP**
- Likely to require **PLN**
- **Epistaxis** (active) in patients over 65 or in any age on anticoagulants.

811 Pharmacist – typical day

https://pharmaceutical-journal.com/article/news/a-day-in-the-life-of-an-ambulance-service-pharmacist

Sussex & East Surrey report

The NHS 111 and CAS in Kent, Medway and Sussex (KMS) will provide:

- NHS 111 telephony and call management provision;
- A CAS across all KMS CCGs, which will accept all 'Speak to GP' and 'Speak to a clinician within the service' dispositions;
- Advice and support to Health Care Professionals and care homes;
- Co-ordinated clinical governance across all providers within the umbrella of 'IUC Service';
- Access to the most appropriate clinician or service for a patient's need;
- Access to a multi-disciplinary team enabling a robust "hear and treat" delivery of care thereby reducing pressure on Emergency Departments; and
- The ability to directly book patients into services (e.g. improved access GP appointments, UTC appointments).

Procurement Notes

https://www.england.nhs.uk/wp-content/uploads/2014/06/Integrated-Urgent-Care-Service-Specification.pdf

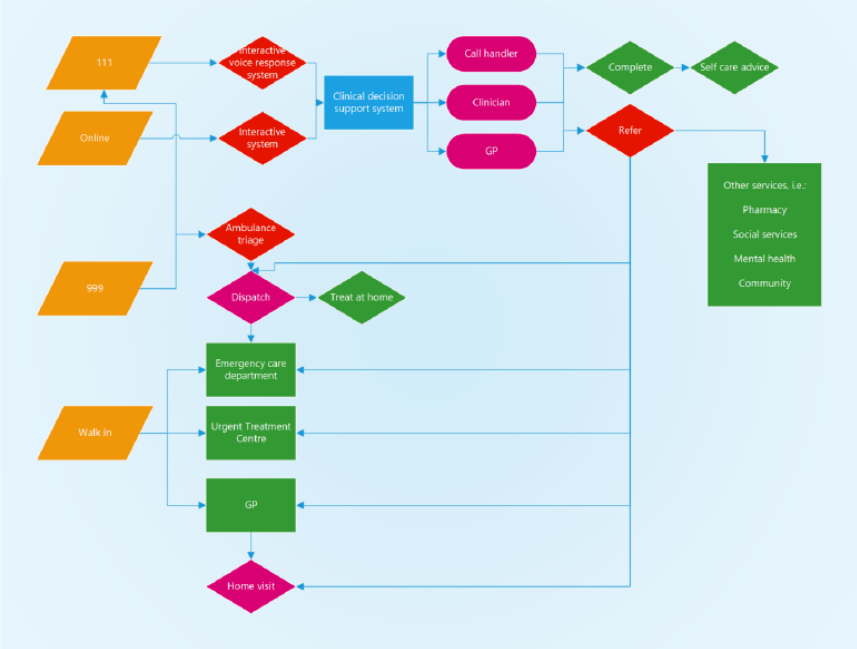
At its simplest, IUC is a move to connect and integrate the various services which currently provide urgent care under one banner with NHS 111 as a single-entry point. Areas such as clinical governance and KPIs would stretch across the system, rather than just with individual organisations.

IUC Information Sharing Requirements

https://theprsb.org/wp-content/uploads/2018/11/IUC-information-requirements-final-report-V1.0-converted.pdf

Patient flow - page 8

Figure 1. High level patient journey



NHS Long Term Plan 2019

https://www.longtermplan.nhs.uk/

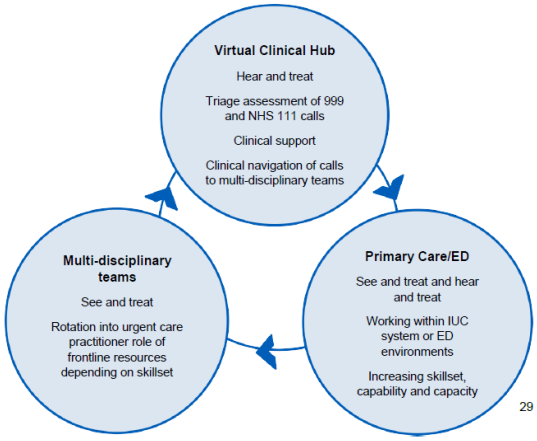
- **Chapter One sets out how the NHS will move to a new service model in which patients get more options, better support, and properly joined-up care at the right time in the optimal care setting** GP practices and hospital outpatients currently provide around 400 million face-to-face appointments each year. Over the next five years, every patient will have the right to online 'digital' GP consultations, and redesigned hospital support will be able to avoid up to a third of outpatient appointments - saving patients 30 million trips to hospital, and saving the NHS over £1 billion a year in new expenditure averted. GP practices - typically covering 30-50,000 people - will be funded to work together to deal with pressures in primary care and extend the range of convenient local services, creating genuinely integrated teams of GPs, community health and social care staff. Now expanded community health teams will be required under new national standards to provide fast support to people in their own homes as an alternative to hospitalisation, and to ramp up NHS support for people living in care homes. Within five years over 2.5 million more people will benefit from 'social prescribing', a personal health budget, and new support for managing their own health in partnership with patients' groups and the voluntary sector.
- **Chapter Five sets out a wide-ranging and funded programme to upgrade technology and digitally enabled care across the NHS.** These investments enable many of the wider service changes set out in this Long-Term Plan. Over the next ten years they will result in an NHS where digital access to services is widespread. Where patients and their carers can better manage their health and condition. Where clinicians can access and interact with patient records and care plans wherever they are, with ready access to decision support and AI, and without the administrative hassle of today. Where predictive techniques support local Integrated Care

Systems to plan and optimise care for their populations. And where secure linked clinical, genomic and other data support new medical breakthroughs and consistent quality of care. Chapter Five identifies costed building blocks and milestones for these developments.

NWAS Ambulance Service Urgent & Emergency Care Strategy 20190-2024

https://www.nwas.nhs.uk/publications/nwas-urgent-and-emergency-care-strategy-2019-24/

- As IUC becomes embedded within the wider health system, a joined-up approach between 999, NHS 111, and community-based providers is essential. The need to ensure that the first contact of every 999 or 111 call is managed effectively is essential as the impact on the wider health system, is often, directly proportionate to decisions made at this point.
- We are perfectly placed as a lead partner in managing patient flow through the whole healthcare system therefore, it is essential that we further develop and maintain effective partnerships across the North West. We understand that implementation of IUC is crucial to the whole health system but that delivery cannot be achieved in isolation.
- We recognise that partnerships with STPs will become crucial to delivery of IUC. We already engage STPs and commissioners to develop innovative, system-wide integrated response model which aligns to population demography and healthcare needs. This strategy describes our ambition to exceed current expectations to position NWAS at the forefront of the out of hospital health and care system.
- In order to deliver the requirements of an IUC specification, we will continue to work in partnership with providers across the North West, including pharmacists, dental, mental health, maternity, GPs, with links to social care and other community services further strengthening these at all levels (board to frontline)
- The commissioning arrangements for IUC will involve collaborative solutions between ambulance services, GP OOH, and other community based providers. Therefore, we will strengthen our existing engagement with commissioners and STPs to develop collaborative commissioning arrangements between the ambulance service, GP OOH, and other community based providers which will enable the implementation of a CAS.
- They speak about “community specialist practitioner” – multi-disciplinary, rotation model



- Clinicians within both NHS 111 and 999 use the Manchester Triage System Telephone Triage and Advice (MTS TTA) tool, providing a joined-up approach to clinical revalidation of primary NHS Pathways and MPDS outcomes. The Clinical Hub is staffed by a multi-disciplinary team of nurses, paramedics, mental health practitioners, and clinical pharmacists.

Australia

- Building a Federated Data Dictionary for Public Health viewed March 1,2022 at https://youtu.be/1HMR8qgxVFU
- 5.2 million people in Queensland - @5000 calls/day into phone triage (uses ECNS)
- 150 FTE RNs (many part time)
- Initial answer utilizes staff to screen first and determine if RN is required
- Beyond triaging “symptoms” they are also utilized for other services such as the smoker’s hotline
- SE Queensland has home visiting Physicians who work after hours
- All calls are recorded
- ECNS provides turn key operation including training, QA system, ongoing updates, international academy of emergency dispatch meets twice monthly to review and update pathways
- Transfer to 911 – put on hold, three-way conference call to dispatch