

THRIVE

The future of integrated health service planning for children and youth in the Champlain region








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Respectfully,

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Executive Summary

Health system capacity planning is intended to create the conditions for the development of a high performing health care system, and is central to the pursuit of providing high quality care while using resources responsibly.

Capacity planning for children and youth is particularly important in the current health care environment in Ontario. The government's plan, *Patients First: Action Plan for Health Care, 2015*, is focused almost exclusively on adult care, and yet evidence across the province suggests that there is significant need for focused strategies to address the health needs of children and youth. By effectively preventing, identifying and treating children and youth's health concerns, the system will support the development of healthier adults. Increasing the number of healthy adults will result in less dependency on an already stretched health care system. As health risks in childhood can affect the trajectory of individuals' entire lives, the importance of addressing the needs of children and youth cannot be overstated.

While the planning and delivery of health services has been significantly focused on acute and chronic conditions, there is increasing incidence and complexity of mental health and developmental conditions in children and youth. Developing a capacity plan focused on all health service needs of children and youth, including the mitigation of chronic conditions, delivery of acute care as well as addressing mental health and developmental issues, will provide initial direction and focus to improve health status.

Capacity planning for children and youth is also important because of the particular complexity of the current system. Child and youth care falls within the purview of four Ministries: the Ministry of Health and Long-Term Care (MOHLTC), Ministry of Children and Youth Services (MCYS), Ministry of Community and Social Services (MCSS), and the Ministry of Education (EDU). Currently, the Ministries lack consistent, integrated planning approaches. This results in confusion, duplication, and in some cases, deficiencies that negatively affect the health of children and youth. This lack of coordination is highly problematic, as families often bear the responsibility for trying to access the services their children require, often feeling overwhelmed by the multiple bureaucratic structures. Providers, likewise, are challenged to understand and navigate between the Ministries on behalf of their patients. This capacity plan supports the development of an effective system of care that is coordinated, continuously improving, and in which seamless ties exist across the continuum of care and between agencies and funders.

Further, a capacity plan for children and youth is required because health care for children and youth is fundamentally different than adult health care. Child and youth care requires highly specialized resources – which must sometimes be centralized to ensure sufficient volumes for providers to maintain their competency, more time for procedures than for adults, and an attention to the additional risk inherent in a less predictable environment. As well, when a health service provider is delivering care to a child, he or she is also caring for the family members. Having a sick child is an all-consuming, stressful and intensive experience for family members, and the needs of caregiving families must be better understood and met. The capacity plan addresses the needs of families and provides recommendations to support access to the services they require.

Project Mandate

The Champlain Local Health Integration Network (LHIN) asked the Children's Hospital of Eastern Ontario (CHEO) and the Ottawa Children's Treatment Centre (OCTC) to facilitate the development of a ten-year capacity plan for children and youth in the region providing:

- an analysis of the child and youth population, with a focus on understanding the needs of historically underrepresented populations such as newcomers, Indigenous people and Francophone children, youth, and families, as well as those with limited exposure to the formal health care system;
- a regional health services inventory;
- service need projections; and
- models to optimize integrated care.

Project Methodology

This work was led by a LHIN-wide Steering Committee with stakeholder composition including family and youth advisors, pediatricians, subspecialists, community health centres, primary care providers, public health, family physicians, youth mental health, acute care administrators, community service providers, the CCAC, the Ministry of Children and Youth Services and the LHIN.

From late fall 2016 to early summer 2017, the Steering Committee worked closely with stakeholders to identify opportunities to promote more timely access to integrated services, improve health services and outcomes, and foster research and education. The Steering Committee recognizes that children and youth are a distinct population requiring a unique solution, and their voices are critical to understanding their experiences and to making the decisions that will matter most to them.

This child and youth health services capacity plan for the Champlain region is an important step towards optimally integrated child and youth health services. Central to this plan is a commitment to promoting and expanding the use of culturally-appropriate models of care to better meet the needs of children, youth and their families, and especially those who have been historically underserved by the current system.

To do so, the Steering Committee embarked on an extensive consultation process involving multiple stakeholders. Consultation processes included a detailed survey and multiple focus groups of key stakeholders. These activities were key to accurately describing the current state of child and youth health services, and allowed the Steering Committee to articulate the desired attributes of a better system. This input was supplemented by: extensive quantitative analysis, including population segmentation analysis; demographic analysis; population projections; physician billing data; clinical utilization analysis; a provider inventory; and the use of provincial and international benchmarks.

Further, this report is intended to leverage important integrated work already taking place across the LHIN and the province, such as the Special Needs Strategy. THRIVE recommends continuing to look to these strategies and initiatives to help inform the implementation of this report's recommendations. The Steering Committee also believes that, given the considerable degree of alignment between this report and other initiatives, it will be important to engage a variety of stakeholders during the implementation process to help maximize available resources and to promote health system collaboration.

Guiding Principles

This report, and its recommendations, is consistent with the visions, strategic directions, and principles of the MOHLTC, the Champlain LHIN, and MCYS. Based on these important inputs, a set of principles are delineated to guide the adoption and implementation of the recommendations:

1. Families are the most important assets in the Champlain LHIN's child and youth system of care. Children, youth and their families should be involved in improving the system, and should receive resources and education that enhances their capacity to support the health and wellness of children and youth;
2. All children and youth should receive the same standard and quality of care wherever they receive it within the LHIN, including populations with more difficulty accessing services, such as Indigenous peoples and newcomers, with decisions regarding allocation of health resources made from a patient-centred and evidence-based perspective;
3. Links between population and public health and other health services must be strengthened;
4. Health promotion and primary care prevention must receive greater focus and emphasis;
5. Child and youth health care must be integrated and coordinated across the continuum from community-based and primary care services to hospital-based and sub-specialist services, putting the outcome and experience of patients and their families at the center; and
6. Continuous improvement should be embedded into the system, to help ensure the needs of children, youth and their families continue to be met.

Findings

This report outlines finding about the current state and detailed recommendations to address the needs of children and youth in the Champlain LHIN. It includes both quantitative and qualitative findings that describe the issues affecting the current delivery of health care in the region that are relevant to consider for implementing the recommendations. Appended to this report is the current state report, which provides more detail to support implementation efforts.

Ten key themes emerged from this analysis and are discussed in detail in Appendix A: Current State Report. These key themes are:

1. Integration, consistency and coordination
2. Prevention, community and primary care
3. Mental health, addictions[4], behavioural and developmental issues
4. Parent and caregiver education and supports
5. Access to care
6. Health equity
7. School system collaboration
8. Funding distribution and sustainability
9. Wait times
10. Transitions of care

These themes underpin this report, and are used to frame issues and associated recommendations.

[4] It is important to note that quantitative and qualitative data related to the impact of addictions in the region was relatively limited; stakeholders spoke of the impact of tobacco use, but further investigation is likely required to better understand the particular needs of the sub-regions relative to addictions.

Cutting across these themes are nine important findings that illustrate the current state of care for children and youth within the region:

1. **Champlain's child and youth population will be increasingly concentrated in Ottawa.** The child and youth populations in the Ottawa sub-regions is projected to grow by 30% over the next 20 years while the Eastern and Western Champlain populations are not projected to grow.
2. **There are profound differences in the care available to children, youth and families in Ottawa, Eastern Champlain and Western Champlain.** There are many examples of the differences faced across the LHIN, including:
   - Child and youth population morbidity varies substantially across the LHIN;
   - Western Champlain has the LHIN's highest child and youth population morbidity;
   - Central Ottawa has the LHIN's lowest child and youth population morbidity;
   - Children and youth in Eastern and Western Champlain have less access to physician services than those living in Ottawa;
   - Children and youth in Western Champlain receive only 51% of the LHIN average visits per child for developmental and rehabilitation services;
   - Children and youth living in Western Champlain had 2.37 times the ED visits expected at the provincial average[5];
   - Children and youth living in Eastern Champlain had 1.41 times the ED visits expected at the provincial average;
   - Children and youth residing in Ottawa had 20-30% fewer ED visits than expected, depending on the sub-region;
   - Developmental and rehabilitation services vary significantly by sub-region.
3. **There will be more growth in demand for community-based care than hospital-based care in the next 10 years.** Access to community-based care will need to be expanded to address this need; for example, access to home and community care services (formally CCAC services) varies by population segment and sub-region. Children and youth throughout the LHIN received 19% fewer home and community services than the expected provincial average.
4. **Families and providers lack clear, accessible and consistent information detailing services available in the region.** Families struggle to find centralized information on local services to facilitate better access to services at convenient times and locations. Providers are not always aware of all available resources and therefore may not refer their patients or clients to the most appropriate services.
5. **It is difficult for providers to deliver comprehensive supports to children, youth and families and for families to access the services they need due to services and funding siloes.** Most providers have specific mandates that restrict the health care services they can deliver and for which they can be compensated. Because these mandates are not always developed in a coordinated manner with other agencies or from a family-centered perspective, gaps and duplication in services exist.

[5] Higher ED use in Eastern and Western Champlain may be due to the necessity for different care models in those regions, and should be further studied. However, higher use of EDs in Eastern and Western Champlain may also reflect the fact many services are not easily accessible, and the ED is seen as the last resort in an attempt to receive any kind of supportive care.

6. **There is no 'system' of care for children and youth in the region, and there are few clear evidence-based pathways of care.** Children, youth and their families experience fragmented care, with their needs addressed by multiple providers in an uncoordinated fashion. This is further complicated by the fact that the region lacks a common electronic health record system.
7. **Existing strategies do not adequately consider or address social determinants of health (SDH), including income and cultural diversity.** The quantitative data clearly demonstrates the profound impact SDH factors have on the health of children and youth. For example, high SDH risk neighbourhoods in cities and towns have higher Emergency Department (ED) use than other neighbourhoods.
8. **Mental health, developmental and behavioural diagnosis volumes are increasing and there are significant concerns about supports for those with concurrent disorders including addictions, dual diagnoses and eating disorders.** Eastern and Western Champlain are particularly impacted by this trend as these regions are already underserved when it comes to mental health, developmental and behavioural supports.
9. **Coordination of health care services in the school system is lacking.** The eight school boards in the region operate under different interpretations of policies related to the provision of health services in schools. This results in an inconsistent approach to care delivery throughout the LHIN.

The degree to which families are involved in the provision of care to children and youth was another notable finding. Families provide more care to children and youth than any other provider group. Analysis revealed that families provide an estimated 15,700,000 hours of care annually. Based on expected growth of the LHIN's child and youth population, family-provided care needs will increase by 9% over 10 years, equivalent to an additional 1,400,000 hours by 2024/25. Families who provide care to their children play a role very similar to that played by long term care homes in their provision of care to seniors. Families require supports such as transportation and access to daycare to allow them to provide this care for their children.

Capacity Requirements

The THRIVE capacity recommendations aim at ensuring that the Champlain LHIN health system has the capacity to meet the needs of the LHIN's children, youth and families now and in the future. For the purposes of this report, capacity is defined as both the right amount and mix of resources and the required child and youth service provider expertise. The recommendations were developed by examining current and forecasted gaps between needs and capacity, across sectors and along the continuum. Where relevant, services and sub-populations that should be prioritized for access improvements were identified.

Within the report and where possible, two versions of the future capacity requirements are presented. One speaks to the future capacity required to maintain the current level of access. Under this scenario, capacity requirements increase at the growth rate of the LHIN's child and youth population only. The other aims to look at future capacity requirements needed to achieve better practice.

Due to the absence of person-level data for some specific populations (e.g. Francophone, Indigenous), capacity recommendations specific to those groups have not been developed. However, future capacity in the LHIN will need to reflect the needs of specific sub-populations, including the:

- 19% of the LHIN's population that identify French as their first language;[6]
- 2.8% of the LHIN's population that self-identify as Indigenous[7]; and
- 2.8% of the LHIN's population that are recent immigrants.[8] It should be noted that this number may be an underestimate of the actual size of this community. For example, in Ottawa in 2011, 22.6% of the population was born outside of Canada[9].

The THRIVE Steering Committee recognizes and acknowledges more could have been done to fully engage these communities in the development of this report. More must be done by system leaders and providers, throughout the LHIN, to increase the levels of awareness of the unique needs and circumstances of these communities. In particular, this means augmented and accelerated efforts to directly engage with members of these communities in the design and delivery of care, in a culturally appropriate manner. Given the diversity of Indigenous communities within the LHIN and the long history of inequity and injustice that has contributed to their poor health status and outcomes, particular attention should be given to working with this community.

Specific capacity requirements include:

- Based on expected population growth only, the demand for family-provided care to children and youth will increase by 9% over the next 10 years.
- To maintain current access of the LHIN's children and youth to family physician delivered primary care, the number of family physicians will need to increase by 9% over the next 10 years. This is an increase of 140 over the LHIN's 2015 supply of 1,517 family physicians. This increase does not include growth in supply to meet the needs of the LHIN's adult and senior populations.
- To maintain the current pediatrician to child ratio in the LHIN, the number of pediatricians will need to increase by 9% over the next 10 years, or by 20 clinicians to increase to 242 in 2024/25 (from 222 in 2014/15).
- To maintain current access, home care service expenditure will need to increase by $1.8M (8%) from 2014/15 to 2024/25.
- To match the provincial average home care access, expenditure will need to increase by $3.7M (16%) today and by $5.9M in 2024-25.
- To eliminate within LHIN access inequities without reducing current access in any sub-region, home care expenses will have to increase by $1.0M.
- To maintain current access, developmental and rehabilitation service expenses delivered through the children's treatment centre will need to increase by $2.0M (13%) from 2014/15 to 2024/25.

[6] Statistics Canada Census 2016
[7] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx
[8] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx
[9] https://www.cmhc-schl.gc.ca/en/co/buho/seca/ot/ot_001.cfm

- To eliminate within LHIN access inequities without reducing current access in any sub-region, developmental and rehabilitation expenses will have to increase by $3.5M today and by $5.9M in 2024/25.
- Based on expected population growth only, demand for the LHIN's hospital services is expected to increase by roughly 8 % over the next 10 years, including:
    - 12,000 more emergency department visits;
    - 550 more inpatient admissions;
    - 2,800 more inpatient days, or about 9 more beds; and
    - 440 more surgeries.

It is important to note that data regarding non-physician providers is not readily available. While the data clearly identifies the future needs of physician services in the Champlain region, the Steering Committee acknowledges that health care must increasingly be delivered by interdisciplinary teams. Further research should be done to improve understanding of health human resource needs.

Recommendations

In response to the detailed current state findings, the Steering Committee and stakeholders from across the region developed 36 recommendations aimed at addressing the gaps and meeting the needs of children, youth and their families over the coming years.

These recommendations have been divided into capacity recommendations and policy recommendations, and were mapped against the 10 key themes described above and five domains of successful health care systems. The five domains are as follows:

Domain	Purpose
Identification of Target Populations	Successful care systems focus on identifying specific target populations and clearly defining the services they need
Care Coordination	An organized network of providers facilitates smooth transitions between care settings and communication among caregivers
Providers and Networks	Successful care models specify what provider services are available and how those providers connect in a network
Outcomes and Performance Measurement	Successful systems of care define their desired outcomes and measure performance against those objectives
Resource Adequacy	Effective care models assess if there are adequate resources to achieve the desired outcomes

This mapping ensures that the recommendations address all of the key areas that allow leading systems of care to be successful. This approach also provides a framework for a future system of care in the region that moves away from the historical focus on care setting, such as hospital care, home care, etc., to the unifying features that bind the system together. The review of leading practices suggests that in order to move to a more integrated and effective health care model, there is a critical need to approach issues from a broader systemic viewpoint.

It is also important to note that the recommendations build upon each other. For example, the recommendation that CHEO-OCTC should continue to explore opportunities to reduce length of stay will be enhanced if done in conjunction with the recommendation to enhance community capacity as together they will help to improve transitions from hospital to home.

The recommendations are summarized below:

#	Recommendation
Capacity Recommendations	
Family Provided Care	
1.	Initiatives to reduce demand for family-provided care are needed.
2.	Data on family-provided care should be systematically collected by providers and funders, collated and routinely analysed.
3.	Support services and resources for families need to increase substantially, both now and over the next 10 years.
Primary Care Services	
4.	The needs of children and youth should be specifically considered when undertaking system planning, including planning for primary care and other physician services.
5.	Access to all physician services for children and youth living in Eastern Champlain and Western Champlain needs to increase to redress current inequities.
6.	Child and youth primary care capacity needs to increase across the LHIN.
7.	The capacity for primary care delivered by physicians, nurse practitioners and other providers with child and youth health expertise needs to increase across the LHIN.
8.	Family physicians across the LHIN need better access to consultant pediatricians.
9.	Children and youth with complex medical or developmental problems need better access to primary care delivered by either family or physicians with enhanced child and youth expertise or community-based consultant pediatricians.
Home Care Services	
10.	A distinct child and youth home and community care program should be developed to ensure adequate child and youth expertise and quality of service by providers.
11.	The capacity for specialized pediatric home care service delivery needs to increase across the LHIN.
12.	Access to home care services for children and youth needs to increase substantially across the LHIN.
13.	Sub-region pediatric home care access inequities need to be addressed.
Developmental and Rehabilitation Care	
14.	Given the fragmented planning and delivery of developmental and rehab services currently provided by multiple agencies and ministries, options for an integrated approach must be explored.
15.	Access to developmental and rehabilitation services needs to increase across the LHIN.
16.	Sub-region access inequities to developmental and rehabilitation services need to be addressed.
Hospital Services	
17.	The organization of the LHIN's child and youth hospital services should be reviewed to optimize the safety, quality, sustainability, and efficiency of pediatric hospital care. Planning must recognize the fact that the nature of certain types of pediatric hospital services may require their consolidation within a single organization to ensure critical mass, which impacts quality.
18.	Pediatric acute care and LHIN home and community care planning should be integrated in order to optimize length of stay.
Social Determinants of Health	
19.	The social determinants of health should inform all planning activities. Responses to reduce SDH risk should build on the LHIN's health equity framework, leverage SDH data, and involve the community, community organizations, and all Ministries that deliver or fund child and youth health services.
20.	The Regional Child and Youth Health Council (see recommendation 24) should introduce and expand the use of measurement tools, including a comprehensive SDH risk measure that covers the entire LHIN and

#	Recommendation
	the Early Development Instrument (EDI).
21.	The newly enhanced relationship between the LHIN and the Public Health Units should be leveraged to incorporate social determinants of health into service delivery models.
Outcomes and Performance Measurement	
22.	An inventory of the data needed for system measurement and improvement should be made.
23.	The inventory should be used to prioritize current data gaps and assess the need for new data collection initiatives.
Policy Recommendations	
Integrated Service Planning	
24.	A new approach to integrated care planning should be developed, working toward fully integrated, cross-sectoral planning, reporting and monitoring. A Regional Child and Youth Health Council with reach across the continuum of care, representation from the funding ministries and alignment to complementary regional and provincial initiatives should be considered.
25.	A thorough child and youth health human resource strategy should be developed.
26.	Those responsible for health services planning should work collaboratively with special populations such as newcomers, Francophone and Indigenous populations in all aspects of service planning to ensure their needs are met.
Integrated Service Delivery	
27.	Providers should work together to enhance transitions between child and youth age groups and from the child and youth to adult systems.
28.	Providers should work together to enhance community-based child and youth capacity, focusing on centralized evidence-based planning with local delivery where appropriate.
29.	The LHIN should work to enhance access to mental health and addictions supports for children and youth with consideration to efforts currently underway through MCYS's *Moving on Mental Health* initiative[10].
30.	The LHIN should work with MCYS and the Ministry of Education to enhance access to behavioural and developmental supports.
31.	The level of integration between the health system, MCYS and the education system should be improved to address the current fragmentation, resource inefficiency and inadequate care identified.
Information and Technology Enablers	
32.	A Champlain LHIN pediatric electronic health strategy should be developed in alignment with Ontario's e-health mandate. This includes the eventual goal of a single electronic health record (EHR) where possible, or a mechanism for providers to have access to all required health information for services provided within the LHIN and across the continuum of care.
33.	The usage of eConsult for pediatrics needs to increase across specialties and across the LHIN, linking to electronic health records to ensure providers have access to the eConsult data.
34.	Expansion and optimization of communication technology (video conferencing) services is required.
35.	A dedicated region-wide resource is needed to centralize and maintain health service information for children, youth, families, caregivers and providers across the LHIN.
36.	A research agenda focused on embedding collaborative solutions within clinical best practices and standardization of information collection is required to drive integration across the health care system.

[10] http://www.hnreach.on.ca/service-files/MoMH-Report-EN-Print.pdf

Introduction

Health System Capacity Planning

Health systems in most high-income countries aim to provide a comprehensive range of services to the entire population and to ensure that standards of quality, equity and responsiveness are maintained. High performing health systems aspire to the Quadruple Aim[11], working towards the objectives of:

- Improving population health;
- Enhancing patient/client experience;
- Ensuring value for health care dollars; and
- Improving the work life of health care providers, including clinicians and staff.

Health system capacity planning creates the conditions for the development of a high performing health care system, and is central to the pursuit of providing high quality care while controlling the cost of providing that care.

The Need for Capacity Planning for Children and Youth

Capacity planning for children and youth is particularly important because:

- Children and youth have unmet health care needs;
- Unmet need in childhood has implications for longer term health, developmental and functional status as well as health and social services utilization;
- Health care for children and youth, by virtue of changing physiology and neurodevelopmental evolution over distinct phases, is complex and requires multiple approaches;
- Required health care resources for children and youth must take into consideration the fact that families must be part of the decision making process, the increased time requirements for even simple procedures and treatments, and the large diversity in equipment and supplies due to size differences; and
- Child and youth health services are both funded and delivered by multiple ministries in a variety of settings.

A focus on children and youth is critical in Ontario's current health care environment. The findings of this report clearly demonstrate that there are unmet needs and significant variability within the current system. However, the Provincial Government's *Patients First: Action Plan for Health Care, 2015*, is focused almost exclusively on adult care. Evidence across the province suggests that there is significant need for focused strategies to better address unmet needs, as well as the changing health issues affecting children and youth.

To further illustrate the "burning platform" to develop an effective, integrated system of care for children and youth, it is important to recognize that most chronic diseases have their onset in childhood and affect the trajectory of individuals' entire lives. In Canada, the probability of dying from chronic

[11] http://www.ihi.org/resources/Pages/AudioandVideo/WIHI-Moving-Upstream-to-Address-the-Quadruple-Aim.aspx

disease between the ages of 30 and 69 is 11.4%, whereas the probability of dying from cancer is 7.1%[12]. Individuals with chronic conditions consume a considerable proportion of the health care budget. Successful efforts to reduce the incidence of chronic conditions in children and youth could not only improve the health of the populations, but also contribute to a reduction in health care costs.

Another significant and troubling trend is the degree to which children and youth face significant and increasing mental health challenges. The recent *Mental Health of Children and Youth in Ontario: 2017 Scorecard* by the Institute for Clinical Evaluative Sciences (ICES)[13] noted that mental illness affects 10-20% of children and youth worldwide and is the leading cause of disability among young people. In Ontario, about 20% of children and youth experience a mental illness at any given time. CHEO's emergency department had 3,200 visits for mental health conditions in 2013/14, an 80 % increase over the 1,770 visits in 2009/10. However, visits decreased substantially since the 2013/14 peak to a total of 2,800 visits in 2015/16. The reduction in ED visits likely represents model of care improvements and not reduced care demand since outpatient mental health visits for children and youth increased substantially over the same time. From 2013/14 to 2015/16, CHEO's outpatient mental health visits increased from 7,200 to 8,900, while visits at The Royal for youth 16 to 18 increased from 240 to 1,400[14].

Capacity planning for this population is also important because of the particular complexity of the current system. Unlike adult care, pediatric care falls within the purview of four Ministries: the Ministry of Health and Long Term Care (MOHLTC), Ministry of Children and Youth Services (MCYS), Ministry of Community and Social Services (MCSS), and the Ministry of Education (EDU). Stakeholders reported that the Ministries lack consistent, integrated planning approaches. This results in confusion, duplication, and at times, deficiencies that negatively affect the health of children and youth. Despite this, it is important to acknowledge that all agencies and providers are committed to providing high quality service to the children and youth that they serve.

In addition, child and youth health services capacity planning must take into consideration the fact that high quality, safe and efficient care requires clinicians with the specific expertise and skills to provide care across the pediatric age continuum. As an example, all health professionals providing pediatric care must be sufficiently comfortable and competent assessing and providing care to children and youth so that they can readily identify acutely ill patients, perform procedures as required and provide or follow the latest evidence-based treatment guidelines. In order to maintain these skills they must receive adequate education and training and care for children and youth on a regular basis, and in some cases this means that providers need to be centrally located to ensure that they see sufficient volumes of patients with particular requirements to maintain their competency. It is also known that treatment outcomes are often better at specialized pediatric hospitals. Given that many acutely unwell children have multi-system issues, these results may reflect in part the existence of a critical mass of specialist and sub-specialist pediatric care providers and teams in a single site. As well, providers at pediatric hospitals may more frequently see the common as well as rarer presentations of diseases allowing for earlier recognition of complex conditions. Considerations of the geographic distribution of child and youth services must take into account the need to develop and maintain appropriate pediatric expertise

[12] http://www.phac-aspc.gc.ca/publicat/hpcdp-pspmc/34-1-supp/index-eng.php
[13] https://www.ices.on.ca/Publications/Atlases-and-Reports/2017/MHASEF
[14] Young Minds Report Card 2016. http://www.theroyal.ca/wp-content/uploads/2016/11/36256.YouthMentalHealth_Report_EN.pdf

amongst involved providers. It must also consider associated transportation issues and requirements of these children, youth, and their families.

If the health care needs of children and youth are not adequately addressed, the impact on the longer term utilization of health care services will be profound; today's children and youth are tomorrow's adults. The Region requires a proactive, preventative and responsive system that identifies and meets child and youth health needs in a timely fashion, resulting in an improvement of the health status of the younger populations. Thoughtful consideration of how to distribute available resources to children and youth in the region will be essential drivers of long-term sustainability across the entire health care system.

Finally, children's needs are distinct from those of adults, but current funding and planning does not always account for this. For example, it is impossible to consider care for children and youth without considering the needs of their families and caregivers. The degree to which families provide health care to children and youth is profound. As the health of families and caregivers is critical to enable them to care for their children, child and youth health care providers must deliver a broader range of supports and information that meet the needs of the entire family. Further, the differences in the time required to deliver services to children and youth, the greater involvement of family members in care decisions, and relative infrequency with which some providers may encounter pediatric care issues emphasizes the need for planning and delivery of health services for children and youth to be distinct from that for adults.

For these reasons, there is a need for a comprehensive, collaborative, multi-sectoral approach to child and youth physical, developmental and mental health system capacity planning. An effective system of care in the Champlain region must be coordinated and continuously improving. It should have seamless ties with other essential health services across the continuum of care and the respective funding agencies.

Project Purpose

Every day counts in the life of a child. Health systems need to ensure that children and youth can thrive today, in the next 10 years, and well into the future. This includes working to ensure that children and youth receive the right care, at the right time, in the right place. It also means working toward the best possible functional outcomes for children, youth and their families. To that end, the Champlain LHIN initiated a project to develop a regional child and youth health services capacity plan providing:

- an analysis of the child and youth population, with a focus on understanding the needs of potentially underrepresented populations such as newcomers, Francophones, Indigenous populations, and those with limited exposure to the health care system;
- a health services inventory;
- future service needs; and
- models to optimize integrated care.

The project was given the title "THRIVE". THRIVE has leveraged the Champlain LHIN care networks to develop a 10-year plan that anticipates the needs of children and youth and the required service capacity of the Champlain region by bringing forward information to help shape future decisions and deliver the best integrated child and youth health services possible.

THRIVE was led by a Steering Committee comprised of stakeholders such as family and youth advisors, pediatricians, subspecialists, community health centres, primary care providers, public health, family physicians, youth mental health, acute care administrators, community service providers, the CCAC, the Ministry of Children and Youth Services and the LHIN.

From late fall 2016 to early summer 2017, the THRIVE team worked closely with stakeholders to examine what the region could do differently in the future to promote a more integrated system of care, more timely access to services, improved health outcomes, and to foster research and education.

The Steering Committee recognizes that children and youth are a distinct population requiring a unique solution, and that their voices are critical to the understanding of their experiences and to making the decisions that will matter most to them. Together, the THRIVE Steering Committee has developed a child and youth health services capacity plan, addressing physical, developmental and mental health needs, for the Champlain region spanning the next 10 years—and beyond—as an important stepping stone towards a future of better integrated child and youth health services.

Claire Dawe McCord first became a CHEO patient at the age of nine. She is a member of CHEO's Youth Advisory Council and a THRIVE advisor who—as a vocal advocate for children and youth—provides a patient's perspective.

"CHEO is great, but there are improvements that can be made," she says. "Everything we do is to help the kids who come through the front doors."

Now 18, Claire is speaking out about the need for more collaborative, connected care, especially for youth moving into the adult system, where she feels "parts of them" are transferred at different ages without a coordinated plan.

"They say it takes a village to raise a child and this is even more true for a child or adolescent with health issues," she says. "I believe there needs to be a much stronger, more cooperative network of health care professionals, not only within CHEO-OCTC but also among surrounding hospitals, primary care physicians, and patients and families. Only once this level of communication is achieved will patients receive the best care possible."

Claire plans to be the change she hopes to see by pursuing a career in medicine.

Project Scope

THRIVE is focused on health care services provided in hospitals, primary and specialty centres, homes and the community, with limited exceptions. The scope, which was endorsed by the Steering Committee, is as follows:

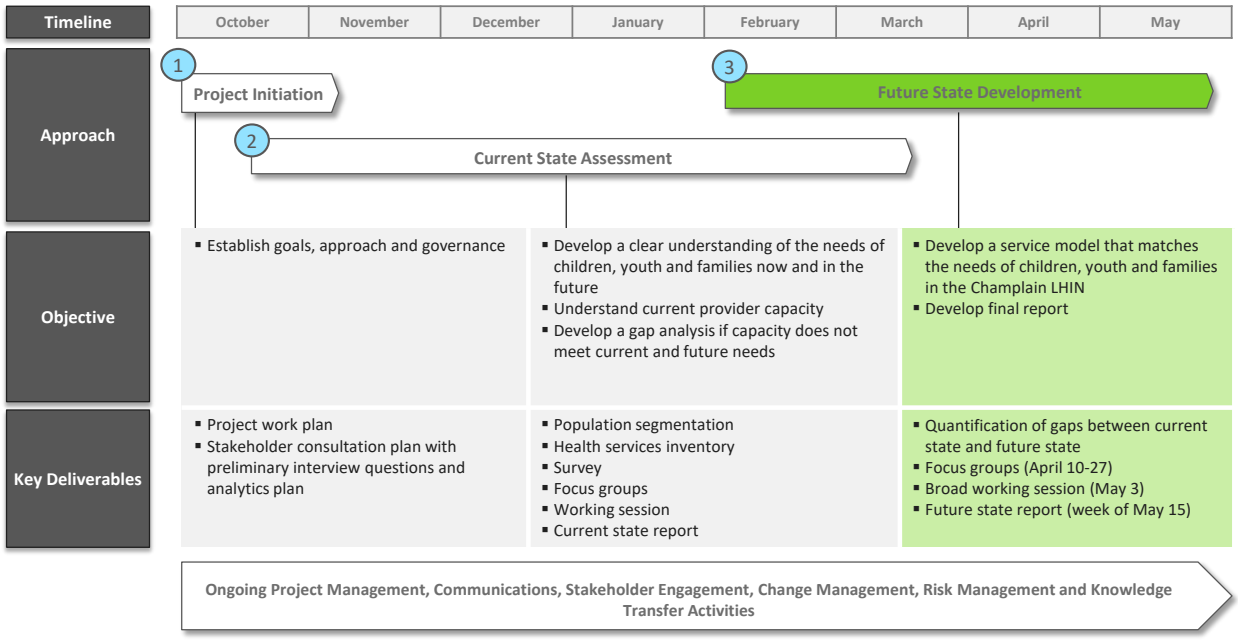
In Scope	Out of Scope
• All services provided by physicians and nurse practitioners, including in offices, clinics, community health centres and family health teams • All children's treatment centre developmental and rehabilitation services • Community health centre services for children and youth • Mental health and addictions services • Home and community care (formerly provided by the CCAC services) • Hospital ambulatory and inpatient care • Emergency services • Residential and community-based palliative care • Certain aspects of public health care • Indigenous health access centres • Rehabilitation and nursing services provided within schools	• Child protection services • Education system, other than health services provided within the school setting • Prenatal and maternal perinatal care • Justice system • Dental health, unless provided in a tertiary setting • Public health preventative programs

It is important to emphasize that "health" in this report refers to physical, developmental and mental health. The Steering Committee views a focus on the overall wellbeing of children and youth to be crucial to ensuring that their care needs are met now and into the future.

Project Approach

Project THRIVE has been conducted using a three phased approach, as outlined in Figure 1.

Figure 1: Project THRIVE Approach



In order to develop a clear and comprehensive understanding of the current and future needs of children and youth, the current state and future state assessments were based on both quantitative and qualitative data.

In the current state analysis, quantitative analysis leveraged hospital, physician billing, home care, children's treatment centre, and population data to assign each child or youth to a population segment.

The perspectives of stakeholders, including youth, families, newcomers, Francophone and Indigenous[15] populations was then sought to identify key issues related to child and youth health services through:

- Surveys: 162 participants from across the continuum of care
- Focus groups: 30 focus groups with 201 participants from across the continuum of care
- Focused working session: 1 session with 27 participants
- Steering Committee meetings: 4 meetings
- Data validation Steering Committee meetings: 2

In the future state phase, quantitative data analysis focused on measuring the capacity gaps to inform recommendations designed to close the gaps. Qualitative analysis was focused on gathering future state recommendations and identifying innovative models of care, and was gathered through:

- Focus groups: 10 focus groups with 106 participants from across the continuum of care
- Broad working session: 1 session with 71 participants from across the continuum of care
- Steering Committee meetings: 3 meetings
- Data validation Steering Committee meetings: 2

In Canada, one in 68 children under the age of 17 has been diagnosed with autism. Raising awareness of the condition is among the most important things we can do to help.

Mara Chapeskie's son, William, is almost three. He was diagnosed with autism one year ago. Mara and her husband participated in THRIVE to make sure that his story is heard and to promote awareness for children and youth diagnosed with autism.

Consideration for future health care needs will benefit Mara's son greatly. Mara says that medium to high functioning autistic individuals receive less support than more severe cases. She hopes to see shorter waitlists for health services and more funding available for children and youth with medium to high functioning autism.

Mara encourages greater awareness in educational institutions. As she says, "You also need to be healthy outside of the hospital."

- Steering Committee Sub-Committee meetings: 2

[15] Individuals who identify as Indigenous based on the 2011 census

Foundations for an Effective Health Care System for Children and Youth

In order to lay a solid foundation for current and future state reviews, and to develop the recommendations, THRIVE identified guiding principles, reviewed complementary regional initiatives, conducted a leading practices review and identified domains of successful care systems. The following section highlights these foundational elements.

Guiding Principles for Child and Youth Health in the Champlain Region

The Ministry of Health and Long Term Care's vision for health care in Ontario is a higher-performing, better connected, more integrated and patient-centred system for patients and care providers. A cornerstone of the MOHLTC's strategy to realize its vision is the *Patients First Act* (2016) which expands the role of Ontario LHINs to reduce gaps and strengthen patient-centred care by implementing the following priorities:

1. Effective integration of services and greater equity through sub-region planning;
2. Timely access to, and better integration of, primary care;
3. More consistent and accessible home and community care;
4. Stronger links between population and public health and other health services;
5. Inclusion of Indigenous and French Language Services voices in health care planning.

The Champlain LHIN has also articulated its vision and identified priority strategic directions:

Vision	*Healthy people and healthy communities supported by a quality, accessible health system.*
Strategic directions	Integration, access, sustainability

The Ministry of Child and Youth Services' vision and principles are:

Vision	An Ontario where all children and youth have the best opportunity to succeed and reach their full potential.
Principles	Child and youth-centred, responsive, inclusive, collaborative, outcomes-driven, accountable

It is interesting to note that the key themes that were identified in the THRIVE current state report are remarkably consistent with the principles and strategic directions listed above. See Current State of Child and Youth Care in the Champlain Region, page 30, for further details.

At the outset of the THRIVE project, the Steering Committee developed guidelines to frame the development of the capacity plan. They are listed below:

- Build on work already done, meaningfully engage stakeholders, and embed research and academics;
- Recognize the importance of social determinants of health, considering the services commonly accessed by specific patient populations and working to streamline those services across the continuum of care and ensuring appropriate segmentation between episodic users, those with low acuity chronic conditions, and those with complex needs;

- Strive for equitable access so that every child and youth has access to the best care possible;
- Align with LHIN, MOHLTC and MCYS strategic directions, visions and missions as well as other recent or current capacity and strategic planning such as the Special Needs Strategy, child and youth mental health strategies, LHIN neonatal planning, etc.;
- Strive to balance the need for realistic capacity planning, fiscal sustainability and responsibility with the potential for innovation and the use of emerging and creative technologies;
- Consider the importance of focusing on health promotion, upstream factors and primary care prevention;
- Emphasize the priority of high-quality, child-, youth- and family-centred care considering the unique and culturally appropriate needs of children, youth, families, and the community;
- Recognize the interdependency of factors that affect patients, families, and providers;
- Develop a future vision for a child and youth health system that is easy to navigate.

This report, and its recommendations, is consistent with the visions, strategic directions, and principles of the MOHLTC, the Champlain LHIN, and MCYS. Based on these important inputs, a set of principles are delineated to guide the adoption and implementation of the recommendations:

1. Families are the most important assets in the Champlain LHIN's child and youth system of care. Children, youth and their families should be involved in improving the system, and should receive resources and education that enhances their capacity to support the health and wellness of children and youth;
2. All children and youth should receive the same standard and quality of care wherever they receive it within the LHIN, including populations with more difficulty accessing services, such as Indigenous peoples and newcomers, with decisions regarding allocation of health resources made from a patient-centred and evidence-based perspective;
3. Links between population and public health and other health services must be strengthened;
4. Health promotion and primary care prevention must receive greater focus and emphasis;
5. Child and youth health care must be integrated and coordinated across the continuum from community-based and primary care services to hospital-based and sub-specialist services, putting the outcome and experience of patients and their families at the center; and
6. Continuous improvement should be embedded into the system, to help ensure the needs of children, youth and their families continue to be met.

Complementary Regional and Provincial Initiatives

In addition to the priorities set forth by provincial agencies described above, there are a number of other initiatives underway or in development that align with THRIVE. Throughout this project, the Steering Committee reviewed the outputs of these groups, connected with the leads of these initiatives, and incorporated key elements into the analysis and recommendations. These initiatives include:

Initiative	Vision, Goals and Guiding Principles
Kids Health Alliance, The Hospital for Sick Children (SickKids), Holland Bloorview Kids Rehabilitation Hospital, CHEO-OCTC	**Context** Launched in June 2017, the Kids Health Alliance (KHA) is a network working together to improve the health of children and youth in Ontario. Its focus is on creating a more coordinated, consistent, high quality system of care for children, youth and families. It aims to partner with other community and academic hospitals as well as community-based providers who deliver care to children and youth. **Relevance** Once fully operational, the KHA will focus on the following areas, which complement with THRIVE: • Build and support child and youth health delivery expertise and capacity in Ontario; • Standardize best practices in clinical care by different providers; • Coordinate providers and standardize care; • Capitalize on emerging funding models; • Create shared technology platforms to provide access to health information.
Ontario Indigenous Children and Youth Strategy, Ontario Ministry of Children and Youth Services[16]	**Context** The vision for the Strategy is, "First Nations, Métis, Inuit and urban Indigenous children and youth are healthy, happy, resilient, grounded in their cultures and languages and thriving as individuals and as members of their families and Nations or communities." The Strategy has applied the following planning principles: • Children and youth centred; • Culture and identity as foundational; • Respect rights and jurisdictional aspirations; • Co-development and partnership; • Outcomes focus; • Responsive to youth voice; • Flexibility; • Shared accountability; • Reconciliation (acknowledge the past, act now and look to the future). **Relevance** The following pillars align with THRIVE recommendations: • **Prevention, Culture and Opportunities:** First Nations, Métis, Inuit and urban Indigenous children and youth have access to preventive services focused on well-being, culture and opportunities. • **Coordinated and Responsive Circle of Care:** The child and youth service workforce is equipped to provide high quality, integrated and culturally appropriate services. Those responsible for acting on the THRIVE report should continue to review the progress of this Strategy, identifying opportunities to build on its progress in order to better support THRIVE's efforts meet the unique needs of Indigenous peoples.

[16] http://www.children.gov.on.ca/htdocs/English/professionals/indigenous/index.aspx

Initiative	Vision, Goals and Guiding Principles
Ontario Special Needs Strategy, Ontario Ministry of Children and Youth Services[17]	**Context** The vision for the Special Needs Strategy is, "an Ontario where children and youth with special needs get the timely and effective services they need to participate fully at home, at school, in the community and as they prepare to achieve their goals for adulthood." The Strategy has applied the following planning principles: **1.** Child, Youth and Family-Centred Service; **2.** Family and Youth Engagement; **3.** Inclusive Planning, Delivery and Evaluation; **4.** Leadership and Partnership; ***5.*** Evidence-Informed Practice and Continuous Improvement. **Relevance** The following initiatives align with THRIVE recommendations: • **Identifying kids' needs earlier and connecting them to the right help sooner:** Trained providers will have a new developmental screening process for children in the preschool years. They will screen for potential risks to the child's development as early as possible. • **Coordinating service planning:** Service planning coordinators for children and youth with multiple and/or complex special needs will connect families to the right services and supports. • **Making the delivery of rehabilitation services seamless:** Integrating the delivery of rehabilitation services, specifically speech-language therapy, occupational therapy and physiotherapy. Services will be easier to access and seamless from birth through the school years.
Moving on Mental Health: Provincial Priorities, The Child and Youth Mental Health Lead Agency Consortium[18]	**Context** In 2012, the Ministry of Children and Youth Services outlined a framework to establish a better coordinated, integrated, collaborative and accountable child and youth mental health system that would improve access for children, youth and their families. The *Moving on Mental Health* (MOMH) strategy was part of the government's mental health and addictions strategy. A key element of the strategy was establishing lead agencies in 33 defined service areas across Ontario to be responsible for leading the planning and delivery of community-based child and youth mental health (CYMH) services. **Relevance** This report outlines the lessons learned by the lead agencies in the following areas: • delivering on their role; • priorities for work in and across service areas; and • barriers and opportunities in the development of a stronger and more effective system of child and youth mental health services across Ontario. This experience will be valuable as THRIVE moves from recommendations development into implementation.

[17] http://www.children.gov.on.ca/htdocs/English/professionals/specialneeds/strategy.aspx
[18] http://www.hnreach.on.ca/service-files/MoMH-Report-EN-Print.pdf

Initiative	Vision, Goals and Guiding Principles
Open Minds, Healthy Minds: Ontario's Compre-hensive Mental Health and Addictions Strategy, Ontario Ministry of Health and Long Term Care[19]	**Context** The vision for the strategy is, "An Ontario where every person enjoys good mental health and well-being throughout their lifetime, and where all Ontarians with mental illness or addictions can recover and participate in welcoming, supportive communities." The Strategy has applied the following planning principles: • Respect and understanding; • Healthy development, hope and recovery; • Person-directed services; • Diversity, equity and social justice; • Excellence and innovation; • Accountability. **Relevance** The strategy has set the following goals, with associated outcomes measures, which align with THRIVE recommendations: • **Improve mental health and well-being for all Ontarians:** Ontarians are happier, more resilient and more likely to succeed in school, work and life when they are able to cope with stress and manage the ups and downs in life. Programs will be available for all ages to help Ontarians develop the skills they need early in life to improve their mental well-being and to lead healthier lives. • **Create healthy, resilient, inclusive communities:** We will help build inclusive, supportive communities. All Ontarians deserve access to the basic elements of a safe and healthy life – education, employment, income and housing – as well as opportunities to participate in meaningful ways in their community. Healthy communities help create a sense of belonging, which leads to better mental health. • **Identify mental health and addictions problems early and intervene:** Acting early – at the first signs of mental illness or problematic substance use and gambling – can have a profound effect. It can help prevent addictions from taking over, and for those with a mental illness, it can shorten the journey to recovery. To intervene early, we must be able to identify and reach out to people with problems, wherever they are: in school, at work, in their doctor's office or in the justice system. This is particularly important for children and youth as symptoms of mental illness often first occur during childhood and adolescence. • **Provide timely, high quality, integrated, person-directed health and other human services:** Ontarians with a mental illness and/or addictions need timely access to health and social services that meet their needs. These services should be integrated so people have easy access to the right mix of supports. Better coordination across health and other human services – such as housing, income support, employment and the justice system – will lead to better mental health.

[19]http://www.health.gov.on.ca/en/common/ministry/publications/reports/mental_health2011/mentalhealth_rep2011.pdf

Initiative	Vision, Goals and Guiding Principles
The Mental Health of Children and Youth in Ontario: 2017 Scorecard, Institute for Clinical Evaluative Sciences (ICES)[20]	**Context** This scorecard describes child and youth mental health care and related outcomes in Ontario. **Relevance** The scorecard identifies important provincial outcomes in several areas with relevance to THRIVE, including rates of mental health and addictions and access to care. Examples include: • Mental illness affects 10–20% of children and youth worldwide and is the leading cause of disability among young people. In Ontario, about 20% of children and youth experience a mental illness at any given time, and about 70% have an onset during childhood or adolescence. • The number of outpatient doctor visits for mental health and addictions care increased by 25% for 2006-2014. The number of children and youth seeing psychiatrists increased by 40% from 2006-2014. • From 2006 to 2014, there was a 25% increase in the rate of mental health and addictions–related outpatient physician visits for children and youth. This included a 55% increase in visits to pediatricians, a 21% increase in visits to psychiatrists and a 16% increase in visits to primary care physicians. • The number of child and youth ED visits for mental health and addictions increased by 53% from 2006-2014. The leading reasons for ED use were anxiety, substance abuse and mood disorders. • In 2014, 44.6% of children and youth who went to the emergency department for a mental illness had no prior contact with a physician for reasons related to mental health or addictions. • There is considerable geographic variation in both access to and quality of physician- and hospital-based mental health care for children and youth.
Expert Care and Research for Healthy Young Minds, CHEO-OCTC, and Royal Ottawa Mental Health Centre[21]	**Context** CHEO-OCTC and Royal Ottawa Mental Health Centre provide specialized psychiatric and mental health services for thousands of children and youth in Eastern Ontario, Nunavut and Western Québec. A Strategic Plan for CHEO and The Royal's shared services was developed with the goals of: • Quality patient care and experience; • Community partnerships; • Outcomes, accountability, research; • Staff, physician and trainee engagement. For each of these goals, specific strategic objectives were identified. **Relevance** The following recommendations align to THRIVE findings: • Improve access and patient flow; • Better engage children, youth and families in their care;

[20] https://www.ices.on.ca/Publications/Atlases-and-Reports/2017/MHASEF
[21] http://www.cheo.on.ca/en/MH-strategic-plan

Initiative	Vision, Goals and Guiding Principles
	• Address identified service gaps, including a lack of services for early childhood, children and youth with substance use disorders, mental health problems and/or concurrent disorders; • Make services culturally sensitive; • Use technology more effectively; • Improve care transitions.
"Strategic Directions 2015-18", Champlain Maternal Newborn Regional Program	**Context** The Champlain Maternal Newborn Regional Program (CMNRP) is an integrated regional program whose goal is to improve perinatal care through patient-focused planning of quality maternal and newborn services in the Champlain and South East Local Health Integration Networks. CMNRP will add value to its partners by: 1. Championing the transition of the maternal-newborn continuum of care from hospital to community; 2. Driving performance and quality through metrics and data; 3. Fostering knowledge-to-action; 4. Achieving sustainability to deliver on CMNRP's vision. **Relevance** Approaches to care for newborns and neonates put forward by the CMNRP should be discussed in the context of THRIVE to ensure optimal alignment.

These strategies are referenced throughout this report and should continue to be leveraged as the THRIVE recommendations progress toward implementation. It should also be noted that the *Champlain LHIN Plan for Vision Care* provides specific recommendations about child and youth services that should be enacted (i.e. improve access to paediatric ophthalmic surgeries and vision screening for children).

Leading Practices

The purpose of the leading practices review was to identify innovative practices from Canada and around the world that are relevant to child and youth health system planning in the Champlain LHIN.

The 10 key themes identified in the current state report (see page 30) served as the basis of a framework to help guide the leading practices review. The team identified leading practices that addressed the gaps highlighted in each key theme. Examples were gathered through a literature review and expert interviews, leveraging the supporting consulting firm's international network. Further details on the leading practices review are shown in Appendix B: Leading Practice Findings.

Many of the leading practices referenced are from child and youth health systems, but innovative models for adult populations were reviewed and adapted to align with the needs of children and youth.

Through this review, it became evident that there is no single system of care that:

1. Suitably addresses each of the 10 key themes identified in this report;
2. Clearly demonstrates outcomes that are achievable and measurable; and
3. Is relevant to the specific issues that affect the delivery of child and youth health care in the LHIN.

Successful systems of care are tailored and developed to meet the specific needs of the populations served. Given these findings, the future system of care in Champlain should build on:

- Understanding the specific needs of the populations served;
- Care delivery models that are currently working well in the region;
- Successful elements of other proven care models, and
- Leading/innovative practices from other jurisdictions to meet the needs of the local population.

Global Trends in Child and Youth Care

Three key trends relevant to child and youth care emerged from the review and appeared to be pertinent to THRIVE:

Trend	Summary	Leading Practice Examples
1. Movement towards value-based payments	Funders, networks and lead agencies are moving from volume-based payments to outcomes-based payments	**New York State's Delivery System Reform Incentive Payment Program** funds providers when they achieve a pre-determined set of outcomes within the Medicaid population
2. Recognition of benefits of care closer to and in home	Health systems are increasingly focused on developing capacity in the community in order to reduce some hospital demand, and to make care more seamless for patients and caregivers	**London, Ontario's Integrated Comprehensive Care** pilot program allows adults receiving thoracic surgery, total joint replacement or chronic obstructive pulmonary disease/ congestive heart failure treatment to move seamlessly between hospital and community settings
3. Empowering families and caregivers to self-care	Most children and youth receive most of their care from themselves, their families and caregivers; providers are increasingly including families at the centre of the care team, ensuring their expertise is heard, and building their capacity to manage their health more effectively[22]	**Vanier's Social Pediatrics Hub** puts the child or youth at the centre of their own care. The intake assessment brings the child or youth together with their family/ caregiver, social worker, nurse practitioner, pediatrician, their teacher, and other key stakeholders. A care plan is created by all the stakeholders and families are given resources to better meet their needs and intended outcomes.

These three key trends appear in many of the leading practices that are highlighted in this report, and Appendix B: Leading Practice Findings and were raised consistently by stakeholders from across the continuum of care. The future state recommendations proposed in this report address all three trends, as well as the 10 key themes identified in the current state report.

[22] https://assets.kpmg.com/content/dam/kpmg/pdf/2016/04/creating-new-value-with-patients.pdf

In order to provide further structure and clarity to the findings and recommendations, THRIVE identified five domains common to successful health care systems. They are listed below:

Domain	Purpose
Identification of Target Populations	Successful care systems focus on identifying specific target populations and clearly defining the services they need
Care Coordination	An organized network of providers facilitates smooth transitions between care settings and communication among caregivers
Providers and Networks	Successful care models specify what provider services are available and how those providers connect in a network
Outcomes and Performance Measurement	Successful systems of care define their desired outcomes and measure performance against those objectives
Resource Adequacy	Effective care models assess if there are adequate resources to achieve the desired outcomes

Each of the recommendations has been mapped to one of these domains in Appendix F: Summary of Recommendations. This ensures that the recommendations address all of the key areas that allow leading systems of care to be successful. This approach also provides a framework for the future system of care for children and youth in the region that moves away from the historical focus on the system in terms of care setting, such as hospital care, home care, etc., to the unifying features that bind the system together. The review of leading practices suggests that in order to move to a more integrated and effective health care model, there is a critical need to approach issues from a broader systemic approach.

Current State of Child and Youth Care in the Champlain Region

The following section outlines the main current state findings and future state aspirations gathered through quantitative and qualitative analysis. For further detail on the current state findings, please refer to Appendix A: Current State Report.

Key Themes

Survey and focus group participants provided detailed input into the current system of care for children and youth in the region. This input was then compared against the quantitative data in order to develop a comprehensive picture of the current state of care provided to children, youth and their families in the Champlain LHIN.

Ten key themes emerged from this analysis, which point to a need for enhanced child, youth and family-centered care:

1. Prevention, community and primary care;
2. Health equity;
3. Access to care;
4. Wait times;
5. Mental health, behavioural and developmental issues;
6. Integration, consistency and coordination of care;
7. Transitions of care;
8. Parenting skills and support;
9. School systems support;
10. Funding distribution and sustainability.

These themes underpin the current state report, and are used extensively throughout to frame issues and associated recommendations.

Christian Ouimet is a happy, engaged sixteen year old who loves playing hockey with the Capital City Condors and hanging out with Kyle Turris of the Ottawa Senators. He's doing just great.

But that wasn't always the case. Christian was born with a very rare genetic condition—mosaic trisomy 22— and was one of only 25 documented cases in the world at that time. He's undergone 28 surgeries since birth, but mother Dorothy Ouimet is pleased to report that he is out of the hospital now more than he is in it.

A pediatric nurse by profession, Dorothy says she and her husband, Richard, felt most alone at the beginning of their journey with Christian. There was little information available on their baby's condition, and health care specialists weren't communicating well with each other or with them. "I felt like a number," Dorothy recalls.

In retrospect, Dorothy says they could have used the support of someone who knew their story and knew the system, a kind of family advisor who could anticipate issues, liaise with health care providers and follow up on their behalf. Both she and Richard hope that initiatives such as THRIVE will lead to more connected care and a better experience for the children and families who have to rely on the health care system.

Overview of Findings

Cutting across the identified themes are nine important findings that illustrate the current state and projected future state of care for children and youth within the region:

Cutting across these themes are nine important findings that illustrate the current state of care for children and youth within the region:

1. **Champlain's child and youth population will be increasingly concentrated in Ottawa.** The child and youth populations in the Ottawa sub-regions is projected to grow by 30% over the next 20 years while the Eastern and Western Champlain populations are not projected to grow.
2. **There are profound differences in the care available to children, youth and families in Ottawa, Eastern Champlain and Western Champlain.** There are many examples of the differences faced across the LHIN, including:
   - Child and youth population morbidity varies substantially across the LHIN;
   - Western Champlain has the LHIN's highest child and youth population morbidity;
   - Central Ottawa has the LHIN's lowest child and youth population morbidity;
   - Children and youth in Eastern and Western Champlain have less access to physician services than those living in Ottawa;
   - Children and youth in Western Champlain receive only 51% of the LHIN average visits per child for developmental and rehabilitation services;
   - Children and youth living in Western Champlain had 2.37 times the ED visits expected at the provincial average[23];

[23] Higher ED use in Eastern and Western Champlain may be due to the necessity for different care models in those regions, and should be further studied. However, higher use of EDs in Eastern and

- Children and youth living in Eastern Champlain had 1.41 times the ED visits expected at the provincial average;
- Children and youth residing in Ottawa had 20-30 % fewer ED visits than expected, depending on the sub-region;
- Developmental and rehabilitation services vary significantly by sub-region.

3. **There will be more growth in demand for community-based care than hospital-based care in the next 10 years.** Access to community-based care will need to be expanded to address this need; for example, access to home and community care services (formally CCAC services) varies by population segment and sub-region. Children and youth throughout the LHIN received 19 % fewer home and community services than the expected provincial average.
4. **Families and providers lack clear, accessible and consistent information detailing services available in the region.** Families struggle to find centralized information on local services to facilitate better access to services at convenient times and locations. Providers are not always aware of all available resources and therefore may not refer their patients or clients to the most appropriate services.
5. **It is difficult for providers to deliver comprehensive supports to children, youth and families and for families to access the services they need due to services and funding siloes.** Most providers have specific mandates that restrict the health care services they can deliver and for which they can be compensated. Because these mandates are not always developed in a coordinated manner with other agencies or from a family-centered perspective, gaps and duplication in services exist.
6. **There is no 'system' of care for children and youth in the region, and there are few clear evidence-based pathways of care.** Children, youth and their families experience fragmented care, with their needs addressed by multiple providers in an uncoordinated fashion. This is further complicated by the fact that the region lacks a common electronic health record system.
7. **Existing strategies do not adequately consider or address social determinants of health (SDH), including income and cultural diversity.** The quantitative data clearly demonstrates the profound impact SDH factors have on the health of children and youth. For example, high SDH risk neighbourhoods in cities and towns have higher Emergency Department (ED) use than other neighbourhoods.
8. **Mental health, developmental and behavioural diagnosis volumes are increasing and there are significant concerns about supports for those with concurrent disorders including addictions, dual diagnoses and eating disorders.** Eastern and Western Champlain are particularly impacted by this trend as these regions are already underserved when it comes to mental health, developmental and behavioural supports.
9. **Coordination of health care services in the school system is lacking.** The eight school boards in the region operate under different interpretations of policies related to the provision of health services in schools. This results in an inconsistent approach to care delivery throughout the LHIN.

Western Champlain may also reflect the fact many services are not easily accessible, and the ED is seen as the last resort in an attempt to receive any kind of supportive care.

These findings and other key conclusions are discussed in further depth below. The following section is organized by care system domain, as successful health systems demonstrate a strong focus on delivering results in each domain.

THRIVE included a thorough review of services available across the region. For simplicity, findings related to specific care settings have been presented within the Providers and Networks domain.

Domain 1: Identification of Target Populations

Child and Youth Population Segmentation

Successful health systems aim to organize care around the patient instead of the provider. Segmentation analysis divides a population into distinct groups that can then be targeted with care models and services tailored to their specific needs. Segmentation is a necessary first step in planning the amount and mix of services required by the population. Since segmentation also allows planners to identify populations in greatest need, it is a crucial tool for effective resource allocation.

As part of this project, each of the LHIN's 254,000 children and youth were assigned one of 19 clinical segments. The LHIN's child and youth population were also segmented along demographic, geographic, and social determinants of health axes. The segments were used to measure and report regional variations in population morbidity, access, outcomes, and resource needs.

Table 1 shows the segments along with the number of children and youth in each segment by sub-region.

Table 1: Champlain LHIN Child and Youth Population

	Segment	*Champlain LHIN*	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*
1	Complex Chronic, Life Limiting Diagnosis, Palliative	228	70	34	42	29	53
2	Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,408	3,299	1,637	2,101	1,412	2,959
3	Complex Chronic, without Life Limiting Diagnosis	18,189	4,718	2,939	3,425	2,448	4,659
4	Non Complex Static Chronic, Mental and Developmental, with Hospitalization	264	76	46	50	32	60
5	Non Complex Static Chronic, Mental and Developmental, w/o Hospitalization	19,963	5,169	3,058	3,819	2,327	5,590
6	Non Complex Static Chronic, with Major Acute Hospitalization	168	42	35	29	26	36
7	Non Complex Static Chronic, with Non Major Acute Hospitalization	523	150	120	101	59	93
8	Non Complex Static Chronic, without Acute Hospitalization	35,456	9,419	5,525	6,611	4,430	9,471
9	Major Acute with Acute Hospitalization, Life Limiting Diagnosis	79	29	20	10	11	9
10	Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	4	6	1	0	5
11	Moderate Acute with Hospitalization	564	131	149	77	61	146
12	Minor Acute with Hospitalization	15	2	5	3	4	1
13	Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,948	1,406	694	810	623	1,415
14	Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	34	38	22	33	29

15	Healthy, Moderate Acute without Hospitalization	66,419	17,095	10,437	12,004	7,554	19,329
16	Healthy, Minor or No Conditions	82,222	27,123	13,273	13,579	8,510	19,737
17	Newborns & Neonates, Major Acute	272	105	31	39	41	56
18	Newborns & Neonates, Moderate Acute	945	332	142	123	121	227
19	Newborns & Neonates, Minor or No Acute	11,846	3,809	1,845	1,963	1,469	2,760
	Total	253,681	73,013	40,034	44,809	29,190	66,635

The segments above were built by organizing data collected by physicians, hospitals, the Champlain CCAC, and the Ottawa Children's Treatment Centre. An important part of the segmentation strategy was to classify diagnoses, which was done using the structure of the ICD 9 and 10 classification systems, the research literature, and expert judgment.

Table 2 shows sample diagnoses for a selection of these segments.

Table 2: Sample Diagnoses for Selected Segments

Segment	*Example Diagnoses Included in Segment*	*Key Characteristics*		
Complex Chronic, Life Limiting	• Cardiac Congenital Disorders • Lymphoma & Leukemia • Cystic Fibrosis • Chemotherapy & Radiotherapy	Chronic	Progressive Chronic	Life Limiting
Complex Chronic, Not Life Limiting	• Eating Disorders • Paralysis • Diabetes : Without Complications or With Minor Complications	Chronic	Progressive Chronic	Not Life Limiting
Non Complex Static Chronic	• Asthma • Tonsillitis & Pharyngitis: Chronic • Obesity	Chronic	Static Chronic	Not Life Limiting
Mental and Developmental	• Infantile Cerebral Palsy	Chronic	Progressive Chronic	Not Life Limiting
	• Psychoses with origin specific to childhood • Specific delays in development • Chromosomal anomalies	Chronic	Static Chronic	Not Life Limiting
Major Acute, Life Limiting	• Intracranial Injury • Respiratory Failure • Chest Trauma • Septicemia & Severe Sepsis	Acute	Major Acute	Life Limiting
Major Acute, Not Life Limiting	• Nutritional & Miscellaneous Metabolic Disorders • Post Procedural : Infection Inflammation • Intestinal Obstruction: Postoperative	Acute	Major Acute	Not Life Limiting
Moderate Acute	• Bacterial Infection • Cholecystitis & Gallstones • Ruptured Appendix • Complications of Medical & Surgical Care	Acute	Moderate Acute	Not Life Limiting
Minor Acute	• Contusion/Abrasion • Allergic Reactions : Skin • Fracture Sprain Strain & Dislocation: Except Femur Hip Pelvis & Thigh • Refractive Disorders	Acute	Minor Acute	Not Life Limiting

Note: the diagnoses listed above are not exhaustive, but are intended to illustrate the types of diagnoses within each segment

Table 3 shows how resource use varies by segment. For example, although the 228 children and youth in the "Complex Chronic, Life Limiting Diagnosis, Palliative" segment represent only 0.1 % of the LHIN's child and youth population, they account for six % of hospital admissions and 18 % of home care costs. The average home care expenses for children and youth in that group was $20,400 and the average hospital expense was $13,500. Measuring resource need variations by segment is important for resource allocation because it can quantify need differences across sub-regions that are associated with morbidity.

Table 3: Resource Use by Population Segment

	Share of Population Resources				Cost Per Person				
Pediatric Segment	*Champlain Children & Youth*	*Percent of Child & Youth Population*	*Physician Services*	*ED Visits*	*Hospital Admiss-ions**	*Home Care Costs*	*OCTC Serv-ices*	*Acute Inpa-tient*	*Home Care*
Complex Chronic, Life Limiting Diagnosis, Palliative	228	0.1%	2%	0.4%	6%	18%	9%	$13,523	$20,400
Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,408	4%	11%	11%	36%	30%	35%	$1,914	$400
Complex Chronic, without Life Limiting Diagnosis	18,189	7%	13%	14%	22%	16%	29%	$507	$200
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	264	0.1%	0.4%	1%	6%	1%	0%	$9,129	$400
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	19,963	8%	9%	7%	0%	13%	23%		$100
Non Complex Static Chronic, with Major Acute Hospitalization	168	0.1%	0%	0%	4%	0.02%	0%	$5,070	$20
Non Complex Static Chronic, with Non Major Acute Hospitalization	523	0.2%	1%	1%	11%	0.1%	0%	$4,152	$40
Non Complex Static Chronic, without Acute Hospitalization	35,456	14%	15%	18%	0%	7%	3%		$30
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	79	0.03%	0.1%	0.2%	1.7%	0%	0%	$4,838	$10
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	0.01%	0.01%	0.03%	0.3%	0%	0%	$5,206	
Moderate Acute with Hospitalization	564	0.2%	1%	1%	12%	0.1%	0%	$4,252	$20
Minor Acute with Hospitalization	15	0.01%	0%	0.02%	0.3%	0.0%	0%	$2,400	
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,948	2%	3%	4%	0%	0.3%	0%		$10
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	0.1%	0.1%	0.1%	0%	0.03%	0%		$30
Healthy, Moderate Acute without Hospitalization	66,419	26%	23%	26%	0%	7%	0%		$20
Healthy, Minor or No Conditions	82,517	32%	11%	10%	0%	6%	0%		$10
Newborns & Neonates, Major Acute	272	0.1%	1%	0.2%	501	1%	0%	$84,800	$600
Newborns & Neonates, Moderate Acute	945	0.4%	1%	1%	1,286	0.4%	0%	$9,600	$100
Newborns & Neonates, Minor or No Acute	11,846	5%	9%	5%	12,701	0.3%	0%	$1,700	$4
Total	**253,976**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**$400**	**$100**

*shares exclude newborn and neonate hospitalizations

Population Growth

Shown in Table 4 below, the Champlain LHIN has the 4th fastest expected child and youth population growth of all LHINs.

Table 4: Child and Youth Demographic Forecast across the Province

LHIN	*2014/15*	*2019/20*	*2024/25*	*2034/35*	*20-year increase*
Central	377,438	395,446	424,800	482,392	1.28
Central East	316,336	322,486	340,176	374,024	1.18
Central West	215,463	221,264	235,101	266,010	1.23
Champlain	253,681	260,880	277,557	306,090	1.21
Erie St. Clair	128,469	120,375	116,078	111,915	0.87
Hamilton Niagara Haldimand Brant	274,822	275,372	284,529	303,371	1.10
Mississauga Halton	259,935	270,097	288,452	333,456	1.28
North East	102,322	98,936	98,451	94,283	0.92
North Simcoe Muskoka	90,062	90,043	94,210	103,206	1.15
North West	48,726	47,241	47,042	45,238	0.93
South East	86,142	84,529	86,292	87,672	1.02
South West	192,991	193,059	197,949	202,027	1.05
Toronto Central	198,813	206,037	217,663	234,911	1.18
Waterloo Wellington	163,360	166,024	172,556	184,474	1.13
Grand Total	**2,708,560**	**2,751,790**	**2,880,856**	**3,129,068**	**1.16**

The LHIN's child and youth population is expected to increase by 21 % over the next 20 years. However, due to extensive within LHIN variation, the LHIN average does not accurately reflect the expected growth in any of the LHIN's sub-regions. By sub-region, expected 20-year growth rates are:

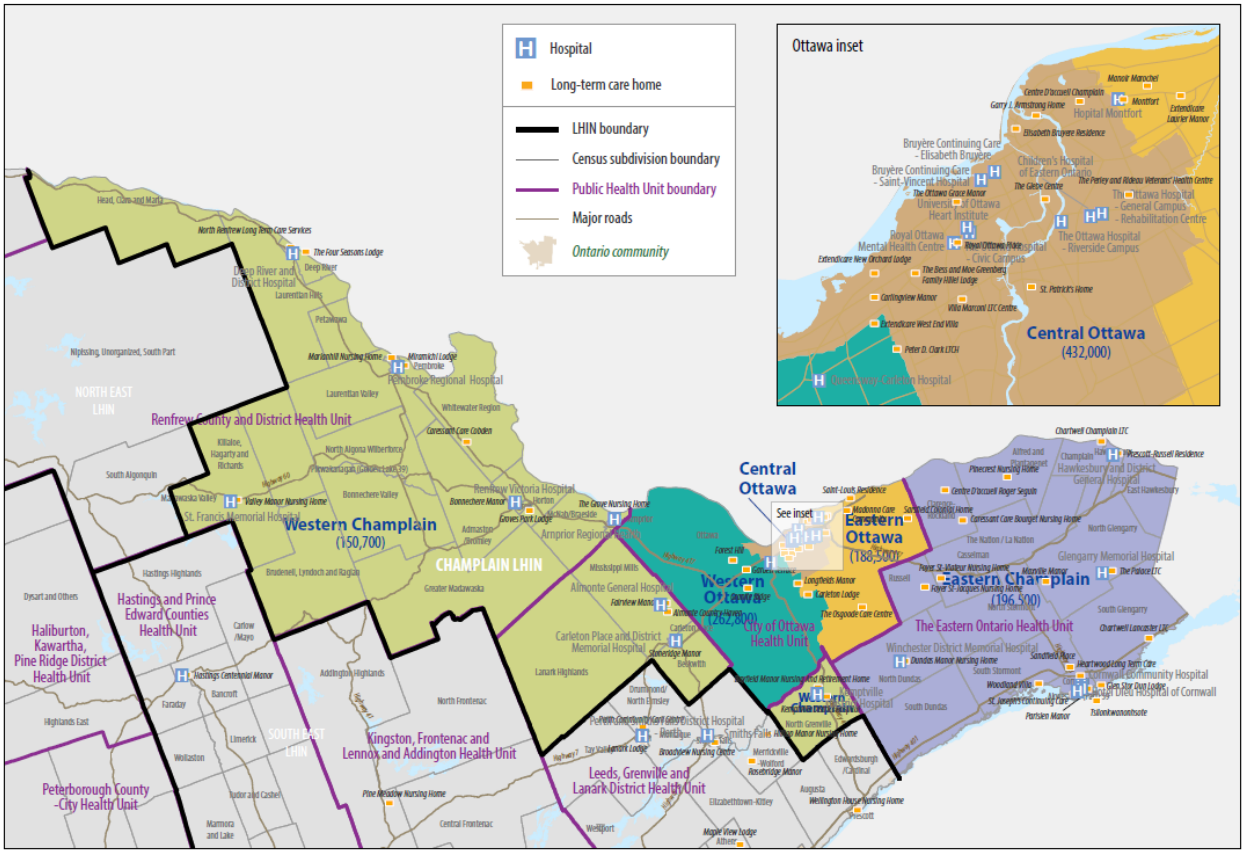
- Central Ottawa: 28 %
- Eastern Champlain: 2 %
- Eastern Ottawa: 28 %
- Western Champlain: -0.2 %
- Western Ottawa: 28 %

Due to these different growth rates, the LHIN's child and youth population will become increasingly concentrated in Ottawa. Resource allocations will have to reflect this shift over time. However, as shown in the next section, resources to Eastern and Western Champlain will also need to increase to redress differences in child and youth population morbidity.

Regional Segmentation

Child and youth population morbidity varies across Ontario. Aiming to better meet individual community needs and encourage better care coordination, the provincial government mandated planning at the sub-region level as part of its *Patients First Act*, 2016. Shown in Figure 2, the Champlain LHIN has five sub-regions: Western Champlain, Western Ottawa, Central Ottawa, Eastern Ottawa, and Eastern Champlain.

Figure 2: Champlain LHIN Sub-Regions



Consistent with the *Patients First Act* mandate, this analysis is reported by sub-region. Note that the region commonly referred to as Renfrew-Pembroke is equivalent to the Western Champlain sub-region. The sub-regions show variations in morbidity and access, implying that sub-region geography should be considered as the region moves toward implementation of the recommendations outlined in this report.

Health status and morbidity

The segments were used to measure sub-region differences in child and youth population morbidity.

Table 5 below compares the distribution of the child and youth population by segment in each of the sub-regions. The segments were collapsed into the four categories shown in the table. For example, 62 % of the LHIN's children and youth (excluding newborns and neonates) are in the healthiest segments while 12.6 % had a complex chronic condition.

Table 5: Sub-Regional Population by Segment

Segment Category	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Complex Chronic	11.9%	12.2%	13.2%	12.3%	14.3%	12.6%
Non Complex Static Chronic	21.6%	23.9%	24.8%	23.1%	24.8%	23.4%
Major Acute / Moderate Acute	2.3%	2.5%	2.2%	2.4%	2.6%	2.4%
Healthy / Minor Acute w Hosp	64%	61%	60%	62%	58%	62%

Table 6 shows each sub-region's population distribution relative to the LHIN average distribution. Relative to the LHIN average, Western Champlain has 14% more children and youth with complex chronic conditions and 6% fewer children and youth in the healthiest segments.

The table's rows are colour coded to highlight sub-region morbidity variation. Blue implies the desired end of the distribution, such as having the highest proportion in the healthiest segments or the lowest proportion in complex chronic segment. The colour coding helps reveal four important findings:

1. Child and youth population morbidity varies substantially across the Champlain LHIN;
2. Western Champlain has the LHIN's highest child and youth population morbidity;
3. Central Ottawa has the LHIN's lowest child and youth population morbidity;
4. Child and youth population morbidity varies within the Ottawa region.

Table 6: Sub-Regional Population by Segment and Sub-Region

	Actual to Expected Population Distribution				
Segment	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*
Complex Chronic	0.95	0.97	1.05	0.97	1.14
Non Complex Static Chronic	0.92	1.02	1.06	0.99	1.06
Major or Moderate Acute	0.97	1.05	0.90	1.00	1.10
Healthy or Minor Acute	1.04	0.99	0.97	1.01	0.94

These findings imply the potential to improve child and youth population health by focusing on the highest morbidity sub-regions.

Social Determinants of Health Segmentation

The Champlain LHIN's 254,000 children and youth live in communities that vary by population density, growth rates, language, social determinants of health, and other factors. Given the *Patients First Act's* requirement to incorporate regional diversity into health system planning, it will be crucial for the LHIN to understand sub-region level population differences and the associated differences for service need. This section examines the regional variation in the social determinants of health.

Social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities – the unfair and avoidable differences in health status seen within and between countries. While children and youth are typically healthy relative to adults, they are vulnerable to developmental health disturbances that can affect their lifelong health and well-being. Social circumstances and societal structures in childhood can affect not only child and youth health and well-being but also future health potential.

There are several ways to measure social determinants, including some used in the LHIN today. Since some key measures were not available for the entire LHIN, the Preyra Solutions Group's social

determinants of health index (SDHI) was used, as a complete data set could be obtained. The SDHI assigns each Ontario neighbourhood to a single risk level based on characteristics including:

- Persons without a high school diploma;
- Employment;
- Persons living alone;
- Single parent families;
- Residential instability;
- Crowding, which is measured by the average number of persons per dwelling;
- Proportion of dwellings that are owned;
- Indigenous populations;
- Income adjusted for cost of living;
- Urban; and
- Rural.

Table 7 shows the distribution of the LHIN's 1.3M residents by sub-region and SDH group.

Table 7: Sub-Region by SDH Distribution

	Population Share by Sub-Region					
SDH Group	*Eastern Champlain*	*Eastern Ottawa*	*Central Ottawa*	*Western Ottawa*	*Western Champlain*	*Champlain*
Low Risk, City	0%	42%	18%	56%	0%	*25%*
Average Risk, City	0%	51%	51%	28%	0%	*32%*
Average Risk, Town	61%	0%	0%	0%	66%	*17%*
High Risk, Town	35%	0%	0%	0%	30%	*9%*
High Risk, City	0%	3%	22%	1%	0%	*8%*
Institutional	4%	4%	9%	15%	4%	*8%*
Total Population	**205,300**	**209,700**	**446,400**	**290,000**	**154,500**	***1,306,000***

Sources: Statistics Canada 2011 Census, MOF Population Projections

Excluding the North East and North West LHINs, 60% of Ontario's population lives in average and low risk neighbourhoods in cities. In the Champlain LHIN, 25 % of the population lives in a low risk city neighbourhood, 17% live in higher risk neighbourhoods in cities or towns, and 8% live in institutional settings such as retirement or long term care homes. Within Ottawa, the LHIN's only city by this classification system, there is substantial variation in SDH by sub-region. In Western Ottawa, only 1% of the population lives in a high risk neighbourhood, while 22% of Central Ottawa residents live in a high risk neighbourhood.

SDH risk is associated with resource use. Table 8 below shows that in cities, inpatient hospital use increases with SDH risk. In towns, hospital use increases with SDH risk for adults and seniors, but not for children and youth.

Table 8: Sub-Regional Population by Segment and SDH Risk Group

	Actual and Expected Inpatient Acute Care Days							
	Ontario						Champlain LHIN: Children and Youth	
	Children and Youth		Adults		Seniors			
SDH Group	Actual	Expected	Actual	Expected	Actual	Expected	Actual	Expected
Low Risk, City	142,681	0.89	592,893	0.74	931,754	0.80	9,421	0.82
Average Risk, City	113,174	0.99	504,881	0.96	776,116	0.92	13,098	1.01
High Risk, City	55,954	1.23	309,517	1.41	449,232	1.18	4,029	1.22
Average Risk, Town	39,761	0.95	227,655	0.97	430,980	0.91	5,399	0.84
High Risk, Town	18,931	0.97	128,794	1.33	229,004	1.00	3,181	0.85

Sources: DAD 2015/16, Statistics Canada 2011 Census, MOF Population Projections

At the provincial level, children and youth in high risk city neighbourhoods use 23% more inpatient days than the provincial average while those in low risk city neighbourhoods use 11% fewer inpatient days than the provincial average.

In the Champlain LHIN, children and youth living in low risk neighbourhoods in Ottawa had 18% fewer inpatient days than expected at the provincial age standardized average. Children and youth living in Ottawa's high risk neighbourhoods had 22% more inpatient days than expected. Within the LHIN's towns, there was no difference in inpatient days between high and low risk neighbourhoods.

Using the clinical segments, the morbidity variations across SDH risk neighbourhoods were examined, and the results are shown in Table 9.

Table 9: Distribution of Children and Youth by SDH Risk Group

	Child and Youth Population by Segment				
Segment	Low Risk, City	Average Risk, City	High Risk, City	Average Risk, Town	High Risk, Town
Complex Chronic	9,000	10,168	2,461	5,354	3,193
Non Complex Static Chronic	17,617	18,946	4,070	9,695	5,793
Major or Moderate Acute	1,634	2,012	476	990	619
Healthy or Minor Acute	48,994	47,576	12,090	26,145	13,706

	Actual to Expected Population Distribution				
Segment	Low Risk, City	Average Risk, City	High Risk, City	Average Risk, Town	High Risk, Town
Complex Chronic	0.93	1.02	1.02	1.01	1.09
Non Complex Static Chronic	0.97	1.03	0.91	0.98	1.06
Major or Moderate Acute	0.88	1.08	1.04	0.96	1.13
Healthy or Minor Acute	1.02	0.98	1.02	1.00	0.95

The top part of Table 9 counts the number of children and youth in the LHIN by segment and SDH group. The colour coded table shows how the child and youth population distribution varies by SDH group and reveals some important results.

Children and youth living in the LHIN's high SDH risk town neighbourhoods have higher morbidity than children living elsewhere in the LHIN. High SDH risk town neighbourhoods have 9% more children and youth with complex chronic conditions and 5% fewer children in the healthiest segments. Another way to consider morbidity variation is to examine variation between the LHIN's highest and lowest morbidity neighbourhoods. High risk town neighbourhoods have the LHIN's highest child and youth morbidity and low risk city neighbourhoods have the lowest morbidity. Relative to low risk city neighbourhoods, high risk town neighbourhoods have 17% more children with complex chronic diseases.

Child and youth morbidity and outcome variations across SDH risk groups are substantial in the LHIN and emphasize that the social determinants of health matter for health service planning. All child and youth health service planning activities in the LHIN should incorporate the social determinants of health.

Stakeholders also reported that some specific child and youth sub-populations can be at higher risk for unmet need. For example, stakeholders from across the region reported that certain populations are at risk of waiting for longer periods of time to receive services. Newcomers, Francophone, and Indigenous populations were specifically cited as being at high risk for unmet need. Reliable data to quantify unmet needs for some specific sub-populations are not available. To better meet the needs of these populations, coordinated efforts are required to measure and report health status, service use, and outcomes for high priority populations. This must be done collaboratively with children, youth, families and other key representatives from the communities themselves.

These findings underscore the need to build on the good work that is already being done in the Champlain region to address social determinants of health, including neighbourhood holistic care centres like the soon-to-be-opened Vanier Social Pediatric Hub[24] and the LHIN's Health Equity Framework[25].

Domain 2: Care Coordination

Successful health systems feature organized networks of providers, which facilitate smooth transitions within and between care settings and effective communication among caregivers.

The consultations and analysis revealed two key findings related to care coordination:

1. Families and providers often do not know what health care services and supports are available within the region and across the province;
2. There are gaps in the services that are available within the Champlain LHIN.

Families and providers often struggle to access information regarding available child and youth services. This finding was a strongly recurring theme from the focus groups. While it is perhaps understandable that families may have difficulty determining what is available to them given the complexity of the

[24] https://med.uottawa.ca/pediatrics/news/grant-acquired-vanier-social-pediatric-hub
[25] http://www.champlainlhin.on.ca/Page.aspx?id=6378

system, it was particularly interesting that providers throughout the region were often unaware of services that were or were not provided by their colleagues. There are examples across the region where some information exists, such as in Prescott-Russell where a document summarizes select services available in French to assist Francophones in accessing services. There are other examples of inventories of available services that have been developed by some organizations, but they are inconsistent and require substantial effort to keep current. Individual stakeholders have invested a significant amount of time to developing summaries of available services; while that is not, and should not be, their primary focus, they should be commended for their efforts. Developing a region wide inventory of services, providers and supports which is administered by an experienced coordinator under the oversight of a central body or child and youth health care provider would be most effective.

When children, youth and families do get connected to the appropriate services, they report that communication amongst providers is often lacking, which leads to further service inconsistencies, gaps, and duplication across providers and geographies. These inconsistencies are manifested in various ways, including:

- Lack of clarity among providers about their respective roles, responsibilities and mandates, as well as those of other health care providers leads to an inefficient referral system;
- Lack of standardized knowledge and practices across providers;
- Lack of effective interprofessional case conferencing involving children, youth and their families. While this is improving, it is inconsistent across the region;
- Limited use of integrated care pathways across the continuum of care, impacting consistency and coordination of care; and
- Varying use of technologies such as eConsults, telehealth for assessment and treatment, and sharing of electronic health records.

There are gaps in the services that are available within the LHIN. This is particularly true in the areas of prevention, community and primary care, mental health, behavioural and developmental supports, school-based supports and transition supports. Moreover, access to services can vary substantially across the LHIN's sub-regions. The degree to which some services were not available to children and youth in Western and Eastern Champlain was troubling, and clearly had a negative impact on the health of these individuals and their families.

Stakeholders expressed particular concern that the gap between the demand for mental health and addictions services and available resources is significant and increasing exponentially. This finding is congruent with recent Institute for Clinical Evaluative Sciences scorecard on the mental health of children and youth on Ontario. Demand for mental health, including addictions, and behavioural and developmental services has increased substantially across the LHIN. From 2009/10 to 2015/16, child and youth emergency department visits for mental health and behavioural problems increased by 49% across the LHIN. There is also wide variation in the use of emergency department visits for mental health and behavioural problems.

Table 10 shows actual and expected emergency department visits for mental health and developmental disorders in 2015/16 by sub-region, where the expected is the provincial average age-standardized visit rate.

Table 10: Emergency Department Visits for Mental Health and Developmental Disorders, 2015/16

Region	*Actual Visits*	*Expected Visits*	*Actual to Expected Ratio*
Central Ottawa	989	1,021	0.97
Eastern Ottawa	502	593	0.85
Western Ottawa	940	833	1.13
Eastern Champlain	712	543	1.31
Western Champlain	578	392	1.48
Champlain LHIN	3,721	3,382	1.10

There were 48% more visits by Western Champlain's children and youth than expected and 15% fewer visits by Eastern Ottawa's children and youth. Eastern Ottawa's lower rates may be due to better access to community-based mental health services.Stakeholders reported that trauma, attachment disorder and anxiety were of particular concern in the region. While stakeholders noted the need for early identification and evidence-based early intervention initiatives in the region, they also noted that enhanced education and resources for parents could make a considerable impact.

It is important to note that quantitative and qualitative data related to the impact of addictions in the region was relatively limited; stakeholders spoke of the impact of tobacco use, but further investigation is likely required to better understand the particular needs of the sub-regions relative to addictions.

Stakeholders also pointed to particular gaps for certain segments of the population, such as LGBTQ children and youth. Survey and focus group participants reported that the system is unable to meet current needs for this sub population, and it is expected to intensify as the demand for increasingly complex LGBTQ-specific services continues to increase.

Stakeholders were unanimous in their view that significantly more resources are required to address the needs of children and youth, particularly for high risk groups and specific populations such as newcomers. Effort is required to better understand how best to develop a system that is responsive to newcomers' specific needs, as approaches that are successful for traditional groups of children and youth may not be effective for newcomers to Canada. This includes family supports, such as respite, capacity building, peer supports, language supports, and system navigation.

In terms of school-based supports, stakeholders report that current resources do not meet the needs of children and youth in the region. Accessing health services in schools is difficult due to the fact that each of the eight school boards in the region interprets related policies differently, making it difficult for health providers to develop meaningful partnerships to improve the provision of in-school care. Current collective bargaining agreements can act as a barrier; in order to better address the needs of children and youth, School Boards and health care funders and providers should work together to plan for the future. Further, parents and caregivers require supports to help ensure children and youth are set up for success in school. Many children entering kindergarten are unprepared to start school based on standardized Early Development Instrument (EDI) assessments, and would benefit from targeted supports to increase their school readiness. Please refer to the Resource Adequacy section (page 72) for further detail.

Finally, gaps in care often become clear when children and youth reach transition points – either going between different types of services or transitioning from one age group to the next. Some services may

cease to exist as youths enter the adult system, leaving youths without necessary services and families anxious about the future, with few resources to help them identify alternative supports. Please see the Outcomes and Performance Measurement section (page 71) for further detail.

Domain 3: Providers and Networks

Successful systems of care specify which provider services are available and how providers connect in a network. The stakeholder surveys, consultations, and analysis revealed critical findings related to providers and networks in the LHIN:

- Better coordination across relevant ministries is needed to improve service delivery;
- While the child and youth population will be increasingly concentrated in Ottawa, efforts should be made to expand provider reach in Eastern and Western Champlain and increase overall capacity across the continuum of care;
- The number of active pediatricians in the LHIN is higher than the provincial average, but available classifications of generalist and specialist pediatricians is not reliable enough to support detailed physician capacity planning;
- Access to home services is significantly below the provincial average, with substantial variation across the LHIN's sub-regions;
- Access to developmental and behavioural services varies substantially across the LHIN;
- Families provide significantly more care to children and youth than health care professionals;
- Emergency department use by children and youth varies considerably across the LHIN;
- Mental health inpatient admissions are generally low across the LHIN relative to the provincial average;
- Acute inpatient medical admissions are very low across the LHIN except for children and youth from the Eastern Champlain, where medical admissions were 8% higher than the provincial average;
- The LHIN's children and youth have the provincial average use of surgery, but use varies across the sub-regions; and
- Surgical wait times are longer than the provincial average and fewer children and youth receive surgical care within the target times.

Inter-ministerial Coordination

Child and youth health services are funded by four Ministries: The Ministry of Health and Long Term Care, Ministry of Children and Youth Services, Ministry of Community and Social Service, and the Ministry of Education. There is a marked lack of coordination between these funding bodies. Stakeholders from every area of the system reported that this lack of coordination makes access to services, standards of services and wait lists for services inequitable. Stakeholders reported that these factors make access to funding difficult and confusing. Evidence has shown that lack of strong

governance, including ineffective funding models, is a system level barrier to health service integration[26].

Stakeholders report that because funding is not allocated in a manner that addresses the integrated care needs of children and youth, it also contributes to gaps in required services, long wait times in the region, and difficulty for families requiring non-health support services, such as transportation. An inconsistency among mandates and priorities between the ministries has led to gaps in services in many areas of the LHIN. Stakeholders provided many examples of the impact of lack of required funding; the impacts are far-reaching. For example, funding is often focused on acute services, with relatively little available for preventive or primary care services, making it difficult to address social determinants of health. Stakeholders consistently called for enhanced flexibility of funding to assist providers and agencies to focus on areas that will have the maximum impact for the population they serve. More flexible funding would also alleviate some of the barriers that were identified by stakeholders. In particular, increasing funding to support additional transportation services to some of the more remote areas of the region could result in improved access and coordination of required services.

In addition to the impacts of lack of coordinated funding, the lack of integration between schools and the health care system has led to inefficient delivery of care in the school setting. Schools are an ideal location to provide services to children and youth as it helps to ease for families to obtain the care required and helps ensure care coordination. The significant variation in how school systems interact with health providers will need to be addressed in order to meet the needs of children and youth. See Appendix A: Current State Report for further detail.

Regional Variations

Access to service varies substantially across the LHIN's sub-regions and SDH risk groups. For example, children and youth living in the Ottawa sub-regions have better access to physician services and developmental and rehabilitation services than children and youth living elsewhere in the LHIN. There is a risk that these access inequities will increase over time because the LHIN's child and youth population will be increasingly concentrated in Ottawa due to the city's faster population growth. Focused efforts will be required to address the access inequities.

Technology can help expand services outside of the Ottawa area and enable the region to build provider capacity across the continuum of care and throughout all sub-regions. Specifically, it can improve the ability of tertiary specialized providers to connect with community providers to enhance access. However, technology is not currently being leveraged to its full potential. For example, there is no shared electronic health record system through which providers can share information within the child and youth system or between pediatric and adult care. eConsults, where physicians can quickly obtain advice from specialist pediatricians, are in use but can be expanded further. Communities in Western Champlain reportedly use telehealth more often and more effectively than communities in Ottawa or Eastern Champlain. It is interesting to note the variability in technology utilization throughout the region. Stakeholders reported that the Ontario Telemedicine Network (OTN), which provides telehealth services, is not set up in family physician offices, and that more pediatric specialists need to sign up with OTN to allow primary care providers to access the specialist consults they require. These findings

[26] Conference Board of Canada. "Getting the most out of inter-professional primary care teams" March 2014; Allin S et al. Improving Health System Efficiency: Perspectives of Decision-Makers. Healthcare Quart 2017; 20 (1): 10-13

suggest that the concentration of services in Ottawa, compounded by the limited use of technology, inhibits providers from operating as a cohesive network.

Family Provided Care

Families are the backbone of the Champlain LHIN's child and youth health system. Families provide more health care services to the LHIN's children and youth than any group of health care professionals. Shown later in this section, a partial and conservative estimate of the value of family-provided care in the LHIN is roughly equal to the combined expenses of CHEO-OCTC.

Families make two major contributions to the health system. First, they meet their children's need for services. Second, they help make best use of system resources by avoiding formal service use, including hospital and home care services.

Family caregivers were engaged throughout the THRIVE project. They told us that caregiving is rewarding but that it can be overwhelmingly demanding at times. The vast literature on the subject also makes it clear that caregiving demands can negatively affect caregivers' economic, physical, and psychosocial health, a phenomenon often described as "caregiver burnout".

Given the fundamental importance of family caregiving and the associated risks to caregiver health, it is crucial that families are effectively supported. Family caregivers need more supports, including respite care, to meet their children's health care needs without risking their own health and wellbeing.

No data are available on the amount and type of family-provided care in the LHIN. This is an important finding since data are needed to measure family care needs and to best match families with the support services they require. A process to collect data on family-provided care should be developed to ensure that families can continue to play a pivotal role in the LHIN's child and youth health system.

Without primary or secondary data sources, inferential methods were used to estimate the current and future family-provided care needs in the LHIN.

Table 11 shows the findings of a recent paper on family-provided care for children and youth with special needs. The authors used a large sample survey of US households to report the likelihood and intensity of family-provided care hours by the child's diagnosis.

Table 11: Likelihood and Intensity of Family Provided Care by Child's Diagnosis

Condition	*Likelihood of Receiving Family Provided Care at Home*	*Average Family Care Hours per Week*	*Average Annual Family Care Hours per Recipient*	*Average Annual Family Care Hours per Child with Diagnosis*
Cystic fibrosis	94%	12.9	671	629
Cerebral palsy	71%	14.4	749	535
Muscular dystrophy	62%	13.8	718	446
Head injury, concussion, or traumatic brain injury	70%	11.9	619	434
Intellectual disability or mental retardation	64%	11.2	582	372
Epilepsy or seizure disorder	66%	10.2	530	351
Down syndrome	63%	9.5	494	310
Arthritis or joint problems	66%	9.1	473	314
Diabetes	63%	9.3	484	303
Blood problems	68%	8.9	463	313
Autism	53%	9.8	510	271
Developmental delay	55%	9.6	499	275
Heart problems	58%	9.1	473	273
Behavioural or conduct problems	50%	7.5	390	195
Depression	49%	7.0	364	177
Anxiety problems	52%	6.5	338	175
Migraine or frequent headaches	54%	6.1	317	170
Asthma	63%	4.7	244	154
Attention Deficit Disorder	45%	5.5	286	130
Allergies	56%	4.8	250	140

Source: Romley JA, et al. Family-Provided Health Care for Children With Special Health Care Needs. Pediatrics. 2017;139(1)

In the US survey sample used in Table 11, 94% of children and youth with cystic fibrosis received family-provided care at home. Those 94% of children and youth received an average of 12.9 family care hours per week. The likelihood and intensity combine to give an expectation of 629 family-provided care hours per year for each child with cystic fibrosis. A useful feature of this research is that it quantifies the relative differences in family-provided care hours by condition. For example, the average child with cystic fibrosis received nearly five times more family care hours than the average child with attention deficit disorder.

Using the diagnosis detail in the clinical segments previously presented in Table 1, the expected family-provided care hours were assigned to each child in the LHIN. Expected care hours by segment were then summarized and forecasted. The results are shown in Table 12

Table 12: Family Provided Care Hour Forecasts

Child and Youth Segment	2014/15		2024/25		
	Children and Youth	*Family Provided Care Hours*	*Children and Youth*	*Family Provided Care Hours*	*Increase in Hours*
Complex Chronic, Life Limiting Diagnosis, Palliative	228	80,948	247	87,506	6,558
Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,442	2,288,219	12,519	2,499,024	210,805
Complex Chronic, without Life Limiting Diagnosis	18,645	3,230,350	19,951	3,461,904	231,554
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	239	48,672	244	49,851	1,179
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	20,008	3,253,720	21,493	3,518,012	264,292
Non Complex Static Chronic, with Major Acute Hospitalization	166	25,688	186	28,655	2,967
Non Complex Static Chronic, with Non Major Acute Hospitalization	518	53,377	566	58,856	5,479
Non Complex Static Chronic, without Acute Hospitalization	35,343	2,816,484	38,542	3,081,026	264,542
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	78	16,418	86	18,026	1,608
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	434	17	477	43
Moderate Acute with Hospitalization	562	19,780	602	20,806	1,026
Minor Acute with Hospitalization	15	453	16	447	-6
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,939	874,538	5,607	969,468	94,930
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	158	6,214	170	6,439	225
Healthy, Moderate Acute without Hospitalization	66,266	1,549,233	72,736	1,664,974	115,741
Healthy, Minor or No Conditions with Home Care	1,119	7,689	1,237	8,522	833
Healthy, Minor or No Conditions	80,876	831,378	88,634	894,416	63,038
Newborns & Neonates, Major Acute	272	47,361	318	55,435	8,074
Newborns & Neonates, Moderate Acute	945	61,419	1,100	72,357	10,938
Newborns & Neonates, Minor or No Acute	11,846	443,416	13,788	518,447	75,031
Total	**253,681**	**15,655,791**	**278,059**	**17,014,649**	**1,358,858**

The analysis has limitations, including that it:

1. includes a limited set of diagnoses only;
2. is based on the 2009/10 experience in the US; and,
3. is based on self-reported data from telephone surveys.

Among other implications, these limitations imply that the estimates are likely to under-estimate the total family-provided care hours in the LHIN.

However, the data and analysis are appropriate for two purposes:

1. to estimate the scale of family-provided care relative to other sectors, and
2. to forecast how the need for family-provided care may change over time.

To understand the scale of family-provided care relative to other sectors, it is helpful to estimate the annual value of family-provided care in the LHIN. Using the personal support worker (PSW) wage of $16.50 per hour, the value of family provided care is $260 million. Another reasonable way to value an hour of family provided care is using the current CCAC cost of $34 per PSW hour since that is the cost to replace family care hours with publicly funded services. Using that cost, the annual value of family provided care in the LHIN is $530M.

Comparing either value estimate to the expenses of other organizations emphasizes the importance of family-provided care to Champlain's child and youth health system:

- CHEO's total annual expenses were $215M in 2014/15;
- OCTC's expenses were $19M; and
- the CCAC spent roughly $19M on services for children and youth[27].

Based on expected growth of the LHIN's child and youth population, family-provided care needs will increase by 9% over 10 years, equivalent to an additional 1.4M hours by 2024/25.

Planning supports for family-provided care must also account for the implications of the LHIN's changing demography. Fast growth in the LHIN's senior population implies that informal care hours needed by seniors will increase substantially. Since 50 % of senior's informal care hours are provided by their children, many parents will need to continue meeting their children's care needs at the same time as they have to address the increased needs of their own parents. This implies that the sustainability of family-provided care in the LHIN is at risk given that demand will rise faster than the supply.

Since the LHIN's child and youth system's success depends on family-provided care, it is important to redress what was heard during stakeholder consultations: the LHIN's caregiving families do not feel adequately supported today.

Physician Services

The Ontario Physician Human Resources Data Centre (OPHRDC) reported 222 clinically active specialist and generalist pediatricians in the Champlain LHIN in 2014/15.

Table 13 details pediatrician and family physicians per capita by LHIN.

[27] Figures for CHEO and OCTC are presented separately as the data predates the 2016/17 amalgamation.

Table 13: Pediatricians and Family Physicians per Capita by LHIN

	Physician Specialty		*Population*		*Physicians by Specialty per 100,000*	
LHIN	*Child & Youth Total*	*Family Medicine*	*<18 Population*	*Total Population*	*Pediatric Specialists per capita <18*	*Family Physicians per capita*
Toronto Central	411	1,647	199,484	1,281,363	206	129
Champlain	222	1,517	253,637	1,332,506	88	114
Hamilton Niagara Haldimand Brant	168	1,126	273,725	1,457,789	61	77
South West	117	854	192,137	978,301	61	87
South East	34	526	85,178	498,166	40	106
Central	151	1,611	379,294	1,895,091	40	85
Mississauga Halton	80	1,019	261,092	1,258,379	31	81
Central East	93	1,174	315,869	1,617,165	29	73
Erie St. Clair	35	440	126,258	640,228	28	69
North Simcoe Muskoka	23	419	89,555	485,738	26	86
Central West	52	607	215,572	935,304	24	65
North East	24	572	101,116	562,035	24	102
North West	9	279	48,205	235,883	19	118
Waterloo Wellington	29	645	163,277	781,944	18	82
Ontario	1,448	12,436	2,704,397	13,959,892	54	89

Source: Ontario Physician Human Resources Data Centre; Active Physician Registry, December 31, 2015; http://www.ophrdc.org

The Champlain LHIN has 88 pediatricians per 100,000 children and youth age 17 and younger, which was higher than the provincial average ratio of 54. Apart from the Toronto Central LHIN, which has 206 pediatricians per 100,000 children and youth, Champlain's pediatrician per capita ratio is higher than all other LHINs. Champlain LHIN also has a higher family physician supply than the provincial average.

Champlain's higher pediatrician supply will be partly due to the presence of CHEO-OCTC which is a provincial resource and one of only two free-standing children's acute care hospitals in Ontario. It can also be partly attributed to the fact that Champlain's pediatricians serve children and youth from other provinces and territories, primarily Quebec and Nunavut.

Of the Champlain LHIN's 222 pediatricians, the OPHRDC classifies 122 as generalist pediatricians and 100 as specialist pediatricians[28]. The OPHRDC uses the specialty recorded by the College of Physicians and Surgeons of Ontario (CPSO) to distinguish between generalist and specialist pediatricians. Since not all pediatric subspecialties are certified by CPSO, physician leads on the project believe that the OPHRDC

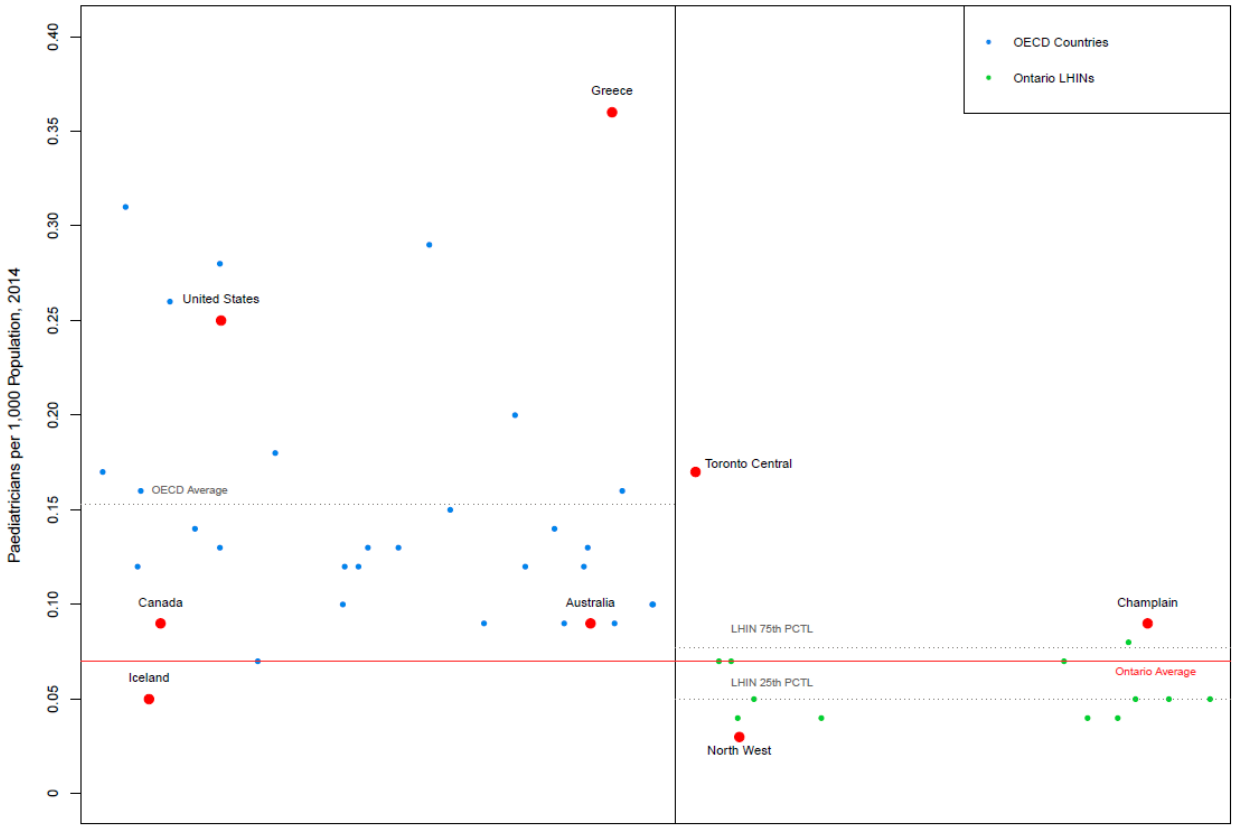
[28]Ontario Physician Human Resources Data Centre; Active Physician Registry, December 31, 2015; http://www.ophrdc.org/wp-content/uploads/2016/08/2015-Annual-Report-Physicians-in-ONTARIO-PIO.pdf

physician inventory has the potential to over count the number of generalist pediatricians. Since pediatric subspecialists do not provide general pediatric care and by and large cannot practice in a non-tertiary environment, knowing the mix of generalist and specialist pediatricians is important to ensuring that the needs of the child and youth population for both generalist and specialist services are met. Ways to confirm and improve the classification of the LHIN's pediatricians should be developed in order to accurately plan for physician HR needs moving forward.

There are no widely accepted pediatrician per capita benchmarks against which to assess the Champlain LHIN's pediatrician supply. Moreover, the international experience varies widely, including how primary care is provided to children and youth. In Canada, nurse practitioners and family physicians play key roles in the delivery of primary care. Figure 3 shows wide variation in pediatricians per capita across comparator Organization for Economic Cooperation and Development (OECD) countries and across Ontario LHINs. Relative to the international experience, the pediatrician supply is low in Canada, Ontario, and the Champlain LHIN.

The generalist pediatrician per 1,000 population ratio ranges from 0.07 in Denmark to 0.25 in the United States. Canada's ratio is roughly only 60% of the OCED average, and is lower than all other countries except Denmark (0.07) and Iceland (0.05). Ontario's rate is equal to that of Denmark and varies by LHIN. Champlain's LHIN rate is second highest among LHINs and equal to the Canadian average.

Figure 3: Pediatricians per 1,000 Population, OECD Countries and Ontario LHINs



Sources: Ontario Physician Human Resources Data Centre; Active Physician Registry, December 31, 2015; http://www.ophrdc.org; OECD.Stat Data extracted on 16 May 2017 from OECD.Stat

A national child and youth workforce planning group in the US examined several pediatrician supply models.[29] Averaging several demand-based models from different US systems, they report, but do not endorse, a need of 14.2 generalist pediatricians per 100,000. This ratio implies a need for 187 generalist physicians in the Champlain LHIN, or an increase of 65 over the LHIN's 122 generalist pediatricians reported by the OPHRDC.

Although Champlain LHIN does not have a physician supply gap in terms of the overall number of physicians relative to the Ontario average experience, there are substantial within-LHIN variations in access to physician services.

Table 14 compares actual and expected physician encounters per child by the child's sub-region of residence. Expected encounters are the Champlain LHIN average encounters per child per segment and physician specialty as reported in OHIP data.

Table 14: Relative Access to Physician Services by OHIP Specialty within the Champlain LHIN

Sub-region	*Pediatrics*	*General and Family Practice*	*Other Specialists*	*All Physicians*
Central Ottawa	1.06	0.97	1.02	1.01
Eastern Champlain	0.83	0.93	0.98	0.93
Eastern Ottawa	0.97	1.05	0.99	1.01
Western Champlain	0.84	1.02	0.96	0.97
Western Ottawa	1.07	1.02	1.01	1.03
Champlain LHIN	1.00	1.00	1.00	1.00

Sources: OHIP 2014/15, Statistics Canada 2011 Census, MOF Population Projections;

Expected is the Champlain LHJIN average per capita usage by child and youth segment and OHIP provider specialty

This data suggests that children and youth living in Eastern and Western Champlain have less access to physician services than those living in Ottawa. Eastern and Western Champlain children and youth had far less access to child and youth specialists than those living in Ottawa. Relative to the access of Western Ottawa children and youth, Western Champlain had 22% fewer child and youth specialist encounters (0.84/1.07). While some rural and remote communities have established relationships with specialists who provide regular clinics and enhance local access, such as in the Renfrew-Pembroke area, these types of arrangements need to be standardized and expanded. These results imply a need to improve how the LHIN's existing physician capacity is organized and accessed.

To maintain the current level of access to pediatricians, the LHIN will need 242 pediatricians in 2025, an increase of 20 pediatricians, or 9%, over the current supply[30].

Home Care Services

Home care services for children and youth in the Champlain LHIN include assessment, case management, nursing, personal support, and allied health services. Home care services help meet the needs of the LHIN's children and can avoid or delay the use of hospital services and decrease hospital

[29] DeAngelis, C. et al. The Final Report of FOPE II Pediatric Workforce Group. Pediatrics. 2000;106(suppl)

[30] Ontario Physician Human Resources Data Centre; Active Physician Registry, December 31, 2015; http://www.ophrdc.org;

length of stay. The mix and intensity of home care services required by children and youth are different from those of adults.

Table 15 below demonstrates that the LHIN's children and youth have a lower likelihood of receiving home and community care services than seniors, and those that do receive services use a different mix than the LHIN's adults and seniors, with more focus on allied health services.

Table 15: Champlain LHIN Home Care Use

Age Group	*Population*	*Home Care Clients*	*Clients per 1,000 Population*	*Nursing Services per Client*	*PSW Services per Client*	*Allied Health Services per Client*
<18	253,681	6,010	24	$973	$253	$1,326
18-64	851,065	16,341	19	$1,196	$1,156	$151
65+	201,261	35,124	175	$609	$1,908	$200

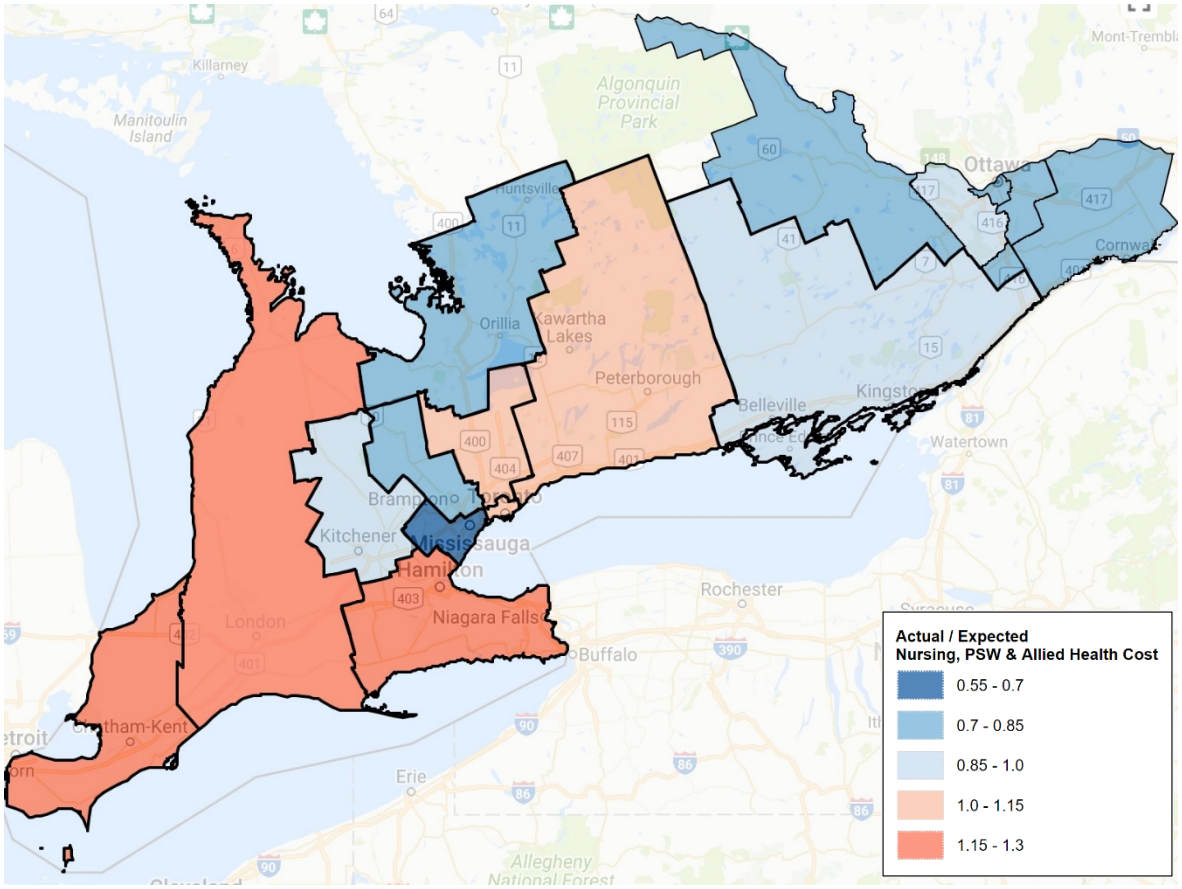
Sources: HCD 2014/15, Statistics Canada 2011 Census, MOF Population Projections
Costs are estimated using 2014 provincial unit costs

Access to home and community care services for the LHIN's children and youth was examined using a population-based model that determined expected services based on the provincial average use, adjusted for population characteristics such as age and social determinant of health risk. Variations in access across the Champlain sub-regions relative to the LHIN average access were also examined.

The analysis measured service variations only. Because the objective was to measure differences in the receipt of services, the analysis was designed to ignore cost differences across the LHINs. A 2017 study of home care services in the Champlain LHIN concluded that the CCAC was efficient in its administration costs, care model, and case management model, but that the rates it pays to the organizations it contracts to deliver services were higher than the provincial average.[31] Since the Ministry's 2008 moratorium on the competitive bidding process, service provider rates have been largely beyond CCAC control since they are contractually fixed. However, the Ministry's home care funding allocations are not adjusted for provider rates. For these reasons, access variations in home care services within the LHIN were primarily the result of funding gaps and not due to cost inefficiency.

[31] Preyra Solutions Group. Meeting Home Care Needs in the Champlain LHIN. Estimating and Managing CCAC Service Demand. 2017. Available from the Champlain CCAC

Figure 4: Child and Youth Access to CCAC Services Varies Across LHINs and within the Champlain LHIN



The map shows that access to CCAC services varies substantially across Ontario by LHIN and by sub-region within the Champlain LHIN.

Table 16 identifies actual and expected home care expenses by LHIN and age group.

Table 16: Actual and Expected Home Care Expenses by LHIN and Age Group

	Actual Over Expected Home Care Services		
LHIN	*<18*	*18+*	*All Population*
Erie St. Clair	1.24	1.04	1.06
South West	1.30	0.96	0.99
Waterloo Wellington	0.95	1.02	1.01
Hamilton Niagara Haldimand Brant	1.23	1.09	1.11
Central West	0.79	0.87	0.85
Mississauga Halton	0.63	0.87	0.84
Toronto Central	0.99	1.26	1.23
Central	1.19	1.01	1.03
Central East	1.01	0.90	0.91
South East	0.94	1.06	1.05
Champlain	0.81	0.90	0.89
North Simcoe Muskoka	0.75	1.01	0.98

Key findings include the following:

- The Champlain LHIN's children and youth received 19% fewer services than expected at the provincial average services per child;
- The LHIN's adult population received 10% fewer services than expected at the provincial average; and
- The LHIN's children and youth have the fourth lowest access to home care services among the twelve non-northern LHINs.

Table 17 below details the Champlain LHIN's actual to expected home care service ratios.

Table 17: Actual to Expected Home Care Service Ratios

Sub-Region	*Actual to Expected Home Care Services Per Population*	*Actual to Expected Services Ratio Relative to Champlain LHIN Average*	*Additional Expenses Required to Achieve Provincial Average (in $1,000s)*	*Additional Expenses to Achieve Eastern Champlain's Access (in $1,000s)*
Central Ottawa	0.79	0.98	$1,200	$410
Eastern Ottawa	0.78	0.96	$730	$280
Western Ottawa	0.84	1.04	$770	$90
Eastern Champlain	0.86	1.06	$440	$0
Western Champlain	0.76	0.94	$550	$230
Champlain LHIN	0.81	1.00	$3,690	$1,010

Sources: HCRS 2014/15, Statistics Canada 2011 Census, MOF Population

Expected is based on the Ontario average per capita usage (excluding the northern LHINs) by SDH and age group

Costs are calculated using 2014/15 provincial unit costs

Excludes: Specialist Physician Office, Rapid Response Nursing Visit, and Case Management

The data reveals that:

- access to home care services ranged within the LHIN from 24% (Western Champlain) to 14% (Eastern Champlain) fewer services than expected at the provincial average;
- relative to the LHIN average access, Eastern Champlain had the most use of home care services and Western Champlain had the least.

The table's last two columns quantify the costs associated with the access variations. Using the provincial average CCAC costs per service, it would cost $3.7M more in CCAC expenses to achieve the provincial average services per capita. It would cost $1.0M more in CCAC expenses to eliminate the current gap within-LHIN access variations without reducing services in any Champlain sub-region.

The population based model used to assess home care service access can be represented as follows:

$$\frac{\text{CCAC Services}}{\text{Population}} = \frac{\text{CCAC Clients}}{\text{Population}} \times \frac{\text{CCAC Services}}{\text{Client}}$$

This equation was used to decompose the services per capita variation, separating variation due to differences in the number of children and youth receiving home care from variation due to differences in service intensity per client. The results of this analysis at the LHIN and sub-region levels are shown in Table 18 below.

Table 18: Actual to Expected Home Care Client and Service Ratios by Sub-Region

Sub-Region	*Actual to Expected Home Care Services Per Population*	*Actual to Expected Home Care Clients Per Population*	*Actual to Expected Home Care Services Per Client*
Central Ottawa	0.79	0.86	0.93
Eastern Ottawa	0.78	0.90	0.86
Western Ottawa	0.84	0.96	0.85
Eastern Champlain	0.86	0.74	1.10
Western Champlain	0.76	0.89	0.69
Champlain LHIN	**0.81**	**0.87**	**0.88**

Sources: HCRS 2014/15, Statistics Canada 2011 Census, MOF Population
Expected is based on the Ontario average per capita usage (excluding the northern LHINs) by SDH and age group
Costs are calculated using 2014/15 provincial unit costs
Total costs exclude the following service types: Specialist Physician Office, Rapid Response Nursing Visit, and Case Management

At the LHIN level, the difference in overall services per capita was due equally to fewer clients than expected and to fewer services per client than expected. There were 13 % fewer child and youth home care clients and those clients received twelve % less service than in other LHINs.

In Eastern Champlain, there were 26% fewer child and youth clients than expected but child and youth clients received 10% more services than expected. In all other sub-regions, there were fewer clients and fewer services per client than expected.

Children and youth living in Western Champlain had the least access to home care services. Moreover, the results are affected by a service delivery difference in that sub-region. Unlike in other sub-regions, the Community Care Access Centre (CCAC) was the transfer payment agency for Preschool Speech and Language services. This difference revealed itself in the analysis, as Western Champlain's children and youth had 2.4 times the number of speech language therapy clients aged 0 to 4 than expected at the

provincial average. If the 0 to 4 population is excluded from the analysis to account for this difference, Western Champlain LHIN's children and youth had only 64% of the expected services.

Table 19 forecasts expenses for home and community services (formerly CCAC).

Table 19: CCAC Service Expense Forecast

	CCAC Expenses in $1,000s				
		Current Practice 10-year Forecast		*Better Practice 10-year Forecast*	
Sub-Region	*Current*	*Expenses*	*Increase*	*Expenses*	*Increase*
Central Ottawa	$4,500	$5,110	$610	$6,473	$1,973
Eastern Ottawa	$2,560	$2,950	$390	$3,791	$1,231
Western Ottawa	$4,120	$4,770	$650	$5,661	$1,541
Eastern Champlain	$2,710	$2,790	$80	$3,243	$533
Western Champlain	$1,740	$1,810	$70	$2,382	$642
Champlain LHIN	**$15,640**	**$17,420**	**$1,780**	**$21,530**	**$5,890**

The forecast reveals that at current practice, home care service expenses will need to increase by $1.8M in 2024/25. The better practice forecast assumes that the LHIN achieves the provincial average access to service and would require a $5.9M increase in expenses.

Stakeholders reported that the region should prioritize certain services for immediate development or expansion. For example, children less than five years old requiring IV antibiotics cannot currently receive that support in their homes in all of the LHIN sub-regions. For those older than five, appropriate nursing expertise to support this care is not always available. Families also reported significant frustration at a perceived lack of transparency regarding which services they are entitled to and which are available in their sub-region. As care is increasingly moved from the hospital to community and home settings, it will be important for the LHIN to consider how to effectively communicate the changes to better serve children, youth and their families.

Developmental and Rehabilitation Services

Developmental and rehabilitation services are largely provided in children's treatment centres (CTCs). Ottawa Children's Treatment Centre (OCTC) is the only CTC in the Champlain LHIN, though some providers outside of Ottawa deliver limited similar services to children and youth. Differences in the availability, organization, and reporting of developmental and rehabilitation services across CTCs precluded the ability to compare the Champlain LHIN's access to service relative to elsewhere in Ontario. As a result, access to OCTC services was compared within the LHIN only.

Table 20 illustrates that access to OCTC's services varies substantially across the Champlain LHIN. The table shows actual and expected services by sub-region, where expected is the LHIN average number of services per child by clinical segment. The table's third column shows the actual to expected ratio and highlights the extent of within LHIN access variation. Children and youth living in Central Ottawa had the LHIN's highest access, and received 22% more services than expected. Children and youth living in Western Champlain had only 51% of the LHIN average visits per child and Eastern Champlain's children and youth had 76% of the expected services.

The table's last two columns show how many more visits and the associated cost to increase access in all sub-regions to the level had by Central Ottawa's children and youth. Put differently, the columns show the increases required to provide a similar level of access across the LHIN without reducing services to any sub-region. Overall, 8,080 more visits would be needed at a cost of $3.5M or an 18% increase over the OCTC's 2014/15 expenses.

Table 20: Distribution of the Ottawa Treatment Centre's Visits across the Champlain LHIN

Sub-Region	*Actual Visits*	*Expected* Visits at Champlain LHIN Average*	*Actual to Expected Visit Ratio*	*Visits to Achieve Central Ottawa's Access*	*Expenses** to Achieve Central Ottawa's Access (in $1,000s)*
Central Ottawa	12,765	10,425	1.22	0	$0
Eastern Champlain	4,299	5,620	0.76	2,583	$1,111
Eastern Ottawa	7,337	6,270	1.17	340	$146
Western Champlain	2,105	4,099	0.51	2,913	$1,254
Western Ottawa	9,498	9,590	0.99	2,244	$966
Champlain LHIN	36,004	36,004	1.0	8,080	$3,477

Sources: CTC 2014/15. Statistics Canada 2011 Census, MOF Population Projections
*Expected visits controls for differences in population morbidity using the LHIN average visits per child by segment
**Expenses are estimated using the OCTC's $430 average cost per visit, excluding administrative costs.

Table 21 below, shows OCTC expense forecasts under current practice and better practice scenarios. The current practice scenario increases services over time based on expected child and youth population growth without addressing the current access inequities. The better practice scenario increases access in all sub-regions to the level observed in Central Ottawa. In 10 years, the OCTC expenses will need to increase by $2.0M under the current practice scenario and by $5.9M under the better practice scenario.

Table 21: OCTC Visit and Expense Forecast at Current Practice and Better Practice

	CTC Expenses in $1,000s				
		Current Practice 10-year Forecast		*Better Practice 10-year Forecast*	
Sub-Region	*Current*	*Expenses*	*Increase*	*Expenses*	*Increase*
Central Ottawa	$5,489	$6,233	$744	$6,233	$744
Eastern Ottawa	$1,849	$1,903	$55	$3,046	$1,197
Western Ottawa	$3,155	$3,636	$481	$3,804	$649
Eastern Champlain	$905	$942	$36	$2,247	$1,342
Western Champlain	$4,084	$4,728	$644	$5,846	$1,762
Champlain LHIN	**$15,482**	**$17,442**	**$1,960**	**$21,359**	**$5,877**

Hospital Services

The distribution of the LHIN's hospital services for children and youth varies by program. For example, of the LHIN's total child and youth activity, CHEO-OCTC provides:

- 91% of tertiary/quaternary admissions[32]
- 89% of inpatient surgeries
- 88% of acute inpatient days
- 77% of primary/secondary admissions
- 75% of day surgeries
- 50% of emergency department visits

The main findings of this review of the organization and access to hospital services include:

- Emergency department use varies extensively across the Champlain LHIN.
- Medical and mental health inpatient admissions were generally low across the LHIN relative to the provincial average.
- The LHIN's children and youth had the provincial average surgical cases, but use varied by sub-region.
- The LHIN's children and youth wait longer for referrals and surgeries than the provincial average and fewer children and youth receive surgical care within the target times.
- Previous planning work at CHEO-OCTC found that lengths of stay were typically longer than those of Ontario, Canadian, and US peer hospitals. Lengths of stay were particularly longer than expected for CHEO-OCTC's patients referred at discharge for home care services.

Emergency Department Care

Table 22 describes the actual and expected Emergency Department Visits by Sub-Region.

Table 22: Actual and Expected Emergency Department Visits by Sub-Region

Sub-Region	*All ED Visits*	*CTAS 4&5 Visits*[33]	*Actual - Expected Visits (All)*	*Actual to Expected Visit Ratio*
Central Ottawa	24,642	11,261	-6,161	0.80
Eastern Champlain	23,586	11,232	6,858	1.41
Eastern Ottawa	12,968	6,081	-5,558	0.70
Western Champlain	28,888	16,685	16,699	2.37
Western Ottawa	21,178	8,753	-6,326	0.77
Champlain LHIN	111,262	54,012	16,166	1.17

Sources: NACRS 2014/15. Statistics Canada 2011 Census, MOF Population Projections

This analysis reveals the following facts:

[32] Based on the Ministry of Health and Long Term Care's primary, secondary, tertiary, and quaternary care definitions; available here: https://hsim.health.gov.on.ca/hdbportal/

[33] On the Canadian Triage and Acuity Scale (CTAS), levels four and five are considered less urgent and non urgent, respectively

- The Champlain LHIN's children and youth had 17% more emergency department visits than expected at the provincial average;
- Children and youth living in Western Champlain had 2.37 times the ED visits expected at the provincial average;
- Children and youth living in Eastern Champlain had 1.41 times the expected visits; and
- Children and youth living in Ottawa had between 20 and 30% fewer visits than expected, depending on their sub-region.

Higher ED use in Eastern and Western Champlain may be due to the necessity for different care models in those regions. For example, many family physicians working in towns or rural areas will split their time between their own practice and their local emergency department. To increase their accessibility to their patients, they may give their patients the option to see them for non-urgent care in the ED when they are on duty. This practice may improve patients' access to primary care and support efficient use of the hospital's fixed ED expenses. The potential to substitute consistent primary care for episodic ED care may vary substantially across communities in Eastern and Western Champlain and should be further studied. However, higher use of EDs in Eastern and Western Champlain may also reflect the fact many services are not easily accessible, and the ED is seen as the last resort in an attempt to receive any kind of supportive care.

Emergency department visit forecasts by hospital are shown in Table 23. The number of visits is higher in this table than the Table 23 above because the forecast include visits by children and youth from Quebec and other provinces. Without having access to other provinces' data, it was not possible to compare actual and expected visits for those children and youth.

Table 23: Emergency Department Visit Forecasts

	ED Visits		*10-year Increase*	
Facility Name	*2014/15*	*2024/26*	*Visits*	*Percentage Increase*
Almonte General	4,058	4,254	196	5%
Arnprior & District Memorial	3,210	3,283	73	2%
Carleton Place & District	3,857	3,957	100	3%
Children's Hospital of Eastern Ontario	72,383	81,195	8,812	12%
Cornwall Community	10,663	10,945	282	3%
Deep River & District	4,655	4,789	134	3%
Glengarry Memorial	4,776	5,000	224	5%
Hawkesbury & District General	6,721	7,115	394	6%
Kemptville District	4,856	4,953	97	2%
Montfort	1,941	2,099	158	8%
Pembroke Regional	6,978	7,085	107	2%
Queensway-Carleton	7,833	8,724	891	11%
Renfrew Victoria	4,695	4,737	42	1%
St Francis Memorial	1,789	1,804	15	1%
The Ottawa Hospital	2,262	2,414	152	7%
Winchester District Memorial	4,672	4,859	187	4%
Champlain LHIN Hospitals	145,349	157,213	11,864	8%

Sources: NACRS 2014/15. Statistics Canada 2011 Census, MOF Population Projections

At current practice, the LHIN's hospitals will need to provide roughly 12,000 more emergency department visits to children and youth in 2024/25 than they did in 2014/15. Access and system improvements recommended in this report may substantially reduce the emergency department visit demand over time.

Acute Inpatient Care

Acute admissions for the child and youth populations of each sub-region were compared to the admissions expected at the provincial age standardized average. Results are in Table 24 and are based on the patient's sub-region of residence regardless of where they were admitted.

Table 24: Mental Health and Medical Inpatient Admissions by Sub-Region

	Mental Health			*Medical*			*Total*		
Patient Residence Sub-Region	*Actual*	*Expected*	*Actual to Expected Ratio*	*Actual*	*Expected*	*Actual to Expected Ratio*	*Actual*	*Expected*	*Actual to Expected Ratio*
Central Ottawa	177	207	0.85	1,007	1,301	0.77	1,184	1,508	0.79
Eastern Champlain	63	120	0.53	723	671	1.08	786	791	0.99
Eastern Ottawa	129	132	0.97	565	746	0.76	694	878	0.79
Western Champlain	80	87	0.92	380	492	0.77	460	578	0.80
Western Ottawa	167	188	0.89	723	1,108	0.65	890	1,296	0.69
Champlain LHIN	616	733	0.84	3,398	4,318	0.79	4,014	5,052	0.79

Sources: DAD 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Table 24 illustrates that mental health and medical admissions are low across the LHIN except for in Eastern Champlain, where medical admissions were 8% higher than the provincial average. At the provincial average, Champlain LHIN children and youth would have had 1,038 more medical and mental health admissions.

The implications of low admission rates may be different for medical care than for mental health care. Low mental health admission rates may have a higher probability of being due to lack of capacity than low medical admission rates. Low medical admissions are typically viewed as an outcome associated with good population health and an effective primary and community care system. Moreover, stakeholders did not report that medical inpatient bed capacity is constrained or that it should increase. In contrast, mental health stakeholders felt that service capacity should increase across the care continuum. Given the opinion of stakeholders and the finding that Champlain LHIN's children and youth had 16 percent fewer hospital admissions than expected at the provincial average, it is reasonable to infer that more inpatient mental health beds are required. The LHIN is currently conducting a mental health capacity plan. We recommend that a focus of that planning exercise be on providing guidance on how many beds are required and where the beds should be located.

Surgical Care

Since the propensity to substitute ambulatory for inpatient surgery varies across hospitals, both inpatient and ambulatory surgeries were combined for the access analysis.

Table 25 below presents actual and expected surgical procedures by sub region.

Table 25: Actual and Expected Surgical Procedures by Sub-Region

Sub-Region	*Actual IP and DS Procedures*	*Expected IP and DS Procedures*	*Actual - Expected*	*Actual to Expected Ratio*
Central Ottawa	1,274	1,468	-194	0.87
Eastern Champlain	941	787	154	1.20
Eastern Ottawa	859	876	-17	0.98
Western Champlain	800	574	226	1.39
Western Ottawa	1,154	1,306	-152	0.88
Champlain LHIN	5,028	5,011	17	1.00

Sources: DAD 2014/15, NACRS 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Table 25 reveals that the Champlain LHIN's children and youth had the number of surgical procedures expected at the provincial average. However, there is substantial variation in surgical activity within the LHIN. Children and youth in Western Champlain had 39% more surgical procedures than expected while children and youth in Central Ottawa had 13% fewer procedures.

To understand the surgical differences by sub-region, actual to expected ratios by surgery and sub-region were examined. The results of this examination are presented in Table 26 below.

Table 26: Actual and Expected Surgical Procedures in by Sub-Region

	Western Champlain			
Procedure	*Actual*	*Expected*	*Actual - Expected*	*Actual to Expected Ratio*
Tonsillectomy/ Adenoidectomy	186	128	58	1.46
Myringotomy	116	87	29	1.33
Lingual Frenectomy	42	13	29	3.15
Strabismus	30	17	13	1.71
Ear Nose & Throat, Other	25	14	11	1.76
Orchidectomy, Total/Radical, Orchiopexy	23	14	9	1.69
Oral/Dental. Minor	27	20	7	1.35
Cataract Extraction	7	2	5	4.55
Oral/Dental. Major	7	2	5	4.28
Local Excision & Removal of Fixation Device	12	7	5	1.78
Other procedures	325	271	54	1.20
All Procedures	800	574	226	1.39

	Eastern Champlain			
Procedure	*Actual*	*Expected*	*Actual - Expected*	*Actual to Expected Ratio*
Myringotomy	152	119	33	1.28
Strabismus	56	24	32	2.34
Tonsillectomy/ Adenoidectomy	200	175	25	1.14
Lingual Frenectomy	32	18	14	1.78
Appendectomy	56	43	13	1.29
Gastrointestinal, Other. Minor	17	5	12	3.64
Hernia Repair	40	28	12	1.40
Oral/Dental. Minor	38	28	10	1.38
Treatment; Fracture OR Dislocation: Hip & Femur	12	6	6	2.09
Treatment; Fracture OR Dislocation: Tibia/Fibula/Knee	11	5	6	2.27
Other procedures	327	336	-9	0.97
All Procedures	941	787	154	1.20

	Ottawa Sub-Regions Combined			
Procedure	*Actual*	*Expected*	*Actual - Expected*	*Actual to Expected Ratio*
Tonsillectomy/ Adenoidectomy	970	1,120	-150	0.87
Myringotomy	552	770	-218	0.72
Strabismus	288	153	135	1.88
Appendectomy	274	271	3	1.01
Lingual Frenectomy	249	119	130	2.09
Hernia Repair	217	184	33	1.18
Penis & Testes, Other. Minor	183	268	-85	0.68
Repair, Knee	165	126	39	1.31
Oral/Dental. Minor	162	172	-10	0.94
Ear Nose & Throat, Other	137	123	14	1.11
Other procedures	1,831	1,704	127	1.07
All Procedures	5,028	5,011	17	1.00

Sources: DAD 2014/15, NACRS 2014/15. Statistics Canada 2011 Census, MOF Population Projections

Rates of Tonsillectomy/Adenoidectomy and Myringotomy varied widely across the LHIN, with children and youth living in Western and Eastern Champlain having high rates while those living in Ottawa have

low rates. Strabismus and Lingual Frenectomy procedure rates are high throughout the LHIN and should be examined further.

Surgical Wait Times

Although children and youth living in the Champlain LHIN had the number of surgeries expected at the provincial average, they waited longer for referrals and surgeries than the provincial average and fewer children and youth received surgical care within the target times. Table 27 summarizes wait time results from Cancer Care Ontario's Pediatric Surgery Wait Times Report, April 2017.

For each surgery type, the number of surgeries received by the Champlain LHIN's children and youth is shown in the table along with median and 90th percentile wait times and the % of cases that were completed within the target wait times. The top portion of the table shows the results for Wait 1, which is the time from the when the surgeon receives the referral request to the first consult. The bottom part of the table shows the results for Wait 2, which is the time between the decision to treat and the child's surgery.

Table 27: Child and Youth Surgical Wait Times by Surgery Type, Champlain LHIN and Ontario

	Champlain LHIN				Ontario			
Service Areas	*Cases*	*Median Wait*	*90th Percentile Wait*	*% Completed Within Target*	*Cases*	*Median Wait*	*90th Percentile Wait*	*% Completed Within Target*
Wait 1: Referral received by specialist to 1st consult with specialist								
All Paediatric Surgery	1,092	55	188	57%	9,252	36	133	88%
Paediatric Cardiovascular Surgery	11	2	80	64%	112	0	0	96%
Paediatric General Surgery	126	28	90	69%	749	26	82	90%
Paediatric Gynaecologic Surgery	10	43	102	70%	70	38	103	89%
Paediatric Neurosurgery	1	-	-	-	26	24	77	88%
Paediatric Ophthalmic Surgery	84	63	220	31%	569	66	194	76%
Strabismus	64	66	245	26%	396	76	211	73%
Paediatric Dental/Oral/Maxillofacial Surgery	253	33	124	75%	2,071	16	103	89%
Paediatric Orthopaedic Surgery	118	45	102	77%	665	27	94	89%
Scoliosis	4	-	-	-	32	41	147	81%
Paediatric Otolaryngic Surgery	322	75	231	45%	3,801	49	143	89%
Paediatric Plastic and Reconstructive Surgery	58	73	168	60%	412	42	173	83%
Paediatric Urologic Surgery	109	153	241	31%	777	45	156	82%
Hypospadias	24	153	271	21%	114	69	189	61%
Orchiopexy	28	159	207	22%	166	45	159	78%
Wait 2: Decision to treat to procedure date								
All Paediatric Surgery	1,576	80	233	65%	14,339	48	146	85%
Paediatric Cardiovascular Surgery	11	40	69	100%	139	38	178	78%
Paediatric General Surgery	166	60	207	72%	1,031	31	99	91%
Paediatric Gynaecologic Surgery	10	46	88	70%	95	45	115	92%
Paediatric Neurosurgery	11	29	155	82%	130	23	87	92%
Paediatric Ophthalmic Surgery	151	117	607	60%	1,044	52	181	86%
Strabismus	121	143	610	54%	593	65	264	80%
Paediatric Dental/Oral/Maxillofacial Surgery	366	119	253	35%	2,794	58	183	74%
Paediatric Orthopaedic Surgery	197	78	213	76%	1,209	52	177	84%
Scoliosis	8	-	-	-	65	143	231	82%
Paediatric Otolaryngic Surgery	454	58	142	81%	5,984	47	125	88%
Paediatric Plastic and Reconstructive Surgery	74	101	198	81%	792	32	125	95%
Paediatric Urologic Surgery	136	129	272	60%	1,121	51	187	83%
Hypospadias	26	153	270	54%	153	93	254	69%
Orchiopexy	31	172	258	52%	215	64	221	69%

Source: Cancer Care Ontario's Pediatric Surgery Wait Times Report, April 2017. Results for Q4_FY_20162017

In Table 28 below, surgical wait time information is shown by priority level for the Champlain LHIN and for the province. For Priority Levels 2-4, the median Wait 1 for Champlain LHIN's children and youth was 191 days compared to the provincial median of 129 days, and only 62 % of the LHIN's cases were completed within the target compared to the provincial average of 89 %.

Table 28: Child and Youth Surgical Wait Times by Priority Level, Champlain LHIN and Ontario

		2016/2017	
	Measure	*Champlain LHIN*	*Ontario*
Wait 1 - All Pediatrics			
Priority 2 cases percent completed within target	Percent	43%	58%
Priority 3 cases percent completed within target	Percent	73%	86%
Priority 4 cases percent completed within target	Percent	86%	95%
Priority 2-4 cases percent completed within target	Percent	62%	89%
Priority 2-4 90th percentile wait days	Days	191	129
Priority 2-4 Median wait days	Days	45	36
Wait 2 - All Pediatrics			
Priority 2 cases percent completed within target	Percent	29%	70%
Priority 3 cases percent completed within target	Percent	47%	68%
Priority 4 cases percent completed within target	Percent	79%	93%
Priority 2-4 cases percent completed within target	Percent	64%	85%
Priority 2-4 90th percentile wait days	Days	231	149
Priority 2-4 Median wait days	Days	79	49

The results shown in the two tables above clearly show that, relative to the provincial average, the Champlain LHIN's children and youth have longer wait times and are less likely to receive care within the target wait times. Similar data were not available by sub-region, but within LHIN wait time variations need to be understood and should be examined.

The results of the surgical access examination imply that the LHIN's children and youth have the provincial average access in terms of the receipt of surgery but that substantial improvements are required to reduce surgical wait times.

To maintain the current surgical access and distribution, the LHIN's hospitals will need to provide about 440 more surgeries in 2024/25 than they did in 2014/15. Table 29 provides forecasts for each hospital in the LHIN:

Table 29: Inpatient and Day Surgery Forecasts by Hospital, 2014/15 to 2024/25

	Ambulatory Surgical Procedures			*Inpatient Surgical Procedures*		
Hospital	*2014/15*	*2024/25*	*10-year Increase*	*2014/15*	*2024/25*	*10-year Increase*
Almonte General	15	15	0			
Arnprior & District Memorial	2	2	0			
Carleton Place & District	168	180	12			
Children's Hospital of Eastern Ontario	2,783	3,065	282	1,703	1,843	140
Cornwall Community	171	176	5	52	52	0
Hawkesbury & District General	25	25	0	8	8	0
Kemptville District	47	46	-1			
Montfort	18	18	0	14	14	0
Pembroke Regional	205	210	5	7	7	0
Queensway-Carleton	55	54	-1	29	29	0
Renfrew Victoria	4	4	0	1	1	0
The Ottawa Hospital	149	147	-2	87	85	-2
Winchester District Memorial	33	31	-2	2	2	0
Champlain LHIN Hospitals	3,675	3,975	300	1,903	2,040	137

Sources: DAD 2014/15, NACRS 2014/15. Statistics Canada 2011 Census, MOF Population Projections

Table 30 above shows the number of pediatric surgeries by hospital; seven of the LHIN's hospitals had fewer than 50 pediatric surgeries per year. This distribution raises questions about critical mass – whether there is sufficient volume for providers to maintain their competency – and implies a need to review how child and youth surgical care is organized and delivered in the LHIN. Best practice clearly indicates that specialized pediatric surgical procedures should be consolidated at fewer sites. Therefore, the organization of child and youth surgical care in the LHIN should be reviewed with a view to optimizing program safety, quality, sustainability, and efficiency.

Table 30 below shows acute inpatient forecasts by hospital and care type. Expected growth varies substantially by hospital and reflects expected population growth of each's hospital's catchment population. This demographic forecast can help inform potential reorganizations of the delivery of pediatric hospital services in the LHIN.

Table 30: Acute Inpatient Admission and Days Forecasts by Hospital, 2014/15 to 2024/25

		2014/15		2024/25		10-year Increase	
Facility Name	*Partition*	*Admissions*	*Inpatient Days*	*Admissions*	*Inpatient Days*	*Admissions*	*Inpatient Days*
Almonte General	Mental Health	1	1	1	1	-3%	-3%
	Newborn/Neonate	318	645	349	705	10%	9%
	Medical	2	6	2	5	-16%	-16%
	Total	**321**	**652**	**351**	**711**	**9%**	**9%**
Arnprior & District Memorial	Mental Health	1	2	1	2	-16%	-16%
	Medical	4	11	4	10	-12%	-10%
	Total	**5**	**13**	**4**	**12**	**-13%**	**-11%**
Carleton Place & District	Medical	1	1	1	1	-16%	-16%
	Total	**1**	**1**	**1**	**1**	**-16%**	**-16%**
Children's Hospital of Eastern Ontario	Mental Health	564	7,167	569	7,218	1%	1%
	Newborn/Neonate	675	7,813	769	8,848	14%	13%
	Medical	3,734	18,642	4,127	20,465	11%	10%
	Surgical	1,703	8,030	1,843	8,819	8%	10%
	Total	**6,676**	**41,652**	**7,308**	**45,349**	**9%**	**9%**
Cornwall Community	Mental Health	2	7	2	8	7%	8%
	Newborn/Neonate	549	1,127	570	1,170	4%	4%
	Medical	323	620	333	637	3%	3%
	Surgical	52	102	52	100	0%	-1%
	Total	**926**	**1,856**	**957**	**1,915**	**3%**	**3%**
Hawkesbury & District General	Mental Health	3	24	3	21	-10%	-10%
	Newborn/Neonate	429	724	464	783	8%	8%
	Medical	4	11	4	10	-5%	-8%
	Surgical	8	16	8	16	-1%	-1%
	Total	**444**	**775**	**478**	**830**	**8%**	**7%**
Montfort	Newborn/Neonate	3,508	6,408	4,068	7,441	16%	16%
	Medical	8	55	9	63	8%	14%
	Surgical	14	26	14	26	-1%	0%
	Total	**3,530**	**6,489**	**4,090**	**7,530**	**16%**	**16%**
Pembroke Regional	Mental Health	2	3	2	3	-16%	-16%
	Newborn/Neonate	783	1,517	839	1,625	7%	7%
	Medical	102	178	103	180	1%	1%
	Surgical	7	7	7	7	-5%	-5%
	Total	**894**	**1,705**	**951**	**1,814**	**6%**	**6%**
Queensway-Carleton	Mental Health	1	1	1	1	1%	1%
	Newborn/Neonate	2,380	5,549	2,834	6,599	19%	19%
	Medical	30	145	31	163	4%	13%
	Surgical	29	55	29	55	0%	0%
	Total	**2,440**	**5,750**	**2,895**	**6,818**	**19%**	**19%**
Renfrew Victoria	Mental Health	2	4	2	4	-9%	-9%
	Newborn/Neonate	18	40	19	43	7%	7%
	Medical	3	6	3	6	-1%	3%
	Surgical	1	1	1	1	-16%	-16%
	Total	**24**	**51**	**25**	**53**	**4%**	**5%**

		2014/15		2024/25		10-year Increase	
Facility Name	*Partition*	*Admissions*	*Inpatient Days*	*Admissions*	*Inpatient Days*	*Admissions*	*Inpatient Days*
St Francis Memorial	Newborn/Neonate	1	1	1	1	7%	7%
	Total	**1**	**1**	**1**	**1**	**7%**	**7%**
The Ottawa Hospital	Newborns & Neonates	6,598	23,207	7,825	27,257	19%	17%
	Medical	106	1,257	111	1,398	5%	11%
	Surgical	87	644	85	622	-2%	-3%
	Total	**6,791**	**25,108**	**8,021**	**29,277**	**18%**	**17%**
The Royal	Mental Health	32	1,369	32	1,368	0%	0%
	Total	**32**	**1,369**	**32**	**1,368**	**0%**	**0%**
Winchester District Memorial	Newborn/Neonate	764	1,152	819	1,235	7%	7%
	Medical	5	17	5	16	-8%	-8%
	Surgical	2	5	2	4	-10%	-10%
	Total	**771**	**1,174**	**825**	**1,255**	**7%**	**7%**
Champlain LHIN Hospitals Total		**22,856**	**86,596**	**25,939**	**96,934**	**13%**	**12%**
Total Excluding Newborns and Neonates		**6,833**	**38,413**	**7,383**	**41,227**	**8%**	**7%**

Table 31 provides a forecast for the number of hospital beds that will be required in 10 years at current practice.

Table 31: Future Acute Bed Requirements

	Acute Inpatient Days		10-year Increase	
Facility Name	*2014/15*	*2024/25*	*Inpatient Days*	*Beds at 90 percent occupancy*
Almonte General	7	6	-1	0
Arnprior & District Memorial	13	12	-1	0
Carleton Place & District	1	1	0	0
Children's Hospital of Eastern Ontario	33,839	36,501	2,662	8.1
Cornwall Community	729	745	16	0
Hawkesbury & District General	51	47	-4	0
Montfort	81	88	7	0
Pembroke Regional	188	189	1	0
Queensway-Carleton	201	220	19	0
Renfrew Victoria	11	11	0	0
The Ottawa Hospital	1,901	2,020	119	0.4
The Royal	1,369	1,368	-1	0
Winchester District Memorial	22	20	-2	0
Champlain LHIN Hospital Total	38,413	41,227	2,814	8.6

Sources: DAD 2014/15. Statistics Canada 2011 Census, MOF Population Projections; excludes bassinets.

At current practice and accounting for the expected changes in each hospital's child and youth populations, Champlain LHIN hospitals will need 9 more hospital beds in 2024/25. Increased need for inpatient bed capacity is concentrated at CHEO-OCTC.

It may be possible to attenuate the need to increase inpatient bed supply over time if lengths of stay can be reduced, including by increasing access to post-acute home care services.

As part of the project, an inventory of the Champlain LHIN's pediatric health services and providers was compiled. The inventory identifies and classifies the majority of publicly funded pediatric services and resources available in hospital, home care, and community settings in the Champlain LHIN.

The inventory can be used to assess and understand variations in service supply across the LHIN's sub-regions. Moreover, the inventory can help planners and decision makers to:

1. Understand the variation in service availability and service mix by region
2. Combine service supply with need to identify service gaps
3. Match assets to population segments to support population based analysis
4. Map services from different sectors in each geographic area.

Domain 4: Outcomes and Performance Measurement

Successful systems of care define their desired outcomes and measure performance against those desired outcomes. The current and future state findings indicate that measurement and reporting is not standardized across the Champlain region to effectively drive required health outcomes. This makes it difficult for the region to operate as a cohesive "system" of care for children and youth. The lack of reporting also makes it difficult to drive change in target areas.

Systems typically develop their outcomes and measurement capabilities in a stepped process, articulating the desired outcomes, identifying indicators to measure performance, specifying the data required to calculate the indicators, assessing fitness for use of existing data streams, and developing new streams where required.

Performance measurement should be both population and provider based. Population based measures describe outcomes among people with common characteristics of interest. Examples of population-based indicators for children and youth include:

1. Low birth weight admission rate
2. Asthma Admission Rate
3. Diabetes Short-term Complication Rate
4. Gastroenteritis Admission Rate
5. Perforated Appendix Admission Rate

Examples of provider level indicators include:

1. Readmission rates
2. Neonatal Blood Stream Infection Rate
3. Postoperative Respiratory Failure Rate
4. Postoperative Sepsis Rate
5. Pediatric Heart Surgery Mortality

Patient reported outcome measures (PROMs) should be considered too, although the PROM field is less mature than population and provider performance measurement. Patient report outcome measures can include:

1. Depression Remission at Twelve Months
2. Pain reduction and control
3. Functional status improvement

Many jurisdictions are experimenting with PROMs, including using them in pay-for-performance schemes. While they can provide important information for planning and performance improvement, PROMs are somewhat controversial, perhaps particularly in child and youth care where differences in reliability between patient, parent, and proxy responses can be problematic.

Extensive stakeholder consultations and review of available documentation identified that measurement and reporting is not standardized across the region to effectively drive required health outcomes. This makes it difficult for the region to operate as a cohesive "system" of care for children and youth.

The lack of reporting also makes it difficult to drive change in target areas. Stakeholders reported that there is a need for tracking to drive outcomes improvements across each of the ten key theme areas, and particularly in the following three areas:

1. **Parent and caregiver education and supports:** The need for additional resources for parents was raised in almost every focus group. Participants indicated the need for peer supports and respite services, as well as education for all parents, and not simply those with children and youth with particular health care needs. Further, family and youth advisors strongly recommended that the system shift to a more family-centered approach, involving families in service delivery decisions and design.
2. **Access to service:** access to the right care at the right time in the right place varies between providers and across geographies within the LHIN, with significant duplications of service leading to too much of one service and too little of another.
3. **Transitions of care:** care is often interrupted during transitions within child and youth age groups or into the adult care system. Further, stakeholders raised concerns that youth transitioning into the adult system can be lost when appropriate services do not exist in the adult care system, as they cease to be tracked even while their needs remain the same. Stakeholders were clear that there are significant opportunities to smooth transitions for families while ensuring that the needs of children and youth during these key periods are met. This requires a partnership between those providing care to children and youth and those serving adults, focusing on increasing readiness, ability and capacity to serve these individuals during and after their transition.

For further detail on these target areas, please refer to Appendix A: Current State Report.

Domain 5: Resource Adequacy

Successful health systems work to determine if available resources are adequate to achieve the desired outcomes. Quantitative and qualitative data point to gaps in health care and non-health care supports such as transportation in some services and regions, suggesting that resource adequacy needs to be carefully considered in order to better meet the needs of children and youth in the region.

Health service access/usage is low as compared to the provincial average for certain services in certain regions, which raises concerns about resource adequacy across care settings and geographies. The table below shows ratios of actual and expected service use. The expected is the provincial average for all services except Developmental and Rehabilitation service, where the LHIN average is used. The last column shows how service use in the LHIN differs from the provincial average. For example, Champlain's children and youth have 5% more emergency department visits than expected at the provincial average, yet they have 21% fewer inpatient admissions and use 19% fewer home care services.

As demonstrated in Table 32 below, the variation within the Champlain LHIN is striking for some services.

Table 32: Actual to Expected Health Resource Use by Sub-Region

	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	***Champlain LHIN***
Emergency department visits	0.80	0.77	0.70	1.41	2.37	**1.05**
Low acuity ED visits	0.84	0.73	0.75	1.54	3.15	**1.17**
Acute admissions	0.82	0.71	0.81	0.94	0.71	**0.79**
Home Care Services	0.79	0.84	0.78	0.86	0.76	**0.81**
Developmental and Rehabilitation Services*	1.22	0.99	1.17	0.76	0.51	

*relative to the Champlain LHIN average

The data in Table 32 illustrates that Central Ottawa's children and youth received 22% more developmental and rehabilitation services than the LHIN average while Western Champlain's received only 51% of the LHIN's average. Further, the child and youth population in Eastern Ottawa made 30% fewer ED visits than expected while the Western Champlain population had 2.37 times more than expected. These findings further emphasize differences in the child and youth health system of care across the LHIN.

As addressed within the Providers and Networks domain (page 45), the split between generalist and specialist and the geographical distribution of physicians in the LHIN needs to be addressed to redress variations in access to services, further suggesting the need to review resource adequacy as it applies to all care settings and to all sub-regions.

Further, availability and affordability of support services such as transportation and childcare is a significant barrier to access, particularly in rural and remote areas. Because of the varied needs of children in the region, further work is required to identify the needs of target populations and the associated resources required to meet the needs. For example, families with a ventilator-dependent child require safe transportation services with trained providers to support their needs. Currently, paramedics are not ventilator-trained and cannot transport these children, indicating that solutions may require a combination of funding, health human resources and specialized training.

For further detail on these findings, please refer to Appendix A: Current State Report.

Future State Recommendations

The Steering Committee submits the following 36 recommendations, which are aimed at enhancing the capacity of the Champlain LHIN to deliver the right care, at the right time, in the right place for children and youth in the region.

Due to the absence of person-level data for some specific populations (e.g. Francophone, Indigenous), capacity recommendations specific to those groups have not been developed. However, future capacity in the LHIN will need to reflect the needs of specific sub-populations, including the:

- 19% of the LHIN's population that includes French as their first language;[34]
- 2.8% of the LHIN's population that self-identify as Indigenous[35]; and
  2.8% of the LHIN's population that are recent immigrants.[36] It should be noted that this number may be an under-estimate of the actual size of this community. For example, in Ottawa in 2011, 22.6% of the population was born outside of Canada. (https://www.cmhc-schl.gc.ca/en/co/buho/seca/ot/ot_001.cfm)

Capacity Recommendations

The capacity recommendations aim at ensuring that the Champlain LHIN health system has the capacity to meet the needs of the LHIN's children, youth and families now and in the future. Capacity is defined both as the right amount and mix of resources as well as the required child and youth service provider expertise. The Steering Committee arrived at the recommendations by examining current and forecast gaps between needs and capacity, across sectors and along the continuum. Where relevant, services and sub-populations are identified that should be prioritized for access improvements.

Where possible, two versions of the future capacity requirements are presented. First, the future capacity required to maintain the current level of access are shown. Under this scenario, capacity requirements increase at the growth rate of the LHIN's child and youth population only. Second, where possible, future capacity requirements under better practice assumptions are shown. For example, the recommendation section outlines how much home care capacity is required first to maintain current access over time and how much is required to redress substantial access inequities relative to the provincial average.

Most of the capacity recommendations are built on the results of the quantitative population-based analysis and supported by the consultation findings. The Steering Committee attempted to make best use of available data to quantify the service needs of the LHIN's child and youth populations. Reliable data were not available to accurately measure service gaps for specific sub-populations of interest including for example, Francophones, newcomers, and the Indigenous populations. However, past studies, current analyses and stakeholder consultation has clearly identified that some of the LHIN's

[34] Statistics Canada Census 2016
[35] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx
[36] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx

child and youth populations have higher risk for morbidity and unmet need. To realize the THRIVE objectives, more and better data will need to be collected, analyzed, and used to support effective planning and resource allocation decisions.

Family Provided Care

Families are the backbone of the Champlain LHIN's child and youth health system. Families provide more health care services to the LHIN's children and youth than any other provider group. However, the data is somewhat limited in demonstrating the degree to which families provide care to children and youth. Families who provided input into THRIVE frequently expressed their concern that they felt inadequately supported by the "system".

Planning supports for family-provided care need to account for the implications of the LHIN's changing demography. Fast growth in the LHIN's senior population implies that parents will need to continue meeting their children's care needs while also having to address the increasing needs of their own parents. Since demand will rise faster than supply, the sustainability of the LHIN's family-provided care system is at risk.

Future Capacity Requirements under Current Practice

Based on expected population growth only, the demand for family-provided care to children and youth will increase by 9% over the next 10 years.

Recommendations

1. **Initiatives to reduce demand for family-provided care are needed.** Options to consider include: ensuring seamless transitions from hospital to home, making better use of technology, such as videoconferencing; improving availability of and access to telemedicine; improving care coordination and system navigation; and reducing complexities faced by families in accessing funding from different sources.
2. **Data on family-provided care should be systematically collected by providers and funders, collated and routinely analysed.** These data are needed to measure family care needs and to best match families with the support services they need.
3. **Support services and resources for families need to increase substantially, both now and over the next 10 years.** Demand for family-provided care will increase much faster than the supply. It is anticipated that the LHIN's parents will be increasingly challenged to not only meet the needs of their children and youth, but also those of their aging parents. Families suggested that supports that should be prioritized include: increasingly flexible funding; enhancing transportation; child care; respite services; care navigation; education; and individual and peer supports and coaching.

Primary Care Services

Data limitations precluded the ability to measure and assess primary care services delivered by health service providers other than physicians. The Steering Committee is therefore unable to make capacity recommendations for non-physician provider groups.

Access to all physician services, both primary care and specialist services, varies substantially within the LHIN. Children and youth living in the Eastern Champlain and Western Champlain sub-regions had fewer encounters per child than expected at the LHIN average.

In 2014/15, the Champlain LHIN had 222 pediatricians. The LHIN's pediatrician per child ratio is higher than all other LHINs except Toronto Central. Currently available data however, do not accurately distinguish between generalist and specialist pediatricians.

There are no widely accepted pediatrician per capita benchmarks against which to assess the Champlain LHIN's pediatrician supply. Moreover, the international experience varies widely and reveals no consensus on pediatrician workforce supply.

Future Capacity Requirements under Current Practice

To maintain current access of the LHIN's children and youth to family physician delivered primary care, the number of family physicians will need to increase by 9% over the next ten years. This is an increase of 140 over the LHIN's 2015 supply of 1,517 family physicians. This increase does not include growth in supply to meet the needs of the LHIN's adult and senior populations.

To maintain the current pediatrician to child ratio in the LHIN, the number of pediatricians will need to increase by 9% over the next ten years, or by 20 from 222 in 2014/15 to 242 in 2024/25.

Service needs may vary across the LHIN's child and youth sub-populations. For example:

19% of the LHIN's population includes French as their first language.[37]	Physician-delivered primary care capacity will need to reflect the associated need for French language services.
2.8% of the LHIN's population self-identify as Indigenous.[38]	Physician-delivered primary care capacity will need to reflect this population's needs.
2.8% of the LHIN's population are recent immigrants.[39]	Physician-delivered primary care capacity will need to reflect this diverse population's needs.

Recommendations

4. **The needs of children and youth should be specifically considered when undertaking system planning, including planning for primary care and other physician services.**
5. **Access to all physician services for children and youth living in Eastern Champlain and Western Champlain needs to increase to redress current inequities.** Possible responses might include

[37] Statistics Canada Census 2016
[38] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx
[39] Champlain LHIN. 2014 Population Characteristics for Champlain Health Link Areas. http://www.champlainlhin.on.ca/AboutUs/GeoPopHlthData/PopHealth.aspx

hiring or recruiting more physicians, but the potential to make better use of the LHIN's existing physician capacity should be explored first.

6. **Child and youth primary care capacity needs to increase across the LHIN.** Opportunities to increase capacity using other provider types, including advanced child and youth trained nurse practitioners and other service providers, should be explored.
7. **The capacity for primary care delivered by physicians, nurse practitioners and other providers with child and youth health expertise needs to increase across the LHIN.** Options to consider include offering family physicians opportunities to engage in additional training and develop focused practice in child and youth primary care.
8. **Family physicians across the LHIN need better access to consultant pediatricians.** Consider expansion of existing models, such as e-consult and linking consultant pediatricians with family health teams and community health centres and community hospitals.
9. **Children and youth with complex medical or developmental problems need better access to primary care delivered by either family or physicians with enhanced child and youth expertise or community-based consultant pediatricians.** This need will likely increase over time because the LHIN's community pediatricians are shifting the focus of their practices from primary care to consultant care.

Home Care Services

The need for home care services for children and youth are different from those of adults. For example, child and youth home care clients typically have complex care needs and receive a higher intensity of allied health and nursing services than senior clients. Child and youth home care needs are so different from those of adults that separate home care strategies and delivery models are required.

There is substantial unmet need for home care services in the Champlain LHIN:

- Across all age groups, the LHIN's population received 11% fewer home care services than expected at the provincial average;
- The LHIN's children and youth are particularly under-served since they received 19 % fewer services than expected at the provincial average;
- Since the LHIN's adult population is also underserved, opportunities to improve access by moving resources from adults to children and youth are limited;
- The unmet home care need for children, youth, and adults is due to primarily to a funding gap and not due to inefficient use of the program budget;
- Unmet need for home care varies substantially within the LHIN, and children and youth living in Western Champlain had the least access relative to the LHIN's average.

Home care resources will need to increase or existing resources will have to be redistributed to redress sub-region access inequities.

Future Capacity Requirements

To maintain current access, home care service expenses will need to increase by $1.8M (8%) from 2014/15 to 2024/25.

To match the provincial average access, expenses will need to increase by $3.7M (16%) today and by $5.9M in 2024-25.

To eliminate within LHIN access inequities without reducing current access in any sub-region, home care expenses will have to increase by $1.0M.

Future capacity will also have to reflect the needs of the LHIN's sub-populations, including:

- 19% of the LHIN's population that includes French as first language
- 2.8% that self-identify as Indigenous
- 2.8% that are recent immigrants (In Ottawa, in 2011, 22.6% of the population was born outside of Canada)

Recommendations

10. **A distinct child and youth home and community care program should be developed to ensure adequate child and youth expertise and quality of service by providers.** This new model should integrate existing services recently moved under the responsibility of the LHIN with those provided by specialty child and youth acute, developmental and rehabilitation organizations.
11. **The capacity for specialized pediatric home care service delivery needs to increase across the LHIN.** Standardized home care could help support transitions from hospital to home and improve existing home care services, such as optimizing home-based intravenous antibiotic therapy for younger children. Hospitals could serve as a resource to support the enhanced skills and expertise required to deliver these services.
12. **Access to home care services needs to increase substantially across the LHIN.** The LHIN's children and youth received roughly $3.7M less in home care services than expected at the provincial average. Since this gap is due to a funding shortfall, the LHIN should advocate for a substantial increase in home care funding.
13. **Sub-region home care access inequities need to be addressed.** It would cost roughly $1.0M more in service expenses to eliminate the inequity without reducing services in any sub-region. Since adults and seniors are also under-served, opportunities to improve access by reallocating the home care budget are limited.

Developmental and Rehabilitation Services

Differences in the availability, organization, and reporting of specialized children's treatment centre developmental and rehabilitation services across the province precluded the ability to assess the Champlain LHIN's access relative to other LHINs. However, the consultations and a wait list review conducted by the Special Needs Strategy both imply that there is unmet need for developmental and rehabilitation services across the LHIN.

A broad number of funders and providers are involved in the delivery of rehabilitation services, resulting in a complex system for children, youth and families. Further, unmet need for developmental and rehabilitation services vary substantially across the LHIN. Adjusting for differences in need using the clinical segments shows that children and youth living in Western Champlain and Eastern Champlain had far fewer services than those living in the Ottawa sub-regions.

Future Capacity Requirements

To maintain current access, developmental and rehabilitation service expenses delivered through the children's treatment centre will need to increase by $2.0M (13%) from 2014/15 to 2024/25.

To eliminate within LHIN access inequities without reducing current access in any sub-region, developmental and rehabilitation expenses will have to increase by $3.5M today and by $5.9M in 2024/25.

Future capacity will also have to reflect the needs of the LHIN's sub-populations, including:

- 19% of the LHIN's population that includes French as their first language
- 2.8% that self-identify as Indigenous
- 2.8% that are recent immigrants

Recommendations

14. **Given the fragmented planning and delivery of developmental and rehabilitation services currently provided by multiple agencies and ministries, options for an integrated approach must be explored, building upon the Special Needs Strategy.**
15. **Access to developmental and rehabilitation services needs to increase across the LHIN.** Children and youth in Western Champlain and Eastern Champlain should be prioritized for access improvements. All opportunities to improve access to services should be explored, including: enhancing the capacity of providers in these two regions to deliver services; reducing referral wait times; and, increasing telehealth use and better coordinating appointments for children and youth who do have to travel to Ottawa.
16. **Sub-region access inequities to developmental and rehabilitation services need to be addressed.** Increasing access in all sub-regions to the level experienced by children and youth in Central Ottawa would cost roughly $3.5M. Notwithstanding changes to the models of care, substantial new funding will still be required in order to redress the substantial access inequities observed across the LHIN.

Hospital Services

Emergency department (ED) use varies extensively across the Champlain LHIN. There may be opportunities to reduce ED use in some areas by improving access to other primary care services – recognizing that higher use of EDs for the provision of primary care may be an appropriate service model in some circumstances.

Medical and mental health inpatient admissions were generally low across the LHIN relative to the provincial average. Surgical cases, inpatient and day surgery combined, were at the provincial average at the LHIN level, but varied by sub-region.

The LHIN's children and youth have the provincial average rates of surgery. However, they wait longer for referrals and surgeries than the provincial average and fewer children and youth receive surgical care within the target times.

Previous planning work at CHEO-OCTC found that lengths of stay were longer than those of Ontario and Canadian peer hospitals. Lengths of stay were particularly longer than expected among CHEO-OCTC's patients referred at discharge for home care services.

Future Capacity Requirements

Based on expected population growth only, demand for the LHIN's hospital services is expected to increase by roughly 8% over the next 10 years, including:

- 12,000 more emergency department visits
- 550 more inpatient admissions
- 2,800 more inpatient days, or about 9 more beds[40]
- 440 more surgeries

System of care improvements may reduce the future hospital capacity increases shown above. For example, better access to primary care may attenuate expected growth in emergency department visits. The analysis also found the potential to reduce inpatient lengths of stay by increasing access to community care, which could eliminate the need to add bed capacity over time.

The data indicated that the LHIN's children and youth have lower inpatient mental health admission rates than the provincial average. The LHIN's low relative admission rates may be the result of one or more of: lower prevalence rates; better access to community and hospital-based ambulatory care; and, lack of inpatient bed capacity. Since the LHIN is currently developing an inpatient mental health capacity plan that will include child and youth services, the Steering Committee have not included specific inpatient mental health capacity recommendations, although stakeholder input suggested a need for increased capacity.

Recommendations

17. **The organization of the LHIN's child and youth hospital services should be reviewed to optimize program safety, quality, sustainability, and efficiency.** Planning must recognize the fact that the nature of certain types of pediatric hospital services may require their consolidation within a single organization to ensure critical mass, which impacts quality. Hospital-based child and youth services across the LHIN should be centrally planned by those with child and youth expertise, led by CHEO-OCTC, and delivered locally where appropriate or centrally as required to ensure critical mass and expertise.
    - Planning and evaluation of child and youth hospital services should take into account: a) the need for evidence-based standards of care to ensure that children and youth receive the same quality of care wherever it is delivered, and b) the need for siting decisions to result in adequate volumes to establish and maintain expertise amongst all involved providers. This must include inpatient child and youth medical, neonatal, mental health, emergency department and surgical care. Consideration should be given to the use of Integration Orders in this regard.
    - Low risk child and youth surgical programs should be prioritized for review. The LHIN should establish an integrated child and youth surgical working group to make recommendations regarding the need to monitor wait times, establish child and youth surgical and anesthetic standards for the entire LHIN and enhance or consider the re-distribution of low risk level 1 child and youth surgical capacity.

[40] Note that this does not include mental health or neonate beds

- Surgical wait times need to be reduced across the LHIN. Root cause analysis should be made to understand the problem. Opportunities to ensure evidence-based standards, as well as the need to make better use of existing surgical capacity should be prioritized over new investments.
- Evidence-based integrated planning should be conducted regarding the allocation of all levels of neonatal and neonatal intensive care beds in the region. This will help ensure that standardized evidence-based practices are uniformly applied.

18. **Pediatric acute care and LHIN home and community care planning should be integrated in order to optimize length of stay.** Acute inpatient bed capacity may not need to increase over the next ten years if length of stay improvements can be realized. CHEO-OCTC and the LHIN should examine the potential to better coordinate acute care inpatient services with the LHIN's home and community care services in order facilitate earlier discharge and reduce inpatient lengths of stay, which are known to be influenced by availability of appropriate home and community services.

Social Determinants of Health

The Champlain LHIN's 250,000 children and youth live in communities that vary by population density, language, social determinant of health risk, and other factors.

The analysis included an examination of sub-region differences in service use, morbidity, and outcomes by social determinant of health risk.

Several ways to measure social determinants are available, including some used in the LHIN today. Since some of the measures were missing some important dimensions or were not available for the entire LHIN, the Steering Committee used the PSG SDH index (SDHI). The SDHI assigns each Ontario neighbourhood to a single risk level based on 12 SDH risk factors. The SDHI is described in this report's current state section (page 30).

Morbidity and poor outcomes were associated with SDHI, suggesting that children and youth living in high risk neighbourhoods and other at-risk children and youth should be prioritized for access improvements.

Recommendations

19. **The social determinants of health should inform all planning activities. Responses to reduce SDH risk should build on the LHIN's health equity framework, leverage SDH data, and involve the community, community organizations, and all Ministries that deliver or fund child and youth health services.**
20. **The Regional Child and Youth Health Council (see recommendation 24) should introduce and expand the use of measurement tools, including a comprehensive SDH risk measure that covers the entire LHIN and the Early Development Instrument (EDI).** A single comprehensive measure is needed to support planning and to redress access, morbidity, and outcome inequities observed across the LHIN. Current models being evaluated within the LHIN should be considered as potential tools that could be expanded, such as those currently being evaluated by the Centretown CHC/CHEO-OCTC collaborative team.
21. **The newly enhanced relationship between the LHIN and the Public Health Units should be leveraged to incorporate social determinants of health into service delivery models.**

Outcomes and Performance Measurement

There are gaps in the data available for outcomes and performance measurement. More data are needed to measure and improve the LHIN's child and youth health system performance.

Lack of data precluded us from examining several important topics for this study. Important data limitations include:

- No data are available on the family as provider system which is the most important sector of the child and youth health system
- No data exists to directly measure outcome and access variations for special child and youth sub-populations, including Francophones, Indigenous populations, and newcomers.
- No systematic data are available for non-physician primary care services
- The LHIN's hospitals do not centrally report comprehensive ambulatory clinic data that separately counts child and youth visits
- No organized system exists to obtain client specific data for community mental health services
- The generalist and specialist classification system used to describe the LHIN's pediatricians did not support detailed physician service capacity planning

Recommendations

22. **An inventory of the data needed for system measurement and improvement should be made.** The inventory should include the data elements required to support effective planning and evaluation across the continuum of child and youth health services.
23. **The inventory should be used to prioritize current data gaps and assess the need for new data collection initiatives.**

Policy Recommendations

The policy recommendations support the capacity recommendations by establishing the required infrastructure, including planning bodies, data collection approaches and technology supports, to meet the needs of children and youth over the coming years. Each of the policy recommendations underscore the importance of paying particular attention to the needs of populations who have been historically underserved by the health care system, including newcomers, Francophone and Indigenous populations.

Integrated Service Planning

The current state analysis clearly pointed to the fact that there is no unified system of care for children and youth. While high quality care exists in pockets across the LHIN, stakeholders identified the need for new approaches to planning, care provision, reporting and monitoring to improve service delivery; this requires enhanced capacity to plan centrally while delivering services locally.

Recommendations

24. **A new approach to integrated care planning should be developed, working toward fully integrated, cross-sectoral planning, reporting and monitoring**:
    - Providers should work together to establish a cross-sectoral Regional Child and Youth Health Council (referred to as the Council) with reach across the continuum of care, with representation from the funding ministries and aligning to complementary regional and provincial initiatives. The Council should include child, youth and family advisors, providers, administrators, educators and academics. The Council's role will be to:
        - Provide policy direction regarding care for children, youth and their families;
        - Develop planning models;
        - Support standardization of care across the continuum;
        - Drive the adoption of key tools to improve quality, efficacy and efficiency;
        - Provide wait times guidelines;
        - Develop standardized measurement tools around key metrics; and
        - Report regularly on trends, outcomes and desired evidence-based goals.

      While this requires a designated lead, it will be critical for all stakeholders to be involved, engaged, and fully support this Council, as it will be largely ineffective if it does not have a clear role, and assurance that its voice will be heard. It cannot be seen as "just another planning committee". The LHIN could consider providing some funding for the Council's efforts, including compensation for individuals' involvement and engagement.
25. **A thorough child and youth health human resource strategy should be developed.** The strategy should be sponsored and developed by the Regional Child and Youth Health Council. A key underpinning of the strategy will be a regional review to identify provider supply and distribution across the LHIN. The strategy should focus on opportunities to increase capacity through scope of practice changes, improve the matching of provider services to child and family needs, reducing duplication and redundancies where they exist, and identify training requirements to drive appropriate referral pathways, diagnosis and treatment.
26. **Those responsible for health services planning should work collaboratively with special populations such as newcomers, Francophone and Indigenous populations in all aspects of service planning to ensure their needs are met.**

Integrated Service Delivery

In addition to the capacity recommendations described above, stakeholders routinely noted the need for enhanced access to integrated services, particularly in the community. Specific populations, including newcomers and children and youth with mental health issues and behavioural and developmental disorders, are particularly affected by the current fragmentation in service delivery.

Recommendations

27. **Providers should work together to enhance transitions between child and youth age groups and from the child and youth to adult systems.** CHEO-OCTC should be designated as the lead for developing a proactive transition process across the continuum, working with appropriate stakeholders. The region can build on and expand CHEO-OCTC's "On My Way" program, sharing the developed materials, identifying required resources, and identifying connections to those resources. The region can also engage and expand the use of care navigators and adult

providers in these efforts, focusing on communicating the needs of soon-to-transition youth in order to better equip the adult providers to meet youths' shifting needs.

28. **Providers should work together to enhance community-based child and youth capacity, focusing on centralized evidence-based planning with local delivery where appropriate.** This effort should be driven by the Council. Options to explore include: application of lessons learned from Health Links to enhance case management, health education and system navigation and establishing a sub-region based specialist child and youth RN or NP position, if supported by the health human resources review (recommendation on page 83). In order to build competence and confidence in child and youth care, specialists could be affiliated with or supported by CHEO-OCTC, embedded in family health teams, CHCs or community hospitals, and provide specialty education to providers across the sub-region, including on effective in-home support. This program can be gradually expanded by transitioning resources from the existing rapid response nurse program. Another option is to expand the current use of interdisciplinary community health hubs, such as the soon-to-be-opened Vanier Social Pediatrics Hub, to drive interprofessional care and coordination. In all models, family-centered case conferencing should be embedded to better meet the needs of children, youth and families.
29. **The LHIN should work to enhance access to mental health and addictions supports for children and youth with consideration to efforts currently underway through MCYS' *Moving on Mental Health* initiative[41].** The LHIN should build on sub-region planning as it relates to the identification of high risk populations and design client-focused, culturally-appropriate programs around them, in partnership with community and cultural groups where appropriate.
30. **The LHIN should work with MCYS and the Ministry of Education to enhance access to behavioural and developmental supports.** The LHIN should build on sub-region planning and the Special Needs Strategy to identify high risk populations and design client-focused, culturally-appropriate programs around them, in partnership with community and cultural groups where appropriate.
31. **The level of integration between the health system, MCYS and the education system should be improved to address the current fragmentation, resource inefficiency and inadequate care identified.** This includes advocating for reduction in health service policy variation between school boards. The proposed Regional Child and Youth Council should include representation from the education sector and focus on improving the degree of integration among all health care providers. Efforts should be made to build on the Special Needs Strategy, which is working to streamline the delivery of OT, PT and SLP in schools, and develop regional pathways and protocols for the most prevalent concerns.

Information and Technology Enablers

Stakeholders were clear that enhanced access to pertinent information about available services, and increased access to enabling technologies, were required to improve the delivery of care in the region. While technology solutions can be expensive and logistically difficult to implement, stakeholders pointed to a number of existing resources that can be better leveraged without requiring significant investment.

[41] http://www.hnreach.on.ca/service-files/MoMH-Report-EN-Print.pdf

Recommendations

32. **A Champlain LHIN pediatric electronic health strategy should be developed in alignment with Ontario's e-health mandate. This includes working toward a single electronic health record (EHR) where *appropriate* and a mechanism for all providers to be able to access needed health information for services provided within the LHIN and across the continuum of care:**
    - Phase 1: Build on current models such as eCHN or EPICcare link to enable EHR access to primary care providers and community-based pediatricians. For example, EPICcare link is already in place within the Royal Ottawa and CHEO-OCTC, Ottawa Public Health and for managing complex care in Timmins. Licenses could initially be facilitated through local affiliation with hospitals or family health teams.
    - Phase 2: Explore the option of making EHR information and systems available to community-based pediatricians; this could become their EHR. Leverage the Kids' Health Alliance to gain traction, as one of its key goals is to establish EHRs for pediatricians within two years.
33. **The usage of eConsult for pediatrics needs to increase across specialties and across the LHIN, linking to electronic health records to ensure providers have access to the eConsult data.** This will support efforts to improve access to physician care, particularly in the Eastern and Western regions.
    - In the context of the KHA partnership, this could be expanded leveraging existing eReferral functionality at SickKids, to allow for a pediatric eReferral solution as part of the pediatric electronic health strategy.
34. **Expansion and optimization of communication technology (video conferencing) services is required.** Options should be reviewed for the delivery of direct services using secure technologies such as Skype to reduce the reliance on current Ontario Telemedicine Network (OTN) access points, which require families to travel.
35. **A dedicated region-wide resource is needed to centralize and maintain health service information for children, youth, families, caregivers and providers across the LHIN.** This information source will include health and social services, links to parenting organizations such as Parents' Lifeline of Eastern Ontario, and a shared events calendar. It could serve as a single source of information detailing currently available resources and services, how to access them and potentially what wait times are. It will build on existing resources such as 211, Champlain Health Line and Blue Book, and leverage expertise from groups such as family advisory councils. LHIN funding could support 1 FTE to develop and maintain this resource.
36. **A research agenda focused on embedding collaborative solutions within clinical best practices and standardization of information collection is required to drive integration across the health care system.**

Next Steps

While the Steering Committee suggests that all recommendations should be undertaken, a subset of recommendations are particularly critical to the provision of high quality child and youth care over the coming years. The critical recommendations are as follows:

#	Recommendation
3	Support services and resources for families need to increase substantially, both now and over the next 10 years.
10	A distinct child and youth home and community care program should be developed to ensure adequate child and youth expertise and quality of service by providers.
17	The organization of the LHIN's child and youth hospital services should be reviewed to optimize safety, quality, sustainability, and efficiency of child and youth hospital services. Planning must recognize the fact that the nature of certain types of pediatric hospital services may require their consolidation within a single organization to ensure critical mass, which impacts quality
24	A new approach to integrated care planning should be developed, working toward fully integrated, cross-sectoral planning, reporting and monitoring.
25	A thorough child and youth health human resource strategy should be developed.
29	The LHIN should work to enhance access to mental health and addictions supports needs with consideration to efforts currently underway through MCYS's *Moving on Mental Health* initiative.

Further, the Steering Committee identified short-term recommendations that can build awareness of and momentum around the THRIVE recommendations; these can be completed within a year. The Steering Committee recommends that these be prioritized for immediate action. The short-term recommendations are as follows:

#	Recommendations
17	The organization of the LHIN's child and youth hospital services should be reviewed to optimize safety, quality, sustainability, and efficiency of child and youth hospital services. Planning must recognize the fact that the nature of certain types of pediatric hospital services may require their consolidation within a single organization to ensure critical mass, which impacts quality
25	A thorough child and youth health human resource strategy should be developed.
33	The usage of eConsult for pediatrics needs to increase across specialties and across the LHIN, linking to electronic health records to ensure providers have access to the eConsult data.
35	A dedicated region-wide resource is needed to centralize and maintain health service information for children, youth, families, caregivers and providers across the LHIN.

The Steering Committee identified key elements for consideration during implementation planning:

- Complementary regional initiatives need to be leveraged to ensure alignment and to allow for the best use of resources; and
- As the recommendations impact a wide variety of stakeholders, including funders, providers and recipients, effective implementation will require considerable engagement from each of these key groups, and particularly:
  - Children, youth and families should be embedded into planning efforts;
  - Special populations, such as newcomers, Francophones, and Indigenous populations need to be closely consulted;
- Reporting and monitoring will be key to the success of each of these recommendations and THRIVE as a whole.

Appendices

See attachments.

THRIVE

The future of integrated health service planning for children and youth in the Champlain region

Current State Report

March 31, 2017

Contents

Table of Figures

Executive Summary

The Champlain Local Health Integration Network (LHIN) has asked the Children's Hospital of Eastern Ontario (CHEO) and the Ottawa Children's Treatment Centre (OCTC) to facilitate the development of a ten-year regional capacity plan for children and youth in the region providing:

- an analysis of the child and youth population;
- an inventory of regional health services;
- a medium- to long-term projection of services needed; and
- recommended models to optimize integrated care.

This work is being led by a broadly representative steering committee comprised of representatives such as pediatricians, primary care providers, home care providers, family and youth advisors, public health, family physicians, acute care administrators, the Champlain Community Care Access Centre (CCAC), the Ministry of Children and Youth Services (MCYS) and the LHIN.

From late fall 2016 to early summer 2017, the steering committee is working closely with stakeholders to look at what our region could do differently in the future to promote more timely access to integrated services, improve health outcomes, and foster research and education. It recognizes that children and youth are a distinct population requiring a unique solution, and their voices are critical to the understanding of their experiences and to making the decisions that will matter most to them.

The steering committee is committed to developing a child and youth health services capacity plan for the Champlain region spanning the next 10 years—and beyond—as an important stepping stone towards a future of better integrated child and youth health services.

To date, survey and focus group participants have provided detailed input into the current state of the system of health care services for children and youth in the region. Their input was then compared against the extensive quantitative data analyzed for this population.

This report therefore outlines the current state of health services focused on meeting the needs of children and youth in the Champlain LHIN. It includes detailed quantitative and qualitative findings that describe the issues affecting the current delivery of health care in the region, and will serve as the basis for the next phase of the capacity planning project – the identification of the desired future state, and what is required to support that vision.

Ten key themes have emerged from this analysis, which point to a need for enhanced child, youth and family-centered care:

1. Prevention, community and primary care
2. Health equity
3. Access to care
4. Wait times
5. Mental health, behavioural and developmental issues
6. Integration, consistency and coordination of care
7. Transitions of care
8. Parenting skills and support
9. School systems support
10. Funding distribution and sustainability

These themes and a series of preliminary suggestions for addressing them will be refined in the ‘future state’ phase, and the final report and recommendations will be presented to the Champlain LHIN board in early June.

Project THRIVE Background

Regional Capacity Planning

Health systems in most high-income countries aim to provide a comprehensive range of services to the entire population and to ensure that standards of quality, equity and responsiveness are maintained. High performing health systems aspire to the Triple Aim, working towards the objectives of:

- Improving population health;
- Improving the patient experience of care; and
- Ensuring value for health care dollars.

Health system capacity planning is intended to create the conditions for the development of a truly high performing healthcare system, and is central to the pursuit of balancing the quality of health care delivered with the cost of providing that care.

Capacity planning for children and youth is particularly important in the current health care environment in Ontario. The government's plan, "Patients First: Action Plan for Health Care, 2015", is focused almost exclusively on adult care, and yet evidence across the province suggests that there is significant need for strategies to address the health needs of children and youth.

Ontario's healthcare system is also focused on acute care, which is often the least effective and most expensive environment in which to care for children and youth. Further, services tend to be siloed rather than coordinated across the continuum of care, which is particularly problematic for children and youth, whose families bear the responsibility for ensuring they receive the care they need when they need it. An effective system of care for children and youth needs to be well coordinated, and also needs to have seamless ties into the other essential services for this population, including education.

For these reasons, **there is a need for a comprehensive, multi-sector approach to pediatric health system capacity planning**.

Project Purpose

THRIVE will leverage the Champlain LHIN care networks to develop a 10-year plan that anticipates the needs of children and the service capacities of the Champlain region by bringing forward information to help shape future decisions and deliver the best integrated child and youth health services possible.

The Champlain Local Health Integration Network (LHIN) has asked the Children's Hospital of Eastern Ontario (CHEO) and the Ottawa Children's Treatment Centre (OCTC) to facilitate the development of a plan providing:

- an analysis of the child and youth population;
- an inventory of regional health services;
- a medium- to long-term projection of services needed; and
- recommended models to optimize integrated care.

This work is being led by a broadly representative steering committee comprised of representatives such as pediatricians, primary care providers, home care providers, family and youth advisors, public health, family physicians, acute care administrators, the CCAC, the Ministry of Children and Youth Services and the LHIN.

From late fall 2016 to early summer 2017, the plan is to work closely with stakeholders to look at what the region could do differently in the future to promote more timely access to integrated services, improve health outcomes, and foster research and education.

The steering committee recognizes that children and youth are a distinct population requiring a unique solution, and their voices are critical to our understanding of their experiences and to making the decisions that will matter most to them. Together, we will develop a child and youth health services capacity plan for the Champlain region spanning the next 10 years—and beyond—as an important stepping stone towards a future of better integrated child and youth health services.

Project Scope

THRIVE is focused on health care services provided in hospitals, primary and specialty centres, homes and the community, with limited exceptions. The scope, which was endorsed by the Steering Committee, is as follows:

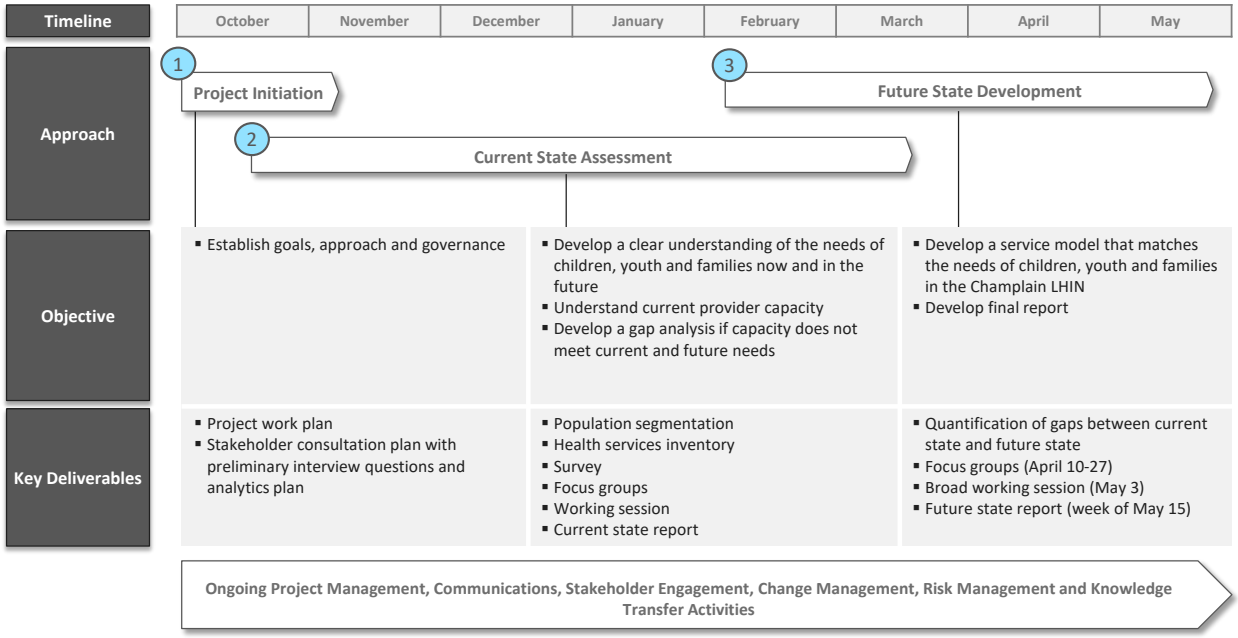
In Scope	Out of Scope
• All services provided by physicians and nurse practitioners, including in offices, clinics, community health centres and family health teams • All children's treatment centre developmental and rehabilitation services • Community health centre services • Mental health and addictions services • Home and community care (formerly provided by the CCAC services) • Hospital ambulatory and inpatient care • Emergency services • Residential and community-based palliative care • Certain aspects of public health care • Indigenous health access centres • Rehabilitation and nursing services provided within schools	• Child protection services • Education system, other than health services provided within the school setting • Prenatal and maternal perinatal care • Justice system • Dental health, unless provided in a tertiary setting • Public health preventative programs

It is important to emphasize that "health" in this report refers to physical, developmental and mental health; the Steering Committee views a focus on the overall wellbeing of children and youth to be crucial to ensuring that their care needs are met now and into the future.

Project Approach

Project THRIVE has been conducted using a three phased approach, as outlined in Table 1. This report focuses on the results of the current state assessment. The future state development will be conducted between April and late May, and the final report and recommendations will be presented to the Champlain LHIN board in early June.

Table 1: Project THRIVE Approach



In order to develop a clear understanding of the current and future needs of children and youth in the region, the current state assessment is based on both quantitative and qualitative data.

Quantitative data analysis focused on using hospital, physician billing, home care, OCTC, and population data to assign every child in the LHIN to a population segment for analysis and reporting.

We then obtained the qualitative perspectives of stakeholders from across the LHIN to identify key issues related to child and youth health services through:

- Surveys: 162 participants from across the continuum of care
- Focus groups: 30 focus groups with 201 participants from across the continuum of care
- Focused working session: 1 session with 27 participants
- Steering Committee meetings: 4 meetings
- Data validation Steering Committee meetings: 2

Population Segmentation

We assigned each of the Champlain LHIN's 254,000 children to a segment for analysis and communication purposes. Our segmentation strategy includes demographic, geographic, social determinants of health, and clinical axes. We use the segments to measure and report regional variations in population morbidity, access, outcomes, and resource needs. In this section, we describe our approach and findings.

The table below shows our segments along with the number of children and youth in each segment and sub-region.

Table 2: Champlain LHIN Paediatric Population

Segment	*Champlain LHIN*	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*
01.Complex Chronic, Life Limiting Diagnosis, Palliative	228	70	34	42	29	53
02.Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,408	3,299	1,637	2,101	1,412	2,959
03.Complex Chronic, without Life Limiting Diagnosis	18,189	4,718	2,939	3,425	2,448	4,659
04.Non Complex Static Chronic, Mental and Developmental, with Hospitalization	264	76	46	50	32	60
05.Non Complex Static Chronic, Mental and Developmental, w/o Hospitalization	19,963	5,169	3,058	3,819	2,327	5,590
06.Non Complex Static Chronic, with Major Acute Hospitalization	168	42	35	29	26	36
07.Non Complex Static Chronic, with Non Major Acute Hospitalization	523	150	120	101	59	93
08.Non Complex Static Chronic, without Acute Hospitalization	35,456	9,419	5,525	6,611	4,430	9,471
09.Major Acute with Acute Hospitalization, Life Limiting Diagnosis	79	29	20	10	11	9
10.Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	4	6	1		5
11.Moderate Acute with Hospitalization	564	131	149	77	61	146
12.Minor Acute with Hospitalization	15	2	5	3	4	1
13.Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,948	1,406	694	810	623	1,415
14.Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	34	38	22	33	29
15.Healthy, Moderate Acute without Hospitalization	66,419	17,095	10,437	12,004	7,554	19,329
16.Healthy, Minor or No Conditions	82,222	27,123	13,273	13,579	8,510	19,737
17.Newborns & Neonates, Major Acute	272	105	31	39	41	56
18.Newborns & Neonates, Moderate Acute	945	332	142	123	121	227
19.Newborns & Neonates, Minor or No Acute	11,846	3,809	1,845	1,963	1,469	2,760
Total	253,681	73,013	40,034	44,809	29,190	66,635

Diagnosis and Health Status

The segments listed below were built by organizing data collected by physicians, hospitals, the Champlain CCAC, and the Ottawa Children's Treatment Centre. An important part of the segmentation strategy was to classify the diagnostic data, which we did using the structure of the ICD 9 and 10 classification systems, the research literature, and expert judgment. In the table below, we show sample diagnoses for each segment.

Table 3: Sample Diagnoses by Segment

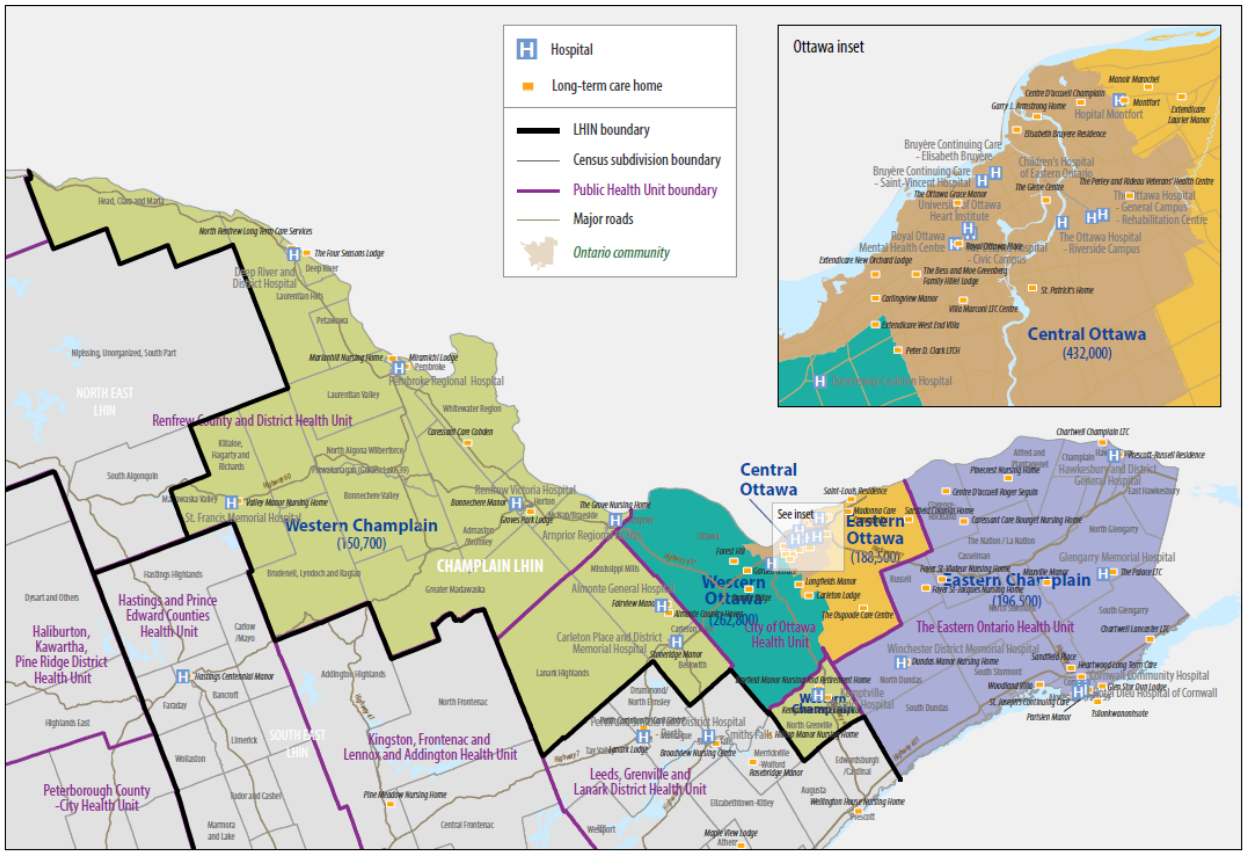
Segment	*Example Diagnoses Included in Segment*	*Key Characteristics*		
Complex Chronic, Life Limiting	• Cardiac Congenital Disorders • Lymphoma & Leukemia • Cystic Fibrosis • Chemotherapy & Radiotherapy	Chronic	Progressive Chronic	Life Limiting
Complex Chronic, Not Life Limiting	• Eating Disorders • Paralysis • Chronic Obstructive Pulmonary Disease • Diabetes : Without Complications or With Minor Complications	Chronic	Progressive Chronic	Not Life Limiting
Non Complex Static Chronic	• Asthma • Tonsillitis & Pharyngitis: Chronic • Back Problems • Obesity	Chronic	Static Chronic	Not Life Limiting
Mental and Developmental	• Infantile Cerebral Palsy	Chronic	Progressive Chronic	Not Life Limiting
	• Psychoses with origin specific to childhood • Specific delays in development • Chromosomal anomalies	Chronic	Static Chronic	Not Life Limiting
Major Acute, Life Limiting	• Intracranial Injury • Respiratory Failure • Chest Trauma • Septicemia & Severe Sepsis	Acute	Major Acute	Life Limiting
Major Acute, Not Life Limiting	• Nutritional & Miscellaneous Metabolic Disorders • Post Procedural : Infection Inflammation • Intestinal Obstruction: Postoperative • Hernia : Diaphragmatic Without Gangrene	Acute	Major Acute	Not Life Limiting
Moderate Acute	• Bacterial Infection • Cholecystitis & Gallstones • Ruptured Appendix • Complications of Medical & Surgical Care	Acute	Moderate Acute	Not Life Limiting
Minor Acute	• Contusion/Abrasion • Allergic Reactions : Skin • Fracture Sprain Strain & Dislocation: Except Femur Hip Pelvis & Thigh • Refractive Disorders	Acute	Minor Acute	Not Life Limiting

Champlain LHIN Sub-Region Geography

Child and youth population morbidity varies both across Ontario and within the Champlain LHIN. Aiming to better meet individual community needs and encourage better care coordination, the provincial government mandated planning at the sub-region level as part of its *Patients First Act 2016*. Shown in

Table 4, the Champlain LHIN has five sub-regions: Western Champlain, Western Ottawa, Central Ottawa, Eastern Ottawa, and Eastern Champlain.

Table 4: Champlain LHIN Sub-Regions



Consistent with the *Patients First Act* mandate, we report our analysis by sub-region. **Since the sub-regions show wide variations in morbidity and access, our findings imply that sub-region geography should be considered throughout the capacity planning exercise.**

The Social Determinants of Health

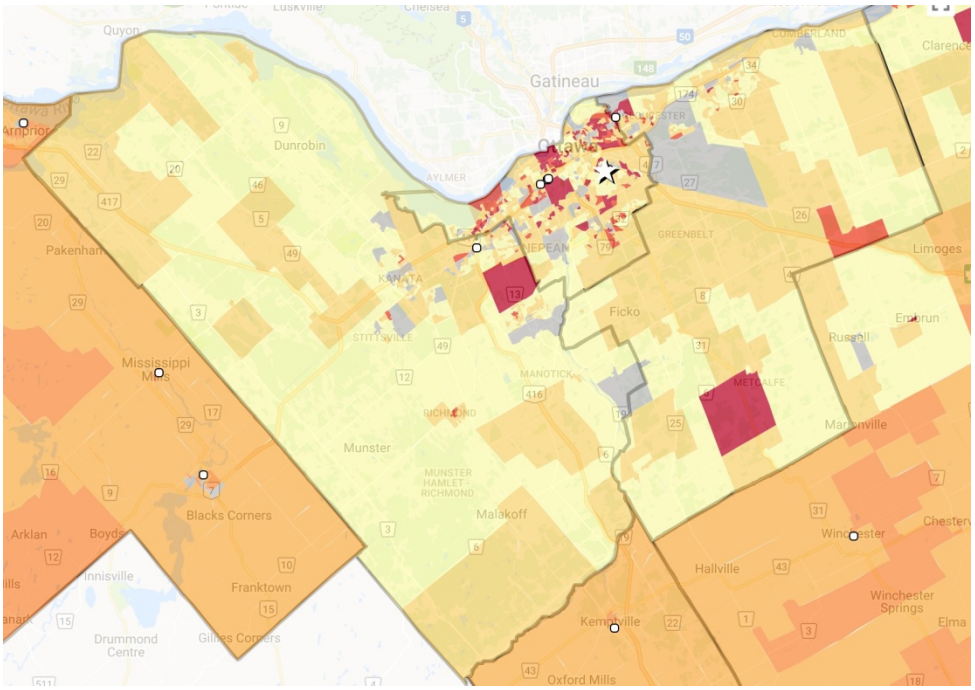
Population health is affected by many factors beyond the scope, availability and accessibility of health care services. Among these factors, the social determinants of health (SDH) include a population's social needs, which significantly affect population health and life expectancy. While children are typically healthy relative to adults, they are vulnerable to developmental health disturbances that can affect their lifelong health and well-being. Social circumstances in childhood can affect not only child health and well being but also future health potential.[2]

To incorporate SDH risk into our analysis, we developed a neighbourhood level morbidity risk index incorporating:

1. Pampalon's Material and Social Deprivation Index[1]
    a. Material deprivation: education, income, employment
    b. Social Deprivation: marital status, family structure
2. Income
3. Consumer Price Index
4. The Ontario Marginalization Index components
5. Statistics Canada's rural, town, city classifications

SDH risk varies within each sub-region. In the map below, we show SDH risk variation in the three Ottawa sub-regions - darker regions have higher SDH risk.

Table 5: Social Determinants of Health Risk in the Ottawa Region



In the next section, **we report some substantial population morbidity and outcome differences across the SDH risk groups. These findings, along with the vast research, literature, and previous work of the Champlain LHIN and its partners, underscore that the social determinants of health should be taken into consideration in this capacity planning exercise.**

[1] Pampalon et al. 2012. Can J Public Health; 103(suppl. 2); 2 Tu JV et al. CMAJ 2017 April 3;189:E494-501. doi: 10.1503/cmaj.160823

Current State Assessment

Delivering high quality health services to children and youth is complex. As discussed previously, their needs differ significantly from the adult population. The need to develop more effective preventative and primary care models of care to reduce the emphasis on expensive acute care models is widely recognized, and is particularly relevant for children and youth.

What Is Working Well

Despite these challenges, there are several examples of where current care delivery is working well for children, youth and their families. Some examples include:

- There is **low use of acute inpatient care across the LHIN**, suggesting effective triage procedures or effective community-based services
- There is **low use of emergency departments** in the Ottawa region
- **CHEO provides high quality acute and specialty care**
- There has been a **recent improvement in access to specialized paediatric services** through the eConsult program at CHEO
- **In rural areas that have less access to pediatric services, walk-in clinics provide some needed supports** (e.g. counselling services)
- The use of patient-focused approaches such as the **Choice and Partnership Approach (CAPA) is effective and should be expanded**
- **A few specific programs, such as the Complex Care Program at CHEO, help parents and children navigate appropriately through various care pathways**
- **The areas that are leveraging Telehealth report enhanced provider communication and access** to specialist consultations
- **Private providers are reported to have effective and accessible services** for those who can pay
- **Some supports enhance consistency of care** in the region, such as CCAC-funded rapid response nurses who work with children, youth and families in the hospital and in the home
- **Families can access additional funding** for needed care through MCYS, programs funded through MCYS, and MCSS, though the process is arduous and requires families to know how to navigate the system.

What Is Not Working Well

The current state findings also point to what is not working well in the region, and **they suggest the need for a more coordinated approach to care**. Examples include:

- **Funding is siloed and makes it difficult for providers to deliver holistic supports** to children, youth and families and for families to access the services they need
- **There is no 'system' of care for children and youth in the region, and there are few clear evidence-based pathways of care**
- The LHIN lacks a standardized pediatric electronic health records system
- Children living in **high social determinants of health risk neighbourhoods have worse outcomes**

- **Access to services vary across the region**, such as the relative lack of CTC outside of the Ottawa region, yet there are significant reported duplications of some services
- **Access is challenging for many** due to clinic hours, distance, language and cultural barriers, financial constraints, and wait times
- **Mental health, developmental and behavioural diagnosis volumes are increasing**; there are significant concerns about supports for those with addictions, dual diagnoses and concurrent disorders
- **Transitions of care, both within the pediatric system and into adult care, are not well coordinated**

Further evidence of what is working well and what is not working well in the region is included in the Key Themes section.

Population Demographics

Table 6 shows the current number of children and youth in each sub-region of the LHIN. Of the 253,681 children and youth in the Champlain LHIN, 58 percent live in Central, Eastern or Western Ottawa, while the remaining 42 percent are located in Eastern Champlain and Western Champlain. Of the Ottawa population, the majority live in central Ottawa.

Table 6: Current Champlain LHIN Paediatric Population

Paediatric Segment	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*	*Champlain LHIN*
Children & Youth	68,851	38,016	42,591	27,559	63,601	240,618
Newborns & Neonates	4,260	2,018	2,111	1,631	3,043	13,063
Total	73,013	66,635	44,809	40,034	29,190	253,681
Percentage of Total	29%	26%	18%	16%	12%	100%

The Champlain LHIN has the 4th fastest expected growth of all LHINs at 21 percent.

Table 7: Demographic Forecast across the Province

LHIN	*2014/15*	*2019/20*	*2024/25*	*2034/35*	*20-year increase*
Central	377,438	395,446	424,800	482,392	1.28
Mississauga Halton	259,935	270,097	288,452	333,456	1.28
Central West	215,463	221,264	235,101	266,010	1.23
Champlain	253,681	260,880	277,557	306,090	1.21
Central East	316,336	322,486	340,176	374,024	1.18
Toronto Central	198,813	206,037	217,663	234,911	1.18
North Simcoe Muskoka	90,062	90,043	94,210	103,206	1.15
Waterloo Wellington	163,360	166,024	172,556	184,474	1.13
Hamilton Niagara Haldimand Brant	274,822	275,372	284,529	303,371	1.10
South West	192,991	193,059	197,949	202,027	1.05
South East	86,142	84,529	86,292	87,672	1.02
North West	48,726	47,241	47,042	45,238	0.93
North East	102,322	98,936	98,451	94,283	0.92
Erie St. Clair	128,469	120,375	116,078	111,915	0.87
Grand Total	**2,708,560**	**2,751,790**	**2,880,856**	**3,129,068**	**1.16**

This growth will be largely focused in the Ottawa region, where the growth rate is expected to equal that of the fastest growing LHINs.

Table 8: Demographic Forecast by Sub-Region

Champlain LHIN: Current	% 20 Year Growth					
	Champlain LHIN	Central Ottawa	Eastern Champlain	Eastern Ottawa	Western Champlain	Western Ottawa
253,681	21%	28%	2%	28%	-0.2%	28%

Health Services Inventory

As part of the project, an inventory of the Champlain LHIN's pediatric health services and providers was compiled. The inventory identifies and classifies the majority of publicly funded pediatric services and resources available in hospital, home care, and community settings in the Champlain LHIN.

The inventory can be used to assess and understand variations in service supply across the LHIN's sub-regions. Moreover, the inventory can help planners and decision makers to:

1. Understand the variation in service availability and service mix by region
2. Combine service supply with need to identify service gaps
3. Match assets to population segments to support population based analysis
4. Map services from different sectors in each geographic area.

Health Resource Use

Health service use varies substantially across the LHIN. In the table below, we show ratios of actual and expected service use, other than children's treatment centres (CTCs). The expected is the provincial average for all services except CTC where it is the LHIN average. The column on the right illustrates the degree to which service utilization in the LHIN differs from the provincial average. For example, Champlain's children and youth have five percent more emergency department (ED) visits than expected at the provincial average, yet they have 21 percent fewer inpatient admissions and 16 percent fewer home care services.

The variation within the Champlain LHIN is striking for some services. For example, the child and youth population in Eastern Ottawa had 30 percent fewer ED visits than expected while the Western Champlain population had 2.37 times the expected visits. Central Ottawa's children and youth had 22 percent more CTC services than they would have had at the Champlain LHIN average while Western Champlain's had only 51 percent of the expected CTC services.

Table 9: Actual to Expected Health Resource Use by Sub-Region

	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	***Champlain LHIN***
Emergency department visits	0.80	0.77	0.70	1.41	2.37	**1.05**
Low acuity ED visits	0.84	0.73	0.75	1.54	3.15	**1.17**
Acute admissions	0.82	0.71	0.81	0.94	0.71	**0.79**
CCAC Services	0.82	0.88	0.82	0.87	0.77	**0.84**
Children's Treatment Centre Services*	1.22	0.99	1.17	0.76	0.51	

*relative to the Champlain LHIN average

Population Morbidity

We used the results of our segmentation exercise to measure sub-regional differences in child and youth population morbidity. In the table below, we compare the distribution of the child and youth population by segment in each of the sub-regions. We collapsed the segments into the four categories shown in the table. For example, 62 percent of the LHIN's children (excluding newborns and neonates) are in the healthiest segments while 12.6 percent had a complex chronic condition.

Table 10: Sub-Regional Population by Segment

Segment Category	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Complex Chronic	11.9%	12.2%	13.2%	12.3%	14.3%	12.6%
Non Complex Static Chronic	21.6%	23.9%	24.8%	23.1%	24.8%	23.4%
Major Acute / Moderate Acute	2.3%	2.5%	2.2%	2.4%	2.6%	2.4%
Healthy / Minor Acute w Hosp	64%	61%	60%	62%	58%	62%

In Table 12, we show each sub-region's distribution relative to the LHIN average distribution. For example, **relative to the LHIN average, Western Champlain has 1.14 times the number of children with complex chronic conditions and 6 percent fewer children in the healthiest segments. This finding is worthy of further consideration given the previous findings of significantly higher than expected rates of ED utilization in the Western Champlain sub-region, and the finding that the utilization of CTC services was only 51% compared to the expected rate.**

Each row is colour coded to highlight sub-LHIN morbidity variation. Blue implies the desired end of the distribution, such as having the highest proportion in the healthiest segments or the lowest proportion in complex chronic segment. The colour coding helps reveal four important findings:

1. **Child and youth population morbidity varies substantially across the Champlain LHIN**
2. **Western Champlain has the LHIN's highest child and youth population morbidity**
3. **Central Ottawa has the LHIN's lowest child and youth population morbidity**
4. **Child and youth population morbidity varies in the Ottawa region**

Table 11: Sub-Regional Population by Segment and SDH Risk Group

	Ratio of sub-region to LHIN average distribution

Segment	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*
Complex Chronic	0.95	0.97	1.05	0.97	1.14
Non Complex Static Chronic	0.92	1.02	1.06	0.99	1.06
Major Acute / Moderate Acute	0.97	1.05	0.90	1.00	1.10
Healthy / Minor Acute w Hosp	1.04	0.99	0.97	1.01	0.94

These findings imply the potential to improve child and youth population health by focusing on the highest morbidity sub-regions.

We also examined population morbidity variations across our SHD risk groups and show the results below. **Children living in high SDH risk towns have higher morbidity than children living in other communities.** Shown in the table below, **high risk towns have nine percent more children with complex chronic diseases than the LHIN average, and five percent fewer children in the healthiest segments. Relative to those in Champlain's low risk city neighbourhoods, children in high risk towns are 17 percent more likely to have a complex chronic disease**.

Table 12: Distribution of Children and Youth by SDH Risk Group

Distribution of the Child and Youth Population

Segment	*Low Risk, City*	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aborginal*	*LHIN*
Complex Chronic	9,000	10,168	2,461	5,354	3,193	58	30,234
Non Complex Static Chronic	17,617	18,946	4,070	9,695	5,793	127	56,248
Major Acute / Moderate Acute	1,634	2,012	476	990	619	22	5,753
Healthy / Minor Acute w Hosp	48,994	47,576	12,090	26,145	13,706	398	148,909

Ratio of SDH risk group to LHIN average distribution

Segment	*Low Risk, City*	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aborginal*	*LHIN*
Complex Chronic	0.93	1.02	1.02	1.01	1.09	10%	12.60%
Non Complex Static Chronic	0.97	1.03	0.91	0.98	1.06	21%	23.40%
Major / Moderate Acute	0.88	1.08	1.04	0.96	1.13	4%	2.40%
Healthy / Minor Acute w Hosp	1.02	0.98	1.02	1.00	0.95	66%	62%

The results highlighted in this section emphasize that morbidity varies substantially across the LHIN. We will use these findings to tailor the future state capacity plan to the specific health services and resources required by the LHIN's sub-populations.

Key Themes

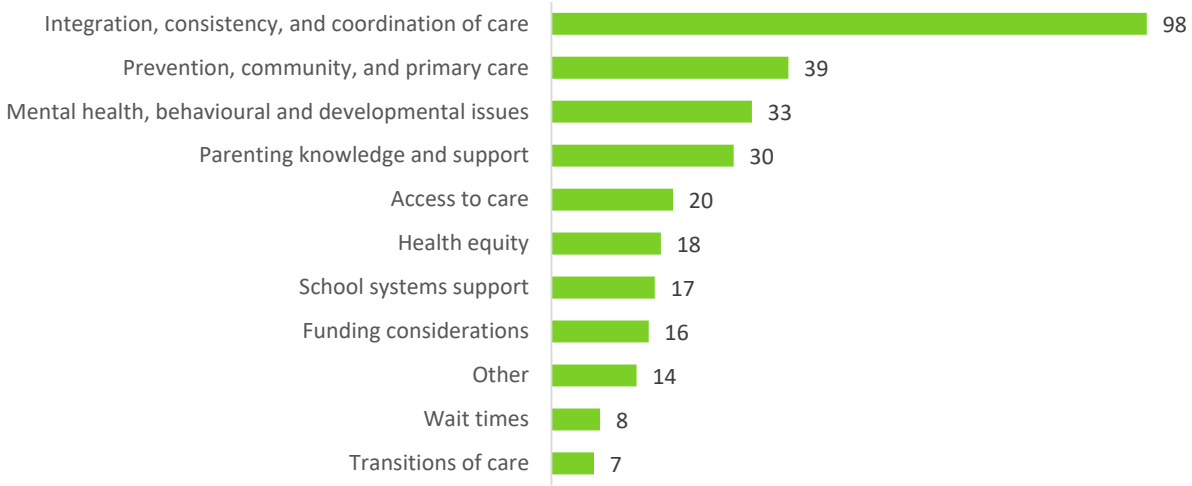
Survey and focus group participants provided detailed input into the current system of care for children and youth in the region. This input was then compared against the quantitative data in order to paint a full picture of the current state of care.

Ten key themes emerged from this analysis, which point to a need for enhanced child, youth and family-centered care:

1. There is very little **integration, consistency and coordination** across providers and sectors, leading to significant gaps in care
2. More access to **prevention, community and primary care** is needed to reduce downstream demand
3. The frequency and complexity of diagnoses of **mental health, addictions, behavioural and developmental issues** is increasing
4. More **parental education and supports** are needed for all families in the region
5. **Access to care** is highly variable across the region
6. The region requires targeted strategies for at-risk populations to improve **health equity**
7. More coordinated health services are needed in the **school system**
8. Lack of coordination and appropriate distribution of **funding** has led to gaps in care, especially in the eastern and western parts of the region
9. **Wait times** are long throughout the region
10. **Transitions of care** between pediatric age groups and into the adult system are very challenging

At the end of each focus group, participants were asked to provide written input by listing the top three things they would do to improve the care for children and youth in the Champlain region. Over 300 responses were collected. Each response was mapped to an identified theme, and the themes were prioritized according to the frequency with which they were raised. While each theme is important in considering future state approaches to care provision, this prioritization exercise can help focus resources on the areas seen as being most critical.

Table 13: Prioritized Key Themes



The "Other" category consists of responses that fall outside of the scope of this capacity planning initiative, such as dental care.

Each theme is addressed in detail in the following sections. Where available, preliminary suggestions have been described. During the future state development, these suggestions will be fully developed and refined.

1. Integration, Consistency, and Coordination of Care

Data sources: survey, focus groups, quantitative data

Integration, consistency and coordination of care was the most-mentioned theme for focus group participants.

Provider Communication

Stakeholders report that **communication amongst providers is lacking, leading to inconsistencies in care**.

Roles and responsibilities need to be clarified to ensure each provider is working to their full scope of practice and delivering maximum impact. For example, focus group participants noted that family health teams sometimes provide consults to family physicians, when they might be able to deliver increased value by working with children and youth.

Further, **practices and knowledge need to be standardized across providers.** For example, adoption has improved but is not universal for: coordinated care plans for people with complex needs; case conferencing for children and youth with complex needs (Stormont, Dundas, and Glengarry use an effective approach); standardized screening and assessments; and use of the eConsult program to improve access to pediatric medical specialists. CCAC services are difficult to standardize, and further integration is needed between home care and other services such as critical care and social work.

While there are new programs being created to meet the needs of children, youth and their families, these programs remain unknown, underutilized or inadequate to meet current level of demand. Stakeholders suggest that **enhanced communication and a central source of information about available resources would help address these concerns.**

Cross-Sectoral Coordination

Cross-sectoral coordination and integration is very limited, though relationships between the health and education sectors are improving. This is a critical area for improvement with the potential to dramatically improve access to needed supports. For more information, please see Section 7, School System and Supports.

Integrated Care Pathways

The use of integrated care pathways is limited, impacting consistency and coordination of care. Coordination and consistency of care is particularly challenging in Eastern and Western Champlain where there is less access to services.

Stakeholders suggested the need for more system navigators to help families access care while more care pathways are developed. There are some supports in place aimed at enhancing consistency of care, such as rapid response nurses who work with families in the hospital and in the home and system navigators in CHEO's Complex Care program, but these are not accessible to all families across the region.

Impact on Health System Use

Despite these challenges, hospital inpatient admissions and days across the region are generally low relative to the provincial average in all segments and sub-regions, suggesting effective hospital triage and/or some effective community-based services, though it is important to note that stakeholders pointed to the need for more community-based services throughout the LHIN.

Table 14: Actual and Expected Inpatient Acute Care Admissions by Sub-Region

Pediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	1,811	1.14	374	0.90	186	0.71	378	1.18	266	1.22	607	1.60
Non Complex Static Chronic, with Major Acute Hospitalization	550	0.91	133	1.06	138	1.15	75	0.86	107	1.26	97	0.53
Non Complex Static Chronic, with Non Major Acute Hospitalization	1,259	0.84	401	0.95	237	0.75	263	0.82	137	0.73	221	0.87
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	264	0.94	111	1.07	48	0.79	42	0.90	27	1.06	36	0.81
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	58	0.82	21	0.80	22	0.87	1	0.12	0	0	14	1.29
Moderate Acute with Hospitalization	1,341	0.80	317	0.82	366	0.72	181	0.81	120	0.73	357	0.92
Minor Acute with Hospitalization	29	0.71	4	0.76	11	1.01	7	0.56	6	0.56	1	0.77

The findings are summarized below:

Integration, Consistency, and Coordination of Care Findings	**Preliminary Suggestions**
Communication amongst providers is lacking, leading to inconsistencies in care	Standardize provider practices and adoption of key tools
Integration between health and education systems is very limited, though relationships are improving	Involve families in cross-sectorial integration discussions
The use of integrated care pathways is limited, impacting consistency and coordination of care	Develop clear integrated care pathways Effectively leverage health human resources
While variation exists in some sub-regions, hospital inpatient admissions across the region are generally low relative to the provincial average, indicating some effective hospital triage or community based services	-

2. Prevention, Community and Primary Care

Data sources: survey, focus groups, quantitative data

Need for Services

More access to prevention, community and primary care is needed to reduce downstream demand and address the needs of children, youth and families. Stakeholders specifically indicated that **early intervention, including coordination and wrap-around care[2], needs to be expanded** across the region.

School system support is also critical; community pediatricians strongly recommended that all children in grade 3 receive psychoeducational assessments to help address needs early. For more information, please see the School Support Systems key theme.

There are some examples of effective prevention services in the region. For example, CHEO has programs that work to strengthen the relationship with communities in Nunavut given the number of children and youth who receive care at the hospital, and the Ottawa Inuit Children's Centre (OICC) provides programming for early childhood services.

Home Care Services

Stakeholders reported that current home care service levels in the region are inadequate to meet needs of children, youth and families. The Champlain LHIN has the third least CCAC expenses per capita of all LHINs, at 11 percent below the provincial average. The LHIN's under age 18 population received 19 percent fewer CCAC services than expected as compared to the provincial average, while the over 18 population received 10 percent fewer CCAC services.

Table 15: Actual and Expected Home Care Expenses by LHIN and Age Group

	Actual Over Expected Home Care Services		
LHIN	*<18*	*18+*	*All Population*
Erie St. Clair	1.24	1.04	1.06
South West	1.30	0.96	0.99
Waterloo Wellington	0.95	1.02	1.01
Hamilton Niagara Haldimand Brant	1.23	1.09	1.11
Central West	0.79	0.87	0.85
Mississauga Halton	0.63	0.87	0.84
Toronto Central	0.99	1.26	1.23
Central	1.19	1.01	1.03
Central East	1.01	0.90	0.91
South East	0.94	1.06	1.05
Champlain	0.81	0.90	0.89
North Simcoe Muskoka	0.75	1.01	0.98

Sources: HCRS 2014/15, Statistics Canada 2011 Census, MOF Population

Expected is based on the Ontario average per capita usage (excluding the northern LHINs) by SDH and age group

Costs are calculated using 2014/15 provincial unit costs

Excludes: Specialist Physician Office, Rapid Response Nursing Visit, and Case Management

[2] https://www.ncbi.nlm.nih.gov/pubmed/19248921

Further, with the exception of allied health services, the table below (Table 17) shows that all other services (nursing shift non-clinic, nursing visits clinic, nursing visits non-clinic and personal support worker) were lower than expected based on the provincial average.

Table 16: Actual and Expected Home Care Expenses by Service

	Nursing Shift Non-Clinic		*Nursing Visits Clinic*		*Nursing Visits Non-Clinic*		*PSW*		*Allied Health*	
Sub-Region	*Actual*	*Actual/Expected*	*Actual*	*A/E*	*Actual*	*A/E*	*Actual*	*A/E*	*Actual*	*A/E*
Central Ottawa	$998,949	0.52	$55,577	0.16	$98,993	0.38	$747,884	0.63	$2,293,434	1.38
Eastern Champlain	$738,285	0.89	$60,904	0.28	$84,584	0.64	$497,162	1.13	$1,126,953	0.86
Eastern Ottawa	$499,398	0.44	$52,278	0.29	$100,860	0.70	$273,707	0.39	$1,363,775	1.45
Western Champlain	$521,051	0.87	$39,126	0.25	$46,161	0.48	$152,905	0.48	$853,794	0.89
Western Ottawa	$821,430	0.50	$96,259	0.37	$65,284	0.33	$517,936	0.50	$2,167,761	1.51
Total	$3,615,456	0.59	$310,979	0.27	$405,754	0.48	$2,190,057	0.59	$7,868,502	1.23

As Table 18 demonstrates, **access to CCAC services also varies by segment and sub-region. Western Champlain has the least CCAC service use relative to the other sub-regions and received 23 percent less service than expected based on the provincial average. While allied health service expenses in the LHIN are 23 percent above the provincial average, expenditure in Eastern Champlain is 14 percent below the provincial average and expenditure in Western Champlain is eleven percent below the provincial average. This finding is relevant in light of the previous findings with respect to the high rate of morbidity in the Western Champlain LHIN, and would suggest that home care services need to be enhanced.**

Table 17: Actual and Expected Home Care Expenses by Sub-Region

Champlain Sub-Region	*Actual*	*Expected*	*Ratio*
Central Ottawa	$4,500,000	$5,700,000	0.79
Eastern Champlain	$2,710,000	$3,150,000	0.86
Eastern Ottawa	$2,560,000	$3,300,000	0.78
Western Champlain	$1,740,000	$2,290,000	0.76
Western Ottawa	$4,120,000	$4,890,000	0.84
Total	$15,640,000	$19,330,000	0.81

Impact on Health System Use

Information sharing between community providers is significantly lacking. Stakeholders report that this lack of coordination impacts the ability of community providers to improve access, reduce duplications, and make good use of resources.

While hospital admission rates are below the provincial average for all segments in all sub-regions and SDH groups, stakeholders report that lack of access to prevention and community-based services leads to increased acuity. The table below (Table 19) demonstrates that ED visits ranged between 16 percent fewer visits than expected among children with complex chronic conditions with life limiting diagnoses receiving palliative care and 10 percent more visits among healthy children with minor or no conditions as compared to the provincial average. What is perhaps of even greater relevance is that the reliance on the ED for all segments is extremely high in Western and Eastern Champlain, which may reflect an absence of available other health care services resulting in an inappropriate over reliance on smaller EDs with limited resources.

Table 18: Actual to Expected ED Visits

Pediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	159	0.84	56	1.01	19	0.63	18	0.54	41	1.87	25	0.51
Complex Chronic, Life Limiting Diagnosis, Not Palliative	13,764	1.01	3,577	0.89	2,484	1.16	1,960	0.82	2,914	1.86	2,829	0.81
Complex Chronic, without Life Limiting Diagnosis	17,433	1.03	3,690	0.76	3,940	1.45	2,132	0.71	4,687	2.38	2,984	0.68
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	618	0.98	172	0.95	115	1.12	92	0.81	120	1.62	119	0.74
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	8,486	1.06	1,820	0.79	1,808	1.41	1,025	0.72	2,122	2.28	1,711	0.82
Non Complex Static Chronic, with Major Acute Hospitalization	432	0.94	100	0.72	112	1.58	60	0.77	94	1.81	66	0.56
Non Complex Static Chronic, with Non Major Acute Hospitalization	985	0.93	243	0.78	218	1.30	147	0.79	180	1.48	197	0.71
Non Complex Static Chronic, without Acute Hospitalization	20,898	1.06	4,407	0.77	4,581	1.48	2,328	0.68	5,843	2.59	3,739	0.73
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	176	0.88	51	0.84	51	1.65	15	0.44	35	1.54	24	0.47
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	30	0.86	5	0.51	12	2.15	1	0.16		0.00	12	1.32
Moderate Acute with Hospitalization	1,072	0.95	209	0.63	326	1.82	123	0.62	155	1.19	259	0.88
Minor Acute with Hospitalization	18	0.84	3	0.49	4	1.19	6	1.59	4	1.63	1	0.18
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,981	1.06	1,276	0.90	928	1.28	560	0.70	1,160	2.18	1,057	0.88
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	175	1.03	25	0.50	41	1.52	13	0.44	66	3.37	30	0.68
Healthy, Moderate Acute without Hospitalization	30,287	1.06	6,500	0.78	6,521	1.45	3,270	0.65	7,946	2.42	6,050	0.81
Healthy, Minor or No Conditions without Hospitalization	11,748	1.10	2,508	0.80	2,426	1.44	1,218	0.65	3,521	2.87	2,075	0.74
Total	**111,262**	**1.05**	**24,642**	**0.80**	**23,586**	**1.41**	**12,968**	**0.70**	**28,888**	**2.37**	**21,178**	**0.77**

Across the LHIN, **children and youth are presenting in emergency departments with low acuity conditions (17 percent higher rate of visits than the provincial average) that could be addressed by community providers if families have knowledge of and enhanced access to them.** Enhanced access includes the need for more community providers to meet families' needs. This is especially true in Eastern Champlain where the rate of ED visits for low acuity conditions is 54 percent above the provincial average and in Western Champlain where the rate is 215 percent above the provincial average (Table 20). The extent of this variation is significant, and must be addressed in any future state work.

Table 19: Actual and Expected Low Acuity ED Visits

Pediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Total	**54,012**	**1.17**	**11,261**	**0.84**	**11,232**	**1.54**	**6,081**	**0.75**	**16,685**	**3.15**	**8,753**	**0.73**

Average and high risk towns have the highest rates of ED visits for low acuity conditions in the region, at 121 percent and 125 percent above the provincial average, respectively (Table 21).

Table 20: Actual and Expected Low Acuity ED Visits by SDH Risk Group

Pediatric Segment	*Low Risk, City*		*Average Risk, City*		*High Risk, City*		*Average Risk, Town*		*High Risk, Town*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Total	**9,937**	**0.68**	**12,311**	**0.81**	**3,847**	**1.03**	**17,744**	**2.21**	**10,124**	**2.25**

These findings are summarized as follows:

Prevention, Community and Primary Care Findings	Preliminary Suggestions
Upstream services are needed to reduce downstream demands	Focus funding on these services
CCAC services are inadequate to meet current needs of children, youth and families	Expand CCAC services across the region
Information sharing between community providers is significantly lacking	Enable more effective information sharing
Lack of access to appropriate prevention and community-based services is leading to higher than expected rates of low acuity ED visits	Centralize access to information on existing services

3. Mental Health, Behavioural and Developmental Issues

Data sources: survey, focus groups, quantitative data

The theme of mental health, behavioural and developmental issues was raised in every focus group. There is significant concern across the LHIN that the needs of children, youth and their families are not currently being met, even as needs are increasing.

Changing Needs

Demand for mental health, behavioural, and developmental services has increased substantially across the LHIN. From 2009/10 to 2015/16, child and youth emergency department visits for mental health and behavioural problems increased by 49 percent across the LHIN. We also see wide variation in the use of emergency department visits for mental health and behavioural problems. In the exhibit below (Table 22), we show actual and expected emergency department visits by sub-region, where the expected is the provincial average age-standardized visit rate. **There were 48 percent more visits by Western Champlain's children than expected (which is congruent with the findings above with respect to the reliance on the ED in general in the sub region) and 15 percent fewer visits by Eastern Ottawa's children (which may reflect the fact that services are more readily accessible and available to children and youth in this sub region).**

Table 21: Psychiatric Emergency Department Visits 2015/16

Region	*Actual Visits*	*Expected Visits*	*Actual to Expected Ratio*
Central Ottawa	989	1,021	0.97
Eastern Ottawa	502	593	0.85
Western Ottawa	940	833	1.13
Eastern Champlain	712	543	1.31
Western Champlain	578	392	1.48
Champlain LHIN	3,721	3,382	1.10

This data reinforces the clear message from all stakeholders (including providers, consumers and parents) that **frequency and complexity of diagnoses of mental health, addictions, behavioural and developmental issues is increasing, including among infants and pre-school children. Trauma, attachment and anxiety are high priority issues for the region that are partially linked to lack of education and resources for parents. More resources are required to address the needs of children and youth, particularly for high risk groups and specific populations such as newcomers.**

Mental health and addictions are sometimes considered separately in the current system, and stakeholders underscored the need for the two to be integrated to ensure appropriate care for children and youth.

Early Identification and Intervention

There is a lack of early identification and evidence-based early intervention initiatives in the region. Early identification strategies should target families before pregnancy and follow them through pregnancy and childhood. While some assessment and screening is available in the region, access to appropriate follow-up care is not always available, lessening the impact of assessment services. Early intervention should include the creation of targeted strategies to better serve high risk populations and neighbourhoods.

Provider education is also critical to ensure children and youth are assessed, diagnosed and referred as effectively and efficiently as possible.

Impact on Families

Stakeholders overwhelmingly report that the current system is not designed for children and youth with mental health, behavioural and developmental issues. Families find it very difficult to navigate between services and report significant frustration in trying to access available services. Multiple families reported that there are very few supports between diagnosis and treatment, which can be very stressful on the family.

It was widely reported that **children and youth who identify as LGBTQ are profoundly underserved in the current system. Stakeholders noted that demand for these services are increasing but capacity has not kept pace.**

Families need supports focused on their particular needs. For example, families with children and youth who are home schooled require resources and services specific to their environment. Children and youth with multiple conditions need access to services that take a holistic view of their health. Some walk-in clinics are taking a role in bridging the gap in services by offering counselling services six days a week, which has reduced mental health visits to the ED.

More innovative programs need to be designed for mental health and behavioural services, taking into consideration the target population and their preferences. For example, "Jack.org" (https://www.jack.org/) is a powerful program that is effective in reaching out to high school students, and the "KickStart" autism program (https://www.quickstartautism.ca/english/concerned-parents/kickstart-program.html) is very effective at teaching parents how to interact with their child.

These findings are summarized in the following table:

Mental Health, Behavioural and Developmental Issues Findings	Preliminary Suggestions
The frequency and complexity of diagnoses of mental health, addictions, behavioural and developmental issues is increasing, including among infants and pre-school children	Increase access to services
There is a lack of early identification and intervention	Provide training to all pediatric providers to help recognize and refer appropriately
The system is not designed for children and youth with mental health, behavioural and developmental issues	Design and provide programs around target populations

4. Parent Education and Supports

Data sources: survey, focus groups, quantitative

The need for additional resources for parents was raised in almost every focus group. Participants indicated the need for education for all parents, and not simply those with children with particular healthcare needs.

Family-Centered Care

Family and youth advisors strongly recommended that the system shift to a more family-centred approach, involving families in service delivery decisions and design. Parents often feel that they are their child's only advocate, but many report feeling relatively limited in terms of their knowledge of the

system and resources to navigate within it. Further, **parents' voices and opinions related to their child's care are not always heard. Many families expressed frustration about what they see as a significant lack of transparency in the system, where providers do not always share their reasoning with families.**

Required Education and Supports

Families are the most important resource for children with complex needs, often providing a significant proportion of the care their child receives. Family-provided care varies substantially by the child's condition; for example, roughly 94 percent of children with cystic fibrosis receive family-provided care at home, with an average of about 13 hours of family care being provided per week (Table 23).

Table 22: Family-Provided Health Care by Diagnosis

Condition	*% receiving family provided care at home*	*Ave Hours per Week*	*Ave Annual Hours per recipient*	*Average Annual Hours per child*
Cystic fibrosis	93.8	12.9	670.8	629
Cerebral palsy	71.4	14.4	748.8	535
Muscular dystrophy	62.2	13.8	717.6	446
Head injury, concussion, or traumatic brain injury	70.2	11.9	618.8	434
Intellectual disability or mental retardation	63.9	11.2	582.4	372
Epilepsy or seizure disorder	66.2	10.2	530.4	351
Down syndrome	62.8	9.5	494	310
Arthritis or joint problems	66.3	9.1	473.2	314
Diabetes	62.7	9.3	483.6	303
Blood problems	67.7	8.9	462.8	313
Autism	53.2	9.8	509.6	271
Developmental delay	55.0	9.6	499.2	275
Heart problems	57.6	9.1	473.2	273
Behavioural or conduct problems	50.0	7.5	390	195
Depression	48.7	7.0	364	177
Anxiety problems	51.8	6.5	338	175
Migraine or frequent headaches	53.5	6.1	317.2	170
Asthma	62.9	4.7	244.4	154
ADD	45.4	5.5	286	130
Allergies	55.9	4.8	249.6	140

With the exception of children with minor acute conditions who are hospitalized, family-provided care hours are expected to increase by 2034/35 (Table 24). For example, care hours for children and youth with major acute conditions with acute hospitalizations without life limiting diagnoses are expected to grow by 32 percent by 2034/35. Family-provided care hours for children with complex chronic conditions are expected to increase by 19 percent by 2034/35.

Table 23: Expected Growth in Family-Provided Health Care

		Family-Provided Care Hours		*2034/35*	
Segment	*Kids*	*Total*	*per Kid*	*Kids*	*Family-Provided Care Hours*
01.Complex Chronic, Life Limiting Diagnosis, Palliative	82	34,715	423	98	41,218
02.Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,509	2,266,630	197	13,732	2,699,020
03.Complex Chronic, without Life Limiting Diagnosis	18,643	3,147,866	169	22,170	3,750,760
04.Non Complex Static Chronic, Mental and Developmental, with Hospitalization	239	48,300	202	273	55,599
05.Non Complex Static Chronic, Mental and Developmental, without Hospitalization	20,002	3,200,072	160	24,064	3,861,101
06.Non Complex Static Chronic, with Major Acute Hospitalization	166	25,688	155	194	29,692
07.Non Complex Static Chronic, with Non Major Acute Hospitalization	518	53,377	103	611	63,243
08.Non Complex Static Chronic, without Acute Hospitalization	35,323	2,815,560	80	42,597	3,400,259
09.Major Acute with Acute Hospitalization, Life Limiting Diagnosis	78	16,418	210	90	18,793
10.Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	434	27	19	574
11.Moderate Acute with Hospitalization	563	19,780	35	655	22,593
12.Minor Acute with Hospitalization	15	453	30	17	423
13.Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,940	874,538	177	5,914	1,044,069
14.Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	6,214	40	179	6,882
15.Healthy, Moderate Acute without Hospitalization	66,245	1,549,527	23	79,937	1,850,857
16.Healthy, Minor or No Conditions	60,590	838,211	14	73,927	1,010,731
17.Newborns & Neonates, Major Acute	272	45,442	167	324	54,243
18.Newborns & Neonates, Moderate Acute	945	59,378	63	1,121	72,045
19.Newborns & Neonates, Minor or No Acute	11,846	433,068	37	14,043	517,864
Total	232,148	15,435,671	66	279,964	18,499,967

Given how central they are to their child's health, **parents require the education and supports to be able to provide the most effective and efficient care possible. They require broad education, counselling, peer support networks and adequate respite services** are required for families.

Despite this need for services, **several challenges exist in delivering programs directly to families**:

- Due to a **lack of effective information sharing** in the region, families may not be aware of existing services;
- Many services are currently available Monday to Friday during regular business hours, or are only available in larger cities, making it **difficult for some families to attend sessions or access needed services**;

- **Family issues in the region are significant**, including high rates of domestic violence in Western Champlain, and parents may not be able or willing to receive services; and
- Families may be registered for services which only start when their child starts receiving care; **parents require resources and supports while they are waiting**.

The region needs to find ways to provide preventative care and specialized resources based on particular needs while addressing these barriers to access.

Stakeholders agree that prevention and parental education should start before pregnancy wherever possible and continue through childhood in order to reduce downstream impacts. Stakeholders also stressed the need to provide supports and coaching in environments that make the most sense to parents – online, at home, in schools, etc. Further, providing parents with opportunities to give and receive support in a group setting encourages information sharing and reduces stress, which improves the overall health of the family.

Several initiatives already provide parental supports and could be expanded across the region:

- **KickStart** autism program is very effective at teaching parents how to interact with their child
- **Roger Neilsons House** is introducing new initiatives aimed at better supporting parents and families
- **Facebook groups** specific to families are effective in creating needed networks
- **Making Respite Work** is an effective initiative, integrating respite services and making it easy for families to access services with one standardized intake form
- **Go Family** is an effective resource for parents to search for services by location and category of professional, again supporting access to services

The Champlain region has the opportunity to fully leverage the knowledge and experience of parents as they navigate the health system with their child as these services are expanded and new services are developed.

These findings are summarized as follows:

Parenting Skills and Support Findings	Preliminary Suggestions
The system needs to be more family-centered	Involve families in service delivery decisions and design
Parents require more resources to help them better address the needs of their families	Provide a single point of access to information on available resources Increase access to supports Provide preventative and specialized resources

5. Access to Care

Data sources: survey, focus groups, quantitative data

Access to care was the fifth most referenced area for improvement in the provision of care to children and youth.

Changing Needs

Table 6 demonstrates that **Champlain LHIN's pediatric population (0-17) will grow slowly but will be increasingly concentrated in Ottawa. The three Ottawa sub-regions will increase by 30 percent over the next 20 years**.

All patient segments are expected to grow between 13-22 percent; the segment associated with the most complex, expensive care (complex chronic, life limiting diagnosis, palliative) is expected to grow by 19 percent, while the segments of healthy children are expected to grow between 21-22 percent (Table 25). The other key message from this data is that the **greatest growth is predicted for non-hospital based services**. This will be an important factor to consider in the development of the 10 year capacity plan.

Table 24: Demographic Forecasts by Segment

Pediatric Segment	*Champlain LHIN: Current*	*% 20 Year Growth*					
		Champlain LHIN	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*
Complex Chronic, Life Limiting Diagnosis, Palliative	82	19%	27%	5%	29%	-1%	23%
Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,509	19%	27%	0%	27%	-2%	27%
Complex Chronic, without Life Limiting Diagnosis	18,643	19%	27%	2%	26%	-1%	27%
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	239	14%	22%	0%	22%	-7%	20%
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	20,002	20%	27%	4%	27%	-1%	27%
Non Complex Static Chronic, with Major Acute Hospitalization	166	17%	28%	-4%	27%	-0.4%	28%
Non Complex Static Chronic, with Non Major Acute Hospitalization	518	18%	27%	0%	27%	-1%	28%
Non Complex Static Chronic, without Acute Hospitalization	35,323	21%	28%	3%	28%	0.4%	28%
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	78	15%	27%	-3%	29%	-4%	27%
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	17%	27%	2%	27%		26%
Moderate Acute with Hospitalization	563	16%	26%	-0.1%	26%	-1%	26%
Minor Acute with Hospitalization	15	13%	32%	0.2%	32%	-0.5%	32%
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,940	20%	28%	-3%	28%	-1%	28%
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	15%	26%	1%	27%	-1%	27%
Healthy, Moderate Acute without Hospitalization	66,245	21%	28%	2%	28%	-0.1%	28%
Healthy, Minor or No Conditions without Hospitalization	82,123	22%	28%	3%	28%	1%	28%
Newborns & Neonates, Major Acute	272	19%	27%	-7%	27%	-2%	27%
Newborns & Neonates, Moderate Acute	945	19%	27%	-7%	27%	-2%	27%
Newborns & Neonates, Minor or No Acute	11,846	19%	27%	-7%	27%	-2%	27%
Total	**253,681**	**21%**	**28%**	**2%**	**28%**	**-0.2%**	**28%**

Access to Providers

Access to the right care at the right time in the right place varies across the LHIN, with significant variation in service by provider.

Families report that the quality of care they receive at CHEO is very high, but they struggle with services offered outside the hospital. Some providers lack appropriate pediatric training. Children and youth often fall through the cracks because of inflexible mandates. For example, some families report that their children have been deemed ineligible for programs because they have multiple conditions. And while private providers operate in the region, not all families can afford them. Stakeholders suggest that some of these issues could be addressed by better leveraging health human resources across the region, such as introducing family practice nurses into the system.

Certain population groups report particular difficulty in accessing services, including newcomers, indigenous peoples (particularly non-Inuit populations) and Francophone communities.

There is significant duplication of service, leading to too much of one service and too little of another. Stakeholders reported that **enhanced services are specifically required in the following areas**:

- Level 2 specialty neonatal care
- Pediatricians and community care providers in rural areas
- Physiotherapy
- OCTC ambulatory and mobility services
- Pediatric palliative care
- Respite care

Access Across Geographies

Eastern Champlain and Western Champlain generally have less access to care than central Champlain, which impacts health outcomes in these regions. Many providers and consumers feel that specialist care is too centralized within CHEO, resulting in a lack of capability and capacity elsewhere in the LHIN and too much demand on CHEO and its ED.

As discussed in the Population Morbidity section, **Western Champlain has the highest child and youth morbidity in the LHIN**. The area has 14 percent more children in the complex chronic segments than expected at the LHIN average, while Central Ottawa has 5 percent fewer children with complex chronic diseases. Newborns and neonates are also more likely to have major acute problems in Western Champlain than elsewhere in the LHIN.

Table 26 shows that **ED visits per capita are very low in all Ottawa sub-regions, high in Eastern Champlain (41 percent higher than the provincial average), and very high in Western Champlain (137 percent higher than the provincial average); this is in part due to the fact that adequate community supports do not exist or are not known of in the Eastern and Western regions.** For example, Eastern and Western Champlain have roughly 25 and 50 percent less use of CTC services than the Ottawa sub-regions (Table 27), and high SDH risk town neighbourhoods had 31 to 36 percent less CTC services than expected (Table 28).

Table 25: Actual and Expected ED Visits by Sub-Region

Pediatric Segment	Champlain LHIN		Central Ottawa		Eastern Champlain		Eastern Ottawa		Western Champlain		Western Ottawa	
	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected
Total	**111,262**	**1.05**	**24,642**	**0.80**	**23,586**	**1.41**	**12,968**	**0.70**	**28,888**	**2.37**	**21,178**	**0.77**

Table 26: Actual and Expected Children's Treatment Centre Visits by Sub-Region

Central Ottawa		Eastern Champlain		Eastern Ottawa		Western Champlain		Western Ottawa	
Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected
12,765	**1.22**	**4,299**	**0.76**	**7,337**	**1.17**	**2,105**	**0.51**	**9,498**	**0.99**

Table 27: Actual and Expected Children's Treatment Centre Visits by SDH Risk Group

Low Risk, City		Average Risk, City		High Risk, City		Average Risk, Town		High Risk, Town	
Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected
9,458	**0.83**	**15,670**	**1.31**	**4,472**	**1.51**	**3,974**	**0.64**	**2,430**	**0.69**

Availability and affordability of appropriate transportation services is a significant barrier in rural and remote areas of the region. Because of the varied needs of children in the region, a one size fits all approach will not necessarily work. For example, families with a ventilator-dependent child require safe transportation services with trained providers to support their needs. Currently, paramedics are not ventilator-trained and cannot transport these children.

Access to Technology

Technology use, and specifically the use of telehealth, is variable across the region, with communities in Western Champlain reporting to use it more often and more effectively than communities in Central or Eastern Champlain. One of the main reasons that technology has not been adopted more broadly is that the **Ontario Telemedicine Network (OTN), which provides telehealth, does not provide specific pediatric support and is not set up in family physician offices.** Further, families face barriers to using new technologies, and technical support is not always available to them.

Impact on Families

Families and providers often do not always know where to access information regarding available pediatric services. There are examples across the region where some information exists, such as in Prescott-Russell where a document summarizes the services available in French to help Francophones access services. But there is a strong recommendation from stakeholders to create a single source of information identifying all services across the region. Ideally, this would include a shared calendar for all services that providers and families could access online and identify services that are relevant and convenient for them.

These findings are summarized as follows:

Access to Care Findings	Preliminary Suggestions
Champlain LHIN's pediatric population (0-17) will grow slowly but will be increasingly concentrated in Ottawa	-
Access to the appropriate care varies by provider	Fully leverage health professionals across the region, such as family practice nurses
Eastern Champlain and Western Champlain generally have less access to the appropriate level of care at the right time than central Champlain, which impacts health outcomes in these regions	Determine a family-centered approach to service provision for these regions
Technology use, and specifically the use of telehealth is variable across the LHIN	Communicate the need for pediatric-specific OTN supports Provide technology and technical support to key stakeholders in the pediatric system
Families and providers do not always know what services are available in the region	Establish a single source of information regarding available pediatric services

6. Health Equity

Data sources: survey, focus groups, quantitative data

Social Determinants of Health

Almost every focus group raised **the need for targeted strategies to address social determinants of health, including income, language and culture.** The quantitative data clearly shows the profound impact factors like these have on the health of children and youth:

City and town neighbourhoods with high risk social determinants of health use more of some services, but have poorer health outcomes in some areas. These findings imply the **potential to improve child and youth population healthy by focusing on the highest morbidity sub-regions.**

We also examined population morbidity variations across our SDH risk groups and show the results below. **Children living with high SDH risk towns have higher morbidity than children living in other communities.** Shown in table 29, high risk towns have nine percent more children with complex chronic diseases than the LHIN average, and five percent fewer children in the healthiest segments. Relative to those in Champlain's low risk city neighbourhoods, children in high risk towns are 17 percent more likely to have complex chronic conditions.

As Table 13 demonstrates, high SDH risk neighbourhoods in towns have the highest morbidity; 58.8 percent of children are in the healthy segments, compared to the 62 percent LHIN average.

Table 29 below shows that **high SDH risk neighbourhoods in cities and towns have higher ED use than other neighbourhoods**. High risk cities have 2 percent fewer ED visits than the provincial average, average risk towns have 75 percent more ED visits than the provincial average and high risk towns have 93 percent more ED visits than the provincial average. **This again calls into question the burden being**

placed on acute hospitals' EDs which, while well intentioned, are not fully equipped to handle some of the complex issues associated with children and youth in their catchment areas.

Table 28: Actual and Expected ED Visits by SDH Risk Group

Pediatric Segment	Low Risk, City		Average Risk, City		High Risk, City		Average Risk, Town		High Risk, Town	
	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected	Actual	Actual / Expected
Total	**22,709**	**0.68**	**27,639**	**0.78**	**8,440**	**0.98**	**32,358**	**1.75**	**20,038**	**1.93**

Table 31 shows that high SDH risk city and town neighbourhoods have a higher proportion of newborns with major acute incidences; for example, newborns and neonates living in high risk city neighbourhoods are 75 percent more likely to have a major acute problem than the LHIN average.

Table 29: Distribution of Newborns and Neonates by SDH Risk Group

Paediatric Patient Segmentation	Low Risk, City	Average Risk, City	High Risk, City	Average Risk, Town	High Risk, Town	Indigenous	LHIN
Newborns & Neonates, Major Acute	0.88	0.91	1.74	0.82	1.18	0.00	1.00
Newborns & Neonates, Moderate Acute	0.93	0.95	1.33	0.88	1.19	0.81	1.00
Newborns & Neonates, Minor or No Acute	1.01	1.01	0.96	1.01	0.98	1.04	1.00

There is an opportunity to identify high risk patient clusters in order to better anticipate and meet the needs of these populations, focusing on proactive outreach and consistent follow up.

Stakeholders also noted that **more appropriate use of health human resources across the region could help address these needs.** For example, nurse practitioners are already working in collaboration with physicians in community health centres, providing coordinated care that addresses social determinants of health.

Impact on Specific Populations

Families reported that **many adult care doctors refuse to take on patients with complex needs**, so strategies are required to support youths through this transition and connect them with appropriate care.

In addition, **more focus is needed on working in partnership with groups such as Indigenous, Francophone and newcomer populations and those not familiar with the system.** There are examples of these partnership approaches already taking place across the LHIN, which can be expanded. For example, Integrated Plans of Care (IPCs), in which elders work with providers to ensure care plans are culturally sensitive, has received positive feedback from Inuit families. Another successful initiative is the development of the Aboriginal Child Health and Wellness Measure which is the first assessment tool developed from the ground up for the Indigenous population.

These findings are summarized as follows:

Health Equity Findings	Preliminary Suggestions
More focus is needed on addressing social determinants of health including income, language and culture	Identify high risk patient clusters and provide care that meets their long-term health needs
More focus is needed on high risk populations, including those with complex needs and specific groups such as Indigenous, Francophone and newcomer populations and those not familiar with the system	Partner with cultural groups

7. School Supports

Data sources: survey, focus groups

School Readiness

Children and youth are not always ready to enter school. The Early Development Instrument (EDI) score, a standardized questionnaire completed by kindergarten teachers that measures children's ability to meet age appropriate developmental expectations, shows a significant lack of readiness for children entering grade 1. For example, in Cornwall and Hawkesbury, roughly 40 percent of children are not yet ready to enter grade 1 after kindergarten. Coupled with reports that the rates of behavioural issues for pre-school children are increasing, the future state model will need to address ways to prepare children for the school system.

Cross-Sectoral Coordination

As previously mentioned, there is a **lack of integration between school and health systems.** Standardized assessments through the school system, such as psychoeducational assessments for grade 3 students, could significantly reduce the impact on families and downstream service provision.

Teachers are not adequately trained to support children with mental health, behavioural and developmental needs, and additional in-school supports are limited by funding constraints. For example, many children who need PT and OT only receive half an hour of service every 2 weeks while in school. Families also shared instances where their children were unable to access needed supports during periods when they were too ill to attend school. Because these children and youth remained enrolled in school, they were ineligible to receive home care services as the care was considered duplicative with the school-based services. Families are concerned that it may appear that school-aged children are receiving supports through the school system, while the reality is quite different.

Lack of resources also impacts eligibility. Some children and youth with complex conditions do not qualify to attend public school at all unless they obtain the needed health system supports themselves, which can be very difficult for families.

Suggestions to improve the current system include:

- Develop a cross-Ministerial plan for in-school supports which standardize the development of shared care plans for children and youth with mental health, behavioural and developmental needs
- Decrease barriers to access to education
- Increase access to in-school supports (and allow for flexibility to receive these services at home if needed)
- Increase consistency of in-school supports

Participants also suggested we train educators to better meet the needs of this population (e.g. through a certificate in behaviour management). There is also a lack of integration and coordination between services provided by MCYS and Ministry of Community and Social Services (MCSS); for more detail on Ministries involved in child and youth healthcare, please see the Funding section below. While many of the programs offered and funded by these ministries are excellent, and are clearly effectively meeting the needs of many children, youth and their parents, the degree to which the services are duplicative and not communicated appropriately is a matter that requires further attention.

The following table summarizes these findings:

School Systems Support Findings	Preliminary Suggestions
Children and youth are not always ready to enter school	
Lack of integration between the school systems and the health system	Provide psychoeducational assessments to grade 3 students Develop a cross-Ministerial plan Decrease barriers to access to education Increase access to in-school supports (allowing for flexibility) Increase consistency of in-school supports Train educators

8. Funding

Data sources: survey, focus groups

Funding Coordination

Funding for child and youth health services comes from a variety of sources, including the Ministry of Health and Long Term Care (MOHLTC), the Ministry of Children and Youth Services (MCYS), the Ministry of Community and Social Services (MCSS), and the Ministry of Education (MEDU). **A lack of coordination between these agencies results in a lack of clarity about which services are being provided by the other funders, and when.**

Further, **each agency has strict mandates which restrict the healthcare services that they can fund.** Because these mandates are not created in coordination with the other agencies or always developed from a family-centered perspective, stakeholders report gaps in funding available to families.

In the 2015's "Bringing Care Home" report to the MOHLTC, an expert panel recommended that the Ministry take the lead role in working with other provincial ministries in defining a single, coordinated basket of services for families whose needs cross multiple ministries.[3] Stakeholders reiterated the need for better coordination and suggested that the LHIN play a role in reinforcing this need in its communications with the MOHLTC.

Funding Distribution & Sustainability

Funding for pediatric care is siloed. In addition to the mandates that the funding agencies are required to follow**, each provider is funded for a set of services. This funding often lacks flexibility and is not evenly distributed across the region, which leaves gaps in care or makes it more difficult for families to access the services they need.** For example, Table 18 demonstrates that home care expenses were lowest in Western Champlain of all the sub-regions and were 23% lower than expected as compared to the provincial average due to lack of service availability.

While parts of the system are well funded, some services remain underfunded or difficult to access. Stakeholders reported that level 2 specialty neonatal care is underfunded and funding for services such as occupational therapy (OT) and physiotherapy (PT) is insufficient. Despite recent increases in funding for home care services, many stakeholders report that the on-the-ground reality has not changed, particularly in the Eastern and Western parts of the region.

There is significant frustration about the fact that funding is focused on acute care rather than preventative services, and that program funding is not always guaranteed year over year, impacting program planning and sustainability. For example, the Healthy Babies Healthy Children program funding has dropped in recent years, impacting parents and their children. There is a strong recommendation from stakeholders to increase funding to programs that focus on preventative care, and specifically to programs that effectively address social determinants of health.

Impact on Families

Current funding does not always address the true care needs of children and youth. For example, CCAC funding stops once children and youth are admitted into inpatient units, which interrupts provision of care. Once services are interrupted, providers may take on other clients, requiring the family to develop a relationship with a new provider once their child is back home. This can cause significant stress for the family.

Families shoulder a significant portion of the financial cost of care, sometimes paying out of pocket for private services to better meet their child's needs. Some families hire private nursing support, PT and OT in order to augment the services they receive from the public healthcare system. Families who cannot afford these additional services are left with few options to meet their care needs. While

[3] http://health.gov.on.ca/en/public/programs/ccac/docs/hcc_report.pdf

additional funding may be available for families through MCYS, the process to receive it is long and demanding; one family reported that they waited 8 years to receive additional funding.

These findings and suggestions are summarized below:

Funding Considerations Findings	Preliminary Suggestions
There is a lack of coordination between different funding agencies (MOHLTC, MCYS, MCSS, MEDU)	Communicate the need for more accountability and oversight between funding agencies
Funding for pediatric care is siloed; the lack of flexibility and appropriate distribution makes it difficult for families to receive the care they need	Establish one centralized place for families to access funding. Set families up with a care navigator to assist with access to funding Funding should support SDH through targeted prevention and care initiatives
There is a significant financial burden for families, who sometimes pay out of pocket for private services to augment existing services and better meet their child's needs (e.g. private nursing support, PT and OT)	Assess and fund the true health care needs of children and youth

9. Wait Times

Data sources: survey, focus groups

Wait Times

Services across the region have long wait times. Families report significant frustration about the triage processes used to place children and youth on wait lists, which are often unclear. Some providers put children and youth on multiple wait lists because they do not know which service will best meet their needs, or in an attempt to get the child into a program as quickly as possible, regardless of whether it is the most suitable or not. This makes some wait lists unnecessarily long and delays care for many.

The scheduling practices used by many providers are generally seen as ineffective. For example, a particular therapy may be provided in 6 week blocks, but once a child finishes one block, they have to wait months until they receive the next block of care, with no access services to sustain their gains while they wait. Stakeholders report that **human resources and physical resources are not centrally coordinated or always allocated according to need**, which further impacts regional wait times.

At the same time, **some newer programs and initiatives still have low participation rates, presumably because families and providers do not know about them.** These programs risk closure without sufficient volumes.

While some private services are available, some with shorter wait times, not every family can afford them.

Stakeholders provided many **suggestions for addressing these issues**, including:

- Expansion of the use of Econsults, which has reduced time to specialist referral, more efficient specialist appointments as required tests can be completed ahead of time, and the length of specialist wait lists
- Using centralized booking systems
- Using lean methodologies in clinics
- Providing resources and information to children, youth and families while they are waiting

Impact on Specific Populations

Certain population groups are particularly at risk of waiting for long periods of time to receive services, including newcomers, indigenous peoples and Francophone communities. The Francophone focus group specifically reported that requesting French language services often leads to longer wait times for children, youth and their families. Stakeholders representing the Indigenous population also reported that wait times were an area of particular concern.

The findings are summarized in the table below:

Wait Times Findings	Preliminary Suggestions
Wait times are long across the region	Review operational best practices, such as lean improvements for clinics Provide resources and information to children, youth and families while they are waiting
High needs populations are particularly impacted	Develop targeted approaches for high needs populations

10. Transitions of Care

Data sources: survey, focus groups

Transitions within Pediatric Care

Transitions between pediatric age groups are difficult. Information is not freely shared between providers, impacting care provision and patient experience. Care is often interrupted and/or discontinued during these transition periods due to the inflexible and siloed nature of many current programs.

Transitions into the Adult System

Transitions to adult care are equally challenging. Many adult care doctors refuse to take on patients with complex needs, and children and youth with mental health and addictions issues are particularly poorly served as they transition into adult care.

Funding models are drastically different for pediatrics than for adult care, making it very difficult for families to adjust into the adult system. As a youth turns 19, many of the services available in the pediatric system are no longer available to them in the adult system, even though their care needs have

remained the same. One family noted that their child has the mental capacity of a 9-year old; while he has physically turned 19, it does not follow that he is able to function as a 19-year old.

Stakeholders noted that inflexible age limits, such as shifting all individuals to the adult care system at the same age, does not meet the needs of all children and youth. One youth advisor reported that she had undergone surgery at CHEO with an adult orthopedic surgeon, which led to a disjointed experience of care.

These findings are summarized in the following table:

Transitions of Care Findings	Preliminary Suggestions
Transitions between different age groups within pediatrics are difficult	Develop more effective information sharing practices for pediatric care providers
Transitions to adult care are very challenging	Support youths to find adult care providers Communicate the need for the MOHLTC to address gaps in funding between the pediatric and adult care systems

Next Steps

Based on the current state results, we will begin to develop a future state model of care that addresses the needs of children and youth in the region. This will involve gathering input from stakeholders through targeted focus groups, researching alternative models of care, developing a draft future state model and validating the draft future state model in a broad working session with stakeholders from across the region.

The future state model will focus on addressing the gaps in care described in this report, and ensuring that care is sustainable and adaptive to the changing needs of children and youth in the region.

Appendices

Please see attachments.

APPENDIX CS 1: DETAILED SURVEY RESULTS

Survey Methodology

Stakeholders from across the region had an opportunity to participate in a survey in order to identify key issues related to child & youth health services.

Surveys were distributed to the following three groups:

1. **Focus group participants**
2. **Child, youth, and family advisors**
3. **Other stakeholders**

Stakeholders had the opportunity to submit surveys from mid-December to mid-January. We asked everyone the following six questions:

1. Thinking about the **specific services** you receive or provide, what is **currently working well**?
2. Thinking about the **specific services** you receive or provide, what is **not currently working well**?
3. Thinking more **generally** about the provision of all child & youth health services in the region, what is **currently working well**?
4. Thinking more **generally** about the provision of all child & youth health services in the region, what is **not currently working well**?
5. What are the **three most significant barriers** to children and youth receiving high quality care?
6. Please list the **five most significant changes** that are required to ensure children and youth receive higher quality care over the next 10 years

Key Themes

Seven key themes emerged from a total of 123 survey results across all three survey groups. Each theme also has a list of subtopics that surfaced from the survey results. The themes point to a need for enhanced child, youth and family-centered care.

Key Themes	Subtopics	
1. Access to care	• Availability of after hours care • Access to specialist care in rural areas	• Access to the appropriate level of care
2. Wait times	• Long wait times due to inadequate resources (facility, staff, specialists) • Long wait times due to improper allocation of resources	• Not enough resources and information provided to children, youth and families while they are waiting
3. Health equity	• Attention to social determinants of health including income, language and culture	• Attention to newcomers and those not familiar with the system
4. Integration, consistency, and coordination of care	• Need for clearly defined care pathways • Consistency of care between providers • Better coordination is needed in the complex system to help families navigate	• Integration of care is needed to improve quality and efficiency • Need for better transition to adult care
5. Prevention, community, and primary care	• Community care program support • Prevention upstream is important to reduce demand downstream • Better access to primary care	• Parent/caregiver support • More patient and parent education and easier access to information
6. Funding considerations	• More consistent and continuous program funding • Funding based on social determinants of health • More specific funding for high-need groups	• Better distribution of funding, more accountability and oversight
7. Mental health, behavioural and developmental issues	• More resources are required for children and youth experiencing mental health issues	• More support for children and youth with behavioural and developmental issues

Focus Group Surveys

Focus group surveys had a relatively high response rate. Respondents generally took a provider point of view and were primarily concerned with system level issues.

Response Rate:	**37**

Primary Focus Group Representation (estimation):

- Community Health Care Providers (~11 responses)
- Hospitals (~7 responses)
- Mental Health & Addictions Services (~7 responses)

Observations:

- Most respondents report that they provide high quality care
- Half of the respondents talked about the issues of “access to care”, “continuity of care”, “funding”, and “integration of care”, all of which point to a need for child, youth and family centered care
- There was a heavy focus on mental health services

Representative Quotes:

- “We can’t always expect people to seek help, we need to proactively reach out to them.”
- “Programs are most effective if they can provide consistent service over time.”

Family Advisors Surveys

Family advisors surveys had a relatively low response rate. Most of the respondents took a user's perspective and provided context regarding a family's experience of the current system.

Response Rate:	**22**

Observations:

- Most respondents focused their input on the pain points they have experienced in the system, including:
  - **a)** **Convenience for the whole family**: scheduling specialists on the same day to reduce travel and, to the extent possible, considering the entire family's needs (e.g. could paediatric providers enable access to flu shots for the entire family?)
  - **b)** **Communication training** for front-line staff: sensitivity training and compassionate communication are required
  - c) Issues of **collaboration and coordination between school systems and health systems** (and the corresponding ministries)

Representative Quotes:

- "Providers are often stuck in their areas of practice, failing to realize this is a whole human with a tired mom/dad sewing everything together the best they can."
- "Engage children and youth in the development of this plan and all plans moving forward – it takes more time and creativity to engage them but it's worth it."

Other Stakeholder Group Surveys

General input surveys had a moderate response rate. These surveys are useful to help us calibrate what the broader stakeholder group is concerned with.

Response Rate:	**64**

Observations:

- This group specifically used terms like "**family and patient centered care**," which were not explicitly used by the other survey groups
- This group also identified a strong need for enhanced **information sharing**, and specifically pointed to the need for there to be a single source of information on available services in the region

Representative Quotes:

- "So much of hospital funding is wasted on processes that have no value."
- "The health system as a whole need to decide how to spend money globally and then ensure there is a process in place to meet the needs (i.e. if we are going to continue to use technology, like tracheostomies, to keep children alive, then the community supports needed must also be there)."

APPENDIX CS 2: DETAILED FOCUS GROUP RESULTS

Focus Group Methodology

Building on the survey results, the focus groups were designed to gather further input into how the system is currently working and what key changes will be required to improve provision of care across the LHIN.

- 25 focus groups (listed on the following slide) were held, with the majority falling into the week of February 6
- Groups were asked the following questions:

1. *Thinking about the key survey themes:*
   A. *Do you agree with the themes?*
   B. *Are there any components that we have missed?*
   C. *Are there emerging best practices we should be aware of?*
   D. *Is there anything else you would like us to know as we move forward in our review?*

2. *If you could change three things about health services for children and youth in the Champlain LHIN, what would they be?*

Focus Groups Conducted

In addition to the focus groups identified below, a session was held with: child, youth and family advisors (online focus group); community pediatricians; and CHEO-OCTC (Medical Advisory Committee, Professional Advisory Committee, Nursing Advisory Committee and leadership).

	Pembroke 6-Feb	**Ottawa** 7-Feb	**Ottawa** 8-Feb	**Ottawa / Casselman** 9-Feb	**Ottawa** 10-Feb
9:00		Respite & Palliative			Family & Youth Counselling Services
10:00			Rehab, Developmental & Autism	Champlain LHIN & MCYS	
11:00					
12:00					Public Health
13:00		Indigenous	Home Care		
14:00		Hospitals: Central	Francophone		
15:00					
16:00	Hospitals: West	CHC: Central	Mental Health & Addictions	Hospitals: East	
17:00	Community Health Care Providers: West	Family Physicians: Central	Newcomers	Community Health Care Providers: East	
18:00					
19:00		Family Advisors: Central		Family Advisors: Rural	

Summary of Key Themes

In addition to the themes identified in the surveys, three new themes emerged from the focus groups:

Key Themes	Subtopics	
1. Access to care	• More consistent and continuous program funding • Funding based on social determinants of health	• Better distribution of funding, more accountability and oversight
2. Wait times	• Access to the appropriate level of care • Availability of after hours care	• Access to specialist care in rural areas
3. Health equity	• Long wait times due to inadequate resources (facility, staff, specialists) • Long wait times due to improper allocation of resources	• Not enough resources and information provided to children, youth and families while they are waiting
4. Integration, consistency, and coordination of care	• Attention to social determinants of health including income, language and culture	• Attention to Indigenous, Francophone and newcomer populations and those not familiar with the system
5. Transitions of care	• Transitions to adult care	• Transitions between different age groups within pediatrics
6. Prevention, community, and primary care	• Need for clearly defined care pathways • Consistency and integration of care is needed to improve quality and efficiency	• Better coordination is needed help families navigate • Need for smoother transitions between different age groups within pediatrics and into adult care
7. Funding considerations	• Prevention upstream is important to reduce demand downstream	• Need for better access to community care
8. Mental health, behavioural and developmental issues	• More resources are required for children and youth experiencing mental health issues	• More support for children and youth with behavioural and developmental issues
9. Parenting skills and support	• Lack of properly trained professionals to support children with special needs	• Lack of integration between the school systems and the health system
10. School systems support	• Lack of parenting skills to support children with special needs and to support prevention efforts	• Lack of available information (available services, counselling, respite, support networks, etc.)

Focus Group Analysis

The 19 focus groups unanimously agreed with the key themes identified, with each group taking a different focus based on their roles and experiences with the health system.

Themes	Number of focus groups that raised the theme
Integration, consistency, and coordination of care	18
Parenting knowledge and support	14
Prevention, community, and primary care	12
Access to care	10
Mental health, behavioural and developmental issues	10
Funding considerations	9
School systems support	7
Health equity	6
Wait times	5
Transitions of care	5

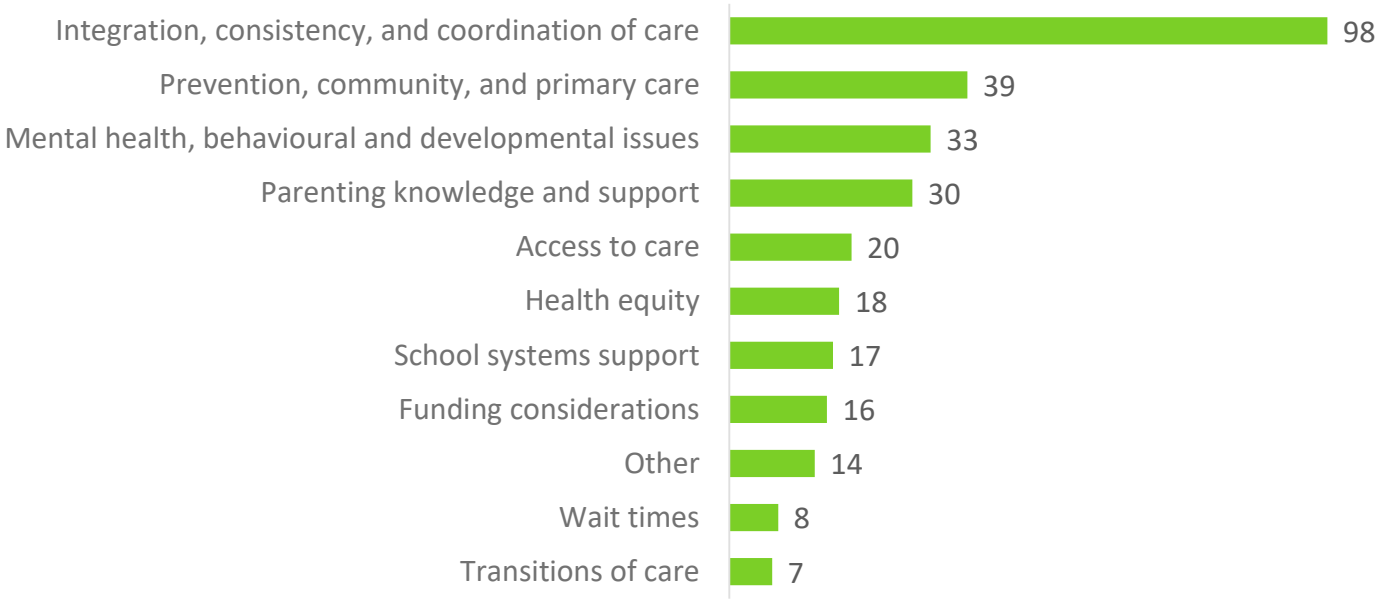
Prioritized Key Themes

- At the end of each focus group, participants were asked to provide written input by listing the top 3 things they would like to do to improve the care for children and youth in the Champlain LHIN
- Over 300 responses were collected
- Each response was mapped to an identified key survey and focus group theme, and the themes were prioritized according to the frequency with which they were raised:

Key Theme	Response Examples
Access to care	Dedicated paediatric urgent care after hours facilities staffed by pediatricians and trained allied health professionals to take pressure off emergency rooms
Funding considerations	Thoughtful approach and strategy to determine who is responsible for funding and how funding should be provided, with a focus on removing delays in service access
Wait times	Increased use of common screening and assessment tools to reduce wait lists for specialists
Health equity	Cultural competency training for all service providers
Integration, consistency and coordination of care	Outcomes measurement against common system improvement targets, with sub-measures that hold individual practitioners and organizations accountable
Transitions of care	Preparation for adult system transitions
Prevention, community and primary care	Better access to allied health services such as occupational therapy, physical therapy, social work, speech language pathology and psychology
Mental health, behavioural and developmental issues	Clearly established system for outpatient mental health follow ups for the pediatric population
Parenting skills and supports	Family education and support from pregnancy on
School system	Deliver services where children and parents are at such as in schools and in the community

Focus Group Analysis

After mapping each response to one of the ten themes, the total number of responses in each theme was counted. The graph below shows the comparison for the number of responses received in each theme area.



Note: "Other" category consists of responses that talks about issues outside of the scope of the capacity planning, such as dental care

The following slides provide a summary of discussion topics for each of the focus groups.

Focus Group Summary: Family Advisor (Rural)

Reported Strengths:

- Complex Care program at CHEO is very effective
- Valoris, a private provider, can provide effective case support and work with families to receive additional funding to meet their child's needs
- Rogers House is introducing new initiatives aimed at better supporting parents and families

Reported Barriers & Challenges:

- Transition from pediatric to adult care is a very problematic; it is difficult for youth and their families to navigate the shift and many adult care doctors refuse to take on patients with complex needs
- Some providers lack appropriate pediatric training
- CCAC funding is very limited and many families need to get additional help from Ministry of Children & Youth Services (MCYS)
    - The process to receive MCYS funding is long and demanding (one parent reported that they had waited 8 years for funding, by which time their child had passed away)
    - Funding seems to be spent inefficiently
- Lack of peer support and information/resource sharing for parents
- Programs aimed at parents are not offered at convenient times during the week

Observations:

- There is significant frustration with lack of access to care through the CCACs, but the families that are receiving services are quite optimistic for the future and believe that the push for more services in the community is appropriate.
- The lack of peer networks make parents feel that they are alone. They expressed the great desire to be connected to other families who are going through similar challenges.

Focus Group Summary: Family Advisors (Central)

Reported Strengths:

- CHEO's Complex Care program is very effective
- KickStart autism program is very effective at teaching parents how to interact with their child
- Facebook groups created by parents are effective in creating needed networks and access to additional supports for families

Reported Barriers & Challenges:

- Parents' voices and opinions related to their child's care are not always heard by providers
- Transition from pediatric to adult care is a very problematic
- Programs and services are difficult to access because of limited operating hours
- In-school health services are very limited
- There is a significant financial burden for families of children with complex needs, with some families deciding to hire private providers such as physiotherapy and nursing support to augment the publically-funded services they receive
- Parents lack support networks
- There is a lack of centralized information to help families and providers identify services available within the LHIN and across the Province

Observations:

- Families report that the quality of care they receive at CHEO is very high, but they struggle with services offered outside the hospital
- The parents feel that they are often the only advocate for their child, but they have relatively limited knowledge, skills, and resources

Focus Group Summary: Family Advisors (Online)

Reported Strengths:

- CHEO's complex care program is effective but its funding is not guaranteed year over year, leading to sustainability concerns

Reported Barriers & Challenges:

- Funding is inconsistent and is not set up to support families with their true needs (e.g. CCAC funding stops once children and youth are admitted into inpatient units, which interrupts day to day provision of care and forces parents to pay out of pocket)
- The CCAC is not focused on paediatric care; they are primarily focused on seniors
- The school system requires more funding and supports for children, such as OT and PT
    - On paper, it appears as though all school-aged children are receiving supports through the school system, but many are too ill to attend school on a regular basis; this is especially true for children who do not meet the admission criteria for OCTC's school but require significant daily classroom supports
- Despite increased funding for home care services for medically complex children, the on-the-ground reality has not changed
- The system needs to be more family-centered, involving families in service delivery decisions and design
- There are long wait times for services and access is location-dependent
- Transitions from pediatric to adult care is a considerable challenge
- Transitions between providers is challenging, and information is not freely shared
- There is an extreme lack of transparency in the system (e.g. providers operate without sharing their reasoning with families)
- 2015's "Bringing Care Home" report specifies that the MOHLTC should take a role in coordinating with other provincial ministries in defining a single and coordinated basket of services for clients and families whose needs cross multiple ministries.

Observations:

- Parents feel that there is a significant lack of transparency in the system, in that it is difficult for them to find information on available services, understand eligibility criteria, and have a strong voice in decisions related to their child's care

Focus Group Summary: Francophone

Reported Strengths:

- The region of Prescott-Russell has a printed document which summarizes the services available in French to help Francophones access services
- Go Family is an effective resource for parents to search for services by location and category of professional, again supporting access to services

Reported Barriers & Challenges:

- There are not enough Francophone services throughout the region
- Services provided to the Francophone population are not always culturally sensitive
- Specifically requesting French language services often leads to longer wait times for children, youth and their families
- More tools are needed in French to inform families about available services in the LHIN and Province

Observations:

- The Francophone group repeatedly raised their concern about a lack of cultural understanding about the distinct needs of the Francophone community
- Services in French are generally less available than in English, especially for rural areas

Focus Group Summary: Indigenous Population

Reported Strengths:

- Integrated Plans of Care (IPCs), in which elders work with providers to ensure care plans are culturally sensitive, has had great success for Inuit families
- Aboriginal Child Health and Wellness Measure is the first assessment tool developed from the ground up for the Aboriginal population and is working very well
- CHEO has programs that work to strengthen the relationship with Nunavut
- Ottawa Inuit Children's Centre (OICC) provides programming for early childhood services

Reported Barriers & Challenges:

- Providers demonstrate poor cultural sensitivity
- Sub-groups within the Indigenous population have specific needs, such as the Inuit and Metis; non-Inuit Indigenous peoples are not receiving enough support
- Access to care is not equitable due to financial, geographical, language and cultural barriers
- There is no single-access for service for Indigenous populations and there are no system navigators supporting children, youth and families
- Available community and school supports do not adequately address social determinants of health for this population
- Communication between all the providers is very poor
- Use of telehealth is poor

Observations:

- The Inuit population receives the bulk of the focus, with less attention paid to the rest of the Indigenous community
- There are concerns about the number of non-residents receiving care in the Champlain LHIN region

Focus Group Summary: Newcomers

Reported Strengths:

- Life skills program, which provides information about police services, how to take the bus, how to fill prescriptions, etc. is helpful but it is volunteer-based and not every newcomer has access to it
- The newcomers-focused health navigator program hosted by Somerset CHC is working well

Reported Barriers & Challenges:

- There is no coherent system or pathway for newcomers to help them navigate the system and address barriers such as language; this is particularly needed for refugees and undocumented migrants
  - A number of ministries provide funding for newcomers, but there is very little organization, leading to unmet need
  - Holistic screening is required for families to ensure they are aware of any preexisting conditions their children have and to connect them with preventative services to help address high risk social determinants of health
  - There needs to be a mechanism to identify newcomers when they present to healthcare providers and follow them through the system to ensure they are receiving the appropriate care
  - System navigators who speak the family's language are needed to help connect the family with settlement agencies, schools, community services healthcare services, etc. and to help them document their care (e.g. vaccinations, health needs, etc.); navigators can also support families in completing required forms, booking appointments, etc.
  - Cultural competency needs to increase throughout the region (e.g. a family may refuse treatment because they perceive their child has been "locked" in an isolation room for medical reasons)
- Community supports are critical to avoiding preventable hospital visits
  - Some families are receiving services through the CCAC, but others are presenting in EDs in order to receive care in their native language
  - Appointment times should be extended to help increase health literacy and manage language and cultural barriers

Observations:

- Providers in the US have seen success when using a "telehealth line" to provide access for illiterate patients and those with language barriers

Focus Group Summary: LHIN & MCYS

Reported Strengths:

- The adoption of coordinated care plans for people with complex needs is improving
- Nurse practitioners are embedded in some CHCs, which has improved outcomes

Reported Barriers & Challenges:

- While there are long wait lists for most services, some newer programs and initiatives still have low participation rates, which impacts program sustainability
- Standardized screening and assessments are not well received by providers in the community
- Effective early intervention requires coordination and wrap-around care, which is not currently being provided
- Transitions between different providers and between paediatric and adult systems are challenging
- Home care coordination is a challenge
- There are key areas that require more attention and resources:
    - The school system requires additional healthcare supports such as OT and PT
    - OCTC needs to provide more ambulatory and mobile services
    - Pediatric palliative care requires more attention
    - Rural capacity building is needed

Observations:

- While there are new programs being created to meet the needs of children, youth and their families, these programs remain unknown, underutilized or inadequate to meet current level of demand.

Focus Group Summary: Public Health

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- Early Development Instrument (EDI) score, a standardized questionnaire completed by kindergarten teachers which measures children's ability to meet age appropriate developmental expectations, shows a significant lack of readiness for children entering schools (e.g. in Cornwall and Hawkesbury, roughly 40% of children are not ready to enter grade 1)
- Healthy Babies Healthy Children (HBHC) resources have dramatically declined in recent years
- Pediatricians are particularly needed in rural areas
- The rates of behavioural issues for pre-school children are increasing
- While some early intervention is occurring through HBHC, care pathways are unclear and there is a lack of appropriate follow-up care
- There is a lack of community care available after children are discharged from hospitals
- Transitions of care across the system is a barrier to effective service delivery
- More access to certain services is needed, including mental health crisis supports and dental anesthesia

Observations:

- While public health is out of scope for this engagement, the downstream impact of lack of access to appropriate health services is important to capture

Focus Group Summary: Hospitals (East)

Reported Strengths:

- Providers are cooperating more effectively and have more faith with each other in the eastern region than in the past
- CHEO's Trek Training for rural areas is effective and should be expanded
- The Neonatal Network is also effective in its outreach to rural areas

Reported Barriers & Challenges:

- The fact that paediatric care is largely centralized at CHEO leads to lack of resources in other areas of the LHIN
- Funding does not reflect the actual need of the region
- Transportation is a significant barrier
- There is significant duplication of service, leading to too much of one service and too little of another
- Mental health and addictions services are very difficult to access
- Alexandria and similar rural towns have very poor access to all medical services
- Francophone services are lacking

Observations:

- Providers of this region are frustrated with the lack of access
- Lack of mental health services are of great concern as the rate of suicide, abuse, and developmental issues are high in the region

Focus Group Summary: Hospital (Central)

Reported Strengths:

- Monarch program is very helpful for neonates by providing programs outside of the hospital

Reported Barriers & Challenges:

- There are long wait times for services
- There is a lack of common EMR system
- Coordination between different levels of care is poor
- Level 2 specialty neonatal care is underfunded and there are too few beds
- Transitions from pediatric to adult care is a considerable challenge, particularly for children and youth with mental health and addictions issues
- Providers and parents have difficulty determining what services are available in the community
- There is not enough communication between hospitals, family physicians, and community in general

Observations:

- Overall, the hospitals feel that specialist care is too centralized at CHEO, resulting in a lack of capability and capacity elsewhere in the LHIN and too much demand on CHEO and its ER
- Patients are not receiving the right level of care in a timely fashion because of the current distribution of services

Focus Group Summary: Hospital (CHEO-OCTC)

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- There is a need for consistent access to data to inform decisions
  - Evidence-based care research needs to be increasingly used for innovation, research and planning
- The results of this planning work can be leveraged by other regional groups, including:
  - SickKids' committee reviewing demand for paediatric services across the province
  - Kids Health Alliance
  - The Champlain Maternal Newborn Regional Program (CMNRP)
- There is an increasing number of admissions requiring critical care services (e.g. more instances of resuscitation of 22-25 week babies who require significant health services in the longer term)
- The region does not require more access to all services, but does require more resources of particular types
  - Mental health and addictions supports are required, and particularly for children and youth with dual diagnoses, concurrent disorders, trauma and early years attachment issues
  - The region requires a better understanding of ED, Neonate and ICU seasonal surges (e.g. in flu season) to help manage these peaks in demand
- Further work needs to be done with respect to different models of care, such as a distributive model and a neurosciences model currently in use at CHEO

Observations:

- N/A

Focus Group Summary: Hospitals (West)

Reported Strengths:

- Ontario Telemedicine Network (OTN) is widely used in the western region, and particularly in Renfrew and Pembroke
- Family physicians and ER physicians are comfortable with general pediatric care, and CHEO provides specialty expertise
- CHEO's paediatric emergency outreach program is very effective
- The walk-in clinic in one family health team is well developed and very effective
- Hospitals and schools in the region have good relationships

Reported Barriers & Challenges:

- Transportation is one of the most significant barriers of access to care for the rural area
- OTN does not provide specific pediatric support and is not set up in family physician offices
- There are long wait times for services
- There is poor coordination of care and transitions between providers are ineffective
- There is high variability in ER demand because of the summer tourist population
- A lack of community pediatric capabilities lead to high ED volumes
- Community pediatrics care is insufficient due unclear care pathways and geographical barriers
- Family issues are significant, including high rates of domestic violence and a general of strong parenting skills
- Mental health needs are not met, especially for those who are home schooled or not part of the school system

Observations:

- This group is comfortable with the availability of general pediatric care in the community, particularly because CHEO is able to provide expert advise when necessary; this is contrary to the opinion expressed by the community pediatricians, who expressed strong concerns about the ability of family physicians to provide pediatric care

Focus Group Summary: CHEO-OCTC Medical Advisory Committee

Reported Strengths:

- EPIC is providing an opportunity to see the degree of "indirect care" that is being performed at the hospital and has markedly improved communication between specialties
- eConsult is helping with the communication gap between PCPs and specialists (e.g. genetic and psychiatry)
- Toronto created a surgical fellowship aimed at producing community based physicians
- MOH provincial epilepsy program working well for this patient population

Reported Barriers & Challenges:

- CHEO-OCTC requires a better means of providing feedback to community hospitals that refer children and youth
- Need to better prepare families to have the capacity to look after their children
- Community secondary urgent care (vs elective and emergent) sites are needed to off-set ED volume
- Pediatricians are providing primary care which makes them unavailable to provide secondary care required by patients of PCPs; this is partially due to the current funding formula is partly (i.e. based on volume which is reduced if providing secondary care)
- "Choose wisely" needs to be better promoted and may help deal with care gaps
- Need to improve guidelines for DI to decrease unnecessary imaging, and therefore system spend and wait times

Observations:

- N/A

Focus Group Summary: CHEO-OCTC Nursing Advisory Committee

Reported Strengths:

- CHEO's ED promotes interdisciplinary care in the community

Reported Barriers & Challenges:

- Telehealth could provide more accurate and up-to-date advice to families
- Interdisciplinary work is increasingly needed
  - Need for increased use of simulations to train interdisciplinary teams within and outside of the hospital
  - Increase e-consults and add more complete teams (RN's) to the consultation with community based providers
  - Explore training opportunities to support nurses working at CHEO-OCTC and in community hospitals and settings (CHC etc.)
- The region needs more urgent care centres, community mental health supports, paediatric clinics with RNs and prevention programs
- Need for better matching of nursing resources with clinical need
- Families need a single source of information to connect them with available resources
- More supports are needed for newcomers and low income families
- Wait lists are a significant challenge

Observations:

- There is significant appetite for interdisciplinary work and increased coordination between acute and community settings

Focus Group Summary: CHEO-OCTC Professional Advisory Committee

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- We need work as a team thinking of the full spectrum of health care services, particularly incorporating parents/care givers into this team
- The system needs to consider the long term impact on the system (schools, home care, etc.) of complex patients that are now living much longer
- Some transitions into adult care are working well (e.g. Cancer); others not (e.g. mental health), and lack of social work supports appears to be part of the challenge
- We foster dependency for some patient groups in tertiary setting, we need to build capacity in the community examples where this has worked include concussion, chronic pain, plageocephaly, MH/anxiety and medical day units to administer IV medications like biologics
- Education for both parents and providers (particularly primary care, but also OT and PT) needs improve, this is affecting our referrals and the cost of providing care
- In a tertiary setting, there is a lack of human resources related to mental health (e.g. psychologists), that result in poor support to in patient medical teams
- Research needs to be integrated into practice

Observations:

- Bloorview's model of family support is working well and should be further explored

Focus Group Summary: Community Pediatricians

Reported Strengths:

- eConsult program is effective and should be expanded for better communication between providers

Reported Barriers & Challenges:

- Children, youth and families are not getting the right level of care at the right time provided by the right provider
- There are long wait lists for services
- OTN does not provide specific pediatric support
- Roles and responsibilities need to be clarified (e.g. community pediatricians are part of the primary care pathway and provide consults and training to family physicians)
- Appropriate school system support is key in prevention; children in grade 3 should all receive psychoeducational assessments
- The rates of mental health, addictions, behavioural issues and developmental issues are increasing for both paediatric and adult populations
- A lack of strong parenting skills increases the impact and rates of mental health, addictions, behavioural and developmental issues
- Free dental care is needed for all children

Observations:

- The group strongly recommended standardized assessments and screening for all school-aged children; other focus groups noted that smaller screening programs do exist but ineffective because follow-up procedures are unclear and resources are limited
- There are reportedly fewer practicing community pediatricians in the region at the same time as more paediatric training is required for other providers, such as family physicians

Focus Group Summary: Family Physicians (Central)

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- Health services are siloed, while children and youth require services across silos
- There is a need for a review of roles and responsibilities of health care professionals across the region to ensure each provider is delivering maximum impact (e.g. family health teams often just provide consults to family physicians rather than working directly with children and youth)
- Family practice nurses are necessary but missing from the system right now
- Community prevention efforts are very important
- Health data systems are poorly designed

Observations:

- This group had very few participants, so the data should be tested further

Focus Group Summary: Community Health Care (East)

Reported Strengths:

- We see more and more community partners trying to put more effort into working together. We know who everyone is and it's getting easier to get in touch with them.

Barriers & Challenges:

- There are long wait lists for services
- ER usage is very high, partially due to lack of access to appropriate community services
- Lack of French language services in the region
- There are very limited mental health services in the region; families must travel to Ottawa or other larger cities to receive care
- Some families are concerned about seeking services from providers such as Valoris that are also involved in child protection services

Observations:

- This group raised similar themes to other focus groups focused on service provision in the east of the LHIN

Focus Group Summary: Community Health Care (Central)

Reported Strengths:

- CHEO's Navigation Program helps parents caring for children and youth with complex needs, and is effective at improving system coordination and should be expanded and leveraged by other providers in the region

Reported Barriers & Challenges:

- Funding is siloed and inconsistent
- Providers and families are unclear about what services are available in the LHIN, when referrals should be made and what criteria they should be based on
- Children's lack of readiness for school is significant barrier and requires multiple stakeholders to work together to find a solution
- Community prevention is critical
- High risk neighborhoods in the Ottawa region present particular health system challenges

Observations:

- While there are healthcare services available in the community, they are not being used to their full potential for several reasons:
  - Providers and families do not necessarily know these programs exist
  - Duplications of services make it confusing for providers and families to select appropriate services and navigate between them
  - Most programs were not designed through a family-centered approach, making it difficult and inconvenient for families to access the care they need

Focus Group Summary: Community Health Care (West)

Reported Strengths:

- Some providers have successfully reduced waitlists in recent years
- CareFor, a non-urgent transportation system, has reduced the travel barrier for the region

Reported Barriers & Challenges:

- Funding is siloed and inconsistent
- Poverty and transportation are significant barriers to access to care
- There is poor coordination of care due to a lack of clear care pathways and a lack of information sharing
- Duplication of services is inefficient and confusing for providers and families
- Access to specialists is a barrier due to geography and hours
- Mental health and addictions is a significant challenge, with reports of providers purposely misdiagnosing patients in order to get them into the next available service or inadvertently misdiagnosing them due to lack of training
- Lack of strong parenting skills is linked to increase in mental health issues in children, and particularly anxiety
- Providers do not always receive feedback about their services from families, making it difficult to improve the experience for children, youth and their families

Observations:

- CareFor has benefited the Pembroke region but was offered effectively in Alexandria as we have heard from the eastern region focus groups, showing the current limitations of the program but a strong potential if services are expanded

Focus Group Summary: Mental Health and Addictions

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- There are long wait lists for services
- Transportation is one of the most significant barriers of access to care
- OTN specialist access is available but current provision is not ideal
- Providers and parents have difficulty determining what services are available in the community
- Transition from pediatric to adult care is a very problematic
- Trauma and attachment issues are high priority issues for the region
- There is a lack of early identification (including pre-pregnancy) and early intervention (e.g. creating targeted strategies to better serve high risk neighbourhoods)
- There is no support for children, youth and their families after they have received a diagnosis while waiting for treatment
- Infant mental health needs are growing, partially because of a lack of strong parenting skills
- There is a lack of available for services for children and youth with multiple conditions
- There is a lack of capacity to support LGBTQ children and youth

Observations:

- The specific challenges related to mental health and addictions were raised in every focus group and will be critical to address in the future state recommendations

Focus Group Summary: Rehab, Developmental & Autism

Reported Strengths:

- N/A

Reported Barriers & Challenges:

- There are long wait lists for services
- There is a disconnect between the funding and supports provided by MCYS, MOH, and other funders
- While the system is well funded, services are siloed and difficult to access (e.g. appropriate level of OT support)
- Service scheduling is ineffective (e.g. therapy is provided in 6 week blocks, but once a child finishes one block, there are no services to sustain their gains while they wait to start their next block of care)
- There is a lack of specialist services in rural areas
- Children and youth are presenting with more complex diagnoses
- There is not enough early diagnosis and early intervention
- School systems do not have the capacity to provide care for special needs students

Observations:

- Complex needs children and youth often fall through the cracks because of the inflexibility of mandates with the existing services and programs (e.g. programs can refuse children and youth because they have multiple conditions)
- Children and youth's conditions deteriorate as they wait for appropriate care, leading to higher complexity and acuity in the system

Focus Group Summary: Home Care

Reported Strengths:

- There are some supports aimed at enhancing consistency of care in the region, such as rapid response nurses who work with children, youth and families in the hospital and in the home

Reported Barriers & Challenges:

- Lack of collaboration with MCYS and Ministry of Education (e.g. neither ministry knows what supports are provided to a given individual)
- There is often a disconnect between CCAC managers and leadership and on-the-ground providers; it is difficult to assess quality
- There is a lack of integration between home care and other services such as critical care and social work
- Service provision is not family-centered
- Health equity is particularly difficult to address for the newcomer population, which needs specialized supports trauma and socioeconomic issues in a variety of languages
- The region is not using available technology to its full potential
- Transition from pediatric to adult care is a very problematic, particularly because some youth will lose access to required services
- The recent increase in acuity of diagnoses has led to a higher demand on clinicians (e.g. the increase in the rates of autism in the region is putting tremendous pressure on the system)

Observations:

- Of the 100 CCAC clients receiving the most expensive resources, 50 of them are children
- The CCAC is frustrated with limited funding to provide adequate home care, a concern which is echoed by the family advisor groups
- The CCAC is also concerned by the fact that it has little direct control over the quality of home care service provision

Focus Group Summary: Counselling Services

Reported Strengths:

- CHEO's Choice and Partnership Approach (CAPA) is a mental health program that allows children, youth, families and providers to work together to choose the right care plan based on individual strengths and goals; it is an effective approach and should be expanded
- The regions of Stormont, Dundas, and Glengarry use a case conferencing approach, which should be adopted by other regions and providers
- Walk-in clinics offering counselling services are available 6 days a week across the LHIN, which has reduced mental health visits to the ER

Reported Barriers & Challenges:

- The system needs take a more family-centered approaches to service provision
- Lack of available services in rural areas is a significant barrier to access to care
- Mental health support is a huge gap in the community, especially when patients are on the wait list
- Duplications of services is inefficient, particularly because some programs and services are not operating at full capacity
- Case conferencing needs to be expanded across the region to better serve children, youth and families
- Parenting supports need to be expanded

Observations:

- This group proposed setting up a shared calendar for counselling services offered across in the region; providers and families could access the shared calendar online and identify services that are relevant and convenient for them
- The group believes this will improve the utilization of counselling services and improve access

Focus Group Summary: Respite & Palliative

Reported Strengths:

- Respite care is offered for families with children and youth at every level of acuity, from chronic and less severe to fragile and technology dependent
- Making Respite Work is an effective initiative, integrating respite services and making it easy for families to access services with one standardized intake form
- Rogers House is adding family-focused programing for parents and siblings that aims to educate and de-stress

Reported Barriers & Challenges:

- Coordination of care is too complex for families
- Families are not always regarded as being at the centre of care planning
- More family counselling capacity is needed
- Information is not well shared or integrated between health and community, and referrals are difficult because providers do not always know who to refer to
- Quality measures need to be developed for respite services
- Higher staffing qualifications are needed to support the increasingly complex needs of children, youth and families receiving respite and palliative care

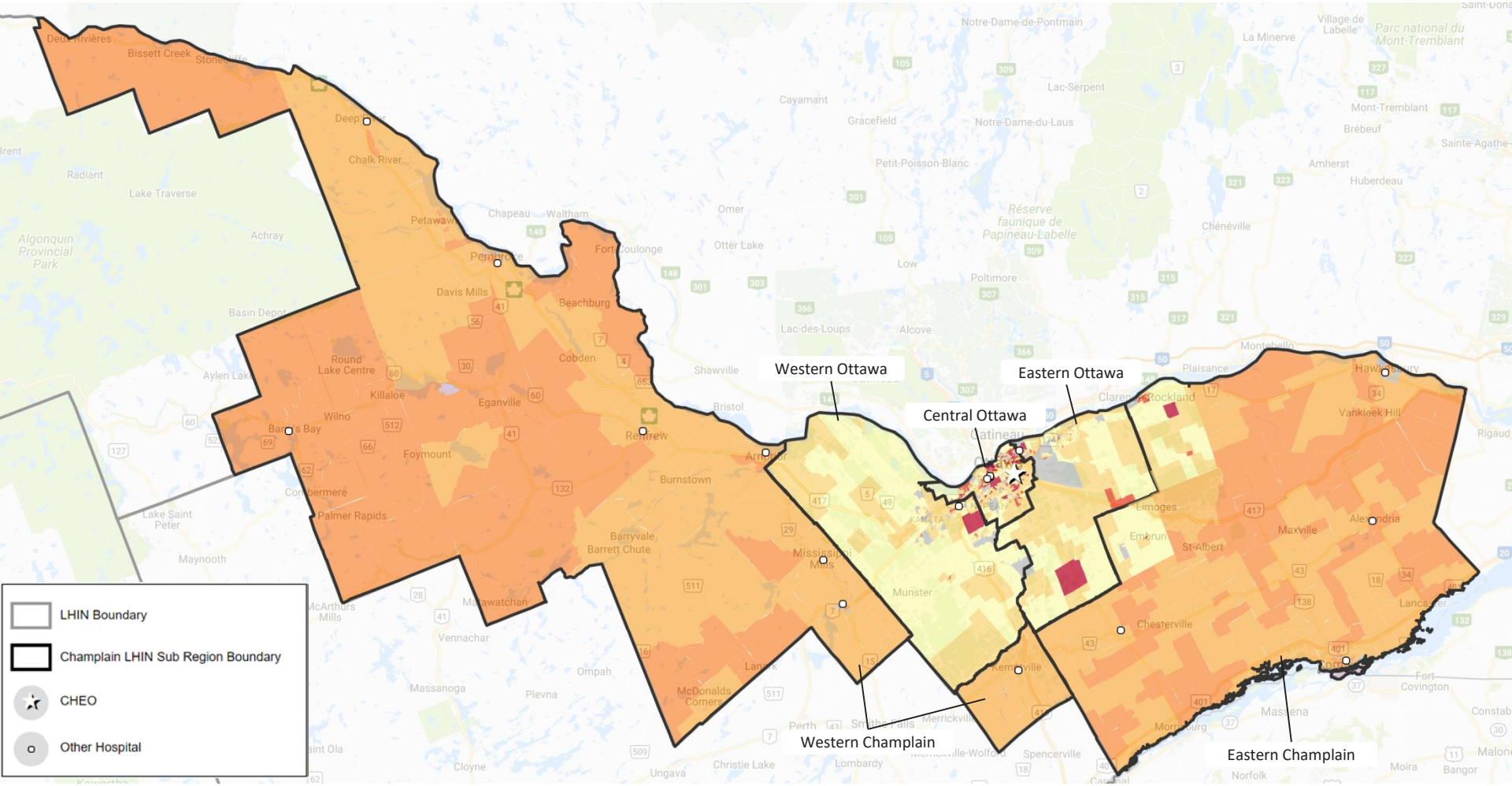
Observations:

- Families whose children have passed away are removed from programming and support groups; leveraging their knowledge and experiences can help improve service delivery and provide needed support to families

APPENDIX CS 3: DETAILED QUANTITATIVE DATA RESULTS

Champlain LHIN Sub-Region Geography Matters for Planning

We used a social determinants of health (SDH) risk index to examine morbidity and outcome variations. In the map, darker regions have higher SDH risk. High risk neighbourhoods have higher morbidity and worse outcomes than low risk neighbourhoods.



Population Segment Definitions

Below are examples of diagnoses for each of the segments referenced on the following slides.

Segment	Example Diagnoses Included in Segment	Key Characteristics		
Complex Chronic, Life Limiting	• Cardiac Congenital Disorders • Lymphoma & Leukemia • Cystic Fibrosis • Chemotherapy & Radiotherapy	Chronic	Progressive Chronic	Life Limiting
Complex Chronic, Not Life Limiting	• Eating Disorders • Paralysis • Chronic Obstructive Pulmonary Disease • Diabetes : Without Complications or With Minor Complications	Chronic	Progressive Chronic	Not Life Limiting
Non Complex Static Chronic	• Asthma • Tonsillitis & Pharyngitis : Chronic • Back Problems • Obesity	Chronic	Static Chronic	Not Life Limiting
Major Acute, Life Limiting	• Intracranial Injury • Respiratory Failure • Chest Trauma • Septicemia & Severe Sepsis	Acute	Major Acute	Life Limiting
Major Acute, Not Life Limiting	• Nutritional & Miscellaneous Metabolic Disorders • Post Procedural : Infection Inflammation • Intestinal Obstruction : Postoperative • Hernia : Diaphragmatic Without Gangrene	Acute	Major Acute	Not Life Limiting
Moderate Acute	• Bacterial Infection • Cholecystitis & Gallstones • Ruptured Appendix • Complications of Medical & Surgical Care	Acute	Moderate Acute	Not Life Limiting
Minor Acute	• Contusion/Abrasion • Allergic Reactions : Skin • Fracture Sprain Strain & Dislocation : Except Femur Hip Pelvis & Thigh • Refractive Disorders	Acute	Minor Acute	Not Life Limiting

Paediatric Population Forecasts

Ontario's paediatric population is expected to grow by only 16 percent over the next 20 years. Champlain has the 4th fastest expected paediatric population growth of all LHINs.

	Paediatric Population Forecast				
LHIN	*2014/15*	*2019/20*	*2024/25*	*2034/35*	*20-year increase*
Central	377,438	395,446	424,800	482,392	1.28
Mississauga Halton	259,935	270,097	288,452	333,456	1.28
Central West	215,463	221,264	235,101	266,010	1.23
Champlain	253,681	260,880	277,557	306,090	1.21
Central East	316,336	322,486	340,176	374,024	1.18
Toronto Central	198,813	206,037	217,663	234,911	1.18
North Simcoe Muskoka	90,062	90,043	94,210	103,206	1.15
Waterloo Wellington	163,360	166,024	172,556	184,474	1.13
Hamilton Niagara Haldimand Brant	274,822	275,372	284,529	303,371	1.10
South West	192,991	193,059	197,949	202,027	1.05
South East	86,142	84,529	86,292	87,672	1.02
North West	48,726	47,241	47,042	45,238	0.93
North East	102,322	98,936	98,451	94,283	0.92
Erie St. Clair	128,469	120,375	116,078	111,915	0.87
Ontario	**2,708,560**	**2,751,790**	**2,880,856**	**3,129,068**	**1.16**

Source: Statistics Canada 2011 Census, MOF Population Projections

Population Forecast by Segment and Sub-region: Growth is concentrated in the Ottawa region

Paediatric Segment	*Demographic Forecast of Champlain LHIN Paediatric Population*						
	Champlain LHIN: Current	*% 20 Year Growth*					
		Champlain LHIN	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*
Complex Chronic, Life Limiting Diagnosis, Palliative	228	19%	27%	5%	29%	-1%	23%
Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,408	19%	27%	0%	27%	-2%	27%
Complex Chronic, without Life Limiting Diagnosis	18,189	19%	27%	2%	26%	-1%	27%
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	264	14%	22%	0%	22%	-7%	20%
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	19,963	20%	27%	4%	27%	-1%	27%
Non Complex Static Chronic, with Major Acute Hospitalization	168	17%	28%	-4%	27%	-0.4%	28%
Non Complex Static Chronic, with Non Major Acute Hospitalization	523	18%	27%	0%	27%	-1%	28%
Non Complex Static Chronic, without Acute Hospitalization	35,456	21%	28%	3%	28%	0.4%	28%
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	79	15%	27%	-3%	29%	-4%	27%
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	17%	27%	2%	27%		26%
Moderate Acute with Hospitalization	564	16%	26%	-0.1%	26%	-1%	26%
Minor Acute with Hospitalization	15	13%	32%	0.2%	32%	-0.5%	32%
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,948	20%	28%	-3%	28%	-1%	28%
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	15%	26%	1%	27%	-1%	27%
Healthy, Moderate Acute without Hospitalization	66,419	21%	28%	2%	28%	-0.1%	28%
Healthy, Minor or No Conditions without Hospitalization	82,222	22%	28%	3%	28%	1%	28%
Newborns & Neonates, Major Acute	272	19%	27%	-7%	27%	-2%	27%
Newborns & Neonates, Moderate Acute	945	19%	27%	-7%	27%	-2%	27%
Newborns & Neonates, Minor or No Acute	11,846	19%	27%	-7%	27%	-2%	27%
Total	253,681	**21%**	**28%**	**2%**	**28%**	**-0.2%**	**28%**

Sources: DAD 2014/15, NACRS 2014/15, OHIP 2014/15, CTC 2014/15, Statistics Canada 2011 Census, MOF Population Projections

At 28 percent over the next 20 years, the Ottawa region's paediatric population growth is as fast as the fastest growing LHINs, Central and Mississauga Halton.

Champlain LHIN Paediatric Population

This shows the count of children and youth in each segment by sub-region.

Segment	*Number of Children by Segment*					
	Champlain LHIN	*Central Ottawa*	*Eastern Champlain*	*Eastern Ottawa*	*Western Champlain*	*Western Ottawa*
01.Complex Chronic, Life Limiting Diagnosis, Palliative	**228**	70	34	42	29	53
02.Complex Chronic, Life Limiting Diagnosis, Not Palliative	**11,408**	3,299	1,637	2,101	1,412	2,959
03.Complex Chronic, without Life Limiting Diagnosis	**18,189**	4,718	2,939	3,425	2,448	4,659
04.Non Complex Static Chronic, Mental and Developmental, with Hospitalization	**264**	76	46	50	32	60
05.Non Complex Static Chronic, Mental and Developmental, without Hospitalization	**19,963**	5,169	3,058	3,819	2,327	5,590
06.Non Complex Static Chronic, with Major Acute Hospitalization	**168**	42	35	29	26	36
07.Non Complex Static Chronic, with Non Major Acute Hospitalization	**523**	150	120	101	59	93
08.Non Complex Static Chronic, without Acute Hospitalization	**35,456**	9,419	5,525	6,611	4,430	9,471
09.Major Acute with Acute Hospitalization, Life Limiting Diagnosis	**79**	29	20	10	11	9
10.Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	**16**	4	6	1		5
11.Moderate Acute with Hospitalization	**564**	131	149	77	61	146
12.Minor Acute with Hospitalization	**15**	2	5	3	4	1
13.Major Acute without Acute Hospitalization, Life Limiting Diagnosis	**4,948**	1,406	694	810	623	1,415
14.Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	**156**	34	38	22	33	29
15.Healthy, Moderate Acute without Hospitalization	**66,419**	17,095	10,437	12,004	7,554	19,329
16.Healthy, Minor or No Conditions	**82,222**	27,123	13,273	13,579	8,510	19,737
17.Newborns & Neonates, Major Acute	**272**	105	31	39	41	56
18.Newborns & Neonates, Moderate Acute	**945**	332	142	123	121	227
19.Newborns & Neonates, Minor or No Acute	**11,846**	3,809	1,845	1,963	1,469	2,760
Total	**253,681**	73,013	40,034	44,809	29,190	66,635

Child and Youth Population Morbidity

This exhibit compares the distribution of the child and youth population by segment across the sub-regions.

The table's lower portion is colour coded to highlight sub-region morbidity variation. Blue implies the desired end of the distribution, for example having the highest proportion in the healthiest segments or the lowest proportion in complex chronic segment.

These results imply that Western Champlain has the highest morbidity of the sub-regions. For example, Western Champlain has 14 percent more children in the complex chronic segments than expected at the LHIN average.

	Distribution of the Child and Youth Population					
Segment Category	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Complex Chronic	11.9%	12.2%	13.2%	12.3%	14.3%	12.6%
Non Complex Static Chronic	21.6%	23.9%	24.8%	23.1%	24.8%	23.4%
Major Acute / Moderate Acute	2.3%	2.5%	2.2%	2.4%	2.6%	2.4%
Healthy / Minor Acute w Hosp	64%	61%	60%	62%	58%	62%

	Ratio of sub-region to LHIN average distribution				
Segment	*Central Ottawa*	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*
Complex Chronic	0.95	0.97	1.05	0.97	1.14
Non Complex Static Chronic	0.92	1.02	1.06	0.99	1.06
Major Acute / Moderate Acute	0.97	1.05	0.90	1.00	1.10
Healthy / Minor Acute w Hosp	1.04	0.99	0.97	1.01	0.94

Distribution of Champlain LHIN Paediatric Population

This shows the distribution of children by segment and SDH risk group.

Paediatric Segment	*Champlain LHIN Paediatric Population: Distribution by SDH*					
	Low Risk, City	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*
Complex Chronic, Life Limiting Diagnosis, Palliative	<0.1%	<0.1%	0.1%	<0.1%	<0.1%	
Complex Chronic, Life Limiting Diagnosis, Not Palliative	4.3%	4.8%	4.8%	4.4%	4.5%	3.6%
Complex Chronic, without Life Limiting Diagnosis	6.9%	7.4%	7.2%	7.6%	8.4%	5.5%
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	0.1%	0.1%	0.1%	0.1%	0.1%	
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	8.1%	8.1%	6.5%	7.3%	8.6%	4.1%
Non Complex Static Chronic, with Major Acute Hospitalization	<0.1%	0.1%	0.1%	0.1%	0.1%	0.2%
Non Complex Static Chronic, with Non Major Acute Hospitalization	0.2%	0.2%	0.2%	0.2%	0.3%	0.5%
Non Complex Static Chronic, without Acute Hospitalization	14%	14%	13%	14%	14%	15%
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	<0.1%	<0.1%	<0.1%	<0.1%	0.1%	0.2%
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	0.2%
Moderate Acute with Hospitalization	0.2%	0.2%	0.2%	0.3%	0.3%	0.8%
Minor Acute with Hospitalization	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	1.8%	2.1%	2.0%	1.8%	2.0%	2.0%
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	<0.1%	<0.1%	<0.1%	0.1%	0.1%	0.3%
Healthy, Moderate Acute without Hospitalization	28%	26%	20%	26%	26%	30%
Healthy, Minor or No Conditions without Hospitalization	33%	31%	39%	33%	30%	32%
Newborns & Neonates, Major Acute	0.1%	0.1%	0.2%	0.1%	0.1%	
Newborns & Neonates, Moderate Acute	0.3%	0.4%	0.6%	0.3%	0.5%	0.3%
Newborns & Neonates, Minor or No Acute	3.5%	5.4%	5.9%	4.6%	5.0%	5.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Sources: CTC, DAD, NACRS, OHIP 2014/15

Morbidity and Social Determinants of Health Risks are Correlated

This shows the actual to expected distribution relative to the Champlain LHIN average. High risk neighbourhoods in towns have the highest morbidity.

For example, in high risk neighbourhoods in towns, 58.8 percent of children are in the healthy segments, compared to the 62 percent LHIN average.

Blue implies the desired end of the distribution, for example having the highest proportion in the healthiest segments or the lowest proportion in complex chronic segment.

Segment	*Low Risk, City*	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*	*LHIN*
Complex Chronic	11.7%	12.9%	12.9%	12.7%	13.7%	10%	13%
Non Complex Static Chronic	22.8%	24.1%	21.3%	23.0%	24.9%	21%	23%
Major / Moderate Acute	2.1%	2.6%	2.5%	2.3%	2.7%	4%	2%
Healthy / Minor Acute w Hosp	63.4%	60.5%	63.3%	62.0%	58.8%	66%	62%

Segment	*Low Risk, City*	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*	*LHIN*
Complex Chronic	9,000	10,168	2,461	5,354	3,193	58	30,234
Non Complex Static Chronic	17,617	18,946	4,070	9,695	5,793	127	56,248
Major Acute / Moderate Acute	1,634	2,012	476	990	619	22	5,753
Healthy / Minor Acute w Hosp	48,994	47,576	12,090	26,145	13,706	398	148,909

Newborn and Neonatal Outcomes Vary Across the LHIN

Newborns and neonates in Central Ottawa and Western Champlain are more likely to have major acute problems than elsewhere in the LHIN.

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population*					
	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Newborns & Neonates, Major Acute	105	56	39	31	41	272
Newborns & Neonates, Moderate Acute	332	227	123	142	121	945
Newborns & Neonates, Minor or No Acute	3,809	2,760	1,963	1,845	1,469	11,846
All	4,246	3,043	2,125	2,018	1,631	13,063

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population*					
	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Newborns & Neonates, Major Acute	2.5%	1.8%	1.8%	1.5%	2.5%	2.1%
Newborns & Neonates, Moderate Acute	7.8%	7.5%	5.8%	7.0%	7.4%	7.2%
Newborns & Neonates, Minor or No Acute	90%	91%	92%	91%	90%	91%

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population*					
	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	*Champlain LHIN*
Newborns & Neonates, Major Acute	1.19	0.88	0.88	0.74	1.21	1.00
Newborns & Neonates, Moderate Acute	1.08	1.03	0.80	0.97	1.03	1.00
Newborns & Neonates, Minor or No Acute	0.99	1.00	1.02	1.01	0.99	1.00

Newborn and Neonatal Outcomes Vary Across the LHIN

Newborns and neonates are more likely to have moderate or major acute problems in high SDH risk neighbourhoods in cities.

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population: Distribution by SDH*						
	Low Risk, City	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*	*LHIN*
Newborns & Neonates, Major Acute	56	94	50	38	34	0	272
Newborns & Neonates, Moderate Acute	206	343	133	142	119	2	945
Newborns & Neonates, Minor or No Acute	2,799	4,534	1,199	2,051	1,231	32	11,846
All	3,061	4,971	1,382	2,231	1,384	34	13,063

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population: Distribution by SDH*						
	Low Risk, City	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*	*LHIN*
Newborns & Neonates, Major Acute	1.8%	1.9%	3.6%	1.7%	2.5%	0%	2%
Newborns & Neonates, Moderate Acute	6.7%	6.9%	9.6%	6.4%	8.6%	6%	7%
Newborns & Neonates, Minor or No Acute	91%	91%	87%	92%	89%	94%	91%

Paediatric Patient Segmentation	*Champlain LHIN Paediatric Population: Distribution by SDH*						
	Low Risk, City	*Average Risk, City*	*High Risk, City*	*Average Risk, Town*	*High Risk, Town*	*Aboriginal*	*LHIN*
Newborns & Neonates, Major Acute	0.88	0.91	1.74	0.82	1.18	0.00	1.00
Newborns & Neonates, Moderate Acute	0.93	0.95	1.33	0.88	1.19	0.81	1.00
Newborns & Neonates, Minor or No Acute	1.01	1.01	0.96	1.01	0.98	1.04	1.00

Health Service Use Varies Substantially Across the LHIN

Health service use varies substantially across the LHIN. In the table below, we show ratios of actual and expected service use. For all services other than CTC, the expected is the provincial average age standardized rate.

Shown in the table's last column, service use in the LHIN is different than the provincial average. For example, Champlain's children and youth have five percent more ED visits than expected at the provincial average, yet they have 21 percent fewer inpatient admissions and 16 percent fewer home care services.

	Actual to Expected Ratios					
	Central Ottawa	*Western Ottawa*	*Eastern Ottawa*	*Eastern Champlain*	*Western Champlain*	***Champlain LHIN***
Emergency department visits	**0.80**	**0.77**	**0.70**	**1.41**	**2.37**	**1.05**
Low acuity ED visits	**0.84**	**0.73**	**0.75**	**1.54**	**3.15**	**1.17**
Acute admissions	**0.82**	**0.71**	**0.81**	**0.94**	**0.71**	**0.79**
CCAC Services	**0.82**	**0.88**	**0.82**	**0.87**	**0.77**	**0.84**
Children's Treatment Centre Services*	**1.22**	**0.99**	**1.17**	**0.76**	**0.51**	

*relative to the Champlain LHIN average

Inpatient Acute Care Admissions are Low Across the LHIN Relative to the Provincial Average

This shows the ratio of acute care admissions relative to the provincial average by segment and sub-region.

Hospital admission rates are near or below the provincial average for all segments in all sub-regions.

Actual and Expected Inpatient Acute Care Admissions

Paediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	290	0.92	80	0.86	41	0.78	53	0.91	43	1.05	73	1.02
Non Complex Static Chronic, with Major Acute Hospitalization	189	0.94	45	0.92	47	1.07	34	0.98	27	0.91	36	0.81
Non Complex Static Chronic, with Non Major Acute Hospitalization	551	0.92	158	0.93	127	0.93	106	0.89	63	0.93	97	0.92
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	83	0.92	31	0.99	20	0.86	10	0.87	12	1.02	10	0.79
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	17	0.81	5	0.74	6	0.82	1	0.56			5	0.96
Moderate Acute with Hospitalization	590	0.92	137	0.93	156	0.88	78	0.92	63	0.94	156	0.97
Minor Acute with Hospitalization	15	0.86	2	0.82	5	0.89	3	0.83	4	0.87	1	0.95

Sources: DAD 2014/15

Inpatient Acute Care Admissions are Low Across All SDH Risk Groups Relative to the Provincial Average

This shows the ratio of acute care admissions relative to the provincial average by segment and SDH risk group. Hospital admission rates are below the provincial average for all segments in all SDH risk groups.

Actual and Expected Inpatient Acute Care Admissions

Paediatric Segment	*Low Risk, City*		*Average Risk, City*		*Average Risk, Town*		*High Risk, Town*		*High Risk, City*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	67	0.90	116	0.97	49	0.93	35	0.85	23	0.83
Non Complex Static Chronic, with Major Acute Hospitalization	40	0.90	61	0.91	45	1.00	28	1.03	14	0.87
Non Complex Static Chronic, with Non Major Acute Hospitalization	147	0.91	166	0.90	104	0.88	82	0.98	48	0.98
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	12	0.94	30	0.91	17	0.92	14	0.91	9	0.93
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	4	0.79	4	0.99	3	0.71	2	0.97	3	0.65
Moderate Acute with Hospitalization	170	0.96	165	0.94	128	0.91	86	0.89	36	0.90
Minor Acute with Hospitalization	1	0.90	3	0.84	6	0.88	3	0.87	2	0.82

Sources: DAD 2014/15

Actual and Expected Paediatric Inpatient Acute Care Days: Champlain LHIN

This shows the ratio of acute care admissions relative to the provincial average by segment and sub-region. Hospital inpatient days per capita are below the provincial average for nearly all segments in all sub-regions.

Actual and Expected Inpatient Acute Care Days

Paediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	1,811	1.14	374	0.90	186	0.71	378	1.18	266	1.22	607	1.60
Non Complex Static Chronic, with Major Acute Hospitalization	550	0.91	133	1.06	138	1.15	75	0.86	107	1.26	97	0.53
Non Complex Static Chronic, with Non Major Acute Hospitalization	1,259	0.84	401	0.95	237	0.75	263	0.82	137	0.73	221	0.87
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	264	0.94	111	1.07	48	0.79	42	0.90	27	1.06	36	0.81
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	58	0.82	21	0.80	22	0.87	1	0.12			14	1.29
Moderate Acute with Hospitalization	1,341	0.80	317	0.82	366	0.72	181	0.81	120	0.73	357	0.92
Minor Acute with Hospitalization	29	0.71	4	0.76	11	1.01	7	0.56	6	0.56	1	0.77

Sources: DAD 2014/15

Actual and Expected Paediatric Inpatient Acute Care Days: Champlain LHIN

This shows the ratio of acute care days relative to the provincial average by segment and SDH risk group. Inpatient days per capita are generally low relative to the provincial average

Actual and Expected Inpatient Acute Care Days

Paediatric Segment	*Low Risk, City*		*Average Risk, City*		*Average Risk, Town*		*High Risk, Town*		*High Risk, City*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	292	0.87	926	1.44	289	1.05	163	0.79	141	1.06
Non Complex Static Chronic, with Major Acute Hospitalization	109	0.63	159	0.86	130	1.06	112	1.42	37	0.91
Non Complex Static Chronic, with Non Major Acute Hospitalization	358	0.89	416	0.86	224	0.74	142	0.73	111	1.04
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	50	1.25	101	0.85	46	1.12	24	0.58	38	1.06
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	7	0.60	15	1.15	17	0.80	3	1.09	14	0.67
Moderate Acute with Hospitalization	403	0.90	369	0.87	302	0.75	179	0.74	83	0.64
Minor Acute with Hospitalization	4	1.23	6	0.81	11	0.85	6	0.69	2	0.24

Sources: DAD 2014/15

Actual and Expected Paediatric ED Visits: Champlain LHIN

This shows the ratio of ED visits relative to the provincial average by segment and sub-region.

Actual and Expected ED Visits

Paediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	159	0.84	56	1.01	19	0.63	18	0.54	41	1.87	25	0.51
Complex Chronic, Life Limiting Diagnosis, Not Palliative	13,764	1.01	3,577	0.89	2,484	1.16	1,960	0.82	2,914	1.86	2,829	0.81
Complex Chronic, without Life Limiting Diagnosis	17,433	1.03	3,690	0.76	3,940	1.45	2,132	0.71	4,687	2.38	2,984	0.68
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	618	0.98	172	0.95	115	1.12	92	0.81	120	1.62	119	0.74
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	8,486	1.06	1,820	0.79	1,808	1.41	1,025	0.72	2,122	2.28	1,711	0.82
Non Complex Static Chronic, with Major Acute Hospitalization	432	0.94	100	0.72	112	1.58	60	0.77	94	1.81	66	0.56
Non Complex Static Chronic, with Non Major Acute Hospitalization	985	0.93	243	0.78	218	1.30	147	0.79	180	1.48	197	0.71
Non Complex Static Chronic, without Acute Hospitalization	20,898	1.06	4,407	0.77	4,581	1.48	2,328	0.68	5,843	2.59	3,739	0.73
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	176	0.88	51	0.84	51	1.65	15	0.44	35	1.54	24	0.47
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	30	0.86	5	0.51	12	2.15	1	0.16		0.00	12	1.32
Moderate Acute with Hospitalization	1,072	0.95	209	0.63	326	1.82	123	0.62	155	1.19	259	0.88
Minor Acute with Hospitalization	18	0.84	3	0.49	4	1.19	6	1.59	4	1.63	1	0.18
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,981	1.06	1,276	0.90	928	1.28	560	0.70	1,160	2.18	1,057	0.88
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	175	1.03	25	0.50	41	1.52	13	0.44	66	3.37	30	0.68
Healthy, Moderate Acute without Hospitalization	30,287	1.06	6,500	0.78	6,521	1.45	3,270	0.65	7,946	2.42	6,050	0.81
Healthy, Minor or No Conditions without Hospitalization	11,748	1.10	2,508	0.80	2,426	1.44	1,218	0.65	3,521	2.87	2,075	0.74
Total	**111,262**	**1.05**	**24,642**	**0.80**	**23,586**	**1.41**	**12,968**	**0.70**	**28,888**	**2.37**	**21,178**	**0.77**

Sources: NACRS 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Actual and Expected Paediatric ED Visits: Champlain LHIN

This shows the ratio of ED visits relative to the provincial average by segment and SDH risk group.

Actual and Expected ED Visits

Paediatric Segment	*Low Risk, City*		*Average Risk, City*		*High Risk, City*		*Average Risk, Town*		*High Risk, Town*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	32	0.54	36	0.57	31	2.01	49	1.47	11	0.59
Complex Chronic, Life Limiting Diagnosis, Not Palliative	3,068	0.73	3,992	0.88	1,306	1.17	3,287	1.39	2,096	1.56
Complex Chronic, without Life Limiting Diagnosis	3,306	0.61	4,179	0.75	1,321	0.98	5,027	1.66	3,591	2.18
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	108	0.54	229	1.12	46	0.95	133	1.15	102	1.68
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	1,756	0.69	2,213	0.84	587	0.93	2,297	1.60	1,629	2.10
Non Complex Static Chronic, with Major Acute Hospitalization	76	0.55	119	0.75	31	0.78	131	1.72	75	1.62
Non Complex Static Chronic, with Non Major Acute Hospitalization	243	0.73	268	0.75	76	0.87	228	1.24	170	1.62
Non Complex Static Chronic, without Acute Hospitalization	3,946	0.64	4,920	0.75	1,608	1.00	6,645	1.95	3,766	1.95
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	29	0.48	45	0.66	16	0.93	42	1.25	44	2.20
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	8	0.71	7	0.62	3	1.12	6	0.95	6	1.80
Moderate Acute with Hospitalization	271	0.76	268	0.71	52	0.57	305	1.54	175	1.58
Minor Acute with Hospitalization	2	0.29	4	0.57	4	2.33	5	1.34	3	1.44
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	1,030	0.73	1,414	0.88	449	1.11	1,312	1.67	773	1.64
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	29	0.55	35	0.62	4	0.29	61	2.05	46	2.76
Healthy, Moderate Acute without Hospitalization	6,662	0.74	7,180	0.75	1,978	0.85	9,064	1.83	5,377	1.91
Healthy, Minor or No Conditions without Hospitalization	2,143	0.64	2,730	0.76	928	1.06	3,766	2.04	2,174	2.06
Total	**22,709**	**0.68**	**27,639**	**0.78**	**8,440**	**0.98**	**32,358**	**1.75**	**20,038**	**1.93**

Sources: NACRS 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Actual and Expected Paediatric Low Acuity ED Visits: Champlain LHIN

This shows the ratio of less and no-urgent ED visits (CTAS 4&5) relative to the provincial average

Actual and Expected Low Acuity ED Visits

Paediatric Segment	*Champlain LHIN*		*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	9	1.12	3	1.26					5	5.50	1	0.48
Complex Chronic, Life Limiting Diagnosis, Not Palliative	5,058	1.18	1,183	0.94	913	1.35	679	0.91	1,420	2.89	863	0.78
Complex Chronic, without Life Limiting Diagnosis	7,438	1.18	1,406	0.78	1,622	1.62	796	0.71	2,584	3.55	1,030	0.63
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	97	1.17	26	1.11	24	1.80	7	0.47	27	2.80	13	0.61
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	4,076	1.15	851	0.84	853	1.51	493	0.78	1,203	2.92	676	0.72
Non Complex Static Chronic, with Major Acute Hospitalization	96	1.22	29	1.21	15	1.23	13	0.97	28	3.14	11	0.54
Non Complex Static Chronic, with Non Major Acute Hospitalization	216	1.22	56	1.09	63	2.25	20	0.65	47	2.31	30	0.65
Non Complex Static Chronic, without Acute Hospitalization	10,722	1.19	2,111	0.81	2,341	1.65	1,160	0.73	3,523	3.40	1,587	0.67
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	37	1.17	9	0.94	8	1.62	5	0.92	11	3.05	4	0.50
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	4	1.10	1	0.97	3	5.19		0.00		0.00		0.00
Moderate Acute with Hospitalization	255	1.18	49	0.78	89	2.60	24	0.63	47	1.89	46	0.82
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	2,314	1.16	593	0.98	371	1.20	311	0.91	596	2.63	443	0.86
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	101	1.09	15	0.56	18	1.23	10	0.62	46	4.32	12	0.50
Healthy, Moderate Acute without Hospitalization	16,680	1.15	3,575	0.85	3,490	1.53	1,842	0.72	4,804	2.88	2,969	0.78
Healthy, Minor or No Conditions	6,909	1.20	1,354	0.81	1,422	1.58	721	0.72	2,344	3.56	1,068	0.71
Total	**54,012**	**1.17**	**11,261**	**0.84**	**11,232**	**1.54**	**6,081**	**0.75**	**16,685**	**3.15**	**8,753**	**0.73**

Sources: NACRS 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Actual and Expected Paediatric Low Acuity ED Visits: Champlain LHIN

This shows the ratio of ED visits relative to the provincial average by segment and SDH risk group.

Actual and Expected Low Acuity ED Visits

Paediatric Segment	*Low Risk, City*		*Average Risk, City*		*High Risk, City*		*Average Risk, Town*		*High Risk, Town*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	1	0.41	1	0.37	2	2.97	5	3.69		
Complex Chronic, Life Limiting Diagnosis, Not Palliative	947	0.71	1,322	0.92	456	1.30	1,449	1.95	874	2.07
Complex Chronic, without Life Limiting Diagnosis	1,148	0.57	1,566	0.76	518	1.04	2,601	2.33	1,601	2.63
Non Complex Static Chronic, Mental and Developmental, with Hospitalization	15	0.57	22	0.82	9	1.40	26	1.74	25	3.14
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	751	0.66	986	0.85	283	1.01	1,222	1.93	831	2.42
Non Complex Static Chronic, with Major Acute Hospitalization	16	0.67	28	1.03	9	1.33	30	2.28	13	1.64
Non Complex Static Chronic, with Non Major Acute Hospitalization	29	0.52	62	1.06	15	1.05	73	2.36	37	2.14
Non Complex Static Chronic, without Acute Hospitalization	1,809	0.63	2,265	0.76	784	1.07	3,811	2.42	2,042	2.31
Major Acute with Acute Hospitalization, Life Limiting Diagnosis	9	0.94	4	0.37	5	1.86	10	1.87	9	2.84
Major Acute with Acute Hospitalization, without Life Limiting Diagnosis					1	3.52	1	1.55	2	5.71
Moderate Acute with Hospitalization	51	0.75	58	0.81	10	0.57	95	2.51	41	1.94
Major Acute without Acute Hospitalization, Life Limiting Diagnosis	475	0.78	673	0.99	199	1.16	618	1.85	349	1.74
Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	13	0.45	22	0.72	2	0.27	37	2.28	27	2.99
Healthy, Moderate Acute without Hospitalization	3,522	0.77	3,803	0.79	1,061	0.90	5,312	2.10	2,964	2.09
Healthy, Minor or No Conditions	1,151	0.64	1,499	0.79	493	1.05	2,454	2.47	1,309	2.33
Total	**9,937**	**0.68**	**12,311**	**0.81**	**3,847**	**1.03**	**17,744**	**2.21**	**10,124**	**2.25**

Sources: NACRS 2014/15, Statistics Canada 2011 Census, MOF Population Projections

Champlain LHIN residents have low relative access to CCAC services

This shows the ratio of actual to expected service expenses by LHIN and age group.
Champlain LHIN has the 3rd lowest level of CCAC services relative to the provincial average.
The LHIN's under 18 population received 19 percent fewer CCAC services than expected at the provincial average.

	Actual Over Expected Home Care Services		
LHIN	*<18*	*18+*	*All Population*
Erie St. Clair	1.24	1.04	1.06
South West	1.30	0.96	0.99
Waterloo Wellington	0.95	1.02	1.01
Hamilton Niagara Haldimand Brant	1.23	1.09	1.11
Central West	0.79	0.87	0.85
Mississauga Halton	0.63	0.87	0.84
Toronto Central	0.99	1.26	1.23
Central	1.19	1.01	1.03
Central East	1.01	0.90	0.91
South East	0.94	1.06	1.05
Champlain	0.81	0.90	0.89
North Simcoe Muskoka	0.75	1.01	0.98

Sources: HCRS 2014/15, Statistics Canada 2011 Census, MOF Population
Expected is based on the Ontario average per capita usage (excluding the northern LHINs) by SDH and age group
Costs are calculated using 2014/15 provincial unit costs
Excludes: Specialist Physician Office, Rapid Response Nursing Visit, and Case Management

Actual and Expected Paediatric Home Care Expenses: By Champlain Sub-Region

Access to CCAC services varies substantially within the Champlain LHIN.
Western Champlain had the least access and received 24 percent less service than expected at the provincial average.

Actual and Expected CCAC Expenses by Sub-Region

Champlain Sub-Region	*Actual*	*Expected*	*Ratio*
Central Ottawa	$4,500,000	$5,700,000	0.79
Eastern Champlain	$2,710,000	$3,150,000	0.86
Eastern Ottawa	$2,560,000	$3,300,000	0.78
Western Champlain	$1,740,000	$2,290,000	0.76
Western Ottawa	$4,120,000	$4,890,000	0.84
Total	$15,640,000	$19,330,000	0.81

Actual and Expected Paediatric Home Care Expenses: By Champlain Sub-Region

This shows actual to expected CCAC services by service and sub-region.

For example, Western Ottawa had only 50 percent of the nursing shift hours expected at the provincial average.

Actual and Expected CCAC Expenses by Sub-Region and Service

	Nursing Shift Non-Clinic		*Nursing Visits Clinic*		*Nursing Visits Non-Clinic*		*PSW*		*Allied Health*	
Sub-Region	*Actual*	*A/E*	*Actual*	*A/E*	*Actual*	*A/E*	*Actual*	*A/E*	*Actual*	*A/E*
Central Ottawa	$998,949	0.52	$55,577	0.16	$98,993	0.38	$747,884	0.63	$2,293,434	1.38
Eastern Champlain	$738,285	0.89	$60,904	0.28	$84,584	0.64	$497,162	1.13	$1,126,953	0.86
Eastern Ottawa	$499,398	0.44	$52,278	0.29	$100,860	0.70	$273,707	0.39	$1,363,775	1.45
Western Champlain	$521,051	0.87	$39,126	0.25	$46,161	0.48	$152,905	0.48	$853,794	0.89
Western Ottawa	$821,430	0.50	$96,259	0.37	$65,284	0.33	$517,936	0.50	$2,167,761	1.51
Total	$3,615,456	0.59	$310,979	0.27	$405,754	0.48	$2,190,057	0.59	$7,868,502	1.23

Actual and Expected Children's Treatment Centre Visits: Champlain LHIN

This shows actual to expected ratios for OCTC services by segment and sub-region.

The expected services are based on the LHIN average.

Central Ottawa had 22 percent more OCTC service than expected while Western Champlain had 49 percent less service.

Actual and Expected Children's Treatment Centre Visits

Paediatric Segment	*Central Ottawa*		*Eastern Champlain*		*Eastern Ottawa*		*Western Champlain*		*Western Ottawa*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	623	1.33	96	0.39	540	1.98	246	1.37	76	0.18
Complex Chronic, Life Limiting Diagnosis, Not Palliative	5,802	1.36	1,937	0.86	2,547	1.02	872	0.53	3,318	0.87
Complex Chronic, without Life Limiting Diagnosis	3,368	1.03	1,293	0.72	2,530	1.26	638	0.49	3,626	1.18
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	2,658	1.22	862	0.72	1,568	1.17	299	0.34	2,251	1.09
Non Complex Static Chronic, without Acute Hospitalization	306	1.29	91	0.70	152	1.05	50	0.53	227	1.02
Total	**12,765**	**1.22**	**4,299**	**0.76**	**7,337**	**1.17**	**2,105**	**0.51**	**9,498**	**0.99**

Sources: CTC 2014/15. Statistics Canada 2011 Census, MOF Population Projections

Actual and Expected Children's Treatment Centre Visits: Champlain LHIN

This shows actual to expected ratios for OCTC services by segment and SDH risk group.

The expected services are based on the LHIN average.

High risk city neighbourhoods had 51 percent more OCTC service than expected while towns had 31 to 36 percent less service.

Actual and Expected Children's Treatment Centre Visits

Paediatric Segment	*Low Risk, City*		*Average Risk, City*		*High Risk, City*		*Average Risk, Town*		*High Risk, Town*	
	Actual	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*	*Actual*	*Actual / Expected*
Complex Chronic, Life Limiting Diagnosis, Palliative	154	0.32	848	1.59	237	1.78	307	1.15	35	0.22
Complex Chronic, Life Limiting Diagnosis, Not Palliative	3,522	0.78	6,212	1.28	1,933	1.60	1,916	0.78	893	0.62
Complex Chronic, without Life Limiting Diagnosis	3,204	0.88	4,984	1.32	1,336	1.44	1,035	0.52	896	0.80
Non Complex Static Chronic, Mental and Developmental, without Hospitalization	2,317	0.95	3,275	1.31	885	1.44	629	0.48	532	0.72
Non Complex Static Chronic, without Acute Hospitalization	261	0.99	343	1.26	81	1.21	86	0.60	55	0.68
Total	**9,458**	**0.83**	**15,670**	**1.31**	**4,472**	**1.51**	**3,974**	**0.64**	**2,430**	**0.69**

Sources: CTC 2014/15. Statistics Canada 2011 Census, MOF Population Projections

Family-Provided Health Care for Children With Special Health Care Needs

Families are the most important resource for children with complex needs. Family-provided care varies substantially by the child's condition.

Condition	*% receiving family provided care at home*	*Ave Hours per Week*	*Ave Annual Hours per recipient*	*Average Annual Hours per child*
Cystic fibrosis	93.8	12.9	670.8	629
Cerebral palsy	71.4	14.4	748.8	535
Muscular dystrophy	62.2	13.8	717.6	446
Head injury, concussion, or traumatic brain injury	70.2	11.9	618.8	434
Intellectual disability or mental retardation	63.9	11.2	582.4	372
Epilepsy or seizure disorder	66.2	10.2	530.4	351
Down syndrome	62.8	9.5	494	310
Arthritis or joint problems	66.3	9.1	473.2	314
Diabetes	62.7	9.3	483.6	303
Blood problems	67.7	8.9	462.8	313
Autism	53.2	9.8	509.6	271
Developmental delay	55.0	9.6	499.2	275
Heart problems	57.6	9.1	473.2	273
Behavioural or conduct problems	50.0	7.5	390	195
Depression	48.7	7.0	364	177
Anxiety problems	51.8	6.5	338	175
Migraine or frequent headaches	53.5	6.1	317.2	170
Asthma	62.9	4.7	244.4	154
ADD	45.4	5.5	286	130
Allergies	55.9	4.8	249.6	140

Source: 2017 Romley, JA. et al. Family-Provided Health Care for Children With Special Health Care Needs. *PEDIATRICS* 139(1)

Family-Provided Health Care for Children With Special Health Care Needs

We used the information on the previous slide to incorporate the need for family-provided care into the segmentation strategy.
We can then measure and forecast relative need for family-care by segment.

		Family-Provided Care Hours		*2034/35*	
Segment	*Kids*	*Total*	*per Kid*	*Kids*	*Family-Provided Care Hours*
01.Complex Chronic, Life Limiting Diagnosis, Palliative	82	34,715	423	98	41,218
02.Complex Chronic, Life Limiting Diagnosis, Not Palliative	11,509	2,266,630	197	13,732	2,699,020
03.Complex Chronic, without Life Limiting Diagnosis	18,643	3,147,866	169	22,170	3,750,760
04.Non Complex Static Chronic, Mental and Developmental, with Hospitalization	239	48,300	202	273	55,599
05.Non Complex Static Chronic, Mental and Developmental, without Hospitalization	20,002	3,200,072	160	24,064	3,861,101
06.Non Complex Static Chronic, with Major Acute Hospitalization	166	25,688	155	194	29,692
07.Non Complex Static Chronic, with Non Major Acute Hospitalization	518	53,377	103	611	63,243
08.Non Complex Static Chronic, without Acute Hospitalization	35,323	2,815,560	80	42,597	3,400,259
09.Major Acute with Acute Hospitalization, Life Limiting Diagnosis	78	16,418	210	90	18,793
10.Major Acute with Acute Hospitalization, without Life Limiting Diagnosis	16	434	27	19	574
11.Moderate Acute with Hospitalization	563	19,780	35	655	22,593
12.Minor Acute with Hospitalization	15	453	30	17	423
13.Major Acute without Acute Hospitalization, Life Limiting Diagnosis	4,940	874,538	177	5,914	1,044,069
14.Major Acute without Acute Hospitalization, without Life Limiting Diagnosis	156	6,214	40	179	6,882
15.Healthy, Moderate Acute without Hospitalization	66,245	1,549,527	23	79,937	1,850,857
16.Healthy, Minor or No Conditions	60,590	838,211	14	73,927	1,010,731
17.Newborns & Neonates, Major Acute	272	45,442	167	324	54,243
18.Newborns & Neonates, Moderate Acute	945	59,378	63	1,121	72,045
19.Newborns & Neonates, Minor or No Acute	11,846	433,068	37	14,043	517,864
Total	232,148	15,435,671	66	279,964	18,499,967

APPENDIX D: DETAILED KEY THEMES

Current State Key Themes

Ten key themes emerged from the survey results and focus groups. The themes point to a need for enhanced child, youth and family-centered care. The following slides provide evidence from the surveys, focus groups and quantitative data to substantiate each theme.

Key Themes	Subtopics	
Funding considerations	• More consistent and continuous program funding • Funding based on social determinants of health	• Better distribution of funding, more accountability and oversight
Access to care	• Access to the appropriate level of care • Availability of after hours care	• Access to specialist care in rural areas
Wait times	• Long wait times due to inadequate resources (facility, staff, specialists) • Long wait times due to improper allocation of resources	• Not enough resources and information provided to children, youth and families while they are waiting
Health equity	• Attention to social determinants of health including income, language and culture	• Attention to Indigenous, Francophone and newcomer populations and those not familiar with the system
Integration, consistency, and coordination of care	• Need for clearly defined care pathways • Consistency and integration of care is needed to improve quality and efficiency	• Better coordination is needed help families navigate • Need for smoother transitions between different age groups within pediatrics and into adult care
Transitions of care	• Transitions to adult care	• Transitions between different age groups within pediatrics
Prevention, community, and primary care	• Prevention upstream is important to reduce demand downstream	• Need for better access to community care
Mental health, behavioural and developmental issues	• More resources are required for children and youth experiencing mental health issues	• More support for children and youth with behavioural and developmental issues
School systems support	• Lack of properly trained professionals to support children with special needs	• Lack of integration between the school systems and the health system
Parenting skills and support	• Lack of parenting skills to support children with special needs and to support prevention efforts	• Lack of available information (available services, counselling, respite, support networks, etc.)

Funding Considerations

There is a lack of coordination between different funding agencies (MOHLTC, MCYS, MCSS, MEDU)

- Funding agencies have strict mandates which restrict the services that they can fund; these mandates are not designed from a family-centered perspective, leading to unmet need
- Funding agencies often do not know what services are being provided by the other funders
- More accountability and oversight is needed between agencies; 2015's "Bringing Care Home" report specifies that the MOHLTC should take a role in coordinating with other provincial ministries

Funding for paediatric care is siloed; the lack of flexibility and appropriate distribution makes it difficult for families to receive the care they need

- While parts of the system are well funded, services are siloed and difficult to access (e.g. level 2 specialty neonatal care is underfunded and funding for services such as OT and PT is insufficient)
- Funding should address social determinants of health
- Despite increased funding for home care services, the on-the-ground reality has not changed
- Eastern and Western Champlain have fewer resources than needed due to funding distribution
- Program funding is not always guaranteed year over year, which impacts planning and sustainability (e.g. Healthy Babies Healthy Children funding has dropped, impacting downstream services)

There is a significant financial burden for families, who sometimes pay out of pocket for private services to augment existing services and better meet their child's needs (e.g. private nursing support, PT and OT)

- Funding is not set up to support families with their true needs (e.g. CCAC funding stops once children and youth are admitted into inpatient units; this interrupts provision of care)
- The process to receive additional MCYS funding is long and demanding (one family reported that they had waited 8 years for funding)
- Valoris, a private provider, can provide effective case support and work with families to receive additional funding to meet their child's needs

Source: survey, focus groups

Access to Care

Champlain's paediatric population will grow slowly but will be increasingly concentrated in Ottawa

- Ontario's paediatric population is not expected to grow quickly over the next 20 years. Champlain has the 4th fastest expected growth of all LHINs
- The paediatric populations in the Ottawa sub-regions will increase by 30 percent over the next 20 years while the Eastern and Western Champlain populations will not grow

Access to the right care at the right time in the right place varies across the LHIN

- Some providers lack appropriate pediatric training
- There is significant duplication of service, leading to too much of one service and too little of another
- Children and youth often fall through the cracks because of the inflexibility of mandates with the existing services and programs (e.g. programs can refuse children and youth because they have multiple conditions)
- Certain population groups are particularly ill-served by the current system of care, including newcomers, indigenous peoples (particularly non-Inuit populations) and Francophone communities
- Families report that the quality of care they receive at CHEO is very high, but they struggle with services offered outside the hospital
- Enhanced services are specifically required in the following areas:
  - OCTC ambulatory and mobility services
  - Pediatric palliative care
  - Paediatricians and community care providers in rural areas
  - Level 2 specialty neonatal care
  - Free dental care all children
- Family practice nurses are necessary but missing from the system right now

Sources: survey, focus groups, quantitative data

Access to Care, continued

Access to the right care at the right time in the right place varies across the LHIN (continued)

- While private providers operate in the region, some families are concerned about seeking services from providers such as Valoris that are also involved in child protection services
- Technology use, and specifically the use of telehealth, is variable, with communities in Western Champlain reporting to use it more often and more effectively than communities in Central or Eastern Champlain
  - OTN does not provide specific pediatric support and is not set up in family physician offices
- Availability and affordability of appropriate transportation services is a barrier; paramedics are not ventilator trained and cannot transport a ventilator-dependent child

Eastern Champlain and Western Champlain generally have less access to the appropriate level of care at the right time than central Champlain, which impacts health outcomes in these regions

- Some providers feel that specialist care is too centralized within CHEO, resulting in a lack of capability and capacity elsewhere in the LHIN and too much demand on CHEO and its ED
- Western Champlain has the highest child and youth morbidity in the LHIN
- ED visits per capita are very low in all Ottawa sub-regions, high in Eastern Champlain, and very high in Western Champlain; this is reportedly due to the fact that adequate community supports do not exist or are not known of in the Eastern and Western regions
- Eastern and Western Champlain have roughly 25 and 50 percent less use of OCTC services than the Ottawa sub-regions

Families and providers require a single source of information regarding available paediatric services

- The region of Prescott-Russell has a printed document which summarizes the services available in French to help Francophones access services
- A family advisory group suggested developing a shared calendar for counselling services; providers and families could access the calendar online and identify services that are relevant and convenient for them
- Programs aimed at parents are not always offered at convenient times during the week

Sources: survey, focus groups, quantitative data

Wait Times

Across the region there are long wait times for services

- Triage processes used to place children and youth on wait lists are often unclear
- Children and youth are often put on multiple wait lists because it is unclear which services will best meet their needs and/or which wait list will be fastest; this makes some wait lists unnecessarily long and delays care for many
- Specifically requesting French language services often leads to longer wait times for children, youth and their families

There are opportunities to address long wait times

- Some newer programs and initiatives still have low participation rates, presumably because families and providers do not know about them, which impacts program sustainability
- Service scheduling is ineffective (e.g. therapy is provided in 6 week blocks, but once a child finishes one block, they have to wait months until they receive the next block of care, with no services to sustain their gains while they wait)
- Resources – both human resources and physical resources – are not being centrally coordinated or allocated according to need, which impacts regional wait times

Not enough resources and information are provided to children, youth and families while they are waiting

Sources: survey, focus groups

Health Equity

More focus is needed on addressing social determinants of health including income, language and culture

- High risk social determinants of health (SDH) city and town neighbourhoods use more of some services, but have poorer health outcomes in some areas
- High SDH risk city and town neighbourhoods have a higher proportion of newborns with major or moderate problems
- High SDH risk neighbourhoods in cities and towns have higher ED use than other neighbourhoods

Specific strategies need to be adopted for high risk children and youth

- For those who are high risk, proactive outreach and consistent follow up is necessary
- Many adult care doctors refuse to take on patients with complex needs, so strategies are required to support youths through this transition and connect them with appropriate care

More focus is needed on Indigenous, Francophone and newcomer populations and those not familiar with the system

- Integrated Plans of Care (IPCs), in which elders work with providers to ensure care plans are culturally sensitive, has had great success for Inuit families
- Aboriginal Child Health and Wellness Measure is the first assessment tool developed from the ground up for the Aboriginal population and is working very well

Sources: survey, focus groups, quantitative data

Integration, Consistency, and Coordination of Care

Hospital inpatient admissions and days across the region are generally low relative to the provincial average in all segments and sub-regions, indicating effective hospital triage

The use of integrated care pathways is limited, impacting consistency and coordination of care

- System navigators are needed to help families access the care they need
- There are some supports aimed at enhancing consistency of care, such as rapid response nurses who work with families in the hospital and in the home and system navigators in CHEO's Complex Care program
- Coordination and consistency of care are challenging in Eastern and Western Champlain where there is less access to services (e.g. there were 49% fewer Children's Treatment Centre visits than expected in Western Champlain)

Communication amongst providers is lacking, leading to inconsistencies in care

- Roles and responsibilities need to be clarified to ensure each provider is working to their full scope of practice and delivering maximum impact (e.g. family health teams often provide consults to family physicians rather than working directly with children and youth)
- The adoption of coordinated care plans for people with complex needs is improving and Stormont, Dundas, and Glengarry use a case conferencing approach
- Community providers have not all adopted standardized screening and assessments
- While there are new programs being created to meet the needs of children, youth and their families, these programs remain unknown, underutilized or inadequate to meet current level of demand
- eConsult program is effective and should be expanded for better communication between providers
- CCAC services are particularly difficult to address in terms of consistency, and further integration is needed between home care and other services such as critical care and social work

Integration between health and education systems is very limited, though relationships are improving

- The system needs to be more family-centered, involving families in service delivery decisions and design

Sources: survey, focus groups, quantitative data

Transitions of Care

Transitions between different age groups within pediatrics are difficult

- Information is not freely shared between providers, impacting care provision and patient experience
- Care is often interrupted and/or discontinued as children transition between age groups due to the inflexible and siloed nature of many programs

Transitions to adult care are very challenging

- Many adult care doctors refuse to take on patients with complex needs
- Children and youth with mental health and addictions issues are particularly poorly served as they transition
- Funding models are drastically different for pediatrics and for adult care, making it very difficult to adjust for patients and families
- As a youth turns 19, many of the previously available services for families are no longer available, even though the care needs have remained the same
  - One family noted that their child has the mental capacity of a 9-year old; while he has physically turned 19, it does not mean that he is able to function as a 19-year old

Sources: survey, focus groups

Prevention, Community, and Primary Care

Lack of access to appropriate prevention and community-based services is leading to increased hospital use

- While hospital admission rates are below the provincial average for all segments in all sub-regions, lack of access to prevention and community-based services leads to increased acuity
  - ED visits ranged between 16% fewer visits than expected among children with complex chronic conditions with life limiting diagnoses receiving palliative care and 10% more visits among healthy children with minor or no conditions as compared to the provincial average
  - Hospitalization rates ranged between 3% fewer hospitalizations for non complex static chronic with major acute to 22% fewer minor acute inpatient admissions

Prevention upstream is important to reduce demand downstream

- Effective early intervention requires coordination and wrap-around care, which is not currently provided
- School system support is key; children in grade 3 should all receive psychoeducational assessments
- CHEO has programs that work to strengthen the relationship with Nunavut
- Ottawa Inuit Children's Centre (OICC) provides programming for early childhood services

CCAC services are inadequate to meet current needs of children, youth and families

- Access to CCAC services varies by segment and sub-region; CCACs are more focused on seniors care than on paediatric care, despite the fact that of the 100 clients receiving the most expensive CCAC services, 50 are children
- Western Champlain has the most CCAC service use relative to the other sub-regions; Central Ottawa has the least
- High risk SDH risk town neighbourhoods have the most CCAC use, while high risk SDH risk city neighbourhoods have the least

Information sharing within the community is significantly lacking

- Families and providers do not have a single source of information about all the services available in the area, and often learn about services by word of mouth
- Because of the lack of information sharing, community providers are not able to provide coordinated services that improve access, reduce duplications, and make good use of resources

Sources: survey, focus groups, quantitative data

Mental Health, Behavioural and Developmental Issues

The frequency and complexity of diagnoses of mental health, addictions, behavioural and developmental issues is increasing, including among infants and pre-school children

- The specific challenges related to mental health and addictions were raised in every focus group and will be critical to address in the future state recommendations
- More resources are required to address the needs of children and youth, particularly for high risk groups
- Trauma, attachment and anxiety are high priority issues for the region that are partially linked to lack of strong parenting skills

There is a lack of early identification (including pre-pregnancy) and early intervention (including creating targeted strategies to better serve high risk neighbourhoods)

- Some assessment and screening is done but accessing appropriate follow-up care is often challenging

The system is not designed for children and youth with mental health, behavioural and developmental issues

- Some walk-in clinics are offering counselling services 6 days a week, which has reduced mental health visits to the ER
- Providers sometimes misdiagnose patients in order to get them into the next available service or inadvertently misdiagnose them due to lack of training
- There is no support for children, youth and their families after they have received a diagnosis while waiting for treatment
- Children and youth who are home schooled, have multiple conditions and/or identify as LGBTQ are particularly ill-served by the current system
- More innovative programs need to be designed for mental health and behavioural services, taking into consideration the target population and their preferences
    - Jack.org is a powerful program that is effective in reaching out to high school students
    - KickStart autism program is very effective at teaching parents how to interact with their child

Sources: survey, focus groups, quantitative data

School Systems Support

Children and youth are not always ready to enter school

- Early Development Instrument (EDI) score, a standardized questionnaire completed by kindergarten teachers which measures children's ability to meet age appropriate developmental expectations, shows a significant lack of readiness for children entering schools (e.g. in Cornwall and Hawkesbury, roughly 40% of children are not ready to enter grade 1)
- The rates of behavioural issues for pre-school children are increasing

Lack of properly trained professionals to support children with special needs

- School teachers are not trained to deal with children of mental health and behavioural needs, which are increasing in number
- Due to lack of resources, some children and youth with complex conditions do not qualify to attend public school unless they obtain the needed health system supports, which can be difficult for families to obtain
- On paper, it appears as though all school-aged children are receiving supports through the school system, but many are too ill to attend school on a regular basis; this is especially true for children who do not meet the admission criteria for OCTC's school but require significant daily classroom supports

Lack of integration between the school systems and the health system

- Effective screening and treatment efforts are not available in the school system, impacting families and downstream service provision
- Provision of health care services in schools is very limited, partly due to funding constraints (for example, some children who need PT/OT care may only receive half an hour of service every 2 weeks)
- Appropriate school system support is key in prevention; children in grade 3 should all receive standardized psychoeducational assessments

Sources: survey, focus groups

Parenting Skills and Support

The system needs to be more family-centered, involving families in service delivery decisions and design

- Parents often feel that they are their child's only advocate, but are hampered by limited resources
- Parents' voices and opinions related to their child's care are not always heard; there is a lack of transparency in the system, where providers do not always share their reasoning with families
- There is a lack of centralized information to help families and providers identify available services
  - Go Family is an effective resource for parents to search for services by location and category of professional, again supporting access to services

Parents sometimes lack the necessary skills to support children with special needs and aid prevention efforts

- Prevention supports are required to help parents raise healthy children
- Prevention and parental education needs to start before/during pregnancy to reduce downstream impacts
- Family issues in the region are significant, including high rates of domestic violence
- KickStart autism program is very effective at teaching parents how to interact with their child

Parents require more resources to help them better address the needs of their families

- Rogers House is introducing new initiatives aimed at better supporting parents and families
- Counselling, peer support networks and adequate respite services are required for families
  - Giving parents the opportunity to give and receive support in a group setting encourages information sharing and reduces stress, which improves the overall health of the family
  - Facebook groups specific to families are effective in creating needed networks
- Making Respite Work is an effective initiative, integrating respite services and making it easy for families to access services with one standardized intake form
- Many services are currently available Monday to Friday 9 to 5, making access difficult
- Families whose children have passed away are removed from programming and support groups; leveraging their knowledge and experiences can help improve service delivery and provide needed support to families

Sources: survey, focus groups

Appendix D – Consolidated Findings Table

The following table is a summary of findings and preliminary suggestions for each key theme described in the current state report.

Key Theme	Summary of Findings	Preliminary Suggestions
Integration, Consistency, and Coordination of Care	Communication amongst providers is lacking, leading to inconsistencies in care	• Standardize provider practices and adoption of key tools
	Integration between health and education systems is very limited, though relationships are improving	• Involve families in cross-sectorial integration discussions
	The use of integrated care pathways is limited, impacting consistency and coordination of care	• Develop clear integrated care pathways • Effectively leverage health human resources
	While variation exists in some sub-regions, hospital inpatient admissions across the region are generally low relative to the provincial average, indicating some effective hospital triage or community based services	-
Prevention, Community and Primary Care	Upstream services are needed to reduce downstream demands	• Focus funding on these services
	CCAC services are inadequate to meet current needs of children, youth and families	• Expand CCAC services across the region
	Information sharing between community providers is significantly lacking	• Enable more effective information sharing
	Lack of access to appropriate prevention and community-based services is leading to higher than expected rates of low acuity ED visits	• Centralize access to information on existing services

Key Theme	Summary of Findings	Preliminary Suggestions
Mental Health, Behavioural and Developmental Issues	The frequency and complexity of diagnoses of mental health, addictions, behavioural and developmental issues is increasing, including among infants and pre-school children	• Increase access to services
	There is a lack of early identification and intervention	• Provide training to all paediatric providers to help recognize and refer appropriately
	The system is not designed for children and youth with mental health, behavioural and developmental issues	• Design programs around target populations and provide them in an increasingly client-focused fashion
Parenting Skills and Support	The system needs to be more family-centered	• Involve families in service delivery decisions and design
	Parents require more resources to help them better address the needs of their families	• Provide a single point of access to information on available resources • Increase access to supports • Provide preventative and specialized resources
Access to Care	Champlain LHIN's paediatric population (0-17) will grow slowly but will be increasingly concentrated in Ottawa	-
	Access to the appropriate care varies by provider	• Fully leverage health professionals across the region, such as family practice nurses
	Eastern Champlain and Western Champlain generally have less access to the appropriate level of care at the right time than central Champlain, which impacts health outcomes in these regions	• Determine a family-centered approach to service provision for these regions
	Technology use, and specifically the use of telehealth is variable across the LHIN	• Communicate the need for paediatric-specific OTN supports • Provide technology and technical support to key stakeholders in the paediatric system
	Families and providers do not always know what services are available in the region	• Establish a single source of information regarding available paediatric services

Key Theme	Summary of Findings	Preliminary Suggestions
Health Equity	More focus is needed on addressing social determinants of health including income, language and culture	• Identify high risk patient clusters and provide care that meets their long-term health needs
	More focus is needed on high risk populations, including those with complex needs and specific groups such as Indigenous, Francophone and newcomer populations and those not familiar with the system	• Partner with cultural groups
School Systems Support	Children and youth are not always ready to enter school	-
	Lack of integration between the school systems and the health system	• Provide psychoeducational assessments to grade 3 students • Develop a cross-Ministerial plan • Decrease barriers to access to education • Increase access to in-school supports (allowing for flexibility) • Increase consistency of in-school supports • Train educators
Funding Considerations	There is a lack of coordination between different funding agencies (MOHLTC, MCYS, MCSS, MEDU)	• Communicate the need for more accountability and oversight between funding agencies
	Funding for paediatric care is siloed; the lack of flexibility and appropriate distribution makes it difficult for families to receive the care they need	• Establish one centralized place for families to access funding. Set families up with a care navigator to assist with access to funsding • Funding should support SDH through targeted prevention and care initiatives
	There is a significant financial burden for families, who sometimes pay out of pocket for private services to augment existing services and better meet their child's needs (e.g. private nursing support, PT and OT)	• Assess and fund the true health care needs of children and youth

Key Theme	Summary of Findings	Preliminary Suggestions
Wait Times	Wait times are long across the region	• Review operational best practices, such as lean improvements for clinics • Provide resources and information to children, youth and families while they are waiting
	High needs populations are particularly impacted	• Develop targeted approaches for high needs populations
Transitions of Care	Transitions between different age groups within pediatrics are difficult	• Develop more effective information sharing practices for paediatric care providers
	Transitions to adult care are very challenging	• Support youths to find adult care providers • Communicate the need for the MOHLTC to address gaps in funding between the paediatric and adult care systems

Appendix B: Leading Practice Findings

Overview

The purpose of the leading practices review was to identify innovative practices from Canada and around the world that are relevant to child and youth health system planning in the Champlain LHIN.

The ten key themes identified in the current state report served as the basis of a framework to help guide the leading practices review. The team identified leading practices that addressed the gaps highlighted in each key theme. Examples were gathered through a literature review, as well as through interviews with experts operating in the following jurisdictions:

- Ontario
- British Columbia
- United States
- United Kingdom
- Netherlands
- Australia
- New Zealand

It is important to note that many of the leading practices referenced are from child and youth health systems, but innovative models for adult populations were reviewed and adapted to align with the needs of children and youth.

Implications for THRIVE

Through this review, it became evident that there is no single system of care that:

- Suitably addresses each of the ten key themes identified in this report;
- Clearly demonstrates outcomes that are achievable and measurable;
- Is relevant to the specific issues that affect the delivery of child and youth health care in the LHIN; and
- Successful systems of care are tailored and developed to meet the specific needs of the populations served.

Given these findings, the future system of care in Champlain should build on:

- Understanding the specific needs of the populations served;
- Care delivery models that are currently working well in the region;
- Successful elements of other proven care models, and
- Leading/innovative practices from other jurisdictions to meet the needs of the local population.

Global Trends in Child and Youth Care

The literature review and expert interviews pointed to three key trends relevant to child and youth care:

Trend	Summary	Leading Practice Examples
Movement towards value based payments	Funders, networks and lead agencies are moving from volume-based payments to outcomes-based payments	New York State's Delivery System Reform Incentive Payment Program funds providers when they achieve a pre-determined set of outcomes within the Medicaid population
Recognition of benefits of care closer to (and in) home	Health systems are increasingly focused on developing capacity in the community in order to reduce some hospital demand, and to make care more seamless for patients and caregivers	London, Ontario's Integrated Comprehensive Care pilot program allows patients receiving thoracic surgery, total joint replacement or chronic obstructive pulmonary disease/congestive heart failure treatment to move seamlessly between the hospital and community settings
Empowering families and caregivers to self-care	Most children and youth will receive the majority of their care from themselves, their families and their caregivers; providers are increasingly including families at the centre of the care team, ensuring their expertise is heard, and building their capacity to manage their health even more effectively	Vanier's Social Pediatrics Hub puts the child or youth at the centre of their own care. The intake assessment brings the child or youth together with their family/ caregiver, social worker, nurse practitioner, pediatrician, their teacher, and other key stakeholders. A care plan is created by all the stakeholders and families are given resources to better meet their needs and intended outcomes.

LEADING PRACTICES: CANADA

Vanier: Social Pediatric Hub

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Distribution & Sustainability	Wait Times	Transitions of Care
Source	University of Ottawa. *Grant Acquired for Vanier Social Pediatric Hub. https://med.uottawa.ca/pediatrics/news/grant-acquired-vanier-social-pediatric-hub*									

Overview

- Opening in September, the Vanier Social Pediatric Hub will provide bilingual, culturally sensitive, interdisciplinary, integrated and intersectoral, care to children and youth (0-17 years) and support to their families
- A multi-disciplinary team including a nurse practitioner and social worker will provide holistic care

Relevance to the Champlain Region

- Designed for the population it serves
- Will enhance integration and coordination by providing multiple services in one location
- Will improve access and coordination through its walk-in model
- Will improve health equity by offering bilingual, culturally sensitive care
- Enhances intersectoral coordination, as funding is through Ontario's Poverty Reduction Strategy Fund

CHEO and The Royal Ottawa Hospital: Mental Health Strategy

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	http://www.theroyal.ca/mental-health-centre/news-and-events/newsroom/13217/cheo-and-the-royal-answer-call-to-improve-access-to-mental-health-care-with-young-minds-strategy/ http://www.theroyal.ca/mental-health-centre/news-and-events/newsroom/15744/the-royal-and-cheo-see-major-drop-in-wait-times-for-child-and-youth-mental-health-care-and-significant-increase-in-outpatient-visits/									

Overview

- CHEO and the Royal work together to provide specialized psychiatric and metal health services for the region's children and youth
- This approach is aimed at improving access, reducing wait times and creating a strong system of mental health services for children, youth and families
- Initiatives include reducing waitlists using the Choice and Partnership Approach (CAPA), offering support to children and youth while they wait for treatment, improving emergency care, dedicating beds at CHEO for children under 12 with severe mental health problems, and improving supports with Francophone, Indigenous, ethnocultural and LGBT children and youth
- The results are strongly encouraging; between 2015-2016:
    - The Royal: wait times for first appointment fell from 15 months to under 4 weeks, with a 2% increase in inpatient days
    - CHEO: wait times for first appointment fell from 7 months to 4.5 weeks, with a 9% drop in emergency mental health visits and a 14% drop in inpatient days

Relevance to the Champlain Region

- Designed for the population it serves
- Demonstrates an evidence-based, family-centered approach to care planning and delivery

Hamilton: Integrated Comprehensive Care

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Distribution & Sustainability	Wait Times	Transitions of Care
Source	http://www.npaonline.org/start-pace-program/understanding-pace-model-care									

Overview

- St. Joseph's Health System launched the Integrated Comprehensive Care (ICC) model to integrate hospital and community care services within the Hamilton Niagara Haldimand Brant region

Relevance to the Champlain Region

- Designed for the population it serves
- Leverages an interdisciplinary model including physicians, nurse practitioners and allied health professionals
- Improves care coordination through a designated care coordinator who helps patients navigate their care journey and coordinate discharge planning
- Enhances coordination through a common EHR between hospital and community settings
- Enhances access through a 24/7 central contact number

London, ON: Prevention and Early Intervention Program for Psychosis

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Distribution & Sustainability	Wait Times	Transitions of Care
Source	http://www.lhsc.on.ca/About_Us/PEPP/									

Overview

- The Prevention and Early Intervention Program for Psychoses (PEEP) is a community-focused mental health program focused on early intervention and providing case management, psychiatric care, peer supports, therapeutic groups, employment counselling, education support, psychology, and a library

Relevance to the Champlain Region

- Designed for the population it serves
- Enhances integration and coordination by providing multiple services through one program
- Enhances access by engaging a network of provers across the region
- Focuses on early intervention
- Enhances families' access to supports
- Reduces stigma related to mental health

British Columbia: Tele-Pediatric ICU

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	http://www.bcchildrens.ca/about/news-stories/news/2017/canadas-first-tele-pediatric-intensive-care-program-launched-in-bc									

Overview

- British Columbia launched the first tele-pediatric intensive care service (tele-PICU) in Canada to provide children with increased access to specialized care closer to their home communities
- Tele-PICU allows intensive care teams at BC Children's Hospital or Victoria General Hospital to assess children at regional hospitals through real-time, two-way videoconferencing using high resolution cameras and digital stethoscopes. The teams will be able to collaborate with community health care providers to provide children with diagnoses and treatment sooner and often without leaving their community

Relevance to the Champlain Region

- Supports the recommendation to enhance telemedicine supports to increase access to care closer to home
- Demonstrates how telemedicine can be leveraged to meet the unique needs of children and youth

LEADING PRACTICES: GLOBAL

Boston Children's Hospital: Evaluating School-Based Screening for Eating Disorders

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	Boston Children's Hospital http://www.childrenshospital.org/news-and-events/2014/july-2014/school-based-screening-for-eating-disorders-could-improve-detection-and-outcomes									

Overview

- Eating disorders are under diagnosed and under treated, particularly among low-income, minority, overweight and male teenagers – only 3% to 28% of teens with eating disorders receive treatment for their condition, and teens with untreated eating disorders face medical complications, hospitalization and higher risk of early death
- Researchers developed a 5-question eating disorders screening survey and simulated the impacts of the screening for a 12 month period
- The survey measurably boosted detection and treatment for eating disorders
- This simple screening program costs $0.35 USD per student, and the survey can be scored quickly

Relevance to the Champlain Region

- Enhances early detection for eating disorders
- Enhances schools supports for children, youth and families
- Provides an evidence-based, standardized screening tool for use across the LHIN

New York: Medicaid Reform

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	https://www.health.ny.gov/health_care/medicaid/redesign/dsrip/									

Overview

- New York State is approaching integration of providers through payment reform
- It has set two critical five year objectives:
  - 25% reduction in avoidable hospital use
  - 90% value-based managed care payments
- It is approaching this change through two key efforts:
  - System redesign, in which providers form care collaborative across the continuum of care
  - Data and analytics-powered payments, in which the State uses deep analysis to design total costs of care and bundled payments, as well as to track value for money

Relevance to the Champlain Region

- A critical care bundle is the maternal-child bundle; as the results of this reform are public, the region can leverage lessons learned regarding local efforts to reduce avoidable hospital use
- The program leverages regional planning with local delivery
- The region can review the success of local efforts, which involve non-healthcare partners such as food banks and housing organizations

Philadelphia: Network Model

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Distribution & Sustainability	Wait Times	Transitions of Care
Source	https://hbr.org/product/the-children-s-hospital-of-philadelphia-network-strategy/710463-PDF-ENG									

Overview

- Beginning as a stand-alone hospital, the Children's Hospital of Philadelphia (CHOP) has expanded to include primary care practices, ambulatory surgery centres, outpatient specialty care centres, and inpatient pediatric units and neonatal intensive care units in community hospitals; it also provides home care and school-based supports

Relevance to the Champlain Region

- Enhances integration, consistency and coordination by closing gaps in the continuum of care
- Leveraged available grants to fund services such as school readiness, reading promotion and parenting education
- Leverages partnership models with community hospitals to enhance capacity and to drive key programs such as the Transitions to Adulthood Program
- Incorporates child, youth and family perspectives into planning, and provides dedicated supports through its Resource Centre

Pennsylvania: Direct Intake Scheduling

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	Journal of Behavioral Health Services & Research									

Overview

- Providers are increasingly looking for ways maximize patient impact, with some adopting lean principles to drive change
- A large community mental health clinic in semi-rural Pennsylvania participated in a regional effort to train social service organizations in the Toyota Production System (TPS), with the goal of improving internal processes and procedures that impact patient engagement
- The clinic used TPS to assess their intake scheduling process from a patient perspective and identified and eliminated non-value-added steps
- The new intake process led to a significant reduction in the number of days patients had to wait for their first appointment:
    - Prior to the intake process change, the average wait time for appointments was 11 days
    - This fell to 8 days after the process change

Relevance to the Champlain Region

- Lean principles can be used to improve patient experience, particularly with respect to wait times

South Carolina: South Carolina Act Early Team (SCAET)

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	http://pediatrics.aappublications.org/content/early/2017/01/10/peds.2016-1061									

Overview

- The South Carolina Act Early Team (SCAET) provides focused collaboration among leaders representing state agencies, universities, health care systems, private organizations, and families to improve quality of life for children with ASD
- SCAET focuses specifically on implementing policy changes and training to result in earlier identification and home-based behavioral intervention for young children at risk for ASD
- The Team recently introduced 2-tiered screening process to reduce barriers to care for high-risk children
- As a result of this screening program, there was a fivefold increase in children eligible for early intensive behavioral intervention without waiting for a diagnosis of ASD, and only 2.5% of referrals were later found not to have ASD

Relevance to the Champlain Region

- Designed for the population it serves
- Simple screening tools can significantly reduce barriers to access for high-needs populations
- Adoption of screening tools should be driven by funders and specialists

United States: Whole Child and Coordinated School Health Approaches

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	http://onlinelibrary.wiley.com/doi/10.1111/josh.12307/full									

Overview

- The Whole School, Whole Community, Whole Child (WSCC) model, which is used throughout the US, is designed to link health and learning, is founded on concepts of coordinated school health (CSH) and a whole-child approach to education
- The use of CSH interventions can improve health-related and academic outcomes
- There are several lessons learned for implementing CSH and a whole child approaches in schools:
  - Use of school health coordinators
  - School-level and district-level councils or teams
  - Systematic assessment and planning
  - Strong leadership and administrative support, particularly from school principals
  - Integration of health-related goals into school improvement plans
  - Strong community collaborations

Relevance to the Champlain Region

- Importance of a coordinated approach between healthcare and education systems to maximize benefits to children and youth

United Kingdom: Improving Women's and Children's Care

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	KPMG expert interviews									

Overview

- The NHS is currently in the process of developing new models of care for integrating maternal and child care to better meet the varied needs of women and children and to enhance system sustainability
- The models of care align with the Royal College of Pediatrician clinical standards and leverage standardized care pathways operating across a network of providers, enabling sub-regional teams to gain buy-in for the change at the local level
- Strategic Clinical Networks will provide an oversight role to ensure outcomes are being achieved in each sub-region
- Community hubs are being expanded to enable tertiary hospitals to focus on the highest acuity patients

Relevance to the Champlain Region

- The importance of a central body to oversee tracking and monitoring, with leverage to hold providers accountable for meeting the intended outcomes
- The use of integrated care pathways to drive high quality care and financially sustainable service provision

Spain: Remote chronic disease management

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	KPMG expert interviews									

Overview

- Technology is transforming our ability to care for people in their homes
- 77 percent of Basque Country's health budget is consumed by chronic diseases, with patients with multiple conditions set to double by 2020
- The region introduced TEKI, an elderly patient monitoring system which allows remote consultations and monitoring though an Xbox and webcam
- Year 1 results across the 2 million-person population include:
  - US$55 m savings
  - 52,000 hospital visits avoided
  - 7 percent reduction in cost per patient
  - 15,000 consultations per month, 85 percent resolved remotely
  - Improved quality of life

Relevance to the Champlain Region

- Designed for the population it serves
- Technology can enable broader access to care and condition-specific management to reduce avoidable use of more intensive and expensive services

Netherlands: Patient Partnership Approach

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Considera tions	Wait Times	Transitions of Care
Source	KPMG expert interviews									

Overview

- Across the globe, providers are finding ways to better manage care in partnership with patients
- Bas Bloem created ParkinsonNet, a revolutionary partnership approach involving Parkinson's patients
- ParkinsonNet leverages five key design criteria:
  - Helping to create an active patient able to manage their care and take key decisions
  - Defining what value based care would look like from the perspective of the patient
  - Changing the way that doctors and other clinicians work with patients by shifting to a partnership approach with patients
  - Creating a network of experts
  - Linking all of these together with information technology tools
- Achieved 50% reduction in associated hip fractures and €20 million worth of savings.

Relevance to the Champlain Region

- Designed for the population it serves
- It is critical for providers to collaborate to provide a more seamless experience for families

Shanghai: Incentives for Rural Health Providers

Alignment to Key Themes	Integration, Consistency, and Coordination of Care	Prevention, Community and Primary Care	Mental Health, Behavioural and Develop-mental Issues	Parenting Skills and Support	Access to Care	Health Equity	School Systems Support	Funding Distribution & Sustainability	Wait Times	Transitions of Care
Source	http://thelancet.com/pdfs/journals/lancet/PIIS0140-6736(16)31940-7.pdf									

Overview

- Pudong New Area of Shanghai has introduced a series of incentives rural health providers including bonuses, promotions and housing

Relevance to the Champlain Region

- Enhances access to care by increasing the number of providers serving rural and remote communities
- Enhances health equity by specifically targeting underserved geographies and populations
- Leverages targeted incentives to drive provider behaviour

Additional Findings

According to the expert interviewees, healthcare systems that have successfully driven change in care delivery have demonstrated:

- The simplification of funding arrangements (e.g. moving to a single payer rather than multiple payers)
- The encouragement of regional planning with local delivery
- A focus on identifying the right clinical standards for the local context, and adopting them across the region
- An expansion of holistic approaches to care, such as through the development of interdisciplinary community hubs
- A commitment to training healthcare professionals so they can work to their full scope of practice and are prepared to meet the unique needs of children and youth

Each of these findings aligns with the recommendations put forward by the THRIVE steering committee

Appendix C: Future State Focus Group Findings

Stakeholders from across the continuum of care were invited to share their suggestions on how to address the gaps in care identified in the current state analysis, and to identify innovative models of care to consider during the development of the recommendations. Participants were asked to participate in one or more sessions based on key areas of interest identified during the current state phase. For the purposes of future regional work, the full outputs of these discussions are below; for each question, comments are grouped by key theme.

Hospital-Based Care

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- Work within sub-regional group (e.g. Leeds, Grenville, and Lanark) to ensure local solutions are adopted
- For travelling specialists, we need to fortify relationships in the region so that they are not reliant on one provider who is willing to travel (this needs to be extended to SLT, OT, PT, etc.)
    - E.g. Renfrew gets emergency physicians from CHEO, but OCTC needs to do more
- We need to create a hospital system that is broader than CHEO-based care, because it should be focused on tertiary care
- Grenville area is creating supports for providers to help them decide where to refer

Prevention, community and primary care

- Evening and weekend coverage needs to be expanded
- Need a holistic approach to community primary care so it includes SLT, PT, OT

Mental health, behavioural and developmental issues

- Leverage the model of children's mental health leads across other areas of care
- Leverage the learnings from the autism system, which has improved access to care in recent years
- Increase access so families don’t have to rely on private care

Parenting skills and support

- Help parents understand what to ask about mental health and addictions and and when
- Provide online parental supports - Facebook groups as an example
- Provide services that aren't specifically called "counselling" for parents who aren't ready to receive counselling yet

Access to care

- Need more care coordinators and navigators (e.g. cancer care model - when patient comes in for treatment, there is someone at the main site who knows the patient and can provide information and navigation to the patient when they go to satellite sites)
- We need to look at where we need physical service locations across the province and consider the best service type to meet the needs of the population

School systems support

- Clarify provider roles and responsibilities

Transitions of care

- Leverage learnings from Open Doors Lanark
- Create a specialised transitional unit in the Ottawa Hospital
- Need more transitional coordinators on staff
- Leverage Toronto's transitional discharge model where an adult provider meets youth and family and the patient is not discharged from the youth system until they have a clear care plan in the adult system
- Need to do more to support children and youth. E.g. there is an 18 month wait time for chronic pain care, by which point some children have transitioned into the adult system and need to start their wait over again

Other

- Leverage Parents Lifeline of Eastern Ontario (PLEO)
- Lead agency model - this has worked in the region (work with schools, PLEO) - it's been helpful for seniors care and mental health and could be good for other populations
- Regional hubs could help address referral issues

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

See above

Is there anything else you would like us to know as we move forward in our review?

N/A

Mental Health and Addictions

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- Need inter-Ministerial cooperation - connect with consortium table
- YSB is working toward a future state of having a single care plan for each child/youth - in line with Special Needs Strategy
- Increase uptake in evidence-based screening and assessment tools that can be used across the LHIN

Prevention, community and primary care

- Provide access to low acuity services for people so it unclogs the system for those whose needs are higher (e.g. via youthnet, young women on wellness)
- Training and awareness is needed about children under five to aid prevention efforts
- Treat concurrent disorders concurrently (e.g. mental health and substance abuse)

Parenting skills and support

- We need to tap into technology to better meet the needs of children, youth and families
- Clarify the online counselling and resource options
- Build family capacity to address their children's' needs

Access to care

- Databases of services and providers exist, but are not known about or easily accessed
- Work collaboratively with referring agencies to help avoid duplication on waiting lists (don't put people on multiple lists to get service somewhere)
- We need after-care referral plans - we have clear algorithms for referring adults, but not children and youth

School systems support

- Need clarity in roles and responsibilities between health, family and school
- Equip guidance counsellors with information they need to effectively guide children and youth to community and online resources

Funding distribution and sustainability

- Address the funding disparity between mental health and addictions and physical health

Other

- Conduct a skills mix review
- Establish regular systematic multi-agency case reviews and care maps to drive system navigation
- Co-locate mental health and to better address care needs

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

Integration, consistency and coordination of care

- Multi-agency early risk team (MAERT) - run by Ottawa police in east and south-east of Ottawa, and are looking at expansion as the model has proved successful
- Ottawa coordinated access and referral table
- Integrated access is needed for highly complex youth
- Health links model - could work to provide local access and knowledge
- Pathways for Better Care identified 102 different standardized screening and assessment tools, which should be streamlined

Prevention, community and primary care

- Walk-in care model in some areas of the LHIN

Parenting skills and support

- GoFamily - a postal code lookup system for services in the community
- Just Ask campaign is about to come out with 211 and other resource lines available

Access to care

- YSB offers an online chat service

Is there anything else you would like us to know as we move forward in our review?

N/A

Rehabilitation, Developmental and Autism

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- Parents would rather give up one therapy session if it would mean one annual session that brought the full team together – this should be further explored
- Shared care plans are needed to clarify and prioritize goals and this needs to include families

Prevention, community and primary care

- OCTC services largely don't exist outside of Ottawa
    - OCTC does not have the mandate to provide all services to all regions of the LHIN – there is a patchwork of providers and mandates across the LHIN
- CCAC services are too seniors-focused. Should someone else provide services to paeds?

Parenting skills and support

- Parental counselling and supports are required
- Help people through the different waves of need (e.g. start school, transitions to adult)
- Parents need to be encouraged to sign consent forms that expand the circle of care

Access to care

- The one key change would be a shared electronic health record
    - There could be one file the was parent and educator friendly

Health equity

- We need to provide care for families who can't take time out of their day to learn new interventions for their children
- Find new ways to work with families who are non-English or French speakers

School systems support

- There are some meetings with parents and providers and autism specialists at the school board, but more resources are needed to expand this
- Clarify roles and responsibilities

Funding distribution and sustainability

- Healthy Baby Healthy Child and early years funding has not increased in the last 3-5 years - this impacts early intervention

Wait times

- Coordinate wait lists
- Learn from the soon-to-launch centralized access in CHEO-OCTC, which will be supported by the Special Needs Strategy

Transitions of care

- There is a protocol for adult services that's dictated by the Ministry and the service providers start working on a transition plan when the child is in grade 9, though this is only for those with intellectual disabilities
- In some regions, high functioning children don't qualify for adult services after 18

Other

- There needs to be an interdisciplinary working group at the ministry level to integrate their knowledge and set good policy that care isn't so disjointed and siloed (e.g. integrated speech plan - they created a strong plan but didn't implement it)
- In the US, early intervention services are considered a right in the education act (the Birth to Three Program) – we should be thinking about it in the same way
- National advisory committee - guidelines and evidence-based info

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

Integration, consistency and coordination of care

- Case conferencing is a good model, but it requires the right resources, and we're already really strapped for resources
- Leverage the care navigator model
- Autism and cancer care and some end-stage renal disease are the only evidence-based care pathways that are dictated by MOH and MCYS – these need to be expanded
- New autism program will provide tiers of service but will focus on care outside of the school and collaboration will be needed with providers in the school system

Other

- There are 4 pilot projects across the province to do early intervention for kids pre-diagnosis - there are parent coaching models (including at McMaster and ErinOaks)
- We need to provide specific monitoring and coaching for families e.g. if their first child has autism, it is more likely that their second child will be diagnosed with autism too
- we're having trouble doing prevention because we're just able to provide services to people on our roster

Is there anything else you would like us to know as we move forward in our review?

Parenting skills and support

- leverage Dr. Robin McWilliams' routine-bead intervention - we need to rethink how we work with families, childcare and educators so that they become the expert rather than just the experts
- Leverage McMaster University's "F words" of childhood disability - fun, fitness, finances

Transitions of care

- In Windsor, there is a transition program for youth becoming adults, but it needs to be done so no one falls off the radar - everyone gets transitioned

Rural Communities

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- Some care pathways exist but not many
- Need inter-ministerial collaboration
- Look at the scope would be for a paeds-like CCO/HQO organization that creates consistency
- We can use quality improvement plans but not all providers have one

Prevention, community and primary care

- Clarify who is responsible for prevention - is it public health? Is it providers?
- Can we move CHEO services into the community or smaller hospitals to free up higher complexity services?
- Can rural hospitals be the conduit to community services?
- Does CHEO take on a role of developing best practices, setting the regional standard?

Mental health, behavioural and developmental issues

- Lack of healthy attachment

Parenting skills and support

- Leverage the positive parenting program (Prescott Russell) - there are 400 practitioners trained in implementing the program amongst 20 agencies
- Bring in a unified approach to attachment-based, evidence-based parenting supports

Access to care

- Many parents work in the city (have to leave the city, drive back home, drive back to the city)
- Expand mental health counselling services in the community
- Co-locating services (e.g. school, play groups, counselling in the same area)
- Look to geriatric model: geriatricians provide regular rural clinics
- Technology: telehealth is being cut to MCYS agencies, making consults more difficult
- We need two models of consults: a structured and ad hoc consult model
- Families need access to transportation
    - Limited taxi services
    - There are some volunteer driving services but limited
    - Rural south Ottawa has no public transportation, particularly for youth mental health in the community
- There doesn't need to be a paediatrician in every community, but we need more access to them
- We need to remove barriers to paediatricians providing care in rural communities (e.g. providing administrative support, not charging overhead, etc.)
- Autism services outside of Ottawa get home-based services which reduces care time but increases costs
- Create care expectations for certain populations to make sure kids hit major development milestones
- Early screening exists but uptake is very low
- Family health teams with a nurse practitioner work well because care tends to be more holistic
- In cardiac care, the heart institute has led the way by giving all hospitals with report cards, and they meet with hospitals once a year to determine the barriers to improvement
- Leverage evidence-based care e.g. (Rourke screening tool for screening of infants up to school entry)
- We need an EHR across the LHIN so that you can go between sites and identify patterns
- Leverage OTN, making the case for hesitant families and providers:
    - In Cornwall, OTN use is leading to fewer children in the mental health system because accurate diagnoses can be made by specialists

School systems support

- EDI provincial average is 25-26%, but some areas in the LHIN are higher (Cornwall is 40%)
- Youth centres are in rural communities could be used to help with school readiness and other concerns - a mental health counsellor could come into these centre

Funding distribution and sustainability

- There is little consistent practice between regions
- It's too rigid

Other

- Expand health human resources so pediatric care is not as physician focused

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

Prevention, community and primary care

- Having advanced primary care and specialist care would be helpful for rural areas
- Can we also incent providers to work with underserviced populations?

Access to care

- There is a group reviewing non-urgent transportation who haven't raised the issue of children's needs
- Health links CHRS system has helped
- CCAC and CHEO have a joint agreement for discharge planning and they can share information back and forth. The discharge team can edit the chart rather than just view it. This needs to be expanded to other providers.

School systems support

- School professionals need more education and resources to manage children with special needs
- School boards are very stringent on who gets access into the school and so there's an impact the care kids can practically get
- There are between 4-8 school boards in every region, making coordination difficult

Funding distribution and sustainability

- Costs of care are extremely high for parents

Is there anything else you would like us to know as we move forward in our review?

N/A

Newcomers

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

- The key gap is in availability of trained healthcare professionals and support staff who can specifically meet the needs of newcomers
- Language services are particularly required
- There is a new 1-800 number at CHEO that allows for 24/7 access to interpreters, but it is not being used extensively and this access is far less outside of Ottawa
- interpreters get boxed in - they can only help in certain circumstances or there are concerns raised about liability
- Transportation is also a barrier; while there is a free transportation system available, the timing rarely works for families, as they may be dropped off at CHEO in the morning even when the appointment is in the afternoon
- Overall, the quality of care is seen as exceptional

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

N/A

Is there anything else you would like us to know as we move forward in our review?

N/A

Community-Based Care

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- We should plan locally and then as a LHIN so there are local approaches to regional care
- We need to rationalize all the navigators so there isn't duplication
- Can we apply the autism system to other areas where we develop care pathways?
- Do integrated care planning
- Reduce the break between social and health services
- Make consent across providers possible - can we build on health links
- HQO depression pathway example. Paeds pathways will need to be vetted by MOH, MCYS, MCSS, etc.

Prevention, community and primary care

- Look to the lung health network - has standardized COPD and needs to build up asthma based on the COPD offerings we already have (PCAP - asthma) - common referral form and the lung health toolkit on the Champlain healthline
- Use standardized screening, assessments, etc.
- LHIN online booking system already exists for community support sector which books families the next appointment (CARE DOVE)
- Special needs strategy has pointed to the need for better integration across the continuum of care, including the education system

Mental health, behavioural and developmental issues

- Look to the mental health and addictions provincial leadership advisory council (started working in 2011)
- Crisis and withdrawal services are well developed but in the adult system - this is owned by the MOH but for paeds MCYS is trying to create the same thing

Access to care

- Establish a shared EMR
- Allow provider access to the waiting list so they better decide where to refer
- We need to institute monthly clinics that build capacity (e.g. rural respiration therapist partnering with CHEO specialist to teach parents and providers in the community to treat asthma)
- CCAC needs to work better with community providers
- Centralized access - we have it in Prescott Russell which works well
    - Centralized intake can help, but a common referral form, and shared patient numbers would also suffice
- Look at Alberta health services centralized intake process
- CAPA is good but it needs to start in the communities first rather than in the big hospitals. Big hospitals can do education and training, but community has to do CAPA and then whatever is tertiary should go to the big hospitals

School systems support

- Do case conferencing with the schools
- Deliver services at schools to meet families where they are
- There are school board rules that bar health providers from coming into the classroom - we need to get regular conversations between education and health
- Clarify roles and responsibilities between health and education and broader human services to reduce the fragmentation

Transitions of care

- We need more supports for transitional aged youth
- Plan for postsecondary transition into university

Other

- YSB has a francophone table and has engaged youthnet to do a needs assessment for youth
- CAPA model

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

N/A

Is there anything else you would like us to know as we move forward in our review?

- Consider further work on integrating maternal-child care

Complex Care in the Community

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- CHEO navigator program – expand
- Providers need time to do care coordination with other providers and education and other community based services
- Leverage Vanier pediatric hub model

Prevention, community and primary care

- Need specialized nursing care in the community - rotate from hospital to community to have consolidated periods of learning for health human resources

Mental health, behavioural and developmental issues

- **T**here is likely a gap between the upper end of scope of community services and the lower end of scope of hospital services (e.g. eligibility for personality disorder services to the full extent the person needs) – conduct further review to identify the gap
- More step-down programs are needed
- Align ministry mandates and enhance resources, as when some youth transition to the adult system, they are told their needs are not acute enough to allow them access to care
- Parent and youth ideas of treatment can be different; we could use better family supports to help manage this
- Ensure consistency in how services are provide in schools - if kids have to walk to or make an appointment for services, they won't access them

Access to care

- Increase access to ad hoc consultations with paediatricians
- Families have no choice but to travel to get to the level of service they need

- Develop complex care clinics in the community
- Technology can augment access - it needs to be expanded (facetime, skype)
- Provide one stop shops - PT, SLT, OT, mobility clinics, social workers, etc. (like Prism centre in Chatham where specialists from London came down once a week or Holland-Bloorview

School systems support

- Need continuity between health and school systems
- Clarify roles and responsibilities and enable collaboration – who is responsible for each part of my child's care?
- Educate the school system on medical complexity and how to interact with medically complex kids
- There's too much risk-based policy rather than common sense policy

Funding distribution and sustainability

- Self-directed funding is where the adult system is moving, we need to figure out how this might work for peds - if we're serious about self-directed funding, it needs to include all different funding sources - rules can't be as rigid
- Provide incentives to get providers to do community clinics
- Need child minding funding for parents

Transitions of care

- Replicate tools used in the paeds in the adult system to make system more coordinated

Other

- Skill set mix
- We need to consider the other children in the family
- Once school stops, there are few respite opportunities for families
- Conversations about palliative care need to happen earlier in the care journey to help parents and bridge the gap between general medicine and specialized palliative care
- There needs to be more education about how to discuss life limiting diagnoses - have resources to help parents and providers to do that
- Leverage the concept of the Special Needs Strategy coordinated care planner
- There needs to be a framework for helping families through the system and to palliative care
- Special Needs Strategy service resolution concept - we need to embed this.
- We need to rationalize our reporting requirements and accountability mechanisms and divert resources into direct service
- How do we work differently across ministries to reduce waste in the system? E.g. looking at wasteful procurement obligations

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

N/A

Is there anything else you would like us to know as we move forward in our review?
N/A

Integrated Models of Care

How do you recommend the LHIN addresses the gaps identified in the current state analysis? We are particularly interested in identifying innovative models of care that can be adopted or expanded within the Champlain region.

Integration, consistency and coordination of care

- Centralize intake and reduce barriers to information sharing and consent
- To what extent can we leverage the Canadian Paediatric Society protocols across the region rather than creating our own?

Parenting skills and support

- Develop a First Words communication checklist works for people who are literate which takes kids out of the system to give more space for those who need more support

Access to care

- HealthLinks
- We need a ministerial approach to remove barriers

School systems support

- Children should receive care in school with the same therapists (e.g. instead of getting the care at CHEO-OCTC, can the child get the care in the school setting? Therapist could also educate teachers and class about the disorder)
- Some therapies are offered in schools until age 5
- Educators and providers need training in child development and disorders

Funding distribution and sustainability

- Pilot a bundled payment for paeds
- Look for examples of bundled payments across different ministries
- Allow some discretionary funding that allows providers to manage emerging trends like more refugees, a spike in suicides, etc.
- We need funding for providers to do travelling clinics, because they only get paid at their home base

Other

- Standardize ways of counting patient roster and how to report on this

Are you aware of any planned or current initiatives in the Champlain region or the Province that will address the identified gaps? For example, the paediatric mental health strategy and special needs strategy.

Access to care

- Give access to the kids in the middle - those who aren't totally complex and who could really benefit from early intervention
- Get allied health professionals on econsult to speed up meetings and deal with capacity. Extend econsult to allied health and regulated health professionals
- Enhance the use of case manager and care navigator

School systems support

- School based clinics – address the fact that the parents aren't at the appointment

Funding distribution and sustainability

- Healthcare utilization metrics aren't informed by social determinants of health (use strengths and difficulties questionnaire instead)

Other

- University of Ottawa Heart Institute - uses a monitoring and in home approach, and could try for mental health. We could leverage this approach and would leverage the Ontario health technology fund to help pay for tech costs
- Leverage telepsyc, telepsychology; enhance OTN capacity for youth services

Is there anything else you would like us to know as we move forward in our review?

N/A

Appendix D: Broad Working Session Findings

Participants in the Broad Working session were divided into ten groups, one for each key theme identified in the current state report. Below are the full outputs of these discussions.

Group 1: Integration, consistency and coordination of care

Problem	Suggestions to Address the Problem
Pathways are needed to reduce waitlists	Regional clinical programs (e.g. orthopedics) to expand access beyond CHEO
	Develop a standard needs assessment for care pathways
	Health links model is useful for adults, but not pediatrics; we need a similar model that meets the needs of youth and children
Care across providers is varied	CCO/HQO - develop a similar type of standards & supports organization to oversee pediatric care
	Capacity building with clinical standard certification
	Measurement of outcomes and quality.
Children transferred into the region from other jurisdictions face difficulties related to coordination of care when they return home	Develop more cultural competence amongst providers
	Develop specific care coordination program for specific population such as Indigenous, newcomers
	Adopt standard protocols
Integration between providers is needed to better address social determinants of health	Develop accountability for social determinants of health for MOHLTC providers and other ministries
	Integrate best practice and prevention in discharge planning
	Assessment tool to be developed
Lack of integrated EMR between providers	Explore solutions for all providers to connect their EMR in the cloud
There is no easy way to share information between providers	Integrate information from different funded ministries

Group 2: Prevention, community and primary care

Problem	Suggestions to Address the Problem
Provider-specific consent forms are a barrier to sharing information between providers	LHIN wide consent form, ability to share information within the LHIN
	Encourage agencies to create privacy policies that allow for "circle of care models"
Lack of adequate provider education	Pay attention to walkability factor i.e., how walkable are the services.
	Educate all providers to think with poverty lens/social determinants
Lack of focus on targeted groups	Universal programming focuses on prevention, better perhaps "proportionate universalism" (from UNICEF). We would like this report to use these terms and to use this lens
Funding	Funding for promotion, Funding models that accommodate universal care vs. fee for service or set services (i.e., feel like you can have hallway conversations) Across ministerial funding (less silos)

Problem	Suggestions to Address the Problem
Harnessing new technologies	-
Isolation (and the different forms i.e., geographical vs. language vs. identities etc.)	Access to transportation, access to translation, housing
Narrow definition of "prevention" and need to define what is preventing	Promote the positive aspects i.e., building and promoting resiliency and strength based services- health promotion vs. disease prevention
Pregnancy/early intervention	Targeting families, not just the child, enhancing public health's role and funding in this area (defining family as a unit of care). Early year centres/family centres are
Social and political determinants of health	Advocacy at system levels. Increasing affordable housing.
Children and youth falling through the cracks (e.g. No service provision of care between 18 months and preschool)	Find why falling through cracks and how can address those issues. Funding for playgroups etc. to keep this age group on surface and engaged.
	Work with schools to identify kids at risk. Make information available in public places, such as in the diaper isle at Walmart (e.g. well baby health)

Group 3: Mental health, behavioural and developmental issues

Problem	Suggestions to Address the Problem
Addiction and mental health treated separately	Pathways planning across ministries and sectors
Different systems for info storing and sharing	Include youth justice. Info sharing with those providing continued support.
Feeling pressure to diagnose at young age to access services	Enable access to services pre-diagnosis
Lack of Francophone services	-
Access to services	Travelling healthy screening clinics for rural communities
Knowledge about when to reach out for services	-
Knowledge of current services that exist	Designated person (LHIN-based) whose job is to know services
Lack of awareness and education in kids grade 6 and earlier regarding drugs and addictions	Start prevention in primary schools. Attract and train concurrent disorders specialists.
Pathways through and out of services (not flowing well)	Clear, measurable goals that are agreed upon and understood by families we work with. Less barriers between ministries. When developing protocols between agencies, specify the details that a client, family and service providers have to do to successfully transition and work together.
Pathways through and out of services (not flowing well)	CAPA (Choice and Partnership Approach). World Health organization- the "F words" for children's mental health

Group 4: Parenting skills and support

Problem	Suggestions to Address the Problem
Access to resources about services in the LHIN	Resources and supports needed that address availability, location, choices, times and dates. The LHIN must also be responsive to the educational needs of families
Everybody defines family differently	To include all family (dads, friends, etc.)
Access to services via family health team	Increase public awareness of family health teams.
Regular "check-ins" (someone who intimately knows your case)	Integrated care services according to needs, severity, diversity, etc.
Services for early year centres (create a one stop shop)	Bring services to the early year centres (bring services to where people are)
Discharge and transition process and details	Discharge should be an ongoing process, not just the day of (start at intake). Discharge summary should include details and resources (phone numbers etc.)

Group 5: Access to care

Problem	Suggestions to Address the Problem
Access to care varies by provider	Standardize evidence-based care
	Establish an "access baseline" for all geographies in the LHIN. Break down silos between providers and specialties, taking a patient centered approach. Ensure baseline education in family practitioners and other providers on pediatric care.
	Expand CHEO outreach. Develop communities of practice to improve access to education and incentive structures
Eastern and Western Champlain have less access to appropriate care	Use a hub and spoke model. Learn from models in existence in areas like Renfrew and Montfort. Develop a community of practice of pediatricians. Build community capacity.
Families and providers do not always know what services are available in the region	Develop a single source of information regarding what in existence, including wait times. Could focus on key priority areas to test the success of this test (e.g. mental health).
Need to provide the right care in the right place, which requires care navigators	Build local expertise, capacity and knowledge, as well as awareness of services that exist in the region.
Technology is used to vary degrees of success	Common EMR. Telehealth to increase access in rural communities. Explore outside of OTN, other platforms that are innovative. Ensure presence still maintained. OTN does not replace access to care in the community.

Group 6: Health equity

Problem	Suggestions to Address the Problem
More focus is needed on addressing: 1) social determinants of health including income, language & culture; 2) high risk populations including those with complex needs, and specific groups such as indigenous, francophone; and 3) newcomer populations and those not familiar with the system	Expand the use of health navigators
	Provide increased education for staff
	Review organizational structures to promote equity and diversity
	Look to innovative models of care like CLEAR Collaboration from McGill, YSB Mental health and WE care, SDQ, iScreen
	Identify high risk population clusters

Group 7: School systems support

Problem	Suggestions to Address the Problem
Help kids get ready for school or the community	Licensed childcare can provide support for school readiness. Increase the number of educational health providers. Need liaison offices/ facilitators who know all the various school boards and association issues
	Establish resource consultants who can work with children as they grow from 1 to 12 years old. Brings everyone to table when coming to planning, including families
	Allow private therapists into schools. Reduce barriers to health supports that can be integrated within school
	Ottawa early years centres can help with school readiness
	Increasing parental education (child care providers can help raise awareness). Systematic way to reach parents before school to assess school readiness (like an app)
	Increase access to mental health services in the schools (especially older children, but also focused on early detection and intervention)
	Explore basic certification for staff in health/academic sector to ensure common understanding of behaviour and behavioural approaches
	School and health systems to work collaboratively to plan and deliver services
	More school supports for children who have to spend time in hospital (educational supports to kids after general hospital admission/ transition back to school after hospital)
	Leverage OCTC's school liaison system for school-aged population

Group 8: Funding distribution and sustainability

Problem	Suggestions to Address the Problem
Lack of funding	Address duplication and waste in system
	Develop a common understanding of what is duplication and waste within end to end care processes.
	Create system navigators.
	Establish outcome targets/standards. Fund-evidence based programs. Out-come based funding. Evaluation resources included in funding.
	Clarify roles and responsibilities amongst providers. Create centers of excellence, which take into account different cultural needs of the population
	Include family input within planning and delivery of services, including different language and cultural needs
	Provide funding for services that impact access to healthcare, e.g. transportation

Group 9: Wait times

Problem	Suggestions to Address the Problem
Wait times are too long across the region	Create incentives that break down silos, not encourage them. Allow providers to be paid to do outreach
	Learn from successes in mental health, which has recently leveraged the choice and partnership approach
	Ensure LHIN can effectively quantify the wait lists across the region, and build clinical capacity to match demand
	Empower families to speak up about wait times concerns.
	Leverage lean principals to manage wait lists
	Educate families about what the wait is caused by and the services they can expect when they see the provider/specialist

Group 10: Transitions of care

Problem	Suggestions to Address the Problem
Lack of involvement of adult clinicians in transition planning and execution	Ask adult providers what the barriers are and where pediatric providers could help
	Create a role within the LHIN whose job is it to educate adult hospitals and help transition patients and care needs, similar to the navigator program
	Each specialty to include transitions as part of the required curriculum in medical school
Lack of needed adult services, such as metabolics, so youth have nowhere to go	Look at demographics to determine which sub-specialists are needed in the adult care world based on the current and anticipated pediatric need
Help kids/families prepare for transfer	Leverage arthritis study on readiness to transfer
Lack of adult care coordinators, so youth can get lost in the system	Create membership models with peds/ adults

Appendix E: Pediatric Services Asset Profile

The Champlain LHIN's Pediatric Services Asset Profile identifies and classifies all assets and resources related to pediatric services available in hospital, home care, and community settings in the Champlain LHIN. The asset profile includes information on providers' sub-region for each program/service and where applicable, it provides information about clients/patients' geography.

Why Use an Asset Profile?

Information included in Champlain LHIN's Pediatric Services Asset Profile was consolidated from disparate databases and organized in a comprehensive and comparable way. The Asset Profile includes information that would not otherwise be available from MOHLTC databases alone; for example, the Asset Profile provides information about programs and services funded by Ministry of Children and Youth Services.

The Asset Profile is a tool that allows LHIN decision makers to measure service supply across different regions of the LHIN.

Use of the tool improves decision maker ability to:

- understand the variation in service availability and service mix by region
- combine service supply with need to identify service gaps
- match assets to population segments to support population based analysis
- map services from different sectors in each geographic area.

Dimensions of the Pediatric Services Asset Profile

The asset profile includes information on pediatric services provided in the Champlain LHIN on Program/Service and provider levels. Information included in the asset Profile was assembled from disparate data sources and were organized under a unified framework with the following dimensions:

- **Organization Type:** Including for example: Hospital; Children's Treatment Centre; Community Health Centres; Community Mental Health and Addictions Agency.
- **Service Type:** Including for example for Child and Youth Mental Health Programs: Targeted Prevention; Crisis Services; Counselling and Therapy; Intensive Services.
- **Funding Source:** For example: MOHLTC; MCYS; The Salvation Army; The City of Ottawa.
- **Provider Name:** For example: Almonte General; Somerset West Community Health Centre; Youth Services Bureau; Maison Fraternité.
- **Program or Service:** For example: Emergency Department; Acute Inpatient; Case Management; Physiotherapy; Friends for Life; Youth and Family Counselling.
- **Indicators:** For example: Admissions; Expenses; ED visits; Inpatient admissions and days; Clients; Full Time Equivalents; Physicians, Group Sessions.
- **Resource or Service Volume:** For example: Funding amount; Number of visits; Admissions; Individuals Served.
- **Provider Geography**: Including for example: Postal Code; Sub-region; LHIN.
- **Client/Patient Geography**: For example: the number of patients and clients served from each sub-region; program or service coverage in geographic area.
- **Age Group Served**: For Child and Youth Mental Health Programs
- **Data Source**: For example: the Discharge Abstract Database (DAD); National Ambulatory Care Reporting System (NACRS); MOHLTC Healthcare Indicator Tool; Ottawa Sector Partner Summary; Ontario Physician Human Resources Data Centre; Home Care Database.

Exhibit 1: Dimensions of the Asset Profile

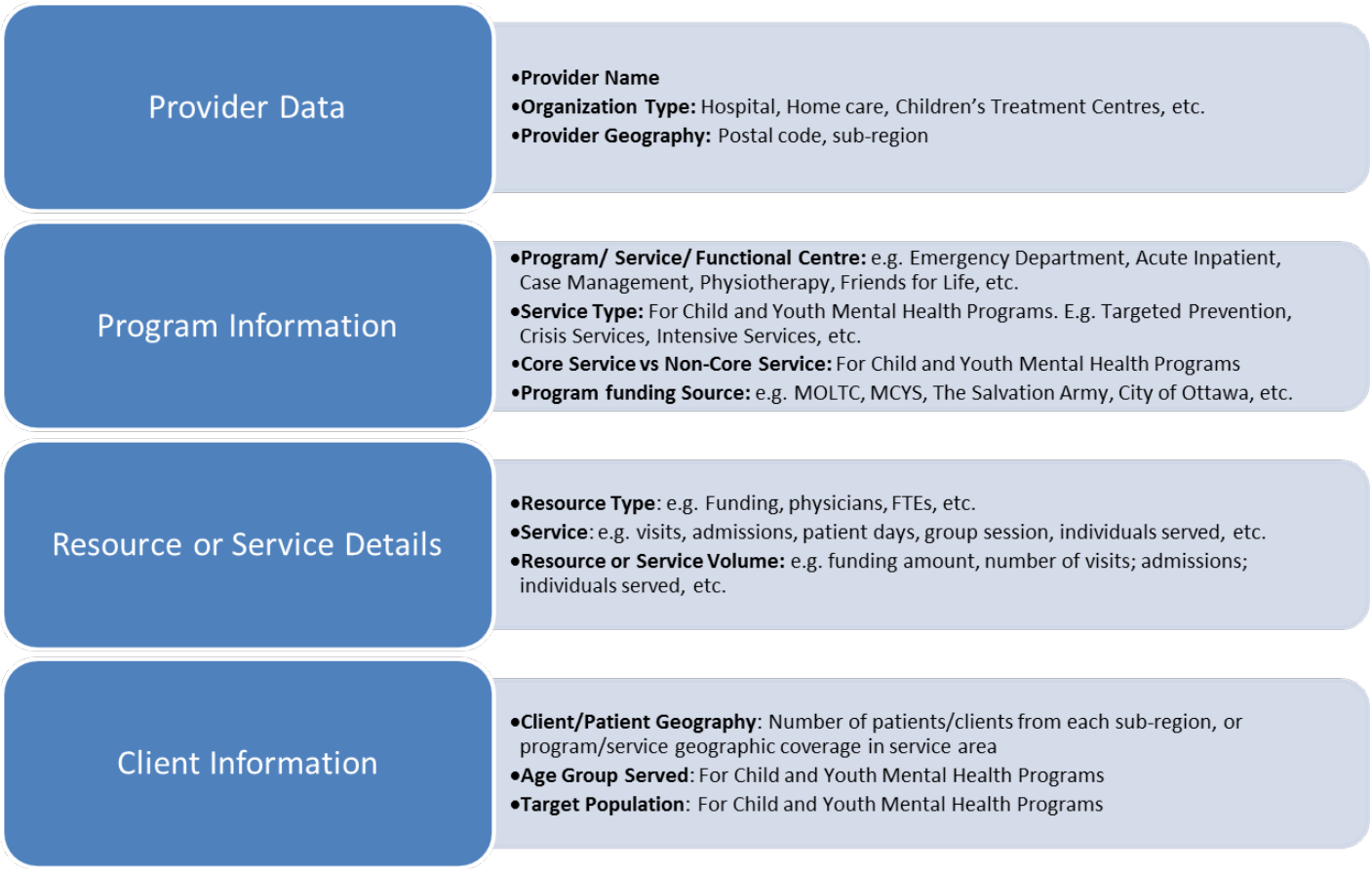


Exhibit 2 below provides a screen shot and examples of what's included in the asset profile data base

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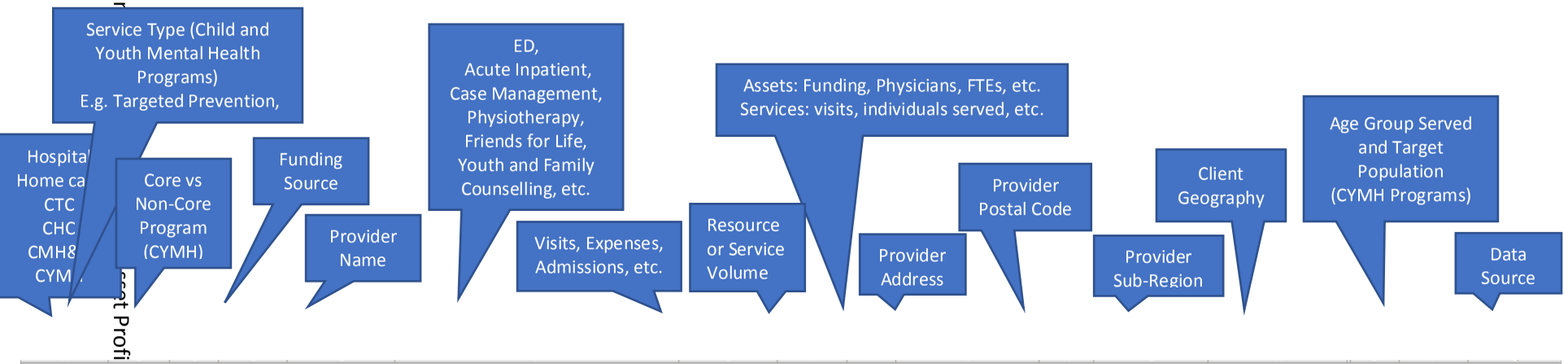
Exhibit 2: Screen Shot Example of Asset Profile Database



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Sector	Service Type	Core vs Non-core	Funded by	Provider Name	Program/Service/Functional Center	Indicator	Amount	Asset/ Service	Provider Address	Postal Code	Provider Sub-region	Client/Patient Geography	Age Group Served	Target Population if Applicable	Data Source
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	2,225	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	**Champlain and Other LHINs**			NACRS 2015/16
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	1,396	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	Central Ottawa			NACRS 2015/16
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	33	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	Eastern Champlain			NACRS 2015/16
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	135	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	Eastern Ottawa			NACRS 2015/16
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	15	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	Western Champlain			NACRS 2015/16
Hospital			MOHLTC	The Ottawa Hospital	Emergency Department	ED Visits	243	Service	501 Smyth Rd, Ottawa, ON	K1H 8L6	Central Ottawa	Western Ottawa			NACRS 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions	402	Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	**Champlain and Other LHINs**			DAD 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions	2	Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	Central Ottawa			DAD 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions		Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	Eastern Champlain			DAD 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions		Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	Eastern Ottawa			DAD 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions	266	Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	Western Champlain			DAD 2015/16
Hospital			MOHLTC	Almonte General	Acute Inpatient	Admissions	101	Service	75 Spring Street, Almonte, ON	K0A 1A0	Western Champlain	Western Ottawa			DAD 2015/16
CTC			MOHLTC	OTTAWA CTC	COM C/N Care - CTC - Other ASD Support	Expense	$28,624	Asset	2211 Thurston Dr, Ottawa, ON	K1G 6C9	Central Ottawa				MIS data, HIT tool,
CTC			MOHLTC	OTTAWA CTC	COM Clinics/Programs - CTC - Child Behaviour Intervention	Expense	$1,514,907	Asset	2211 Thurston Dr, Ottawa, ON	K1G 6C9	Central Ottawa				MIS data, HIT tool,
CTC			MOHLTC	OTTAWA CTC	COM Clinics/Programs - CTC - Infant Development	Expense	$953,551	Asset	2211 Thurston Dr, Ottawa, ON	K1G 6C9	Central Ottawa				MIS data, HIT tool,
CTC			MOHLTC	OTTAWA CTC	COM D/N Care - CTC - Other ASD Respite Services	Expense	$109,449	Asset	2211 Thurston Dr, Ottawa, ON	K1G 6C9	Central Ottawa				MIS data, HIT tool,
CTC			MOHLTC	OTTAWA CTC	COM Other Funded Children's Services	Expense	$3,605,769	Asset	2211 Thurston Dr, Ottawa, ON	K1G 6C9	Central Ottawa				MIS data, HIT tool,
Homecare			MOHLTC		Case Management	Expenses	$1,768,829	Asset				**Champlian LHIN Total**			Homecare Data Base 2015/16
							$531,456	Asset				Central Ottawa			
							$292,158	Asset				Eastern Champlain			
							$318,197	Asset				Eastern Ottawa			
							$168,993	Asset				Western Champlain			
							$458,026	Asset				Western Ottawa			
Child and Youth Mental Health	Targeted Prevention	Core	MCYS	Centre Psychosocial	Friends for Life	MCYS Fiscal Funding	$200,643		150 Montreal Rd, Vanier, ON	K1L 8H2	Central Ottawa	Ottawa	4 – 12	Francophone	Ottawa Core CYMH Services Summary 2016-2017
						# of participants in se	375				Central Ottawa				
Child and Youth Mental Health	Targeted Prevention	Core	MCYS	Children's Hospital of Eastern Ontario	Youth Net	MCYS Fiscal Funding	$173,131±		401 Smyth Rd, Ottawa, ON	K1H 8L1	Central Ottawa	Champlain LHIN	13-18		Ottawa Core CYMH Services Summary 2016-2017
						# of participants in sessions/	8000				Central Ottawa				
Child and Youth Mental Health	Targeted Prevention	Non-Core	The Salvation Army 70%	Bethany Hope Centre – Salvation Army	Weekly Playgroups				820 Woodroffe Ave, Ottawa	K2A 3V7	0	Ottawa	Under 6 for	Young parents	Ottawa Sector Partner Summary
Child and Youth Mental Health	Targeted Prevention	Non-Core	MCYS	Carlington Community Health Centre	Family Marketplace				900 Merivale Road, Ottawa, (	K1Z 5Z8	Central Ottawa	Ottawa	Parents with		Ottawa Sector Partner Summary

Data Sources and Content

Champlain LHIN Pediatric Services Asset Profile was developed using the MOHLTC Healthcare Indicator tool, DAD, NACRS, Homecare Database, Ottawa Core CYMH Services Summary, Ottawa Sector Partner Services Summary for Children and Youth, and other databases. Exhibit 3 provides an overview of the scope of contents included in the asset profile.

Exhibit 3: Asset Profile - Scope of Contents

Organization Type	***Program / Service / Functional Centre***	***Data***	***Sources***
Hospitals	Emergency Department	ED Visits	NACRS 2015/16
	Inpatient Mental Health	Patient Days	OMHRS 2015/16
	Acute Inpatient	Admissions	DAD 2015/16
	AC Clinics	Expenses, FTEs, Visits, Group Sessions, Group Participant Attendances	MIS Data, HIT Tool 2015/16
CMH&A	MH Community Clinics/Programs	Expenses, FTES, Visits	MIS Data, HIT Tool 2015/16
CHC	OM Health Prom/Educ & Com Dev - Personal Health/Wellness - Healthy Child	Expenses, Number of Individuals Served, Group Sessions, Group Participant Attendances	MIS Data, HIT Tool 2015/16
CTC	Community Clinics/Programs Community Day/Night Care Community Promotion and Prevention COM Medical Resources - Other Medical Staff COM Other Funded Children's Services TH Physiotherapy TH Psychology and Psychometry TH Rehabilitation Engineering TH Rehabilitation Services Clinical Management TH Social Work TH Speech/Language Pathology TH Therapeutic Recreation TH Occupational Therapy	Expenses, FTEs, Visits	MIS Data, HIT Tool 2015/16
Homecare	Case Management Nursing-Shift (Hour) Nursing-Visit Nutrition/Dietetic Occupational Therapy Physiotherapy Speech Language Therapy Specialist Physician Office Combined Personal Support and Homemaking Services (Hour) Rapid Response Nursing Visit Social Work	Expenses, Visits, Hours	Homecare Data Base 2015/16

Organization Type	*Program / Service / Functional Centre*	*Data*	*Sources*
PediatricPhysicians	Paediatrics and Adolescent medicine Psychiatry child and adolescent Cardiology paediatric Clinical immunology & Allergy Paediatric Critical care medicine paediatric Emergency Medicine Paediatric Endocrinology & Metabolism - Pediatric Gastroenterology - Pediatric Hematology / Oncology - Pediatric Infectious Diseases - Pediatric Neonatal - Perinatal Medicine Nephrology - Pediatric Neurology - Pediatric Radiology - Pediatric Respirology - Pediatric Rheumatology - Pediatric	Number of Physicians	OPHRDC 2015
Child and Youth Mental Health (CYMH)	Targeted Prevention Brief Services Counselling and Therapy Family/caregiver Capacity Building and Support Specialized Consultation and Assessment Crisis Services Intensive Services Service Coordination Access Intake Service Planning Supportive Housing	MCYS fiscal funding # of individuals served # of children/youth who ended service # of children/youth with positive outcomes # of hours of direct service # of families served in home # of days children/youth waited for service	Ottawa Core CYMH Services Summary 2016-2017 Ottawa Sector Partner Summary 2016-2017

Appendix F – Summary of Recommendations

#	Recommendation	Domain	Key Themes
Capacity Recommendations			
Family Provided Care			
1.	Initiatives to reduce demand for family-provided care are needed. Options to consider include: ensuring seamless transitions from hospital to home, making better use of technology, such as videoconferencing; improving availability of and access to telemedicine; improving care coordination and system navigation; and reducing complexities faced by families in accessing funding from different sources.	Care coordination	Integration, consistency and coordination of care, parenting skills and supports
2.	Data on family-provided care should be systematically collected by providers and funders, collated and routinely analysed. These data are needed to measure family care needs and to best match families with the support services they need.	Outcomes & performance measurement	Parenting skills and supports, funding distribution and sustainability
3.	Support services and resources for families need to increase substantially, both now and over the next 10 years. Demand for family-provided care will increase much faster than the supply. It is anticipated that the LHIN's parents will be increasingly challenged to not only meet the needs of their children and youth, but also those of their aging parents. Families suggested that supports that should be prioritized include: increasingly flexible funding; enhancing transportation; child care; respite services; care navigation; education; and individual and peer supports and coaching.	Providers & networks	Parenting skills and supports, funding distribution and sustainability
Physician Services			
4.	The needs of children and youth should be specifically considered when undertaking system planning, including planning for primary care and other physician services.	Providers & networks	Prevention, community and primary care, health equity, access to care, funding distribution and sustainability
5.	Access to all physician services for children and youth living in Eastern Champlain and Western Champlain needs to increase to redress current inequities. Possible responses might include hiring or recruiting more physicians, but the potential to make better use of the LHIN's existing physician capacity should be explored first.	Providers & networks	Prevention, community and primary care, health equity, access to care, funding distribution and sustainability
6.	Child and youth primary care capacity needs to increase across the LHIN. Opportunities to increase capacity using other provider types, including advanced child and youth trained nurse practitioners and other service providers, should be explored.	Providers & networks	Prevention, community and primary care, health equity, access to care, funding distribution and sustainability
7.	The capacity for primary care delivered by physicians, nurse practitioners and other providers with child and youth health expertise needs to increase across the LHIN. Options to consider include offering family physicians opportunities to engage in additional training and develop focused practice in child and youth primary care.	Providers & networks	Prevention, community and primary care, access to care, integration, consistency and coordination of care, funding distribution and sustainability

#	Recommendation	Domain	Key Themes
8.	Family physicians across the LHIN need better access to consultant pediatricians. Consider expansion of existing models, such as e-consult and linking consultant pediatricians with family health teams and community health centres and community hospitals.	Providers & networks	Integration, consistency and coordination of care
9.	Children and youth with complex medical or developmental problems need better access to primary care delivered by either family or physicians with enhanced child and youth expertise or community-based consultant pediatricians. This need will likely increase over time because the LHIN's community pediatricians are shifting the focus of their practices from primary care to consultant care.	Providers & networks	Prevention, community and primary care, access to care, integration, consistency and coordination of care, funding distribution and sustainability
Home Care Services			
10.	A distinct child and youth home and community care program should be developed to ensure adequate child and youth expertise and quality of service by providers. This new model should integrate existing services recently moved under the responsibility of the LHIN with those provided by specialty child and youth acute, developmental and rehabilitation organizations.	Providers & networks	Prevention, community and primary care, access to care, funding distribution and sustainability
11.	The capacity for specialized pediatric home care service delivery needs to increase across the LHIN. Standardized home care could help support transitions from hospital to home and improve existing home care services, such as optimizing home-based intravenous antibiotic therapy for younger children. Hospitals could serve as a resource to support the enhanced skills and expertise required to deliver these services.	Providers & networks	Prevention, community and primary care, access to care, funding distribution and sustainability
12.	Access to home care services needs to increase substantially across the LHIN. The LHIN's children and youth received roughly $3.7M less in home care services than expected at the provincial average. Since this gap is due to a funding shortfall, the LHIN should advocate for a substantial increase in home care funding.	Providers & networks	Prevention, community and primary care, health equity, access to care, funding distribution and sustainability
13.	Sub-region home care access inequities need to be addressed. It would cost roughly $1.0M more in service expenses to eliminate the inequity without reducing services in any sub-region. Since adults and seniors are also under-served, opportunities to improve access by reallocating the home care budget are limited.	Providers & networks	Prevention, community and primary care, health equity, access to care, funding distribution and sustainability
Developmental and Rehabilitation Services			
14.	Given the fragmented planning and delivery of developmental and rehabilitation services currently provided by multiple agencies and ministries, options for an integrated approach must be explored, building upon the Special Needs Strategy.	Providers & networks	Integration, consistency and coordination of care, funding distribution and sustainability
15.	Access to developmental and rehabilitation services needs to increase across the LHIN. Children and youth in Western Champlain and Eastern Champlain should be prioritized for access improvements. All opportunities to improve access to services should be explored, including: enhancing the capacity of providers in these two regions to deliver services; reducing referral wait times; and, increasing telehealth use and better coordinating appointments for children and youth who do have to travel to Ottawa.	Providers & networks	Health equity, access to care, funding distribution and sustainability

#	Recommendation	Domain	Key Themes
16.	Sub-region access inequities to developmental and rehabilitation services need to be addressed. Increasing access in all sub-regions to the level experienced by children and youth in Central Ottawa would cost roughly $3.5M. Notwithstanding changes to the models of care, substantial new funding will still be required in order to redress the substantial access inequities observed across the LHIN.	Providers & networks	Health equity, access to care, funding distribution and sustainability
Hospital Services			
17.	**The organization of the LHIN's child and youth hospital services should be reviewed to optimize program safety, quality, sustainability, and efficiency.** Planning must recognize the fact that the nature of certain types of pediatric hospital services may require their consolidation within a single organization to ensure critical mass, which impacts quality. Hospital-based child and youth services across the LHIN should be centrally planned by those with child and youth expertise, led by CHEO-OCTC, and delivered locally where appropriate or centrally as required to ensure critical mass and expertise. • Planning and evaluation of child and youth hospital services should take into account: a) the need for evidence-based standards of care to ensure that children and youth receive the same quality of care wherever it is delivered, and b) the need for siting decisions to result in adequate volumes to establish and maintain expertise amongst all involved providers. This must include inpatient child and youth medical, neonatal, mental health, emergency department and surgical care. Consideration should be given to the use of Integration Orders in this regard. • Low risk child and youth surgical programs should be prioritized for review. The LHIN should establish an integrated child and youth surgical working group to make recommendations regarding the need to monitor wait times, establish child and youth surgical and anesthetic standards for the entire LHIN and enhance or consider the re-distribution of low risk level 1 child and youth surgical capacity. • Surgical wait times need to be reduced across the LHIN. Root cause analysis should be made to understand the problem. Opportunities to ensure evidence-based standards, as well as the need to make better use of existing surgical capacity should be prioritized over new investments. • Evidence-based integrated planning should be conducted regarding the allocation of all levels of neonatal and neonatal intensive care beds in the region. This will help ensure that standardized evidence-based practices are uniformly applied.	Providers & networks	Integration, consistency and coordination of care, funding distribution and sustainability
18.	Pediatric acute care and LHIN home and community care planning should be integrated in order to optimize length of stay. Acute inpatient bed capacity may not need to increase over the next ten years if length of stay improvements can be realized. CHEO-OCTC and the LHIN should examine the potential to better coordinate acute care inpatient services with the LHIN's home and community care services in order facilitate earlier discharge and reduce inpatient lengths of stay, which are known to be influenced by availability of appropriate home and community services.	Providers & networks	Integration, consistency and coordination of care, funding distribution and sustainability

#	Recommendation	Domain	Key Themes
Social Determinants of Health			
19.	The social determinants of health should inform all planning activities. Responses to reduce SDH risk should build on the LHIN's health equity framework, leverage SDH data, and involve the community, community organizations, and all Ministries that deliver or fund child and youth health services.	Identification of target populations	Health equity, integration, consistency and coordination of care
20.	The Regional Child and Youth Health Council (see recommendation 24) should introduce and expand the use of measurement tools, including a comprehensive SDH risk measure that covers the entire LHIN and the Early Development Instrument (EDI). A single comprehensive measure is needed to support planning and to redress access, morbidity, and outcome inequities observed across the LHIN. Current models being evaluated within the LHIN should be considered as potential tools that could be expanded, such as those currently being evaluated by the Centretown CHC/CHEO-OCTC collaborative team.	Outcomes & performance measurement	Health equity, integration, consistency and coordination of care
21.	The newly enhanced relationship between the LHIN and the Public Health Units should be leveraged to incorporate social determinants of health into service delivery models.	Care coordination	Integration, consistency and coordination of care, health equity
Outcomes and Performance Measurement			
22.	An inventory of the data needed for system measurement and improvement should be made. The inventory should include the data elements required to support effective planning and evaluation across the continuum of child and youth health services.	Outcomes & performance measurement	integration, consistency and coordination of care
23.	The inventory should be used to prioritize current data gaps and assess the need for new data collection initiatives.	Outcomes & performance measurement	integration, consistency and coordination of care

#	Recommendation	Domain	Key Themes
Policy Recommendations			
Integrated Service Planning			

24.	A new approach to integrated care planning should be developed, working toward fully integrated, cross-sectoral planning, reporting and monitoring:
	• Providers should work together to establish a cross-sectoral Regional Child and Youth Health Council (referred to as the Council) with reach across the continuum of care, with representation from the funding ministries and aligning to complementary regional and provincial initiatives. The Council should include child, youth and family advisors, providers, administrators, educators and academics. The Council's role will be to:
	  • Provide policy direction regarding care for children, youth and their families;
	  • Develop planning models;
	  • Support standardization of care across the continuum;
	  • Drive the adoption of key tools to improve quality, efficacy and efficiency;
	  • Provide wait times guidelines;
	  • Develop standardized measurement tools around key metrics; and
	  • Report regularly on trends, outcomes and desired evidence-based goals.
	While this requires a designated lead, it will be critical for all stakeholders to be involved, engaged, and fully support this Council, as it will be largely ineffective if it does not have a clear role, and assurance that its voice will be heard. It cannot be seen as "just another planning committee". The LHIN could consider providing some funding for the Council's efforts, including compensation for individuals' involvement and engagement.
		Care coordination	Integration, consistency and coordination of care, funding distribution and sustainability

25.	A thorough child and youth health human resource strategy should be developed. The strategy should be sponsored and developed by the Regional Child and Youth Health Council. A key underpinning of the strategy will be a regional review to identify provider supply and distribution across the LHIN. The strategy should focus on opportunities to increase capacity through scope of practice changes, improve the matching of provider services to child and family needs, reducing duplication and redundancies where they exist, and identify training requirements to drive appropriate referral pathways, diagnosis and treatment.	Providers and networks	Integration, consistency and coordination of care, funding distribution and sustainability
26.	Those responsible for health services planning should work collaboratively with special populations such as newcomers, Francophone and Indigenous populations in all aspects of service planning to ensure their needs are met.	Identification of target populations	Prevention, community and primary care, health equity, access to care,

#	Recommendation	Domain	Key Themes
Integrated Service Delivery			
27.	Providers should work together to enhance transitions between child and youth age groups and from the child and youth to adult systems. CHEO-OCTC should be designated as the lead for developing a proactive transition process across the continuum, working with appropriate stakeholders. The region can build on and expand CHEO-OCTC's "On My Way" program, sharing the developed materials, identifying required resources, and identifying connections to those resources. The region can also engage and expand the use of care navigators and adult providers in these efforts, focusing on communicating the needs of soon-to-transition youth in order to better equip the adult providers to meet youths' shifting needs.	Providers and networks	Transitions of care
28.	Providers should work together to enhance community-based child and youth capacity, focusing on centralized evidence-based planning with local delivery where appropriate. This effort should be driven by the Council. Options to explore include: application of lessons learned from Health Links to enhance case management, health education and system navigation and establishing a sub-region based specialist child and youth RN or NP position, if supported by the health human resources review (recommendation 25). In order to build competence and confidence in child and youth care, specialists could be affiliated with or supported by CHEO-OCTC, embedded in family health teams, CHCs or community hospitals, and provide specialty education to providers across the sub-region, including on effective in-home support. This program can be gradually expanded by transitioning resources from the existing rapid response nurse program. Another option is to expand the current use of interdisciplinary community health hubs, such as the soon-to-be-opened Vanier Social Pediatrics Hub, to drive interprofessional care and coordination. In all models, family-centered case conferencing should be embedded to better meet the needs of children, youth and families.	Providers and networks	Prevention, community and primary care, health equity, access to care, wait times, integration, consistency and coordination of care
29.	The LHIN should work to enhance access to mental health and addictions supports for children and youth with consideration to efforts currently underway through MCYS' *Moving on Mental Health* initiative[1]. The LHIN should build on sub-region planning as it relates to the identification of high risk populations and design client-focused, culturally-appropriate programs around them, in partnership with community and cultural groups where appropriate.	Identification of target populations	Prevention, community and primary care, health equity, access to care, wait times, mental health, behavioural and developmental issues, integration, consistency and coordination of care,
30.	The LHIN should work with MCYS and the Ministry of Education to enhance access to behavioural and developmental supports. The LHIN should build on sub-region planning and the Special Needs Strategy to identify high risk populations and design client-focused, culturally-appropriate programs around them, in partnership with community and cultural groups where appropriate.	Care coordination	Access to care, wait times, mental health, behavioural and developmental issues, integration, consistency and coordination of care, school systems supports

[1] http://www.hnreach.on.ca/service-files/MoMH-Report-EN-Print.pdf

#	Recommendation	Domain	Key Themes
31.	The level of integration between the health system, MCYS and the education system should be improved to address the current fragmentation, resource inefficiency and inadequate care identified. This includes advocating for reduction in health service policy variation between school boards. The proposed Regional Child and Youth Council should include representation from the education sector and focus on improving the degree of integration among all health care providers. Efforts should be made to build on the Special Needs Strategy, which is working to streamline the delivery of OT, PT and SLP in schools, and develop regional pathways and protocols for the most prevalent concerns.	Care coordination	Access to care, wait times, mental health, behavioural and developmental issues, integration, consistency and coordination of care, school systems supports
Information and Technology Supports			
32.	A Champlain LHIN pediatric electronic health strategy should be developed in alignment with Ontario's e-health mandate. This includes working toward a single electronic health record (EHR) where *appropriate* and a mechanism for all providers to be able to access needed health information for services provided within the LHIN and across the continuum of care: • Phase 1: Build on current models such as eCHN or EPICcare link to enable EHR access to primary care providers and community-based pediatricians. For example, EPICcare link is already in place within the Royal Ottawa and CHEO-OCTC, Ottawa Public Health and for managing complex care in Timmins. Licenses could initially be facilitated through local affiliation with hospitals or family health teams. • Phase 2: Explore the option of making EHR information and systems available to community-based pediatricians; this could become their EHR. Leverage the Kids' Health Alliance to gain traction, as one of its key goals is to establish EHRs for pediatricians within two years.	Care coordination	Integration, consistency and coordination of care, transitions of care
33.	The usage of eConsult for pediatrics needs to increase across specialties and across the LHIN, linking to electronic health records to ensure providers have access to the eConsult data. This will support efforts to improve access to physician care, particularly in the Eastern and Western regions. • In the context of the KHA partnership, this could be expanded leveraging existing eReferral functionality at SickKids, to allow for a pediatric eReferral solution as part of the pediatric electronic health strategy.	Providers and networks	Community and primary care, health equity, access to care, wait times, integration, consistency and coordination of care
34.	Expansion and optimization of communication technology (video conferencing) services is required. Options should be reviewed for the delivery of direct services using secure technologies such as Skype to reduce the reliance on current Ontario Telemedicine Network (OTN) access points, which require families to travel.	Providers and networks	Prevention, community and primary care, health equity, access to care, wait times, integration, consistency and coordination of care

#	Recommendation	Domain	Key Themes
35.	A dedicated region wide resource is needed to centralize and maintain health service information for children, youth, families, caregivers and providers across the LHIN. This information source will include health and social services, links to parenting organizations such as Parents' Lifeline of Eastern Ontario, and a shared events calendar. It could serve as a single source of information detailing currently available resources and services, how to access them and potentially what wait times are. It will build on existing resources such as 211, Champlain Health Line and Blue Book, and leverage expertise from groups such as family advisory councils. LHIN funding could support 1 FTE to develop and maintain this resource.	Care coordination	Access to care, wait times, integration, consistency and coordination of care, parenting skills and supports
36.	A research agenda focused on embedding collaborative solutions within clinical best practices and standardization of information collection is required to drive integration across the healthcare system.	Outcomes & performance measurement	Integration, consistency and coordination of care

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