# Leveraging Technology to Bridge Public Health Care Services with Underserved Communities

*Exploring the important role that designated family doctors play in the lives of adolescents and how a consistent health care experience can improve adolescent health outcomes.*

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ALGONQUIN COLLEGE

DocConnect
IT ONLY TAKES A CLICK

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*Let's Talk Health*

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# Executive Summary

This report has been created with the intention of highlighting the importance of DocConnectCA, a web-based platform that is designed to address the health care inequities associated with adolescents not having a designated family doctor. DocConnectCA is a secure healthtech tool that will be presented as a no-cost solution to the Province of Ontario.

The overarching theme for this report has to do with the importance of a consistent health care experience and how a consistent health care experience has the potential to impact substance misuse, self-medication, addiction and mental health among adolescents, and how COVID-19 has contributed to these negative health outcomes. Additionally, this report discusses patterns of substance use amongst newcomer youth, the significance of the social determinants of health, and a health in all policies approach that requires cooperation from various stakeholders and all three levels of government.

There are three unique aspects to this report: a DocConnectCA implementation strategy, the design of a DocConnectCA case study for post-secondary learning, and a "*Let's Talk Health*" discussion section that features insight from members of DocConnectCA's network of cooperation.

The implementation strategy section summarizes the simplicity of this low-code solution and the ease of embedding DocConnectCA into pre-existing school board websites.

The case study for post-secondary learning section discusses how the creation of this healthtech tool will be leveraged as a positive learning experience for students at the post-secondary level, with a focus on tech-driven solutions and public-private partnerships.

The discussion section features feedback from members of our network of cooperation, comprised of individuals with health backgrounds in medicine, pharmacy, nursing, public health, community health and technology.

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# Overview of DocConnectCA

DocConnectCA was created in collaboration with Algonquin College and a joint decision was made that it be proposed as a no-cost solution to the Province of Ontario, focusing on the Ministry of Health and the Ministry of Education. DocConnectCA is a web-based platform created exclusively for high school guidance counsellors so that they can better assist adolescents that are living without a designated family doctor. DocConnectCA identifies family doctors based on distance and provides print-ready application forms.

Being an adolescent without a designated family doctor is an inherited outcome. The adolescents that are most likely to be without a designated family doctor in today's Canadian society tend to have at least one of two commonalities: they live in low-income communities and/or they are members of racialized groups, but it is also common for them to be early-generation Canadians.

DocConnectCA serves as one approach to addressing the immediate and long-term threats posed by substance misuse for adolescents. By ensuring that adolescents have access to a designated family doctor, it enables them to have a consistent health care experience and it can serve as a sustained intervention that provides access to prevention and treatment programs. The reason that DocConnectCA is meant to serve as an exclusive tool for high school guidance counsellors, following the *Blueprint for Action* model, is because schools provide access to the greatest number of young people.[1]

DocConnectCA addresses the concerns raised by Canada's Chief Public Health Officer Dr. Theresa Tham in the *2018 State of Public Health in Canada* report about the influence of persistent health inequities and the impact of social and economic factors as barriers to living well and eliminating key diseases. Dr. Tham has made a commitment to reducing the health disparities in key populations in Canada so that the poorest and most underserved communities can have a chance to lead healthy lives, both physically and mentally, and DocConnectCA is designed with those principles in mind.[2]

# Implementation Strategy

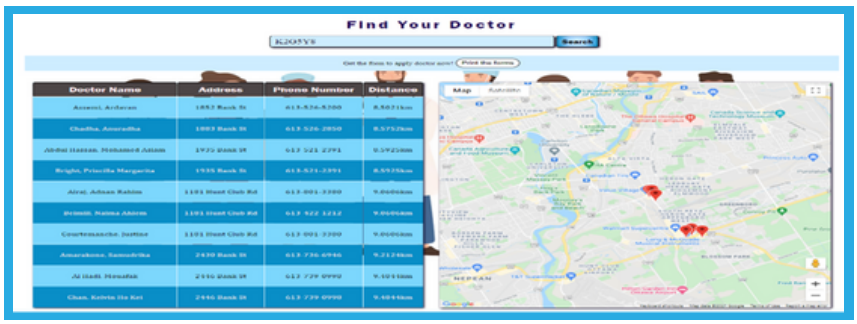
DocConnectCA is a secure base web application, using only standard HTML, CSS, and JS, allows it to be easily understood and modified by novice developers if any changes are desired, with immediate visible effects after a page refresh and without the requirement of a development environment like most websites. Additionally, the simplistic design and no need pre-compiling allows it to be embedded directly into existing websites at any desired directory, and the performance will remain identical, as long as the directory structure and relations are intact.

Recommendations for continued development mainly concern the method of data storage. Firebase Firestore is adequate for smaller scale implementation but at larger scales it may be preferable to migrate the database to an easier-maintained self-hosted database such as Postgres. Most importantly, the functions of DocConnectCA make it so that no sensitive or personally identifiable information is collected, nor does it create for any cybersecurity vulnerabilities.

The quickest way to scale DocConnectCA's low-code algorithms would be to have the code embedded into each schoolboard's individual website. This would result in creating an extension to a page that would imitate the functions seen on DocConnectCA. From there on, only the database would require updating to accomodate for new doctors, since the rest of it is self-sustaining.


**Step 1 ...**
*You begin by inputting your postal code. The print-ready application form is accessible below the postal code search bar.*

**Step 2 ...**
*Depending on your location, the system will generate a list of doctors nearest to you and provide you with their contact information.*



# A Case Study for Post-Secondary Learning

There is a need to change the way individuals think about interacting with various levels of government, and future generations are best positioned to leverage technology in a way that has the potential to reduce barriers to public services. This is why we will work with Canadian Universities to create a DocConnectCA case study for post-secondary learning that will promote the idea of technology solutions and public-private partnerships, which will be applicable across many fields of study.

Although technology solutions are often portrayed as complex systems that work in real-time to provide solutions, not every solution requires a high degree of complexity. The starting point for any technology-based solution has to be rooted in the fundamental understanding of the problem that is being addressed.

Simple healthtech solutions like DocConnectCA can leverage technology to bridge public health care services to underserved communities that have typically struggled to access them. In the case of DocConnectCA, the largest barrier to obtaining a designated family doctor has to do with individuals not having the knowledge on how to navigate the health care system.

Public-private partnerships play an essential role in maximizing the reach and impact of healthtech tools. DocConnectCA was created in collaboration with Algonquin College and our network of cooperation includes individuals with health backgrounds in medicine, pharmacy, nursing, public health, community health and technology. Both of these factors played a significant role in the making of DocConnectCA as well as determining the strategic implementation behind the healthtech tool.

The DocConnectCA post-secondary case study would explore the influence of Harvard Kennedy School's Executive Education program, the significance of Algonquin College providing access to their resources, and the importance of a specialized network of cooperation, while providing an introduction into the world of tech-driven social enterprise.

# Introduction

The World Health Organization (WHO) defines an adolescent as any person between the ages of 10 and 19, which falls within WHO's definition of young people, ages of 10 and 24. According to the WHO, the biggest threat facing young people worldwide has to do with their mental health, and it is a threat that is forcing Provinces across Canada to reassess the way in which they deliver mental health care supports.

There are serious concerns regarding the age of initiation for first-time alcohol and drug use which tends to occur around the age of 14 or younger. The early initiation of substance use has been linked to impeding healthy brain development which continues well into adulthood, but it also increases the chances of experiencing addiction and mental health struggles. There is reason to be concerned about young people engaging in substance misuse because of the resulting harms. Even one incident of risky substance use can cause long-standing problems that extend into adulthood.

Substance use trends have been changing over the past decade, and the legalization of marijuana seems to have contributed to these trends which show that there are differences in use between younger and older segments of the population. When we compare cannabis and alcohol use among young Canadians with their peers in other countries, young Canadians are using both substances at higher rates.[1]

There is a connection between the early onset of substance use by an adolescent and such adolescent struggling with their mental health. The most effective treatment plan to countering these negative health outcomes requires early-age interventions. An early intervention offers the best chance for adolescents to experience a healthy transition into adulthood, and it allows for them to become positive contributing members of society. One way to increase the likelihood of early-age interventions is by ensuring that adolescents have access to a consistent health care experience which is only made possible with a designated family doctor.

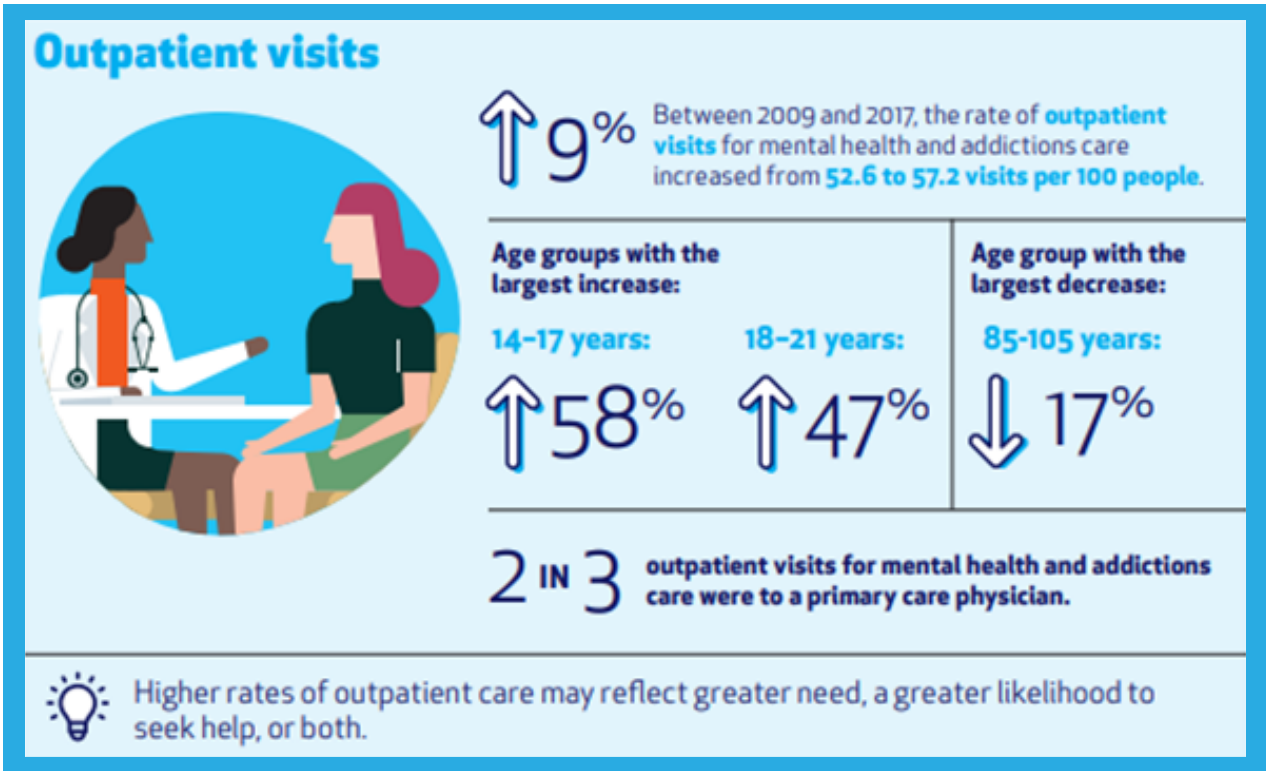
*"Promise me you'll always remember. You're braver than you believe, and stronger than you seem, and smarter than you think."*

-Christopher Robin

# Health Trends

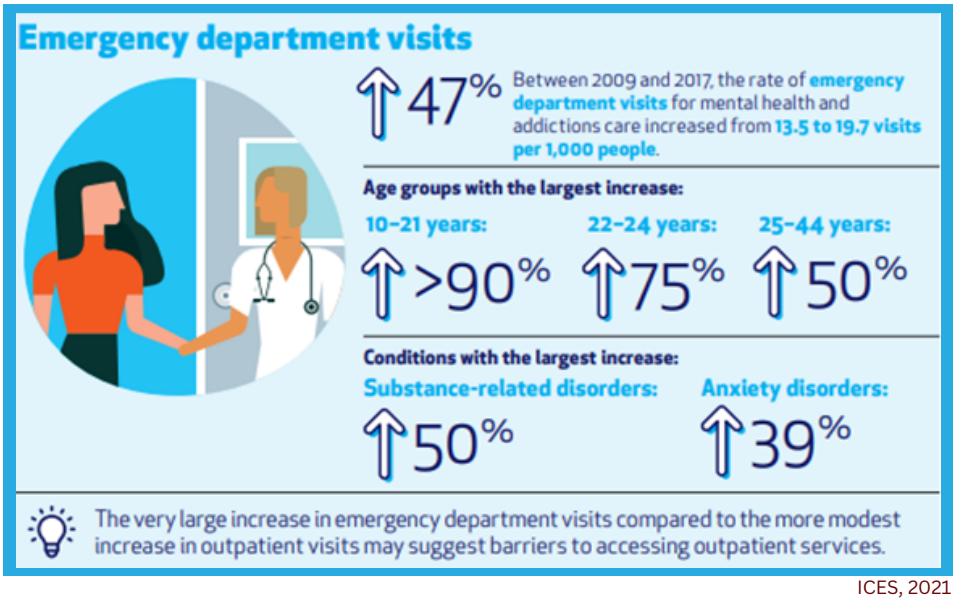
In Ontario, the age after which most mental health system use occurs is 10 years.[1] There are some concerning trends that were identified in the *Mental Health and Addictions System Performance in Ontario: 2021 Scorecard* report that seems to indicate that Ontario's approach to providing mental health care may need to be reconsidered.[2]

The *2021 Scorecard* found that there has been a large increase in the rate of emergency department visits for mental illness and addictions, with the highest rate being among young people aged 14 to 24.[2] The findings suggested that outpatient mental health and addictions services are insufficient to prevent cases that require emergency services or hospitalization.




ICES, 2021

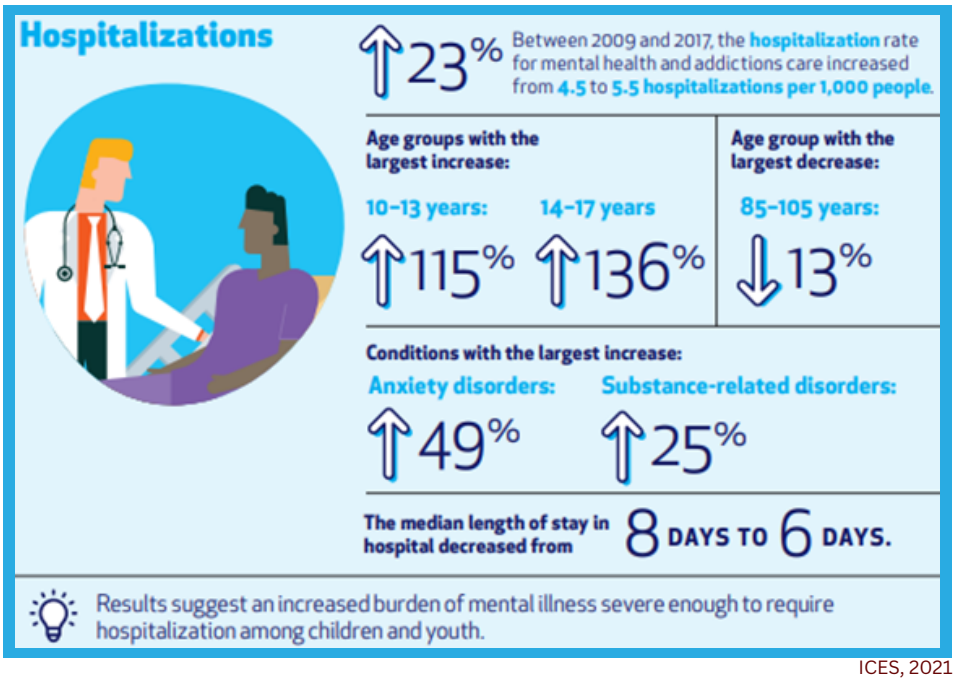
*The term "outpatient" is used to describe a patient who is not hospitalized overnight but who visits a hospital, clinic, or associated facility for diagnosis or treatment.*




ICES, 2021

*The term "emergency department" refers to the section of a hospital or other health care facility that is designed, staffed, and equipped to treat injured people and those with sudden, severe illness.*

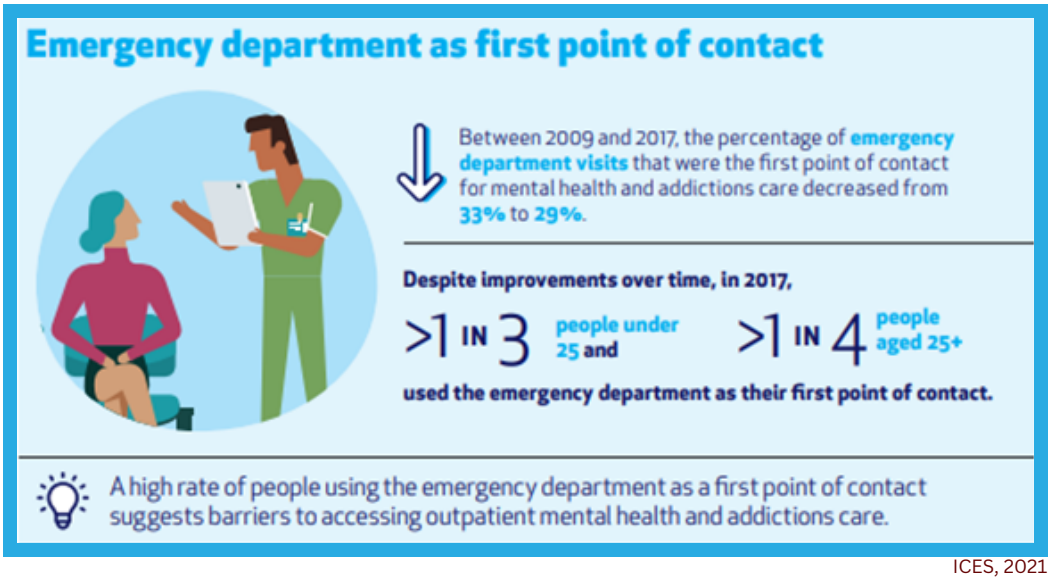
*Although emergency department visits increased, some visits would have been better suited for medical clinics.*




ICES, 2021

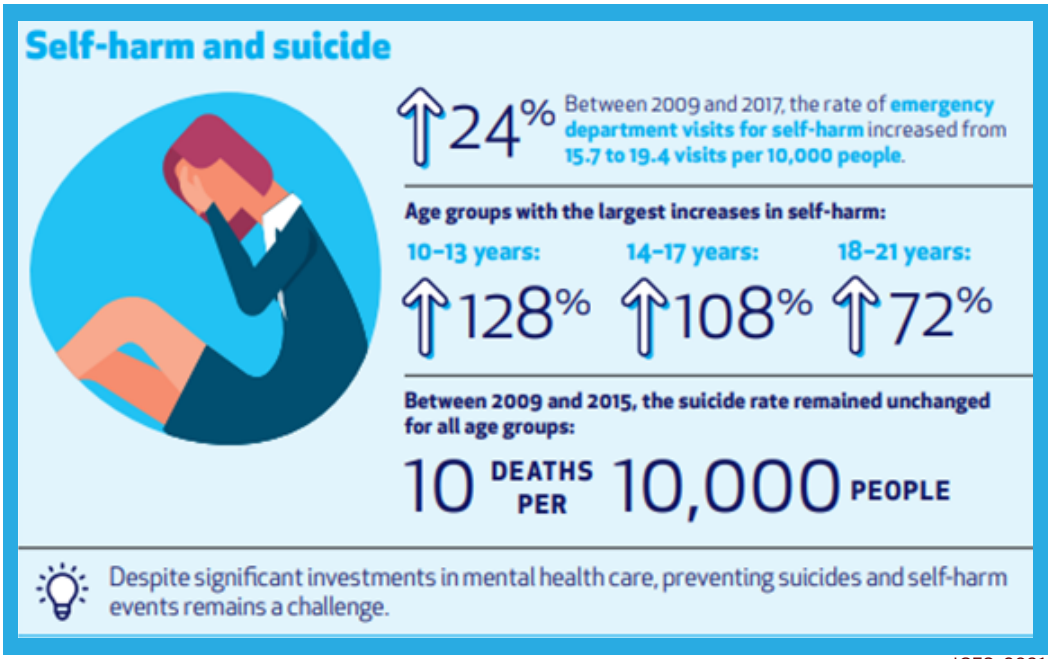
*The term "hospitalizations" refers to the period of confinement in a health care facility that begins with a patient's admission and ends with discharge*

*The rising rates at which adolescents in Ontario are being hospitalized is concerning as it seems to indicate that more adolescents are struggling with their overall health.*




ICES, 2021

*Young people are continuing to access emergency departments as their first point of contact at higher rates than older people, and at rates that are above Ontario's average.*




ICES, 2021

*Although suicide rates have remained unchanged for all age groups, there have been significant increases in the rates of self-harm during the adolescent years of life and during the transition into early adulthood.*

Substance use disorders are one of the three most common types of mental illnesses experienced by Canadians, with young people aged 15 to 24 years having the highest rates of substance abuse or dependence.[3] In Ontario, 75% of youth in grade 12 reported lifetime alcohol use, 26% cannabis, and 26% nicotine.[3] A 2019 study carried out by *The Center for Addiction and Mental Health* found that 45% of Ontarians aged 18 to 29 reported using Cannabis compared to 15% for those over the age of 50.[4][5]

*The Canadian Centre of Substance Use and Addiction* published findings in 2020 which calculated that substance use costed Canada a total of $46.0 billon in 2017.[6] The breakdown of that $46.0 billion is as such: $20 billion on lost productivity, $13.1 billion on health care, and $9.2 billion on criminal justice costs.[6] The province of Ontario had the highest per person cost for criminal justice reform at $268 which included policing, court, and correctional costs.[6]

The conversation around adolescent substance use, self-medication and mental health needs to be framed in a manner that makes sense specifically to adolescents. Substance use trends are constantly changing and it is not uncommon to see substances go in and out of favor over different periods of time. The most frequently used substances among young people are alcohol, cannabis, and tobacco, and Canada ranks among the leading countries for rates of prevalence and frequency.[7]

In Ontario, substance use is common among youth, but treatment seems to be underutilized and there is limited research examining the health care inequities that exist amongst low-income populations and members of racialized groups. To better understand these challenges, a greater effort needs to be made in identifying health-related data on low-income communities and racialized groups as it relates to access to health care services and supports systems.

*"Anything that's human is mentionable, and anything that is mentionable can be more manageable. When we can talk about our feelings, they become less overwhelming, less upsetting, and less scary."*

- Fred Rogers

# Coronavirus Disease 2019 Trends

The Coronavirus Disease 2019 (COVID-19) pandemic was unexpected and the impacts of the resulting global shutdown it brought about were catastrophic. The isolation worsened mental health, and the various stressors and challenges from the COVID-19 pandemic contributed to some Canadians using substances as a way to cope with the resulting conditions, affecting everyone from adolescents in school to health care professionals.

A study that collected anonymous information from publicly funded Ontario-based service providers regarding youth substance use patterns just before the onset of COVID-19 demonstrated concerning results.[1] The anonymous service providers discussed firsthand encounters with youth that exhibited concerning patterns of substance use behavior. Another study conducted by researchers at York University and the University of Victoria found that COVID-19 resulted in deteriorated mental health and significantly increased rates of substance use.[2]

Ontario doctors have also experienced negative health outcomes as a result of the pandemic. A survey of 34,055 doctors found that Covid-19 pandemic was associated with a substantial increase in mental health and substance use outpatient visits among doctors, and this may signal that the mental health of doctors has also been negatively affected by the pandemic as well.[3]

It is important to note that there may be new limitations for future studies that explore substance-related trends among adolescents. There is a potential for surveys to under-report substance use and/or substance-related coping among adolescents due to social desirability bias and/or perceived consequences.[4] In addition, Canada's adolescent population is more technologically aware of privacy and security trends including tracking, and thus has the potential to influence how they answer questions despite any assurances about anonymity.

*"This pandemic has magnified every existing inequality in our society."*
-Melinda Gates

# Newcomer Youth and Substance Use

Most newcomers to Canada tend to struggle with culture shock and it can take them some time to get acquainted to the norms of their new lives. However, it appears that newcomer youth are particularly susceptible to the negative health outcomes associated with substance use, and it has become a social and public health concern for researchers.

A 2021 study focusing on substance misuse among immigrant youth in Canada found that substance misuse became rampant amongst newcomer youth during the Covid-19 pandemic, resulting in a growing number of newcomer youth damaging their physical and mental health.[1] The study also identified the main factors associated with substance use among newcomer youth as well as the barriers to obtaining health supports. The main factors associated with substance use were the absence of parental supervision, ethnic dislocation, marginalization and racism, and peer influence. The main barriers to accessing health supports were mental health and addiction stigma, cultural insensitivity, and accessibility barriers.

The absence of parental supervision was often caused by newcomer parents having to get accustomed to a new language or them needing to work multiple jobs to satisfy their family's basic survival needs. It is not uncommon to see parents become physically and emotionally separated from their children, which can result in external factors leading newcomer youth towards substance misuse.

Ethnic dislocation was the result of newcomer parents struggling to acculturate to their new environment and this also impacts their children. This can result in newcomer youth having no sense of belonging and lead to unhealthy coping behaviors that include substance misuse.

Marginalization and racism tend to affect newcomer youth more than their Canadian-born peers. Newcomer youth are also more likely to come from lower socioeconomic backgrounds. The challenges associated with growing up in low-income communities are best explored under a social determinants of health lens.

Peer influence is considered to be the leading reason for newcomer youth to start using different substances. Young people, especially at the adolescent stage, are susceptible to making unsafe choices as a result of peer opinions. It is believed that substance use may serve as a way of conforming to peer pressures for some newcomer youth.

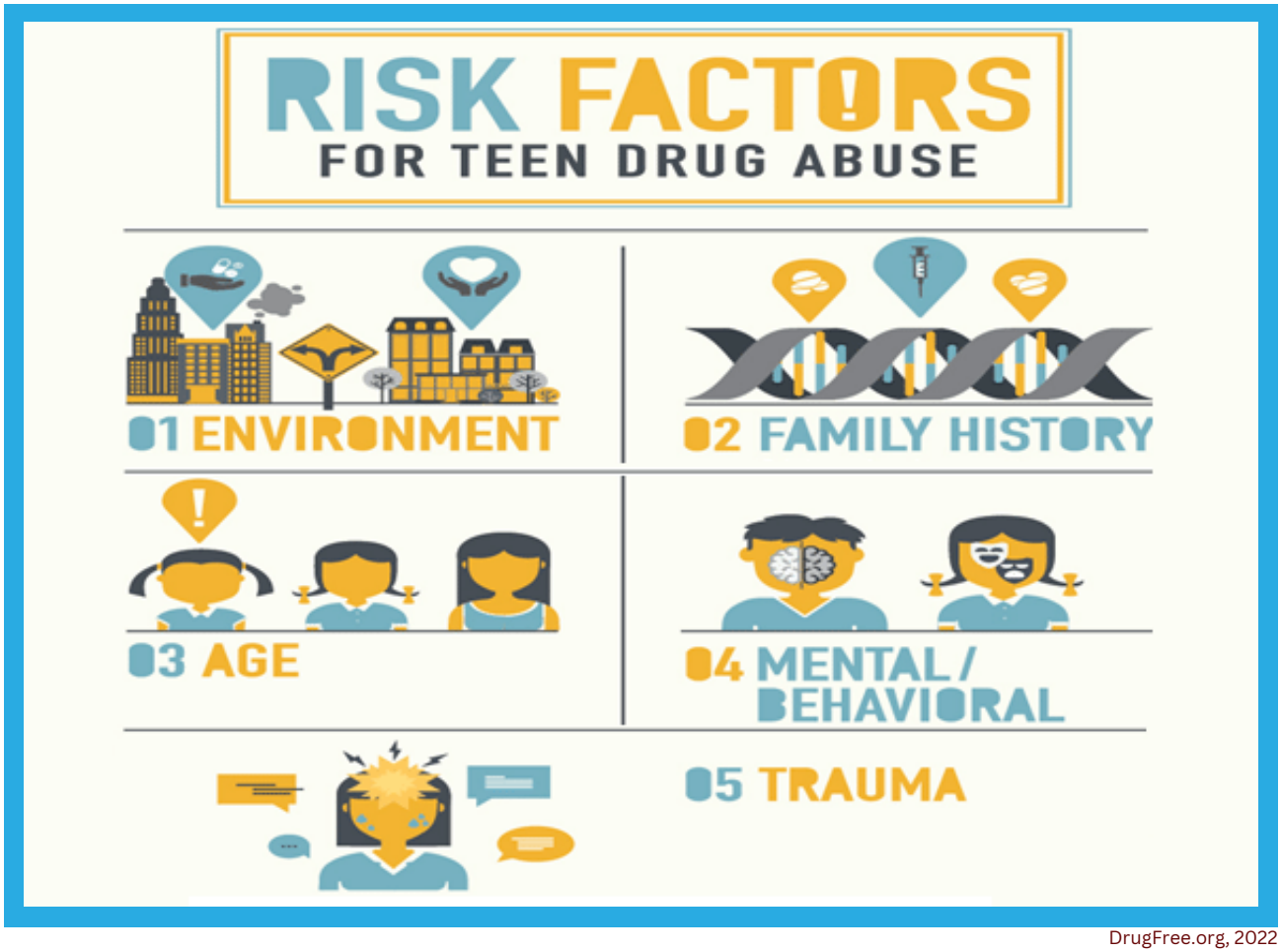
There is significant cultural stigma around mental health and addiction, and it is a topic that is considered taboo for many newcomer families. Cultural stigmatization is considered to be one of the main barriers to obtaining access to necessary health supports, and this can result in the decision to self-medicate with different substances.

Cultural insensitivity towards various lines of difference can create conditions that make newcomer youth unable to connect with health care professionals. It is not uncommon for newcomer families to misunderstand the health supports that are in place to improve health outcomes and it can result in the failure to seek out access to such health supports.

Accessibility barriers often make it more difficult for newcomers to obtain necessary health supports. The most common accessibility barriers are language barriers and inconsistent health experiences which are the result of not having a designated family doctor. Newcomers that lack the linguistic skills to read, write or speak in English or French will often involve a translator when it comes to accessing health supports, but the presence of a translator can impact a newcomer's decision to be fully transparent about their health. Additionally, not having a single designated family doctor that newcomer youth can build familiarity with may keep them from openly discussing their health status.

The elementary and secondary school environment can serve as the primary entry point for health supports given the major role it plays in the lives of adolescents, especially for adolescents that require specific health supports. However, the schooling environment along with the socialization amongst students is also seen as the point of initiation into the use of substances.

Although Canada does have a drug prevention strategy for Canada's youth and a federal government national anti-drug strategy, more resources need to be dedicated to addressing the most basic barriers preventing adolescents from a more equitable and consistent health care experience like having a designated family doctor. One way to do this is by providing the tools and resources for high school guidance counsellors to make the most out of their one-on-one interactions with students.

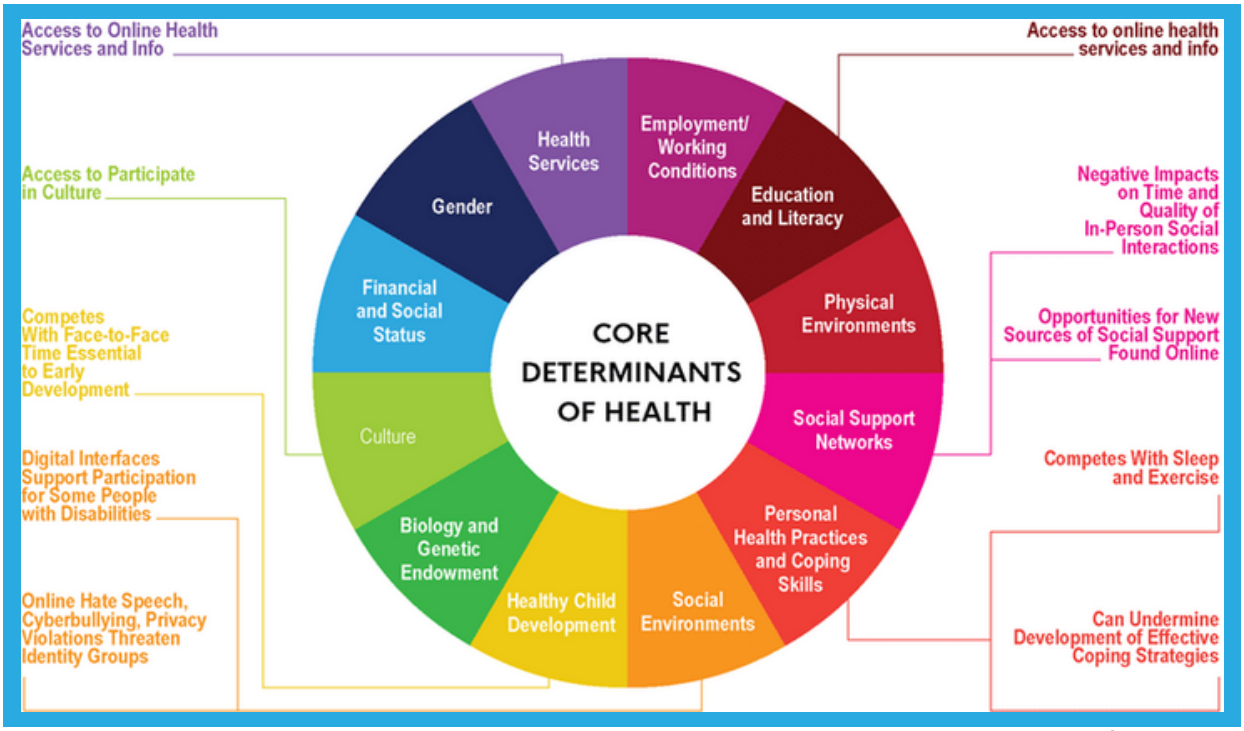



DrugFree.org, 2022

*"Ohana means family. Family means nobody gets left behind or forgotten"*
Stitch

# The Social Determinants of Health

The WHO defines the social determinants of health (SDOH) as non-medical factors that influence health outcomes. They are described as conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping conditions of daily life including economic policies and systems, development agendas, social norms, social policies, and political systems. Addressing the SDOH is fundamental for improving health and reducing longstanding inequities in health, which requires action by all sectors and civil society.

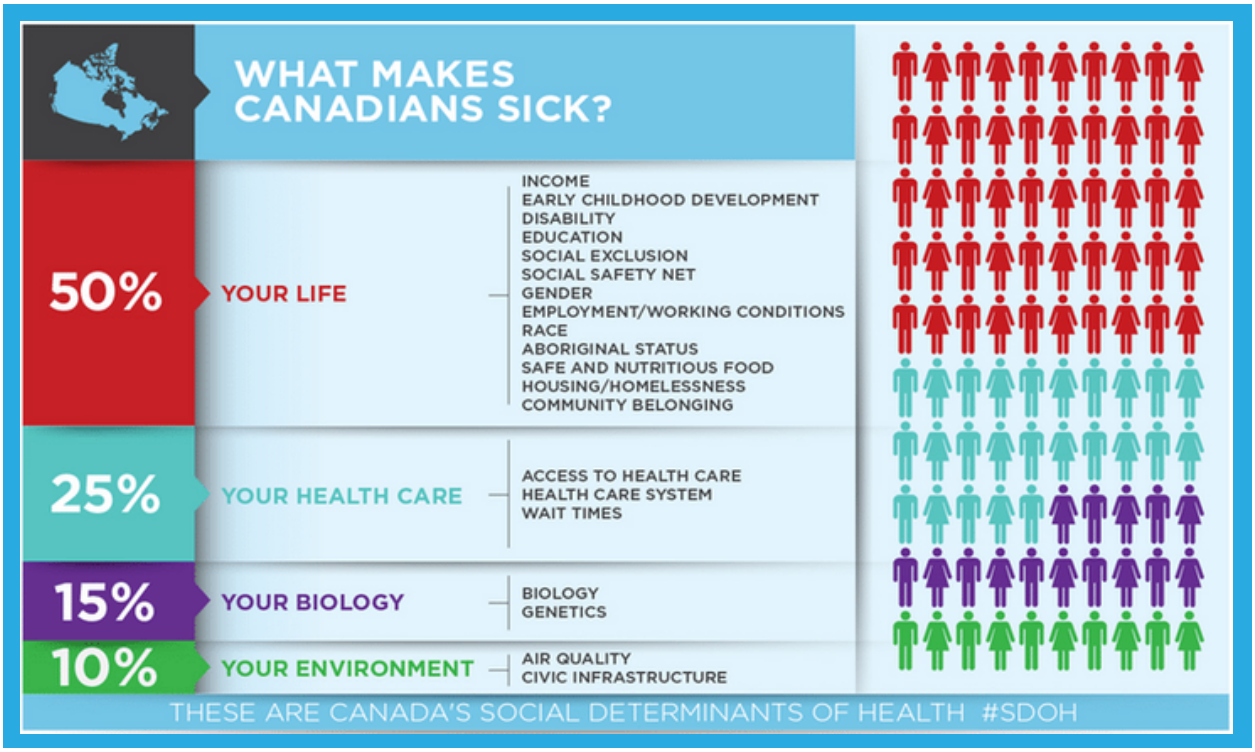



Public Health Agency of Canada, 2013

A study of substance use among youth in community and residential mental health care facilities in Ontario found that being a victim of abuse, having experienced self-injurious ideation, being at risk of disrupted education, or having a parent/caregiver with addiction or substance use disorder were significantly associated with substance use.[1] Additionally, the study found that individuals and parental factors increase youth's risk of substance use, highlighting the importance of a holistic approach that includes consideration of social and biological risk factors for prevention, risk reduction/assessment, management, and recovery.

A comprehensive understanding of addiction requires an exploration of the impact that environmental context and/or situational perspective may have on an individual. There is an emerging field of science called “social neuroscience” that does just that by exploring the intricate interplay of social, environmental, and neural process relating to substance use in youth. The social neuroscience lens allows for a truly holistic understanding of substance use in youth and makes it possible for a more comprehensive public health approach to addiction.

DocConnectCA addresses the SDOH through a school-based intervention to improve access to health supports for adolescents by establishing a primary care provider. In order to have the greatest impact on developing or mitigating substance misuse among adolescents and young people, it is crucial to expand the definition that relates to substance misuse to include all the aspects of individual, family, and community dynamics, which are the social determinants of health.




Canadian Medical Association, 2013

*"Friend something better than chocolate ice cream...*
*Maybe friend somebody you give up last cookie for."*
*Cookie Monster*

# A Health in All Policies Approach

Health in All Policies (HiAP) is a collaborative approach to public policies across sectors that intersect, and it articulates health consideration into policymaking across those sectors to improve the health of all communities and people. A HiAP approach recognizes that health is created by a multitude of factors beyond health care and traditional public health activities, which allows it to be effective in identifying gaps in evidence and achieving health equity.

Historically, health-focused policies have been the Ministry of Health's responsibility, but the HiAP approach requires various non-health Ministries such as the Ministry of Education to participate in the development of health-conscious policies. This is significant because health outcomes are also impacted by factors outside of health care services and affected by various social determinants. Given the complexity of the challenge, solutions need to be comprised of effective policies, programs, and education.

Far too many services for adolescents and young people are just modifications of long-standing adult programs. This is due to the misguided belief that adolescent support programs can be designed around adult-oriented programs and that they will be just as effective for adolescents. This overlooks the important reality that adolescents have unique needs that need to be specifically addressed differently from adults including biological developments, variations in culture and identity, and socioeconomic situations.

The implementation of DocConnectCA requires cooperation between the Ministry of Health and the Ministry of Education in order to ensure that Ontario's high school guidance counsellors are best prepared to assist students in need of a designated family doctors. DocConnectCA can also serve as the starting point for a HiAP approach where legislators attempt to address the systemic inequities relating to the inherited outcome of some adolescents not having a designated family doctor.

*"You've got a friend in me."*
- Toy Story

# Let's Talk Health

Aleksandar Golijanin – Ottawa, ON

Over the past few years, I have had the privilege to talk with healthcare providers across Canada. The topics that we discussed often revolved around Canada's healthcare model, and we would always come to the agreement that not having a family doctor was an inherited outcome. The nature of this inherited outcome makes it a systemic inequity because it disproportionately affects disadvantaged groups like members of low-income communities, racialized groups, and early-generation Canadians.

Let us look at a hypothetical scenario in which a couple has three paths to having children, and what impact each path has on their ability to obtain a family doctor. This couple has a designated family doctor, and they either have a baby on the way, they are adopting a child, or they are fostering a child, but their family doctor's clinic has a sign that states that the clinic is not accepting any new patients. However, if the couple approaches their family doctor and discusses their plan for growing their family whether it be birthing, adopting, or fostering, it is up to the doctor to decide whether or not they want to accept their child as a new patient. Now if you present this exact situation to a family doctor and ask them whether they would be able to accept the couple's child as a new patient despite the fact that there is a sign saying that the clinic is not accepting new patients, you are guaranteed to get a "yes", and the reason for the "yes" has to do with the parents already being registered with the clinic.

If a child can obtain a designated family doctor as a result of that their parents having a designated family doctor, then that is a systemic inequity within Canada's healthcare system. This outcome also reaffirms the fact that the only reason a child would be without a designated family doctor is because their parents were unable to secure a designated family doctor.

The significance of ensuring that children have first access to obtaining a designated family doctor is that it better positions Canada's Provinces to meet the evolving health needs of children as they transition into adulthood. A consistent healthcare experience is only made possible with a designated family doctor, and the child-doctor relationship that comes out of it serves as a sustained intervention that provides access to prevention and treatment programs while also reducing the likelihood of negative health outcomes. That is why DocConnectCA has the potential to be a great equalizer and to create generational change, across Canada.

*Alek Golijanin is the co-creator behind DocConnectCA. Alek has an Advanced Diploma in Business Administration specializing in Human Resources from Algonquin College, a Bachelor of Commerce from Athabasca University, and an Executive Certificate specializing in Public Policy from Harvard Kennedy School. Alek is involved in community development and focuses on finding ways to leverage technology solutions to bridge resources with underserved and underprivileged communities. Alek has collaborated with elected officials, embassies and ambassadors, international police forces, professional sports teams, and school boards to carry out development projects in Canada, South America, the Caribbean, and the Balkans.*

## Rishad Usmani - Toronto, ON

I am a family physician currently practicing medicine in an urgent care clinic in Ontario. Over the past 2 years, I have seen a sharp increase in the number of patients that are without a designated family physician. These patients essentially go to different walk-in clinics for their healthcare needs. While this may be sufficient for episodic care in otherwise healthy patients, this is far from ideal for those suffering from chronic health conditions and mental health illnesses.

While there is a lack of family physicians practicing longitudinal office-based care in both urban and rural settings, the lack of multiple walk-in clinics and urgent care centers exacerbates this problem more in rural settings. The recent changes in reimbursement will continue to contribute to the shortage of family physicians. Reimbursement is the primary reason for this lack of access. Changing reimbursement requires a drastic change in provincial health plan which is difficult to facilitate given the numerous stakeholders with varying incentives.

The individuals that tend to suffer the most from this lack of access are those who need ongoing mental health support. The support they would generally receive would come from their family physician, and if they do not have a family physician, they would be more likely to struggle with obtaining the necessary health supports. Without mental health support, individuals are more likely to seek recreational drugs as a way to cope with their mental health struggles. One example of this is the ongoing health challenges that have arisen as a result of the opioid crisis.

A possible approach to improving adolescent health outcomes is that we match adolescents with family physicians that are able to accept them as new patients. Prevention is the best cure.

*Rishad Usmani is an experienced physician, entrepreneur, and angel investor. He completed his family medicine residency at the University of British Columbia in 2017. Rishad worked as a family physician in Courtenay, BC and a hospitalist at Comox Valley Hospital. Rishad taught family medicine residents at UBC. Rishad then worked as a hospitalist at Surrey Memorial Hospital, Vancouver General Hospital and Grand River Hospital. At Surrey Rishad was the COVID Health Officer and was involved in quality improvement and continuing medical education. Rishad was an active Medical Assistance as a dying care provider in BC. Rishad is an active angel investor in the healthcare-technology startup space and recently launched HealthTech Investors, a community of investors with a focus on evidence-based education for healthcare startup investment.*

## Adrianna Wong – Toronto, ON

As a pediatrician, I recognize the importance and numerous benefits of having a regular primary care provider. If not provided the opportunity of a regular medical provider, it may leave adolescents feeling lost when health-related concerns arise, not knowing how to navigate the health system yet or it may lead them to seeking suboptimal, more short-term care through emergency room visits or urgent care clinics. It is fulfilling as a practitioner, when you can establish a meaningful and trusting relationship with a patient, one where they feel comfortable to reach out if new problems arise or they have any health-related questions.

Adolescence is a formative time, often where long-term habits can be established, whether these are detrimental habits such as in the case of substance misuse or positive habits, such as in the case of regularly seeing a medical provider for annual checkups. Having a consistent healthcare provider can be extremely beneficial for an adolescent, especially at a time in their life when there are so many other changes and transitions occurring. With free primary care in Canada, we have the opportunity to provide consistent quality healthcare from childhood through adulthood, though in reality, there are several barriers to obtaining a primary care provider that families and adolescents may be faced with.

I have seen how often families who have recently moved to the province or even within the province are confused by the health care system and are unsure of how to best identify a new primary care provider for themselves or their children. Having access to a regular medical doctor has a strong association with adolescents using health care services according to a cross-sectional analysis of the Canadian Community Health Survey.

Familiarizing oneself to the Ontario healthcare system, including finding a primary care provider can be challenging and often confusing for families. DocConnectCA is a service that can help to bridge the gap for some adolescents who are lacking a designated healthcare provider. I believe that DocConnectCA could be an extremely helpful tool in reducing the number of adolescents that are without primary care providers. It is a great step towards improving access to health care among adolescents in Canada and improving health outcomes using a more equitable approach.
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*Adrianna Wong is a pediatrician with a specific interest in global child health. After successfully completing pediatric training in the US, Adrianna then completed a pediatric global health fellowship and obtained her Master's in Public Health. Adrianna has worked as a pediatrician in Navajo Nation, Rwanda, Utah, and Ontario. Adrianna is passionate about health equity and dedicated to improving child health outcomes.*

## Harika Dasari – Montreal, QC

As a public health professional, one of the key issues with primary care in Canada is that we do not do enough to make health care accessible for people who are at the highest risk of poor health outcomes – the working poor, who are surviving on the minimum wage, working multiple jobs with no health benefits, struggling to pay their bills, and living on unhealthy diets.

According to Commonwealth Fund's 2021 report, Canada placed 10th in equity and health care outcomes among 11 high-income countries – Australia, Canada, France, Germany, the Netherlands, New Zealand, Norway, Sweden, Switzerland, the United Kingdom and the United States. The report also identified that only 34.7 percent of Canadians felt that they could get an appointment with a doctor or nurse the same day or the day after, compared to 61.5 percent of respondents from the Netherlands. Poor rankings in access to care and equity are inextricably linked to poor health outcomes measured by preventable mortality. New immigrants, for example, access primary care less often for chronic disease management and are at greater risk for negative health outcomes.

Too many Canadians – especially the working poor – do not have a designated family doctor, an outcome which their children inherit. In Canada, we have taken a shortcut to ensuring health care access: walk-in clinics and emergency departments.

Despite having universal health care, Canada has scored low on affordability, especially for psychotherapy and pharma care. In Ontario, for example, patients would pay for psychotherapy unless it was performed by a medical doctor or a nurse practitioner. In addition, psychologists and social workers, who are among the best qualified to provide counselling, are not covered by the Ontario Health Insurance Plan for their services.

Instead of waiting for working-class patients to come to us, health is the last priority for someone working multiple jobs to support their family, we need a health care system that works for everyone. For this reason, DocConnectCA gives adolescents a means to connect with the healthcare system and to benefit from various health supports. From a public health perspective, with adequate support, these kids will be less likely to show up in ER and get admitted to the hospitals, and they should benefit from improved health outcomes.

*Harika Dasari is a medical doctor trained in India. Upon completing her medical training, Harika pursued a master's in public health from Harvard T H Chan School of Public Health. Currently, Harika is a Ph.D. student working on preventing asthma exacerbations in children at Université de Montréal.*

## Samantha Kriksic – Ottawa, ON

As a nurse case manager working with the predominantly Inuit population in Qikiqtaaluk (Baffin, Nunavut), I have witnessed first-hand the health and mental health impacts of resource and healthcare limitations. Working on a pediatric portfolio, I provide case management services for youth who often do not have access to sustainable and consistent medical care at home. The impacts are obvious, including mental health and substance use disorders.

Many Nunavummiut youth have access to community health centers led by nurses. The nursing staff is rarely consistent, with many taking short-term contract positions to fill gaps. Youth have access to doctor services; however, those services are mostly delivered on an “as needed”, considering the human resource limitations. Many youths turn into young adults without any significant and trusting relationship with heath with healthcare professionals.

Without trusting relationships with healthcare providers, youths presenting in Ontario to access healthcare come with a variety of concerns that have festered throughout childhood. For example, youths often present with significant behavioural and mental health concerns that have gone untreated for years. Many also present with substance use disorders, including alcohol, marijuana, and elicit substances. By the time these concerns are at the forefront of presentation, many youths have already developed long-term and symptomatic disorders.

High rates of youth suicide have been a long-standing concern in First Nations, Inuit, and Métis (FNIM) communities, at 33 times higher than the rest of Canada. Believed to be a result of long-standing colonization, intergenerational trauma, and socio-economic inequality, youth have continued to take their lives at alarming rates with limited effective and sustainable early interventions. Youth suicide in FNIM communities is also associated with increased substance use.

Primary care and sustainable access to trusted health professionals can improve health outcomes for all youth in Canada. DocConnectCA is advocating for a change in the system – a change that will give youth a chance to meaningfully connect with the healthcare system for support and services that are necessary to guide them through the turbulence of maturation and healthy development.

*Samantha Kriksic is a Registered Nurse and Master's in Health Studies candidate. Samantha has focused her education on Indigenous health, equity, and program development and delivery. With over 10 years' experience in healthcare, Samantha practices in a case management and advocacy role within the Ontario health system, supporting the Qikiqtaaluk (Baffin, Nunavut) medical travel population. Rurality and marginalization have significant impacts on health outcomes, to which Samantha has dedicated her professional and educational initiatives addressing.*

## Danha Park – Toronto, ON

As a Patient Assistant currently working in the emergency department at one of Canada's top ranked community serving hospitals, I experience the current health care crisis from the overflowing number of patients to the emergency department on a daily basis. I have also observed that the frequency of adolescents and young people who are visiting the emergency department for mental health issues has increased. These young people tend to arrive at the emergency department and wait long periods of time before they can be attended to by a psychiatrist, who is responsible for determining whether the patient is admitted to the hospital for treatment or sent home with a prescription. However, the significant increase of mental health patients in the emergency department has resulted in the hospital's decision to expand the mental health unit in order to manage the need for mental health supports.

The hospital at which I work at happens to be located within the North York region and the surrounding area is highly populated by newcomer families and lower-income families. As a result, a high percentage of the patients that I encounter in the emergency department experience difficulty communicating with the hospital staff as English is not their first language. I have also had occasions where patients have expressed a lack of understanding on how to navigate the Canadian health care system and the difficulty of obtaining a designated family doctor, unsure of where to go for help in different medical situations. This often results in increased emergency department visits, but these are visits that are more suited for treatment by family doctor. These outcomes are also inherited by their children and that places stress on the current health care system.

The protocols that exist in emergency departments for staff that interact with adolescent patients differ from the interactions that take place at a family doctor clinic. Patients that visit the emergency department are required to provide a verbal medical history and describe the reason for their visit. This process, though necessary, can be difficult for adolescent patients, who must articulate their internal struggles and/or traumas to a doctor that they have no connection to. A consistent health care experience plays a significant role in improving adolescent health outcomes, and it is something that is only made possible when adolescents are able to obtain a designated family doctor.

Having tools like DocConnectCA that can be leveraged to overcome the barriers that can limit access is extremely important because they make it possible for non-health professionals like guidance counsellors to make the most of their interactions with adolescents. A free resource that provides adolescents with a clear path to a designated family doctor is the perfect starting point for trying to improve health outcomes for adolescents that are members of underserved communities.

*Danha Park is a recent graduate from the University of Toronto with undergraduate degree in Kinesiology. Danha works as a Patient Assistant at a hospital in Toronto within the Emergency Department. Danha is particularly interested in the existence of health care accessibility barriers that prevent newcomer families and lower-income families from taking advantage of the health supports that are made available to all Canadians.*

## Raissa Amany and Stacie Smith – Ottawa, ON and Fredericton, NB

As youth leaders, one of our goals is to advance equity in all dimensions of health. An important aspect of health equity is to increase access to health services. With the current climate of our healthcare system, accessibility to preventative care - specifically primary care doctors are important for the health of our population. Access to preventive care is one of the key solutions to reducing health disparities and bad health outcomes. The main aspect of preventative care is having access to primary care near the area you are living in.

The complex medical system is not adequately established for individuals to navigate primary care on their own. Marginalized individuals (e.g. new immigrants/refugees) often experience service navigation challenges which cause further delays in receiving primary care. Often, children and youth attend to their trusted adults; which is usually often in schools. Thus, this tool will not only remove a barrier to finding a primary care doctor - reducing the health disparities children and youth can have.

COVID-19 has demonstrated and exacerbated the longstanding issue of healthcare inequity within Canadians. Often, these systemic discriminations affect those who identify as and are a part of marginalized communities. Marginalized children and youth need access to family doctors; often they are the ones who are left behind.

Technology has shown during the pandemic to be an essential tool in delivering care across the province. Many methods of care were pivoted to virtual, due to the COVID-19 pandemic. This allowed for the continuation of care for many, as well as a new option for individuals seeking a family doctor.

The addition of this new tool will allow more individuals from marginalized communities to access primary care. Often, primary care has systems in place where you can be referred to allied health professionals, rather than having to wait. This interconnectedness will alleviate long-wait lists and challenges in access.

As a champion for youth engagement on health topics, the roundtable supports initiatives that help to fill gaps in health inequities. This new tool to connect those individuals from marginalized communities with primary care is a prime example of unique solutions to these challenges.

*Raissa Amany (she/her/elle) is currently pursuing an undergraduate degree in Health Sciences at the University of Ottawa. She currently works with various organizations on all levels within the healthcare sector in different capacities. Currently, she is a youth advisory council member with the Knowledge Institute for Child and Youth Mental Health and Addictions, along with being an advisor with CAMH, Frayme, and Mental Health International. She is passionate about health equity, mental health, and youth engagement; while providing her expertise and lived experience in child and youth health.*

*Stacie Smith (she/her) graduated from Dalhousie Kinesiology in 2020 and from the University of New Brunswick in Fredericton in Education in 2022. She has begun working as a Youth Mental Health Project Coordinator with Partners for Youth in Fredericton. Recently, she was a Co-Chair on the Youth Advisory Council of the Youth Mental Health and Suicide Prevention Services Review conducted by the NB Child and Youth Advocate's office. She is passionate about youth mental health, youth engagement, and school food.*

*Both Raissa and Stacie are the current Co-Executive Directors of the Young Canadians Roundtable on Health. The roundtable is composed of members from across Turtle Island (Canada) with various backgrounds and identities, providing the Roundtable with a wealth of lived experiences and contextual knowledge regarding youth and children's health.*

## Arushi Bhardwaj – Toronto, ON

As a digital health strategist in the non-profit sector, I have had the opportunity to work with various organizations on their digital health initiatives, many of which have been centred around improving access to healthcare and healthcare outcomes for underserved communities. In my experience, I have learnt that the Canadian healthcare system has a lot of gaps in terms of accessibility and equity. In order to combat these challenges and improve healthcare outcomes, finding new ways that improve increasing access to primary care is crucial.

Utilizing digital tools for increasing access can be pivotal for remote, low-population communities in Canada. However, health technology adoption rates depend on a variety of factors such as population density, proximity to urban centers, and population health needs. Communities away from urban centres face challenges, both in terms of infrastructure availability and program implementation efficacy. For instance, in rural areas, doctors often need to use telehealth to access their patients, but latency, interference, and capacity limits can make diagnosis challenging. Basic care activities such as listening to breathing and assessing physical ailments are made more difficult without clear resolution and fast connections. Several publications that analyze healthcare in rural Alberta have reported similar technological barriers, albeit to a lesser degree.

In addition to infrastructure challenges, digital health implementations are very algorithmic and trained according to the western society. At all stages, there is a lack of representation of the diverse populace, which translates into implementations that have the potential for conventional biases / assumptions with respect to patient knowledge and awareness of the Canadian healthcare context. For instance, a lot of the data of the Canadian population related to health are skewed towards the Caucasian population and that reflects in the healthcare systems and practices in place already. For example, the thresholds of a lot of critical systems to monitor health crises are higher for African American population than the Caucasian race. A lot of this is because the research test subjects have been skewed towards male Caucasian sample. As such, these biases creep up further into the system because of a lack of representation from the very beginning to the end.

The only way to eliminate such inherent biases and challenges within implementations is to have representation of diverse populations, at all levels of the healthcare system. DocConnectCA has the potential to provide a digital tool across the province, to adolescents of all cultural and ethnic backgrounds, and ensure they have access to primary care for improved healthcare outcomes.

*Arushi Bhardwaj is a Senior Consultant for a Social Impact Consulting firm in Toronto. In this role, she helps social purpose organizations improve their program design and implementation. Her background in Public Health and Health Informatics interconnects the health and social services sectors.*

## Tharcille Tuyisenge – Ottawa, ON

As an international student in the field of public health and a previous director of health and wellness at Quest University Student Association, I was impressed by the advanced quality of medical services and edge-cutting research Canadians enjoy. This includes some of the world's best tertiary hospitals filled with leading health professionals, equipment, and medications that are well-suited to treat many diseases.

However, during my studies, I have also become acquainted with some of the shortfalls within Canada's healthcare system. Prominent medical and health research organizations, including the Canadian Insitute for Health Information, have published findings that there is a profound inequality within the country's healthcare system. Some members of Canadian society have reported struggling to navigate the healthcare system and accessing those high-quality health care supports that the country is very much praised for.

This is particularly relevant given that The Angus Ried Institute has published findings that indicate that more than six million Canadians are without family doctors and that many of these individuals were members of racialized groups. It is also not uncommon for these individuals to fall into even more marginalized subsets including living in low-income communities and/or in poverty, being newcomers to Canada, and having disabilities. This is quite concerning when we consider that the adverse health outcomes brought forth by Covid-19 have had the most significant impact on those same demographics, which are also reported as those that are without a designated family doctor.

The common theme seems to be that the lack of access to a designated family doctor is a barrier that disproportionately affects underserved populations, particularly adolescents from marginalized communities. The absence of a designated family doctor can complicate the transition from adolescence to adulthood. Having a designated family doctor serves as the entrance in the world of health care supports, and we cannot afford to have that doors closed for adolescents who are in need of health supports. That is why having a tool like DocConnectCA is so important, as it seeks to empower marginalized adolescents to obtain access to designated family doctors, a step toward improving equitable health outcomes across Canada.

*Tharcille Tuyisenge is a recent graduate of Quest University Canada where she received her Bachelor of Arts and Science with a focus on Public Health. Tharcille is interested in creating models that foster a healthier society and she has worked to reduce structural challenges that hinder people from accessing good medical care in times of sickness. Tharcille co-founded a not-for-profit organization with a mission to electrify rural homes in Rwanda using solar power and she has contributed to research in strengthening the healthcare system and promoting access to primary care in Rwanda and Uganda.*

## Reuben Mulinda Nashali – Ottawa, ON

As a community development worker and a recent newcomer to Ottawa, I have experienced the importance of having a regular primary care provider. For newcomer youth like myself, a designated family doctor can be one of the only trusted sources for health advice. Shortly after arriving to Canada, most newcomer families tend to experience a culture shock, but it is also not uncommon for the parents and grandparents of newcomer youth to also experience a culture clash which has the potential to negatively impact the health and wellness of newcomer youth. That is why a designated family doctor has the potential to be a trusted source for health supports to newcomer youth who are still trying to better understand themselves.

With most newcomer families falling into the low-income category, not having a designated family doctor adds to their pre-existing socioeconomic challenges and makes them even more susceptible to negative health outcomes. For newcomer youth that are struggling with mental health or substance abuse, accessing healthcare supports without having a designated family doctor requires them to share their traumatic experiences with multiple doctors. To make matters even more challenging, it often takes over 5 years for newcomer adolescents to obtain family doctors, at a point when they may have transitioned from adolescence to adulthood.

One major challenge that most newcomer youth often deal with is the existence of culture clashes at home that may prevent them from seeking out health supports, and when they do decide to seek out health supports, they are likely to struggle during their interactions with doctors and properly explaining what they are dealing with. That is why trust is the most crucial component during the doctor-patient interaction, and it is especially important for newcomer youth that are trying to figure out life without any support systems.

In my opinion, health-tech tools like DocConnectCA have the potential to increase positive mental health promotion, access to health care services, resilience building, information sharing, and health care advocacy for racialized and newcomer youth who are often labelled as being high-risk for adverse life outcomes. The reason behind this is that these same youth also experience other barriers and stigma that contribute to mental health struggles like low-income community conditions, lack of employment opportunities, discrimination, and other stressors exclusive to newcomers. So DocConnectCA is a good starting point to address these and other negative health outcomes that these youth experience.

*Reuben Mulinda Nashali is a community development worker and a recent newcomer to Canada. Reuben graduated from Carleton University with a degree in Global Development and Economics. Reuben works with the Social Planning Council of Ottawa as a program manager and oversees community development project.*

## Sulafa Alrkabi – Calgary, AB

A universal health care system plays a major role in positive health outcomes, there may be instances where it can be difficult to obtain access to health supports for those individuals that lack familiarity with the health care system. Although Canada has adequate primary care services, newcomers tend to struggle with accessing primary care supports and obtaining a designated family doctor. Additionally, the newcomer experience involves barriers related to language as well as cultural barriers which can act as obstacles to accessing various health supports. As a result, the newcomer experience has factors associated to it that have the potential to negatively impact and shape newcomer youth.

Socioeconomic inequalities and social exclusion are known to contribute to mental health challenges and substance misuse, exacerbating their health inequities and health outcomes. Newcomer youth are particularly susceptible to peer pressure and acculturation as they try to fit into a new society. It is also not uncommon for newcomer youth to resort to substances for self-medication purposes as they try to cope with the transition into a new society and towards adulthood.

By providing adolescents with a designated family doctor, it creates for a consistent health care experience which can contribute positively towards their mental and physical wellbeing during this critical developmental stage and as they transition into adulthood. A consistent health care experience is also beneficial in preventing maladaptive coping mechanisms, which can follow adolescents into adulthood if they are unable to break the maladaptive habits. In this context, vulnerable populations often require solutions that bridge them with public health care services, addressing equity gaps.

DocConnectCA simplifies and helps facilitate an adolescent's pursuit to obtain a designated family doctor, and it enhances an adolescent's ability to receive tailored health supports. Moreover, receiving consistent care creates a for a sense of confidentiality, and it can allow for these adolescents to speak openly about their health challenges. Therefore, DocConnectCA creates a safe channel that could encourage adolescents to share sensitive information while maintaining privacy and confidentiality.

Sulafa Alrkabi has a clinical background as a speech pathologist. Sulafa completed her Master's in Health Services Management from the University of Lethbridge, focusing on quality improvement, health equity and immigrant health. Sulafa is currently a Ph.D student at Lancaster University, working on strengthening the evidence base to reduce health inequities and inform policy in Canada and globally.

## Atiqa Mohammad – Toronto, ON

As a public health professional, I have been involved in research and, program development and management across various healthcare organizations and cause areas. My personal objective, however, has been to make certain that any work I've undertaken, is done so with a health equity lens. Given this, I know that one of the greatest challenges we face in the Canadian health care system currently, is access to fair and equitable healthcare.

In my current role, managing a telehealth program for a men's health charity, I've seen first-hand, how technology can lend itself to innovations that collect data to provide more patient-centred care, enable those living in rural communities to attend appointments that would normally not be possible given their proximity to a health facility but overall, it serves as a conduit to increase access to health care services by bridging the gap between primary care providers and patients.

A landscape review I've conducted over the past year has allowed me to connect with many healthcare providers, researchers and people with lived experiences in order to get clearer idea of the challenges in accessing health services by men. This review reaffirmed that men belonging to racialized or traditionally underserved communities were less likely to know where to go for resources or to have access to primary care services. The result of which was a contributing factor for not receiving timely care and/or diagnosis. To take it one step further, primary care is the part of healthcare that can really focus on the 'monitoring and management'. We learned that men and their families from lower socioeconomic conditions were less likely to advocate for their own healthcare especially when it required seeking out mental health services given the stigmatizing attitudes toward mental health conditions by certain groups.

The optimal time to shift these traditional mental health paradigms and adherence to long-standing notions of masculinity is during the formative years. I believe as healthcare professionals, it's up to us to facilitate behaviour change for individuals in a healthcare system that was traditionally designed without equity at the forefront.

For adolescents, actualizing the need for primary care may not be organic and that coupled with the fact that looking up a primary care physician in Canada can be a daunting task is where a tool like DocConnectCA is so crucial. This tool can impel behaviour change during adolescence and offset barriers to access. Above all, "coordination of care" starts immediately by a trusted professional, such a guidance counselor and provides an "entry way" into the health ecosystem.

Atiqa Mohammad is a health systems public health professional with over 13 years of experience. Atiqa has a passion for social change, health equity, patient-centered models of care, and advocating for diverse representation in research. Currently, Atiqa serves as a manager at Movember where she leads prostate cancer survivorship research programs and initiatives aimed at improving access to health care services and improving health outcomes. Atiqa completed her MPH from the Geisel School of Medicine at Dartmouth College, and she also holds an MBA in Finance, a BA in Mathematics and a post-graduate certificate in Epidemiology.

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*"Be fast. Have No Regrets. The greatest error is not to move. Speed trumps perfection."*

- Dr. Michael J Ryan (WHO)