

Children's Health Assessment

To: Chair and Members of the Board of Health

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Prepared By: Michael Whyte, Manager, Data & Analytics

Approved By: Kyle Wilson, PhD, MBA, MSc
VP, Information Systems & Digital Innovation, CIO

Submitted By & Signature: *Original signed document on file.*
Dr. Nicola J. Mercer, MD, MBA, MPH, FRCPC
Medical Officer of Health & CEO

Recommendations

It is recommended that the Board of Health receive this report for information.

Key Points

- The Children's Health Assessment Project (CHAP) was developed to monitor and track the health and well-being of children in Wellington-Dufferin-Guelph (WDG).
- The project used a Modified Delphi technique to select and prioritize 20 core indicators across 11 domains of children's health.
- The selection process engaged subject matter experts (SMEs) from multiple sectors and was guided by principles of impact, alignment with the Wellington-Dufferin-Guelph Public Health (WDGPH) Strategic Plan, and usefulness for program planning.
- Results will inform a data dashboard accessible to internal staff and work towards expanding it for external partners, supporting program planning, community partnerships, and evidence-based decision-making.
- This project aligns with WDGPH Strategic Goal Two — Focus on children's health: determining systemic challenges that children and families face and informing coordinated community responses.

Background

The Children's Health Assessment Project (CHAP) was initiated by Wellington-Dufferin-Guelph Public Health (WDGPH) to address the need for a consistent, comprehensive and coordinated approach to monitor the health and well-being of children health across the region. Public Health plays a critical role in collecting, analyzing and communicating data that informs strategic decision-making among community partners and supports evidence-based interventions.

Historically, child health initiatives provided data in siloed environments, making it difficult to identify trends or systemic challenges across a child's lifespan. Recognizing this gap, WDGPH developed CHAP as an integrative approach that consolidates local, provincial and federal data into a single framework for measuring children's health and well-being.

To guide the selection of relevant indicators, WDGPH employed the Modified Delphi technique, a structured, iterative process designed to ensure inclusivity and achieve expert consensus. Between May and October 2024, iterative rounds of questionnaires, ranking tools (via REDCap survey software), and facilitated group discussions (including an interactive consensus building session) were conducted alongside consultations with cross-sectoral experts.

This process resulted in the identification of 20 priority indicators representing key aspects of child health across 11 domains:

- Living Environment
- Noncommunicable and Infectious Diseases
- Newborn Health
- Maternal Health
- Substance Use Prevention and Harm Reduction
- Mental Health and Well-Being
- Physical Health and Lifestyle Behaviours
- Oral Health
- Safety
- Education
- Early Childhood Development

These indicators are intended to align with local public health priorities, provincial reporting mandates, and the goals outlined in WDGPH's 2024–2028 Strategic Plan.

Discussion

The CHAP project provides a systematic and evidence-based approach to understanding the multi-dimensional nature of children's health within the WDG community. The project's evidence-based foundation supports local policy development, program evaluation and cross-sector collaboration.

Purpose and Objectives

- Monitor and report on children's health outcomes using reliable, locally relevant data.
- Identify systemic challenges and inequities affecting child well-being.
- Provide actionable information that supports public health programming and community planning.

Methodology and Process

Using the Modified Delphi process, more than 90 child health indicators were initially reviewed.¹ By the third round, subject matter experts (SMEs) reached consensus to retain 19 indicators and remove 28, with 47 requiring further discussion.

Consensus was achieved through iterative rounds of surveys, ranking exercises and facilitated group discussions, resulting in a final prioritized list of indicators.

Expert feedback emphasized the importance of integrating social and environmental determinants of health, such as:

- sleep patterns and circadian health
- peer connectedness and bullying (including cyberbullying)
- perceived safety and belonging
- nutrition and physical activity
- substance use, including binge drinking and prescription medication misuse

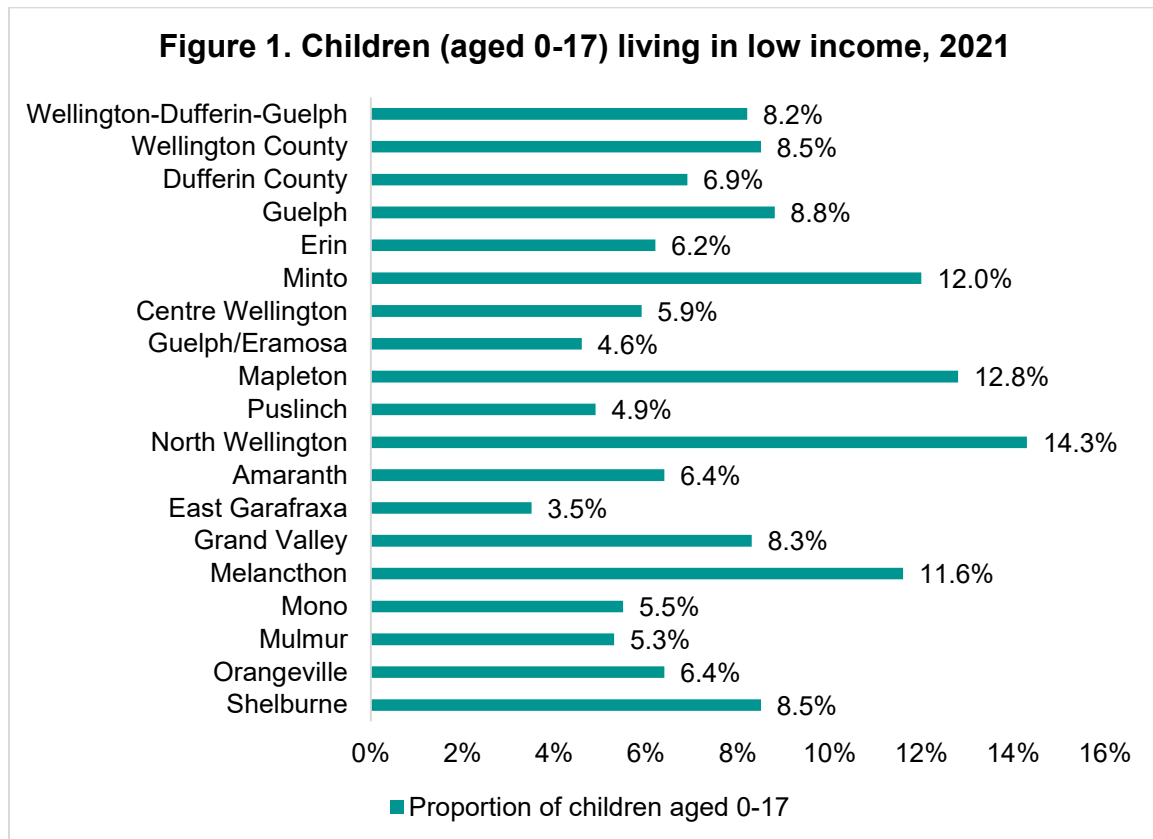
These additions reflect local community realities and enhance the comprehensiveness and relevance of the final indicator set.

Summary of the Domain Results

Living Environment

In the Living Environment domain, 8.2% of children (aged 0–17) in Wellington-Dufferin-Guelph were living in low-income households in 2021, based on Census data.² Results for this indicator across municipalities in Wellington-Dufferin-Guelph can be seen in Figure 1. This indicator reflects economic vulnerability and potential barriers to accessing basic needs such as nutritious

food and stable housing. Each municipality's percentage of children in low-income households differs from the provincial average (11.5%), highlighting the importance of local child poverty supports and their downstream effects on health and education outcomes.



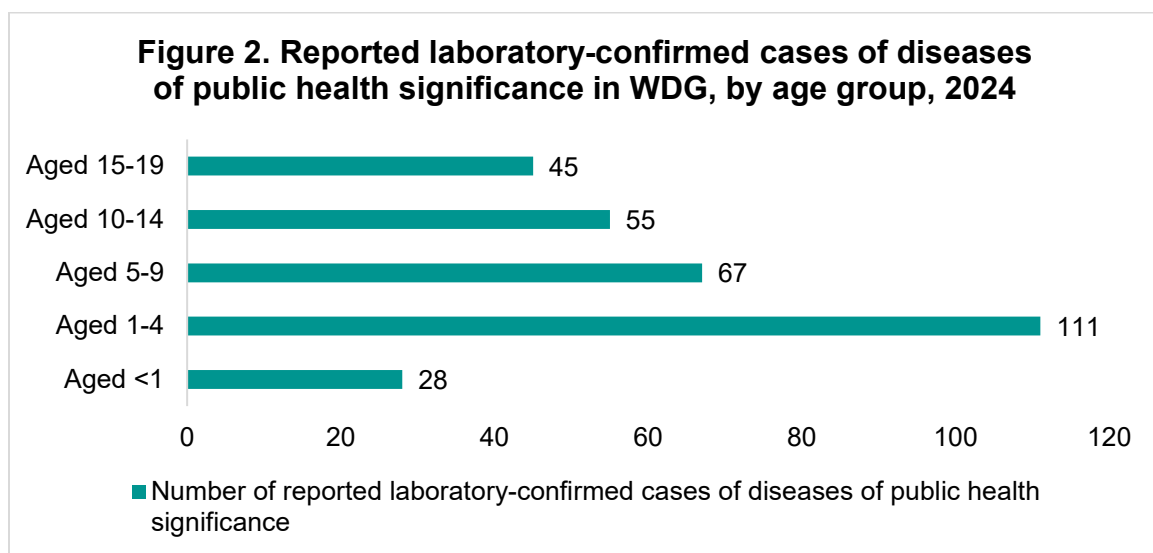
When looking at Core Housing Need, defined as households living in unsuitable, inadequate or unaffordable dwellings, Guelph (10.1%), Dufferin County (9.4%), and Wellington County (8.7%) were all under the Ontario average of 12.1% in 2021.³ Families living in Core Housing Need face greater risks to physical and mental health, particularly for children. Local housing factors that support core housing needs (e.g., fewer renters, larger stock of single-detached homes, fewer households in downtown markets, as well as active housing programs in the municipalities) are all contributing to lower proportions of WDG households living in Core Housing Need compared to Ontario.^{4,5,6}

In 2023, household food insecurity in Wellington-Dufferin-Guelph (25.0%) was similar to the Ontario average (24.2%).⁷ Food insecurity is a key measure of household access to sufficient, safe and nutritious food. Children living in food-insecure households face higher risks of poor physical health, developmental challenges and mental distress.⁸ Tracking this indicator helps identify economic and social inequities that affect child well-being, and supports programs and policies aimed at ensuring all families have consistent access to healthy food.

Noncommunicable and Infectious Diseases

There are nine designated diseases that require proof of vaccination or a valid medical or philosophical exemption under the Immunization of School Pupils Act (ISPA): diphtheria, tetanus, polio, measles, mumps, rubella, meningococcal disease (meningitis), pertussis (whooping cough) and varicella (chickenpox).⁹ Immunization coverage for the nine designated diseases in the 2024 school year was 93% for elementary students and 88% for secondary students. WDG is typically above Ontario vaccination rates across all nine designated diseases. The 2024 vaccination rate for daycare students in WDG was 63%.

Under the Health Protection and Promotion Act (HPPA), infectious diseases are to be reported to public health for investigation. Ontario Regulation 135/18: Designation of Diseases, under HPPA, identifies 72 Diseases of Public Health Significance (DoPHS), which are reportable to the local Medical Officer of Health (see Appendix A for list of diseases).¹⁰ In 2024, there were 306 lab-confirmed cases of diseases of public health significance reported in youth aged 0-19 in WDG. Reported cases by age group can be found in Figure 2.

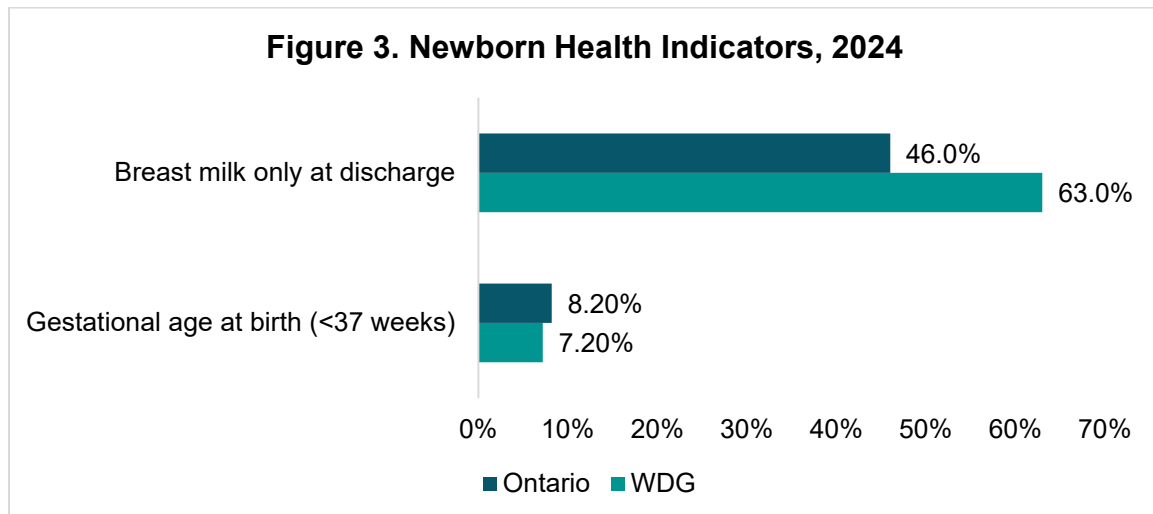


Newborn Health

Monitoring the health and development of newborns is a cornerstone of effective public health practice. The neonatal period (the first 28 days of life) represents the most vulnerable stage in the human lifespan. Systematic tracking allows health systems to identify, prevent and manage health issues early, improving both individual and population-level outcomes.

Aggregated newborn health data form the foundation of maternal and child health surveillance systems. This data can guide resource allocation for maternal and infant health programs.

Tracking indicators such as preterm birth rates (gestational age at birth less than 37 weeks) and breast-feeding rates (breast milk only at discharge from hospital/birth centre/home births three days postpartum) helps measure progress toward public health goals and international commitments, such as the Sustainable Development Goals (Figure 3).¹¹



Maternal Health

Tracking maternal health provides an avenue for ongoing engagement with mothers and families. Regular health visits create opportunities for:

- education on breastfeeding, nutrition, and infant safety
- screening for maternal mental health concerns
- linking mothers and families to community resources and social supports

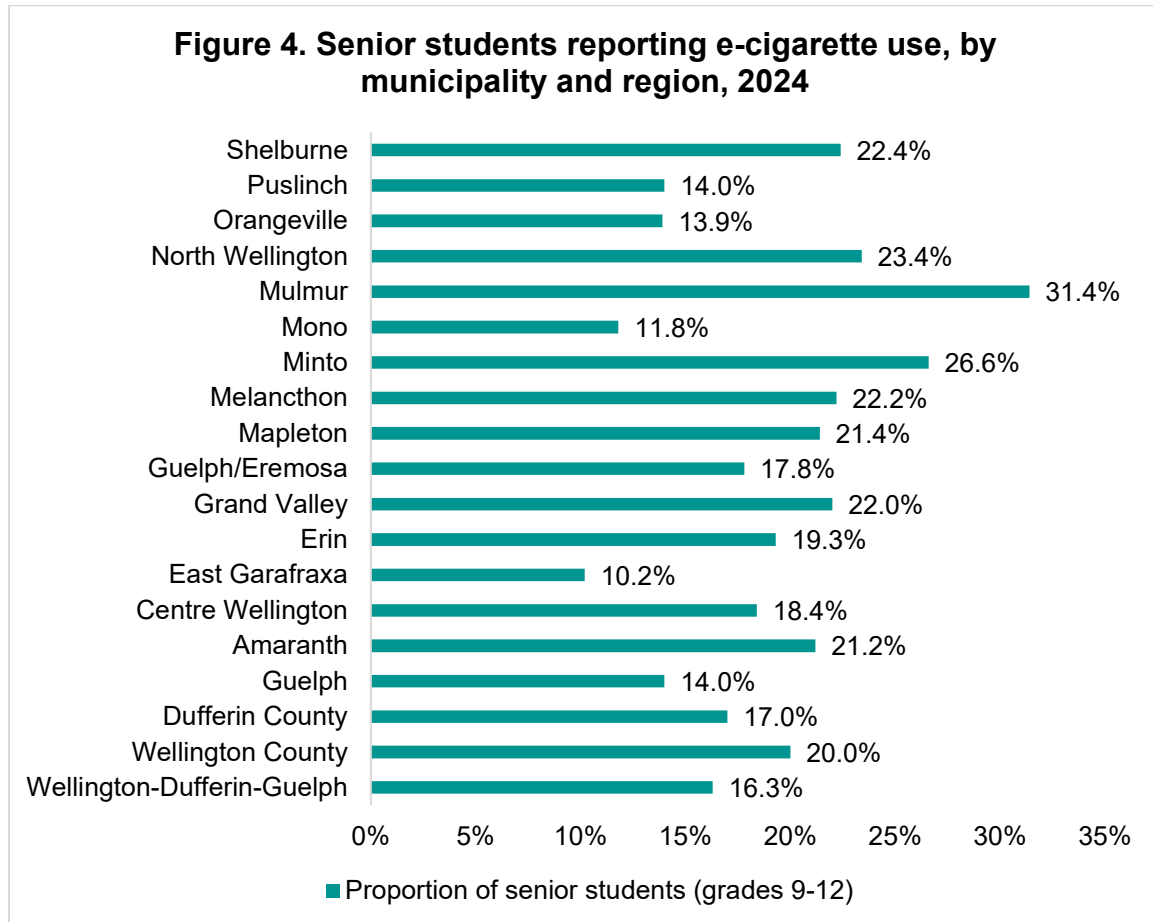
Such integrated approaches enhance family well-being and reduce preventable adverse outcomes.

When looking at alcohol exposure in pregnancy, 3.1% of women in WDG reported use compared to 1.5% in Ontario. In 2024, women reporting mental health concerns during pregnancy was slightly higher in WDG (24.4%) than the Ontario average (20.7%).

Substance Use Prevention and Harm Reduction

E-cigarette use (vaping) is a leading indicator of later tobacco use, early respiratory and cardiometabolic signals, and future health outcomes due to neurodevelopmental risk and addiction.¹² In WDG, 3.4% of intermediate students (grades 7-8) and 16.3% of senior students (grades 9-12) reported vaping.

These 2024 numbers were a reduction from 2019 highs, which followed the 2018 legalization of vaping products containing nicotine across Canada.¹³ Figure 4 shows the differences in the number of youth reporting vaping across municipalities.



Mental Health and Well-Being

In Canada, suicide is among the top causes of death for young people aged 15-34. Monitoring antecedents, such as ideation, plans and attempts, are essential to prevent deaths.¹⁴ The World Health Organization (WHO) estimates approximately 20 attempts for every suicide, so attempts provide a much deeper and timelier view of risk than mortality alone.¹⁵ In 2024 in WDG, 4.1% of grades 7-12 students reported attempting suicide over the past 12 months — just over 830 youth.

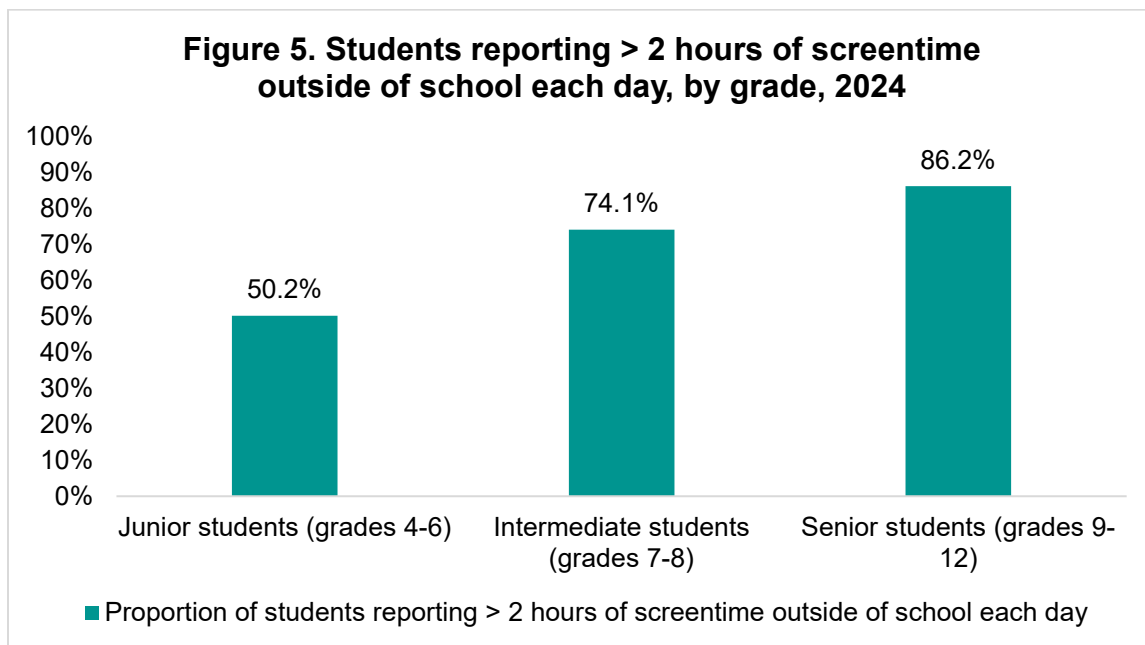
Youth who report resilience factors such as school connectedness, supportive adults and positive coping methods show lower odds of poor mental health and suicide-related behaviors.¹⁶

In WDG, almost one in three (29%) grades 7-12 students reported low resilience on the Brief Resilience Scale (BRS) in 2024.¹⁷ Tracking resilience supports WDGPH's ability to promote factors that protect youth from adverse health outcomes.

Physical Health and Lifestyle Behaviours

When trying to build protective factors for youth in our community, household adult support and parental monitoring are core determinants of poor mental health and suicide risk among secondary school students.¹⁸ Tracking these supports identifies where to bolster upstream prevention. Over 70% of WDG students in grades 4-12 reported high levels of family support in 2024, which has been steadily increasing since 2019.

Canada's 24-Hour Movement Guidelines recommend no more than two daily hours of recreational screen time for ages 5–17 and adequate nightly sleep.¹⁹ Exceeding these limits is linked to poorer physical, cognitive and mental health. Tracking screentime quantifies how far local patterns diverge from guidance and which groups are most affected. Figure 5 shows how students reporting more than two hours of screentime outside of schoolwork each day increases from junior students (grades 4-6) to senior students (grades 9-12).



Oral Health

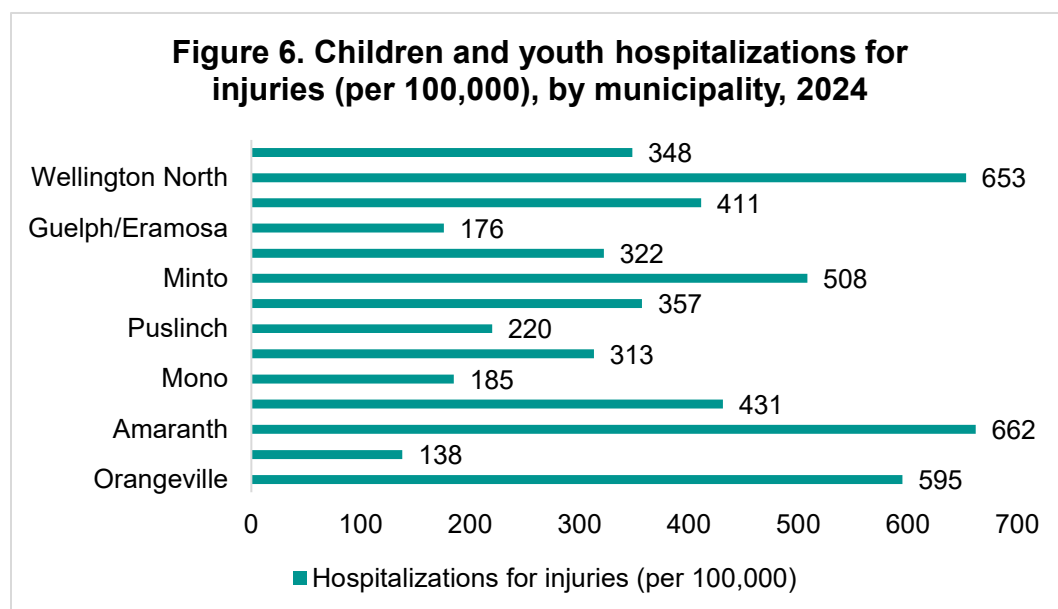
As required by the Ontario Public Health Standards, WDGPH's dental team screened all junior kindergarten (JK), senior kindergarten (SK), and grade 2 children in WDG. The team found that 27% of children in JK, SK and grade 2 experienced tooth decay, while 2% of children who were screened had urgent dental needs.

WDGPH offers Fluoride Varnish programs to WDG schools as well as children's preventative clinics in Guelph, Fergus and Orangeville. Poor oral health is linked to pain, sleep loss, difficulty eating and speaking, missed school and lower academic performance, which are in turn associated with higher costs for families and communities.²⁰ Tracking these indicators allows public health to quantify a large, modifiable burden.

Safety

In Canada, accidents (unintentional injuries) are the leading cause of death for ages 1–14, and among the top causes for ages 15–24. Monitoring mortality keeps focus on the biggest preventable threats.²¹ National analyses show injuries are the leading cause of death and morbidity in children and youth.²² Most child injuries are preventable through proven measures (e.g., restraints/helmets, drowning prevention, safe sleep, and safer roads and homes). Surveillance identifies where these protections are failing. Hospitalization data provides near-real-time signals (e.g., spikes in transport injuries, poisoning or self-harm), enabling targeted outreach, school and community alerts, or enforcement blitzes.²³ In 2023, the child and adolescent mortality rate (aged 0-17) in WDG was 54 per 100,000. Hospitalizations for the following injury types varied by municipality for children and youth aged 0-17 in 2024 (Figure 6):

- pedestrian and cyclist injuries
- on/off road motor vehicle
- agricultural machinery and tools
- sports and recreation injuries
- falls injuries
- accidental poisonings
- intentional self-harm

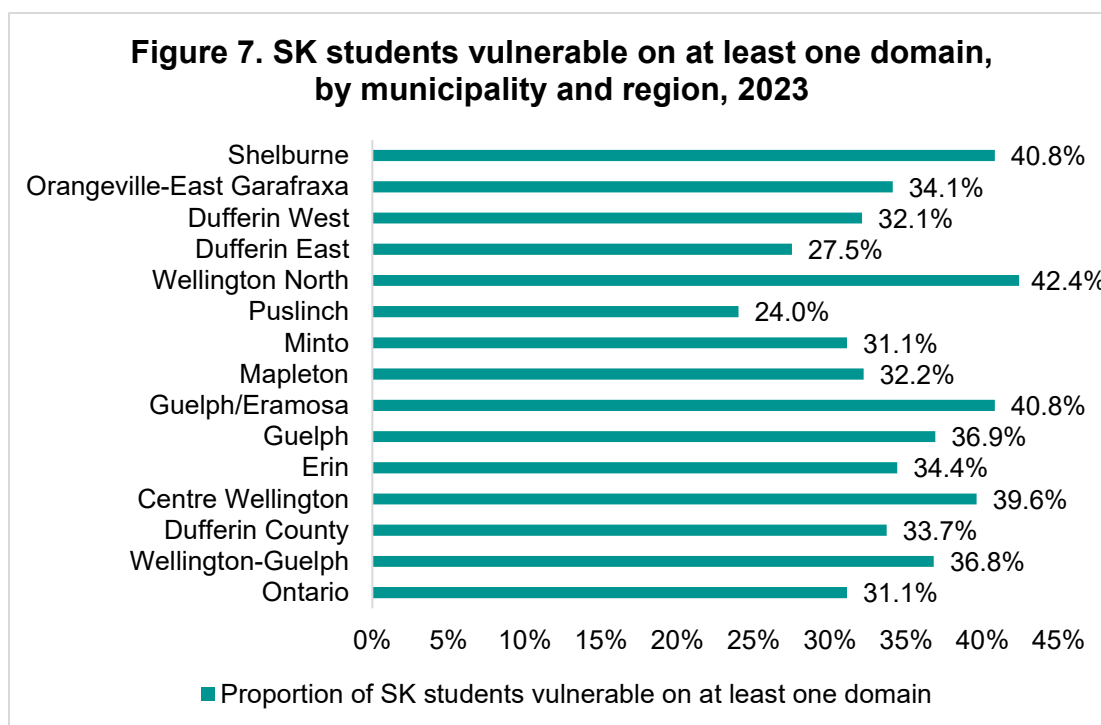


Education

Students who feel supported by adults and connected at school show better mental health and lower risk of suicide.²⁴ These trends suggest having at least one adult that students can turn to for help is a prime upstream indicator for schools to monitor and improve. In 2024 in WDG, over 85% of grades 4-12 students reported having at least one such adult. This proportion remains high across Wellington County (86.6%), Dufferin County (87.3%) and Guelph (86.0%). Reporting from students on this indicator remained similar across the municipalities from 84.4% in Puslinch to 90.1% in Grand Valley.

Early Childhood Development

The Early Development Index measures children's development across the following key domains: physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge.²⁵ Tracking vulnerability (i.e., children scoring below expected benchmarks) helps detect children who may be falling behind early, enable timely interventions (e.g., early learning programs, health support and parenting resources), and prevent small developmental delays from becoming larger academic or social challenges. Tracking vulnerability allows communities and policymakers to track progress over time and evaluate whether early childhood programs and policy investments are effective. Both Wellington-Guelph and Dufferin County reported higher proportions of SK students vulnerable on at least one domain compared to Ontario in 2023 (Figure 7). Differences across municipalities can also be viewed in Figure 7.



Next Steps

- Publishing results through the WDGPB dashboard and public reporting platforms.
- Share findings with WDGPB staff, community partners, and the broader WDG community.
- Apply insights to guide program planning and inform public policy recommendations.
- Maintain engagement with subject matter experts and community partners to support the ongoing and sustainable use of findings.

Health Equity Implications

CHAP emphasizes health equity by identifying disparities across sub-populations of children in Wellington-Dufferin-Guelph. Certain groups, such as low-income families, rural populations, immigrant families, and Indigenous children, may experience disproportionate barriers to health, education, and safety.

By tracking indicators like access to healthcare, nutrition, mental well-being, and sense of belonging, CHAP can help target resources and interventions where they are most needed. The data will also guide collaboration with community agencies to mitigate unintended impacts and address systemic inequities.

Conclusion

The Children's Health Assessment Project establishes a vital foundation for ongoing monitoring and improvement of children's health outcomes in Wellington-Dufferin-Guelph.

By applying a data-driven, consensus-based approach, WDGPB is positioned to identify emerging trends, guide future programming, and foster a community-wide commitment to improving child well-being.

CHAP creates a shared understanding of children's health by transforming data into actionable insights, laying the groundwork for a healthier, more equitable future for all children in our region.

Ontario Public Health Standards

Foundational Standards

- ☒ Population Health Assessment
- ☐ Health Equity
- ☐ Effective Public Health Practice
- ☐ Emergency Management

Program Standards

- ☒ Chronic Disease Prevention and Well-Being
- ☐ Food Safety
- ☒ Healthy Environments
- ☒ Healthy Growth and Development
- ☒ Immunization
- ☒ Infectious and Communicable Diseases Prevention and Control
- ☐ Safe Water
- ☒ School Health
- ☒ Substance Use and Injury Prevention

2024-2028 WDGPH Strategic Goals

More details about these strategic goals can be found in [WDGPH's 2024-2028 Strategic Plan](#).

- ☐ Improve health outcomes
- ☒ Focus on children's health
- ☐ Build strong partnerships
- ☐ Innovate our programs and services
- ☐ Lead the way toward a sustainable Public Health system

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Appendices

Appendix A

Diseases of Public Health Significance	
Acquired Immunodeficiency Syndrome (AIDS)	Legionellosis
Acute Flaccid Paralysis (AFP) (under age 15)	Leprosy
Amebiasis	Listeriosis
Anaplasmosis	Lyme Disease
Anthrax	Measles
Babesiosis	Novel Coronaviruses • COVID-19 • SARS • MERS
Blastomycosis	Ophthalmia neonatorum
Botulism	Paralytic Shellfish Poisoning (PSP)
Brucellosis	Paratyphoid Fever
<i>Campylobacter</i> enteritis	Pertussis (Whooping Cough)
<i>Candida auris</i>	Plague (<i>Yersinia pestis</i>)
Carbapenamase-producing Enterobacteriaceae (CPE) (colonization or infection)	Pneumococcal disease (<i>Streptococcus pneumoniae</i>), invasive
Chancroid	Poliomyelitis, acute
Chickenpox (Varicella)	Powassan Virus Infection
<i>Chlamydia trachomatis</i> infections	Psittacosis/Ornithosis
Cholera	Q Fever
<i>Clostridium difficile</i> infection (CDI) outbreaks in public hospitals	Rabies
Creutzfeldt-Jakob Disease, all types	Respiratory infection outbreaks in institutions and public hospitals
Cryptosporidiosis	Rubella
Cyclosporiasis	Rubella, congenital syndrome
Diphtheria	Salmonellosis
<i>Echinococcus multilocularis</i> infection	Shigellosis
Encephalitis, including • Primary, viral • Post-infectious • Vaccine-related • Subacute sclerosing panencephalitis • Unspecified	Smallpox, and other Orthopoxviruses, including: Monkeypox

Food poisoning, all causes	Syphilis
Gastroenteritis, outbreaks in institutions and public hospitals	Tetanus
Giardiasis, except asymptomatic cases	Trichinosis
Gonorrhea	Tuberculosis, active human cases (also report positive skin tests in mm)
Group A Streptococcal disease, invasive	Tuberculosis, animal cases
Group B Streptococcal disease, neonatal	Tularemia
<i>Haemophilus influenzae</i> disease (all types), invasive	Typhoid Fever
Hantavirus Pulmonary Syndrome	Verotoxin-producing E. coli infection indicator conditions, incl. Haemolytic Uraemic Syndrome (HUS)
Hemorrhagic fevers: • Ebola virus disease • Lassa fever • Marburg disease • Other viral causes	West Nile Virus illness
Hepatitis, viral • Hepatitis A • Hepatitis B • Hepatitis C	Yersiniosis
Influenza (novel, non-seasonal)	