Chronic Disease Risk Factors

Physical activity, screen time, and fruit and vegetable consumption

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Southwestern Public Health
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Contents

Summary

- Chronic disease prevalence is impacted by three types of risk factors:
    1. Biological and genetic (non-modifiable),
    2. Social and environmental (modifiable), and
    3. Behavioural (modifiable)

- Risk factors can lead to worsening population health, which can then increase the strain on the health care system.
- Understanding the links and effects of modifiable risk factors on chronic disease prevalence is imperative for public health prevention activities.

- Between **2017/2018 and 2021,** the proportion of SWPH residents who reported having participated in at least 150 minutes of **moderate to vigorous physical activity** per week increased slightly. The proportion reporting non-school or work-related **screen time** increased by more than 10% (47.7% in 2017/2018 versus 58.8% in 2021).

- Between **2017/2018 and 2023**, residents in the SWPH region reported relatively consistent amounts of **active transportation**, without any significant increase or decrease over time. In 2023, 37% of residents reported active transportation in the last week compared to 49% across Ontario.

- Between **2020 and 2023**, the proportion of SWPH residents who reported **consuming fruit and vegetables** at least 5 times a day (excluding fruit juice) in the last 7 days has remained stable over time. Provincially, there is a slight downward trend over this period.

Chronic disease risk factors

Background

Chronic diseases such as cancer, cardiovascular diseases, respiratory diseases and diabetes are the leading causes of disability and death in Canada. (1) The prevalence of all these diseases is affected by risk factors that fall into three broad categories: non-modifiable (such as genetic or biological markers), behavioural (such as alcohol consumption and weekly physical activity), and environmental (social factors like neighbourhood or built environment) (**Figure 1**). The focus of the present report is on a selection of modifiable risk factors.

Figure 1. The three types of chronic disease risk factors

Research shows that there is a link between the prevalence of modifiable risk factors, comorbidities (more than one chronic condition), and mortality due to chronic diseases. (2) Understanding this link, and what it looks like locally helps to inform our local, age-specific strategies to prevent chronic diseases. (3) Thus, the prevalence of modifiable risk factors also has both direct and indirect healthcare costs. Directly, it costs the healthcare system approximately 2.6 billion dollars for physical inactivity, 5.6 billion dollars for unhealthy eating, and 1.8 billion dollars for inadequate fruit and vegetable consumption in Ontario. (1) Indirectly, it is associated with more loss of productivity and impact on the working-age population compared to just an aging population. (4)

However, it is worth noting that the modifiable risk factors in this report are influenced by social and physical environments and systems, some of which are also modifiable. Policy changes or supportive environment initiatives can modify the conditions where people live, work, and play.

Prevalence of modifiable risk factors

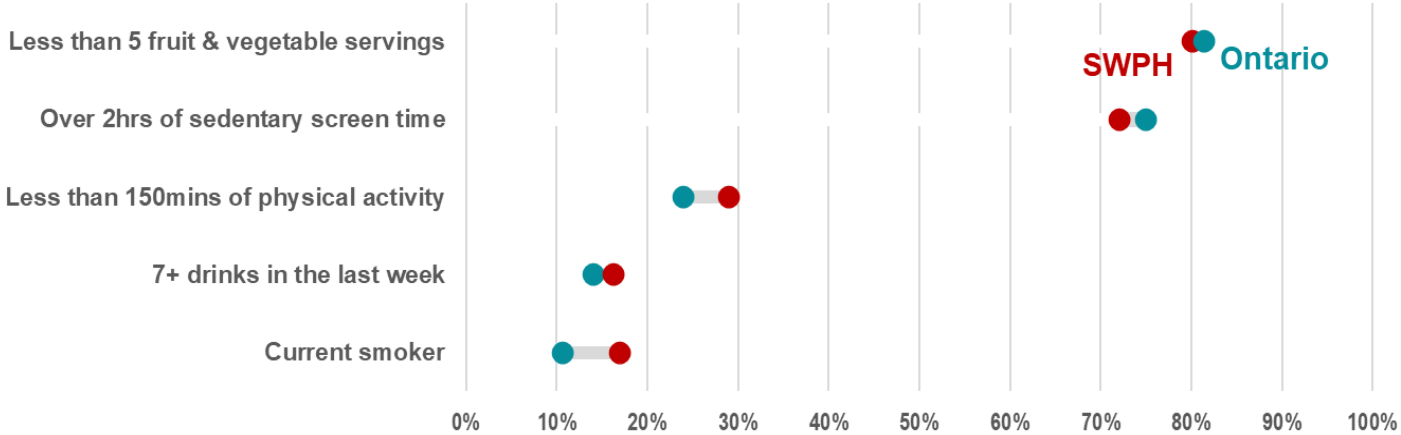
Public health has an indirect role in chronic disease prevention by targeting local prevention activities. This would include activities that aim to increase the proportion of SWPH residents reporting healthy behaviours, thus decreasing their risk for chronic diseases in their lifespan.

Given the link to chronic disease prevention, it is important to monitor trends in risk factors over time in addition to chronic disease prevalence over time. Chronic disease prevalence and associated health outcomes (disease-specific hospitalization rates and mortality rates) are summarized in another SWPH report. (5)

In 2023, the proportion of SWPH residents who reported chronic disease risk factors related to daily nutrition and physical activity was comparable to Ontario. However, more SWPH residents reported being current smokers (17% versus 11% in Ontario) (**Figure 2**). Tobacco use is one of the leading causes of preventable disease, especially lung cancer, stroke or cardiovascular disease, as well as premature death in Ontario. (1)

Data source:
2023 Canadian Community Health Survey (CCHS). StatsCan.

Figure 2. Proportion of respondents reporting chronic disease risk factors, SWPH and Ontario



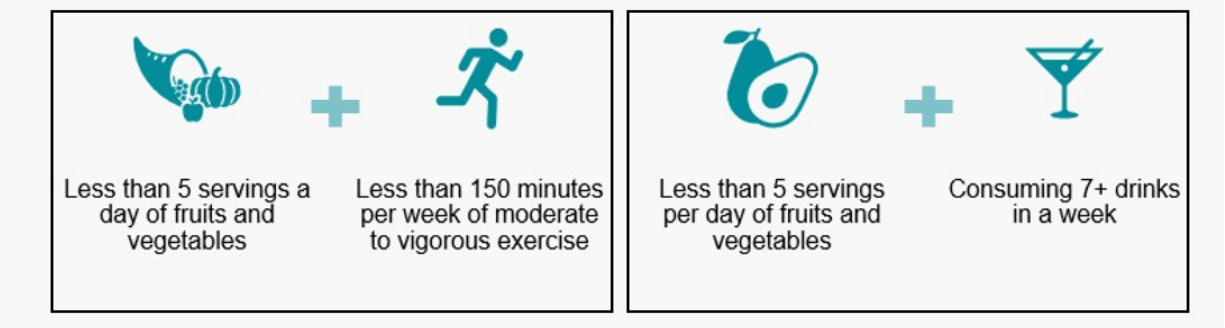
Further details on the local prevalence of substance-related risk factors and trends over time can be found in separate alcohol and tobacco SWPH reports. (6) (7)

Multiple risk factors

Evidence shows that chronic disease risk factors also have a synergistic nature, meaning that the more risk factors you report, the higher your risk for developing chronic diseases at some point in your life. (2)

In 2023, half of respondents (50%) reported more than one of the selected risk factors compared to 44.9% of respondents in Ontario. The top two most common combinations of risk factors reported were consuming less than 5 servings of fruits and vegetables a day, along with getting less than the recommended amount of physical activity or along with consuming 7 or more alcohol drinks each week (**Figure 3**).

Figure 3. Top two combinations of reported risk factors among respondents who reported 2 or more risk factors.



Physical activity

In 2023, the Canadian physical activity guidelines were updated to be more focused on combining different types of daily activities and are now called the *24-Hour Movement Guidelines*. (8) They include guidance on various lifestyle areas in addition to physical activity, including strength training, sedentary behaviour and sleep quality.

These changes to the guidelines reflect available evidence tying these other types of physical activity and lifestyle factors to chronic disease risk and overall mortality. Although there are separate guidelines for early years (ages 0 to 4) and children and youth (ages 5 to 17), only data for adult residents (18 and over) is summarized here. The *24-Hour Movement Guidelines* recommend performing various types of physical activity throughout the day/over the week. Moderate to vigorous physical activity is recommended for a minimum of 150 minutes per week.

The proportion of SWPH residents reporting doing enough physical activity to meet the movement guidelines was stable between 2017/18 and 2021. In 2021, about 3 in 5 SWPH residents reported getting at least 150 minutes of physical activity in the last week. This was slightly higher compared to the province, although not significantly so; it was the first time since 2017/18 that more SWPH residents reported meeting the physical activity guidelines compared to residents in Ontario.

Data source: 2017–2023 Canadian Community Health Survey (CCHS). StatsCan.

Figure 4. The proportion of respondents reporting at least 150 minutes per week of moderate to vigorous physical activity, SWPH and Ontario, 2017–2021

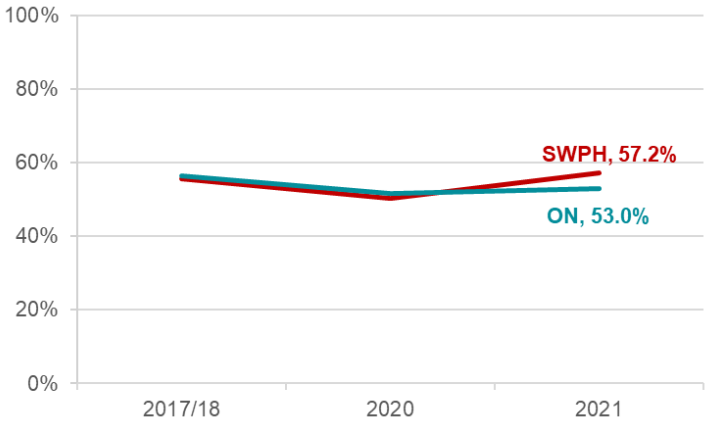
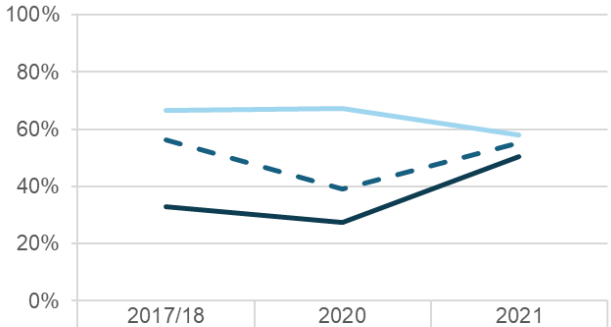


Figure 5. The proportion of respondents reporting at least 150 minutes per week of moderate to vigorous physical activity, SWPH, by age group, 2017–2021



	2017/18	2020	2021
18 to 44	66.5%	67.3%	57.9%
45 to 64	56.1%	39.1%*	55.2%
65+	32.8%	27.6%*	50.3%

* Due to small sample sizes, estimates should be interpreted with caution.

The proportion of males reporting physical activity that meets the physical activity guidelines has historically been higher compared to females; 58% compared to 53% in 2021 (not shown).

In 2021, residents aged 18 to 44 reported physical activity that meets the physical activity guidelines less compared to 2017/18, where older residents reported similar or improved physical activity levels over time (**Error: Reference source not found**).

Active transportation

Active transportation is about using your own efforts to get around to some locations like school or work. This can be walking, running, biking, or rollerblading, to name a few. Although not explicitly mentioned in the *24-Hour Movement Guidelines*, it does fall into the recommended activities towards the 150 minutes per week guideline (both moderate and vigorous levels of physical activity). Notably, active transportation can act as a connector to local public transit; for example, trips using the bus or train often involve using active transportation for to get to and from the transportation terminal. As such, people who use active transportation may be more likely to meet recommended physical activity levels. (9)

Between 2017 and 2023, the proportion of residents in the SWPH region who reported using some form of active transportation decreased slightly over time. This is similar to the provincial trend (**Figure 6**). In 2023, about a third (37%) of SWPH residents reported using active transportation compared to nearly half (or 49%) across Ontario. This was a statistically significant difference.

Data source:
2017–2023 Canadian Community Health Survey (CCHS). StatsCan.

Seniors (aged 65+) were the only age group where the proportion participating in active transportation increased over time. In 2023, about one in three (or 34%) seniors reported using active transportation, this is compared to 1 in 4 (or 25%) in 2017/2018 (**Figure 7**). There were no significant differences by sex.

Figure 6. The proportion of respondents who reported using active transportation in the last week, SWPH and ON, 2017 – 2023

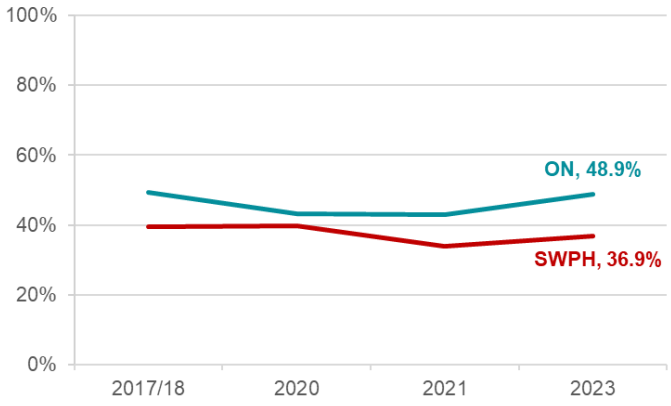
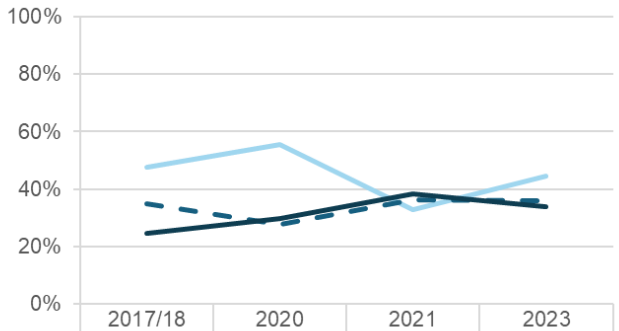


Figure 7. The proportion of respondents who reported using active transportation, SWPH, by age group, 2017 – 2023



	2017/18	2020	2021	2023
18 to 44	47.5%	55.6%	32.7%*	44.4%
45 to 64	34.8%	27.8%*	36.4%*	35.9%
65+	24.5%	29.7%*	38.3%	34.0%

* Due to small sample sizes, estimates should be interpreted with caution.

Sedentary screen time

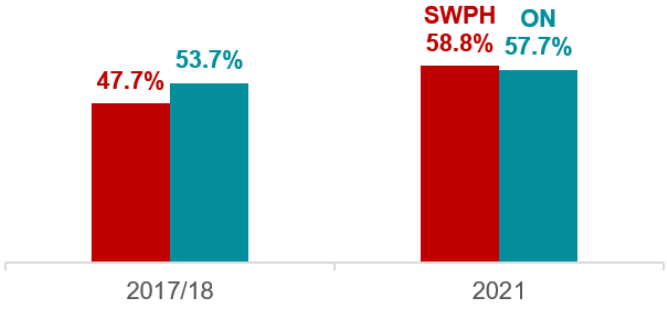
Research links sedentary behaviour as a risk factor for chronic disease as it entails engaging in activities that are characterized by low energy expenditure, such as prolonged periods of screen time. The *24-Hour Movement Guidelines* recommend that adults (aged 18+) limit sedentary time to less than 8 hours a day; this includes less than 3 hours of recreational screen time. (8) Given the availability of data, the proportion of respondents reporting 2 or more hours of recreational screen time is summarized below.

Between 2017/2018 and 2021, there was an increase in recreational screen time (screen time that was not for either school or work) among SWPH residents. This was also the case provincially.

The increase in the proportion of respondents who reported more than 2 hours of sedentary screen time per day in the last week was larger in the SWPH region than in Ontario (**Figure 8**). However, the local proportion was nearly the same as the province (59% versus 58%, respectively).

Data source: 2017/2018 & 2021 Canadian Community Health Survey (CCHS). StatsCan.

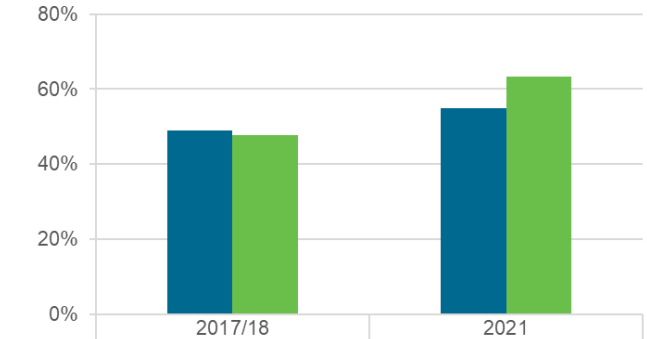
Figure 8. The proportion of respondents who reported 2 or more hours of sedentary screen time per day in the last week, SWPH and ON, 2017/2018 vs. 202



In 2021, the proportion of female SWPH residents reporting 2 or more hours of sedentary screen time surpassed that of males; 63% versus 55%, respectively (**Figure 9**).

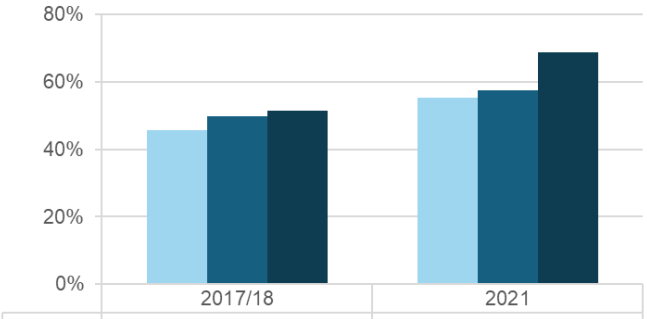
Nearly three-quarters (or 69%) of SWPH residents aged 65 and older reported more than 2 hours of recreational screen time daily. This was an increase from about 50% in 2017/2018 (**Figure 10**).

Figure 9. The proportion of respondents who reported 2 or more hours of sedentary screen time in the last week, SWPH, by sex, 2017/2018 vs. 2021



	2017/18	2021
Male	49.1%	55.0%
Female	47.9%	63.4%

Figure 10. The proportion of respondents who reported 2 or more hours of sedentary screen time in the last week, SWPH, by age group, 2017/2018 vs. 2021



	2017/18	2021
18 to 44	45.6%	55.2%
45 to 64	49.8%	57.5%
65+	51.4%	68.6%

Fruit and vegetable consumption

Daily fruit and vegetable consumption is linked to a lower incidence of chronic diseases, including diabetes, certain types of cancers and chronic obstructive pulmonary disease among current or past smokers. (1) It is also often used as a proxy measure for overall diet quality.

Data source: 2020–2023 Canadian Community Health Survey (CCHS). StatsCan.

Between 2020 and 2023, the proportion of SWPH residents who reported consuming 5 or more servings of fruits and vegetables per day in the last week remained relatively stable, with no notable changes over time. This was also the case provincially, although the proportion in Ontario is beginning to trend down in 2023 (**Error: Reference source not found**). Due to a small sample size, all the estimates for the SWPH region between 2020 and 2023 should be interpreted with caution.

In 2023, the proportion of females consuming 5+ servings increased to 25.3%, while for men, it remained approximately 17% over time (not shown).

In 2023, seniors 65+ reported consuming 5+ servings the least compared to other age groups (**Figure 12**), although not statistically significant.

Figure 11. The proportion of respondents reporting consumption of at least 5 servings of fruits and vegetables per day in the last week, SWPH and ON, 2020 – 2023

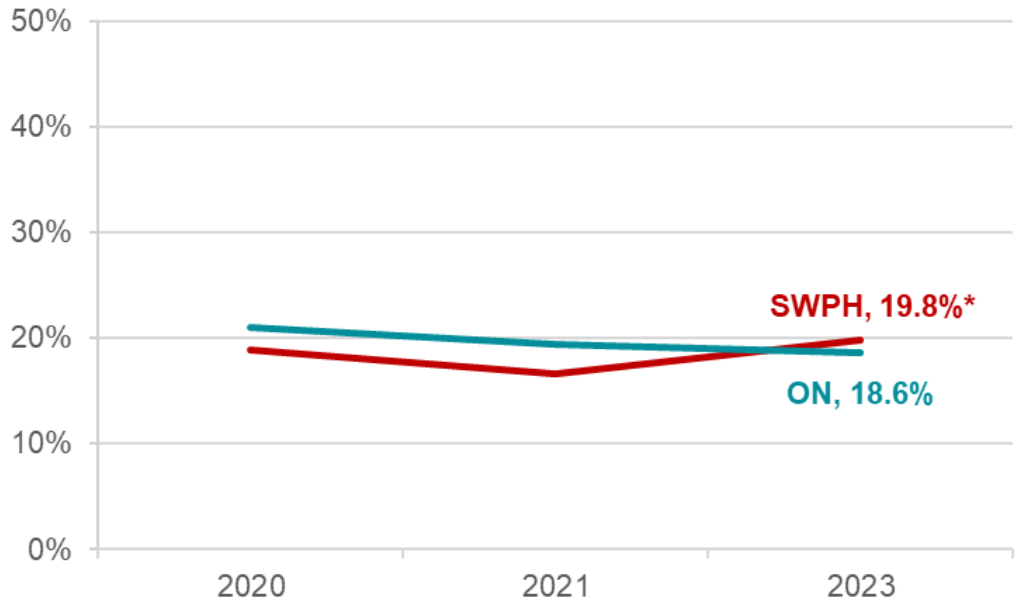
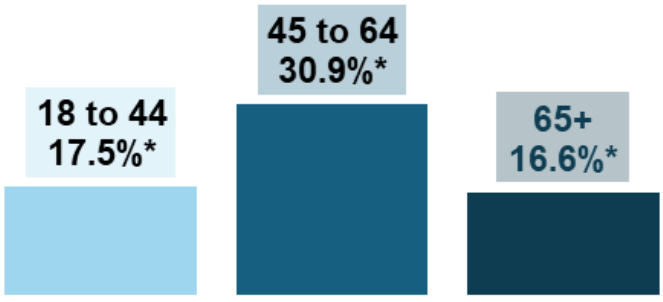


Figure 12. The proportion of respondents reporting consumption of at least 5 servings of fruits and vegetables per day in the last week, SWPH, by age group, 2023



* Due to small sample sizes, estimates should be interpreted with caution.

Sociodemographic factors

Although the risk factors summarized in this report are commonly referred to as “health-seeking behaviours”, it is worth noting that these risk factors are impacted by many factors beyond individual behaviour that impact opportunity and choice.

Various conditions greatly impact individual health-seeking behaviour and thus, the risk of developing a chronic health condition in the lifetime (i.e., health care sustainability). These include sex and age, which are also summarized in this report (when there were notable findings).

Research also highlights the impact of other sociodemographic-related factors on chronic disease prevalence. (9) These characteristics may include things like access to affordable and safe housing, transportation, adequate incomes, access to healthy food options, access to affordable recreation activities, and experiences of racism, oppression and exclusion, among others.

Once reliable, accurate data on these factors becomes available, including these characteristics for further subgroup analyses could help pinpoint further groups who are at a higher risk for negative health outcomes, which can then be used to tailor local public health programs. (9)

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Data Source

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