



Sun Safety

Collected Jan 2008-Dec 2008, Jan 2010-Dec 2010
Analyzed October 2012

Monitor Introduction

This RRFSS Monitor describes the sun safety behaviours of Waterloo Region adults aged 18 and older. The purpose of the Sun Safety module is to determine the proportion of adults using protective measures against sun exposure. From January to December of 2008, 1201 adults were asked about recent sunburns and from January to December of 2010 another 1209 adults were asked about sunburns. Questions pertaining to sun safety behaviours were only asked during the months of May to September, resulting in a sample size of 501 adults in 2008 (waves 89 to 93) and 401 adults in 2010 (cycle 5).

This Monitor only presents in depth results for 2010, as the most recent year of data, but overall 2006 and 2008 estimates are also given for each indicator to examine possible time trends. Estimates are presented with 95% confidence intervals (CI) and appear in the following format: (CI: XX.X-XX.X). Results from 2006 can be seen in the previous Sun Safety RRFSS Monitor released in 2008.

Fast Facts

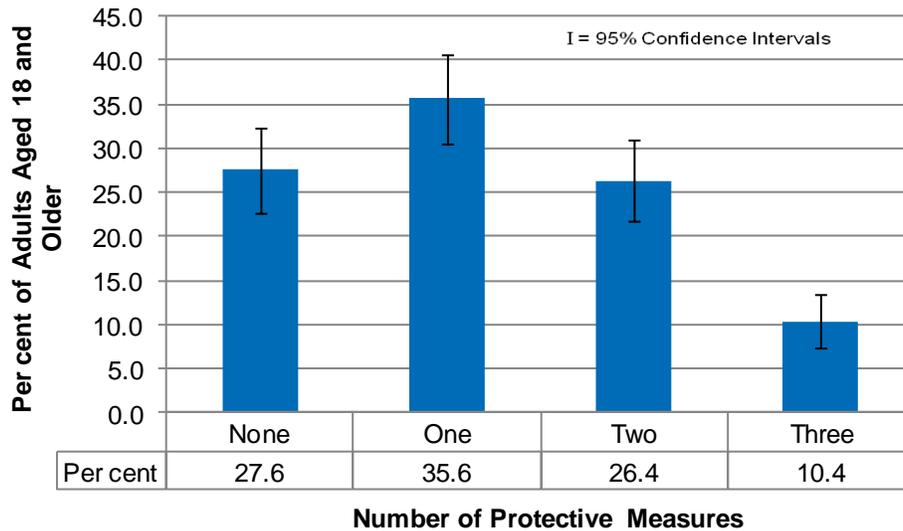
- Per cent of adults in Waterloo Region in 2010 who took no protective measures against sun exposure to the skin **27.6%** (CI: 22.8-32.4)
- Per cent of adults in Waterloo Region in 2010 that received a sunburn to some part of their body in the last 12 months **38.1%** (CI: 35.1-41.0)
- Per cent of adults in Waterloo Region in 2010 aged 25 to 44 that use sunscreen 'always' or 'often', the highest proportion of all age groups **54.4%** (CI: 46.1-62.6)

Around three-quarters of adults took a protective measure against sun exposure to the skin

There are three types of protection from exposure to the sun which adults were asked about over the course of the RRFSS module: avoiding the sun between 11AM and 4PM, wearing protective clothing, and wearing sunscreen.

Over the three time periods, 2006, 2008 and 2010, around three-quarters (**75.4%** (CI: 71.2-79.6), **75.8%** (CI: 71.7-79.9), and **72.4%** (CI: 67.6-77.2) respectively) of adults from Waterloo Region 'always' or 'often' took at least one protective measure against sun exposure to the skin, while the other quarter of adults (**24.6%** (CI: 20.4-28.8), **24.2%** (CI: 20.1-28.3), and **27.6%** (CI: 22.8-32.4) respectively) took no protective measures. In 2010, one third of adults (**35.6%** (CI: 30.6-40.7)) took one protective measure when in the sun, while another quarter (**26.4%** (CI: 21.8-30.9)) took two protective measures. A further **10.4%** (CI: 7.4-13.4) of adults took three protective measures to avoid exposing the skin to the sun (Figure 1).

Figure 1: Per cent of adults 18 years and older by number of protective measures used against sun exposure to the skin, Waterloo Region, 2010



Significant differences existed by education level

The proportion of adults who did not use any protective measures against sun exposure to the skin was significantly less for adults who have a post-secondary degree than adults who had less than a high school diploma or some post-secondary education (Table 1).

Table 1: Per cent of adults 18 years and older who did not use protective measures against sun exposure to the skin, by education level, Waterloo Region, 2010

Less than High School	High School Diploma	Some Post-Secondary	Post-Secondary Degree
43.3% ^E (CI: 25.0-61.5) ^x	29.3% (CI: 19.8-38.9)	48.6% ^E (CI: 29.9-67.2) ^y	21.2% (CI: 15.4-27.0) ^{x, y}

x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an "x" next to them are statistically different from each other.

The superscript "E" denotes high sampling variability, and estimates must be interpreted with caution.

No differences in protective measures against the sun were found between adults by age group, sex, household income or municipality.

The most common protective measure against the sun was wearing protective clothing while in the sun

In 2010, approximately **41.3%** (CI: 36.1-46.5) of adults in Waterloo Region always or often wore protective clothing while out in the sun. As well, **41.0%** (CI: 35.9-46.2) of adults always or often used sunscreen in the last 12 months as a means of protection against the sun. Finally, over two-thirds (**37.4%** (CI: 32.4-42.4)) of adults always or often avoided the sun between 11AM and 4PM as a way of protection against the sun.

Sex made a difference in avoidance of the sun between 11AM and 4PM

Across the three time periods, 2006, 2008 and 2010, over a third of Waterloo Region adults (**38.6%** (CI: 34.0-43.3), **42.5%** (CI: 37.8-47.2), and **37.4%** (CI: 32.4-42.4) respectively) avoided the sun between 11AM and 4PM as a protective measure against sun exposure on the skin.

In 2010, significantly more females than males avoided the sun between 11AM and 4PM in order to protect against sun exposure (**43.5%** (CI: 36.7-50.3) versus **30.0%** (CI: 22.8-37.1)).

No differences in avoidance of the sun between 11AM and 4PM were found between adults by age group, household income, education level or municipality.

Sex made a difference in use of protective clothing

Across the three time periods, 2006, 2008 and 2010, less than half of Waterloo Region adults (**45.7%** (CI: 41.0-50.5), **40.6%** (CI: 36.0-45.3), and **41.3%** (CI: 36.2-46.5) respectively) 'always' or 'often' wore protective clothing as a protective measure against sun exposure on the skin.

In 2010, significantly more males than females wore protective clothing in order to protect against sun exposure (**50.7%** (CI: 42.7-58.7) versus **33.5%** (CI: 27.0-39.9)).

No differences in use of protective clothing were found between adults by age group, household income, education level or municipality.

Age, sex and education level made a difference in use of sunscreen

Across the three time periods, 2006, 2008, 2010, less than half of Waterloo Region adults (**39.7%** (CI: 35.0-44.4), **40.8%** (CI: 36.1-45.4), and **41.0%** (CI: 35.9-46.1) respectively) 'always' or 'often' used sunscreen in the last 12 months as a protective measure against sun exposure on the skin.

In 2010, significantly more females than males used sunscreen to protect against sun exposure (**54.4%** (CI: 47.5-61.5) versus **24.9%** (CI: 18.2-31.6)).

Additionally, adults aged 25 to 44 years were significantly more likely to wear sunscreen in the last year than adults aged 18 to 24 or aged 45 to 64 years (Table 2).

Table 2: Per cent of adults 18 years and older who 'always' or 'often' used sunscreen in the past year, by age group, Waterloo Region, 2010

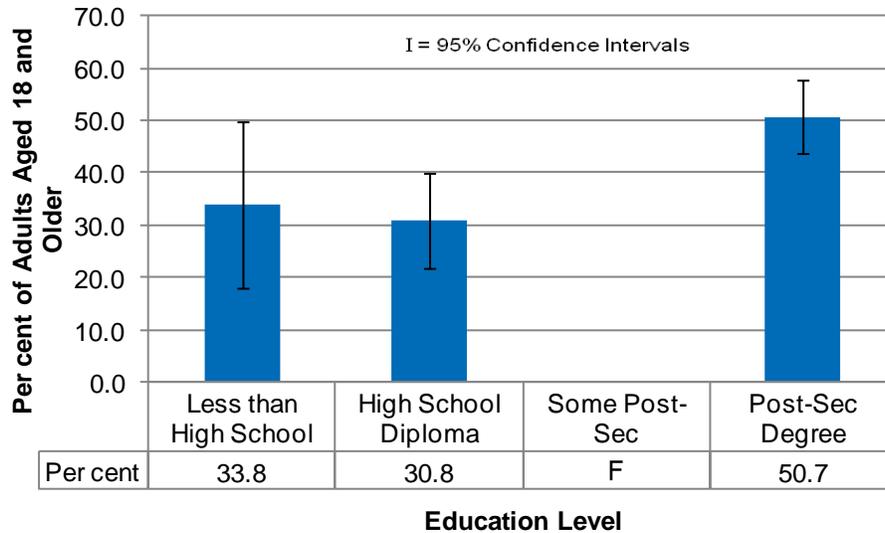
18 to 24	25 to 44	45 to 64	65+
25.6% ^E (CI: 10.0-41.2) ^x	54.4% (CI: 46.1-62.6) ^{x, y}	33.1% (CI: 24.6-41.6) ^y	36.1% (CI: 24.4-47.9)

x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an "x" next to them are statistically different from each other.

The superscript "E" denotes high sampling variability, and estimates must be interpreted with caution.

Finally, adults who had completed a post-secondary degree were significantly more likely to wear sunscreen in the last year than adults who had a high school diploma (Figure 2).

Figure 2: Per cent of adults 18 years and older who ‘always’ or ‘often’ used sunscreen in the last 12 months, by education level, Waterloo Region, 2010



An “F” denotes unacceptable sampling variability, and estimates or conclusions based on these data will be unreliable and most likely invalid

No differences in use of sunscreen were found between adults by household income or municipality.

Almost two-thirds of adults wear sunglasses with protection from ultraviolet (UV) rays

Across the three time periods, 2006, 2008 and 2010, almost two-thirds of Waterloo Region adults (**64.0%** (CI: 59.4-68.6), **63.3%** (CI: 58.7-67.9), and **65.8%** (CI: 60.8-70.8) respectively) indicated that they ‘always’ or ‘often’ wear sunglasses with UV protection.

Significant differences existed by education level and geographic region

In 2010, adults who had completed a post-secondary degree were more likely to wear sunglasses with UV protection than adults who had less than a high school diploma (Table 3).

Table 3: Per cent of adults 18 years and older who wear sunglasses to protect against UV rays, by education level, Waterloo Region, 2010

Less than High School	High School Diploma	Some Post-Secondary	Post-Secondary Degree
44.1% ^E (CI: 26.8-61.4) ^x	63.9% (CI: 54.1-73.6)	58.6% (CI: 40.1-77.0)	71.2% (CI: 64.9-77.5) ^x

x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an “x” next to them are statistically different from each other.

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Additionally, adults who live in the Townships of Waterloo Region were significantly more likely to wear sunglasses with UV protection than adults who live in Kitchener or Waterloo (Table 4).

Table 4: Per cent of adults 18 years and older who wear sunglasses to protect against UV rays, by municipality, Waterloo Region, 2010

Cambridge	Kitchener	Waterloo	Townships
70.6% (CI: 61.1-80.1)	60.1% (CI: 52.2-68.1) ^x	60.6% (CI: 49.5-71.7) ^y	84.6% (CI: 73.6-95.6) ^{x, y}

x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an "x" next to them are statistically different from each other.

The four townships are: North Dumfries, Wellesley, Wilmot, and Woolwich

No differences in use of sunglasses with UV protection were found between adults by age group, sex or household income.

Over one-third of adults received a sunburn in the last year

Across the three time periods, 2006, 2008 and 2010, over one-third of Waterloo Region adults (**38.3%** (CI: 34.6-42.0), **37.9%** (CI: 34.9-40.9), and **38.1%** (CI: 35.1-41.0) respectively) indicated that they had received a sunburn to some part of their body in the last 12 months; a sunburn is defined as a reddening or discomfort of the skin that lasts longer than 12 hours after exposure to the sun or other ultraviolet sources.

Age, sex, education level and household income had a significant impact on receiving a sunburn

In 2010, adults aged 18 to 24 and 25 to 44 years were significantly more likely to have received a sunburn in the last 12 months than adults aged 45 to 64 and adults aged 65 years and older (Table 5).

Table 5: Per cent of adults 18 years and older who received a sunburn in the last 12 months, by age group, Waterloo Region, 2010

18 to 24	25 to 44	45 to 64	65+
56.5% (CI: 45.4-67.7) ^{x,w}	48.8% (CI: 43.8-53.9) ^{y,z}	36.1% (CI: 31.2-41.1) ^{w,z}	10.6% ^E (CI: 6.2-15.1) ^{x, y}

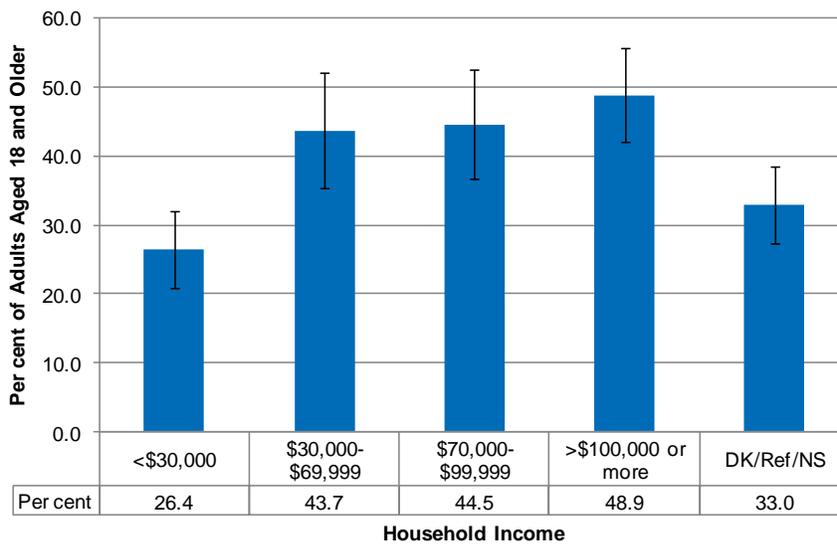
x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an "x" next to them are statistically different from each other.

The superscript "E" denotes high sampling variability, and estimates must be interpreted with caution.

As well, significantly more males than females received a sunburn in the last 12 months (**42.8%** (CI: 38.2-47.4) versus **34.1%** (CI: 30.2-38.0)).

Adults with a household income of \$30,000 or less were significantly less likely to have received a sunburn in the last 12 months than adults with a household income of \$30,000 to \$69,999, \$70,000 to \$99,999 or a household with income of \$100,000 or greater. As well, adults who chose not to disclose their household income were significantly less likely to have received a sunburn in the last 12 months than adults with a household income of \$100,000 or more (Figure 3).

Figure 3: Per cent adults 18 years and older who received a sunburn in the last 12 months, by household income, Waterloo Region, 2010



Finally, adults who have completed a post-secondary degree or had some post-secondary education were significantly more likely to have received a sunburn in the last 12 months than adults who had less than a high school diploma (Table 6).

Table 6: Per cent of adults 18 years and older who received a sunburn in the last 12 months, by education level, Waterloo Region, 2010

Less than High School	High School Diploma	Some Post-Secondary	Post-Secondary Degree
23.8% ^E (CI: 15.5-32.1) ^{x,y}	34.8% (CI: 28.9-40.7)	43.8% (CI: 32.7-54.9) ^y	42.1% (CI: 38.1-46.2) ^x

x,y,z ... Represent statistically significant differences between two proportions (%) with a p-value of less than 0.05, e.g. two proportions with an "x" next to them are statistically different from each other.
The superscript "E" denotes high sampling variability, and estimates must be interpreted with caution.

No differences were found between adults by municipality for receiving a sunburn in the last 12 months.

About RRFSS survey

Information here is presented from the Rapid Risk Factor Surveillance System (RRFSS). RRFSS is an on-going telephone survey occurring in participating public health units across Ontario. On a monthly basis, a random sample of approximately 100 adults aged 18 and older are interviewed regarding risk behaviours of importance to public health. The survey is conducted by the Institute for Social Research (ISR) at York University, on behalf of Region of Waterloo Public Health. For more information, please visit www.rfss.on.ca

Analyzed Questions (Total Weighted Sample = 1200 (2008), 1206 (2010))

- In the last 12 months, has any part of your body been sunburned (weighted n=1200, 1206)
- How often do you avoid the sun between 11AM and 4PM? (weighted n=494, 400)

- How often do you wear sunglasses with UV protection when in the sun? (weighted n=496, 400)
- How often do you wear protective clothing, including a hat when in the sun? (weighted n=498, 399)
- How often do you use sunscreen? (n=499, 400)

Analyzed Indicators

- Per cent of adults (18+) who report a sunburn in the last 12 months
- Per cent of adults (18+) who report always or often avoiding the sun between 11AM and 4PM
- Per cent of adults (18+) who always or often wear sunglasses with UV protection
- Per cent of adults (18+) who report always or often wearing protective clothing against the sun
- Per cent of adults (18+) who report always or often using sunscreen in the last 12 months

Important definitions and cautions:

- All data were analyzed according to the RRFSS Manual of Operations. The superscript “E” denotes high sampling variability, and estimates must be interpreted with caution. The superscript “F” denotes unacceptable sampling variability, and estimates or conclusions based on these data will be unreliable and most likely invalid. The sample was weighted to reflect the number of adults in a household.
- A "module" in RRFSS is generally a self-contained group of questions on a specific public health topic. Generally, modules may be added or taken off the RRFSS every 4 month period (cycle) of the on-going survey system.
- Confidence intervals and coefficient of variation were calculated using unweighted sample sizes and weighted estimates.
- Tests of significance were performed and statistically significant differences were determined by p-values less than 0.05.
- The survey was only administered in English, using a random digit dialing methodology and represents the behaviours, attitudes, and beliefs of adults in Waterloo Region.
- Responses which include “don’t know” and “refused” are generally removed from analysis when they represent less than 5% of the sample.
- A sunburn is defined as reddening or discomfort of the skin that last longer than 12 hours after exposure to the sun or other ultraviolet sources.

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