

# GREAT NORTH AMERICAN ECLIPSE 2024: OCULAR COMPLICATIONS IN QUEBEC, CANADA A POPULATION-WIDE SURVEILLANCE

Benoit TOUSIGNANT<sup>1,2</sup>

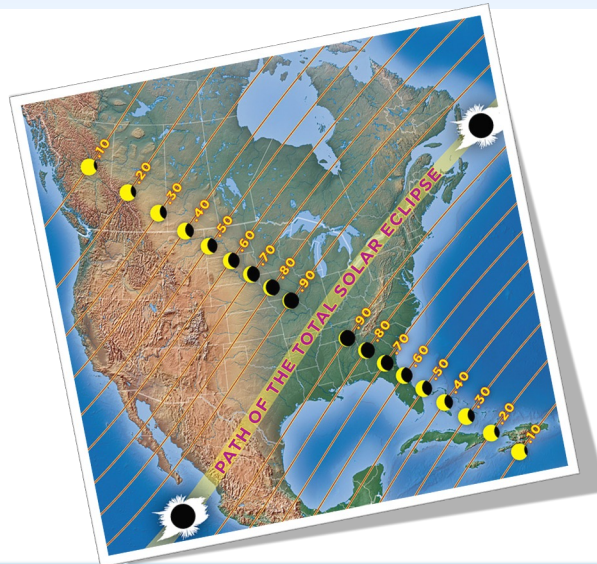
1- School of optometry, University of Montreal

2- School of public health, University of Montreal

## BACKGROUND

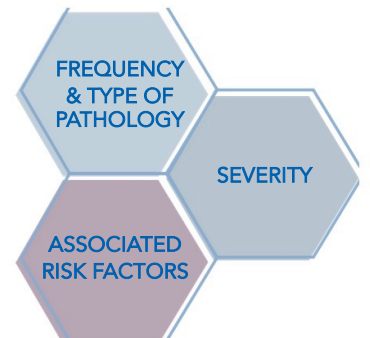
8 April 2024:  
A TOTAL SOLAR ECLIPSE  
was visible to 40 million  
people in North America,  
including most of the 8.5  
million in Quebec, Canada

A large public health  
campaign was undertaken to  
minimize ocular injuries



## OBJECTIVES

Collect and report data on  
eclipse-related ocular injuries



## METHODS

Population-wide surveillance

Ministère de la Santé et  
des Services sociaux  
(Québec)

ORDRE DES  
OPTOMÉTRISTES  
DU QUÉBEC

Université  
de Montréal

Government

Optometry  
profession

Academia



Monitored eclipse-related phone calls  
to Info-santé (public telephone hotline for minor emergencies)



Incidence of emergency room consultations for ocular lesions  
Compared to same weeks in previous years



1400 optometrists across Quebec  
Asked to report ocular complications

- online form: 4 weeks after eclipse
- ocular signs & symptoms
- visual acuity
- ocular coherence tomography (OCT)
- behaviour during eclipse

## ANALYSIS



Eclipse totality at 15:25, clear skies

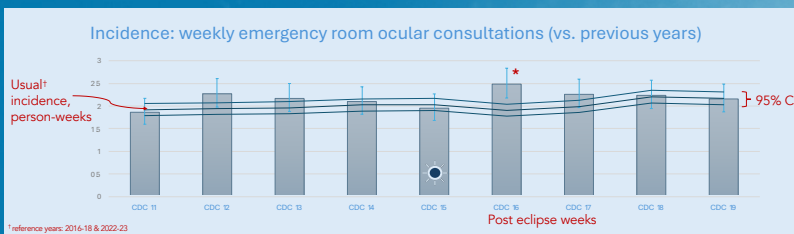


Millions observed



Info-santé hotline

Between 8 – 13 April: 33 eclipse-related calls, including 17 calls on 8 April



Emergency room  
ocular consultations



Optometry reports

46 reports:

- 35 solar keratitis
- 11 solar retinopathies

6 cases (n = 6/46, 13.0%) had reduced  
visual acuity, from 6/7.5 to 6/9

Most cases of retinopathy had  
abnormal OCT (n = 7/11, 63.6%)

Age 13 – 64,  
most > 18 yo

From 10 of 17  
regions

Risk factors:

No or inadequate protection (n = 22/46, 47.8%)

False sense of security (n = 14/46, 30.4%)

## TAKE HOME MESSAGE

Despite mass  
public exposure:

- limited impact on Quebec  
population eye health
- small number of low-morbidity  
ocular complications

École d'optométrie

Université  
de Montréal

## Acknowledgements

Sincere thanks to Quebec's *Ministère de la Santé et des Services  
sociaux* for the collaboration in design and data collection