

Determining Areas for Improvement: Sun safety Knowledge and Practices in Edmonton Elementary School Children

Authors: F.Y. Li, N. Gill, P. Mathura, and M. Dytoc

DEFINE OPPORTUNITY

Background:

Melanoma is the 4th most prevalent cancer in the Canada, with an individual lifetime probability of developing melanoma being 1 in 56 for males and 1 in 74 for females.¹ There is a known association between early age sun burns and melanoma development in later life,² as such children are especially at risk. Daily use of sun protection is recommended to prevent the harmful effects of UV exposure.

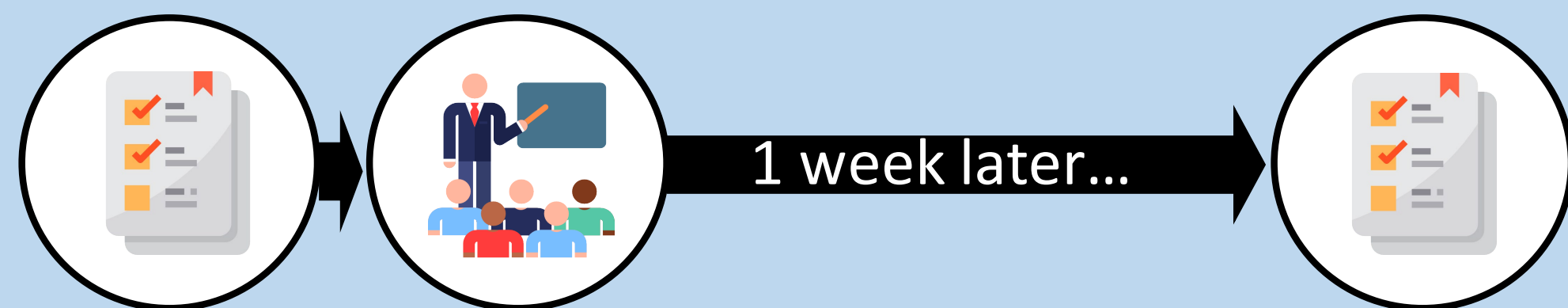
Problem Statement:

Despite strong clinical evidence for the benefits of sun protection, less than 30% of young Canadians currently practice sun safety behaviours.³ This is due in a large part to a lack of culture surrounding sun protection in Canada, which impedes the formation of sun safety habits. We propose early school-based interventions targeting increased education, healthy habit formation and increased access to increase sun safety adoption in Edmonton school children.

Baseline Data:

There is a lack of existing research on the sun safety habits of Edmonton school children. In order to gather baseline data, we conducted a baseline assessment in a grade 6 classroom at Mount Pleasant Elementary School at invitation of the teacher and principal at this school.

Methods:



We conducted a total of 2 visits, one week apart. At the first visit we gathered baseline data of the students' sun safety habits using a habit & knowledge questionnaire, and then proceeded to deliver a 30-minute educational presentation on bettering personal sun safety habits. In the second visit a week later, students were asked to complete the same habits & knowledge questionnaire.

MANAGE CHANGE

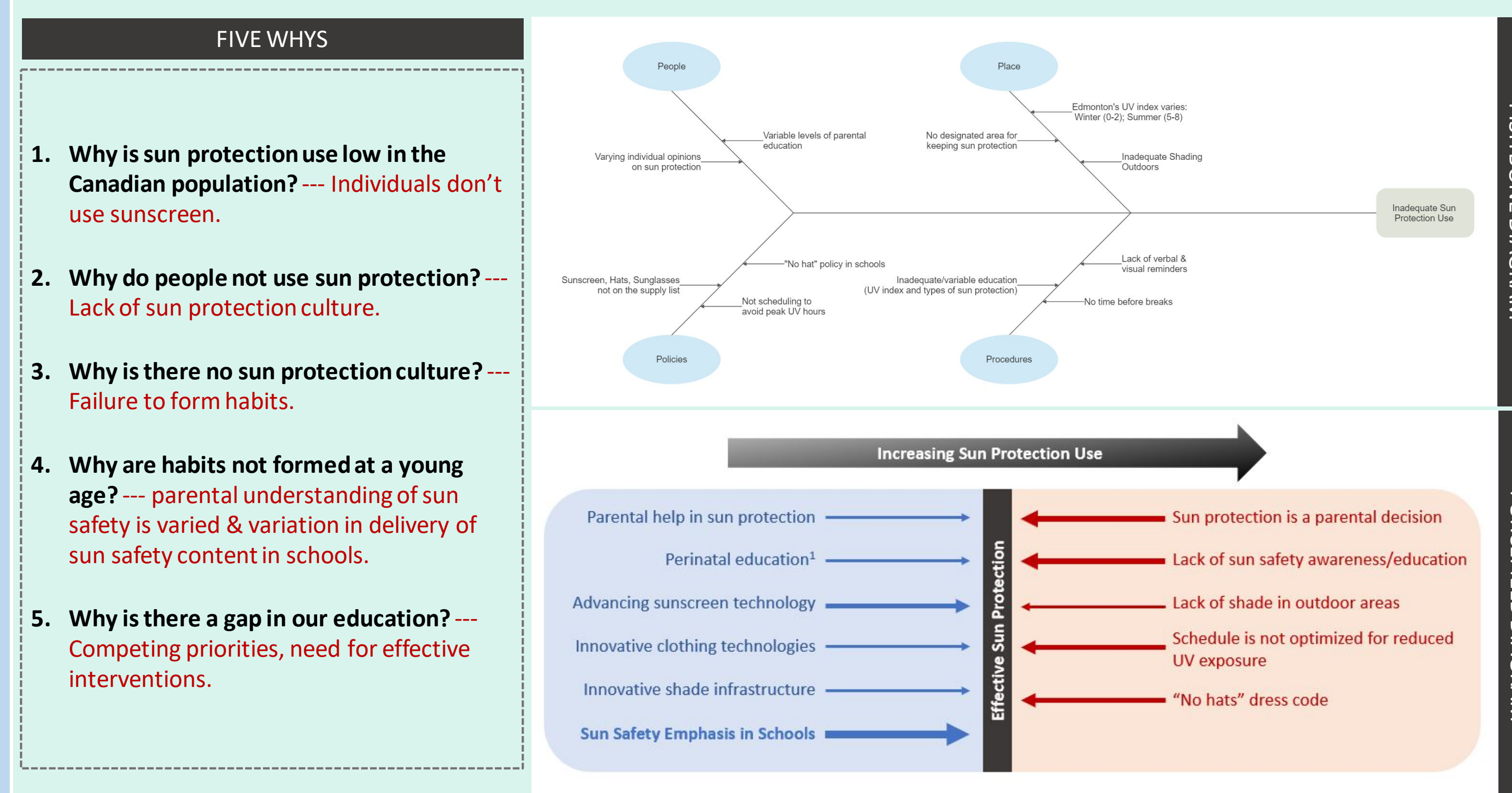
Collaboration and Communication Strategies:

- QI team members included a 6th grade schoolteacher, dermatologist, resident, quality improvement specialist, and medical student. Effort is being made to include the Edmonton Public School Board (EPSB) as part of the QI team for future improvements.
- All material used for teaching and communication was worded at an elementary student level to ensure students would have no trouble understanding the material.

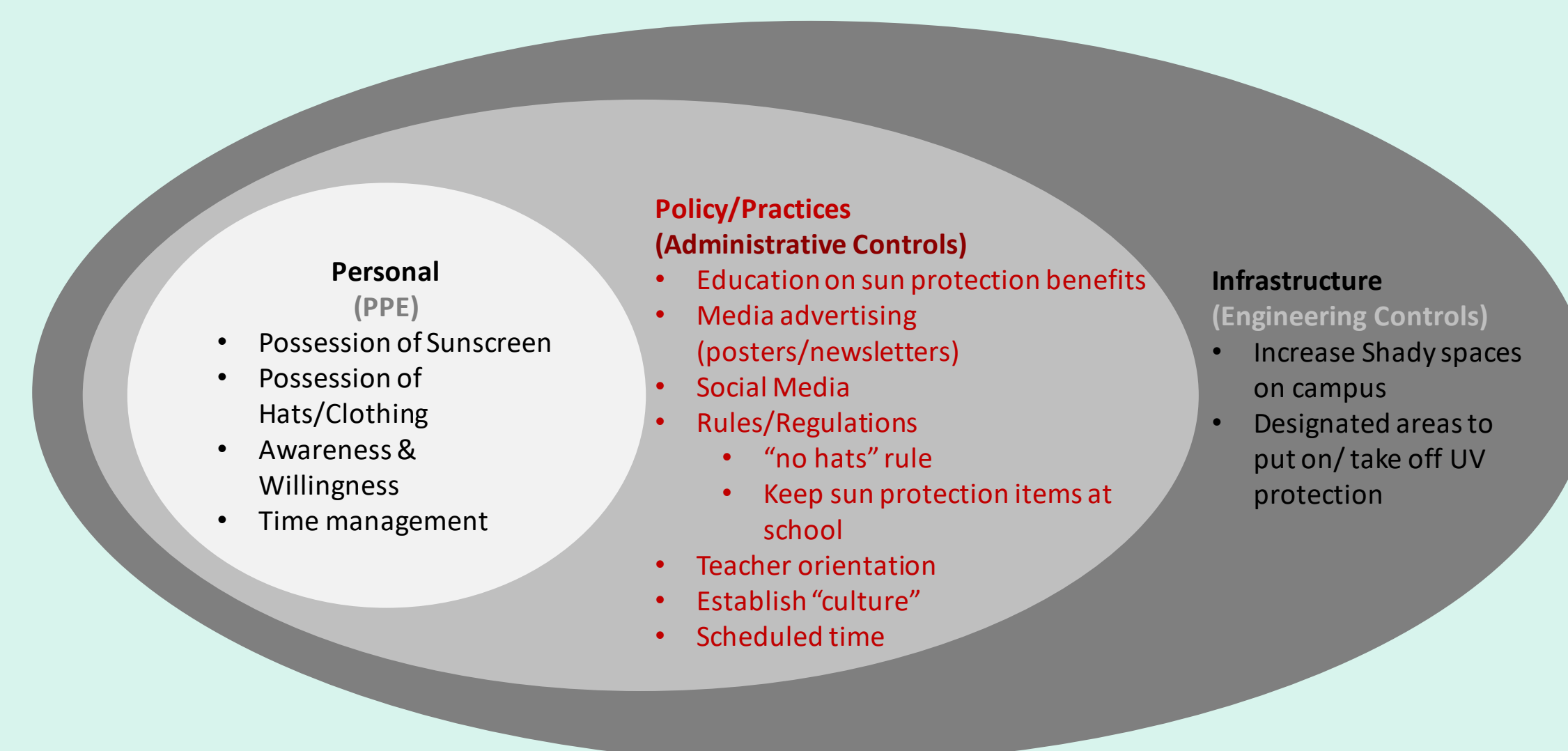
BUILD UNDERSTANDING

Process Assessment:

Quality improvement tools were used to identify the current process gaps.



A literature review was completed to understand prior interventions. A list of potential interventions (including both interventions encountered during lit review and proposed interventions from our study data) was created, and were grouped using a hierarchy of controls model – borrowed from the National Institute of Safety and Health (NIOSH's hierarchy of controls). Further advancement of administrative controls was determined to be the most effective way of increasing sun protection use in the short term.



Initial Questionnaire Results:

- 100% of all students have sunscreen at home
- almost all know why it important to wear sunscreen
- 56% know that their parents apply sunscreen
- 42% rarely to never wear sunscreen even though they have sunscreen at home
- 46% apply sunscreen from 1-6 times per week
- 29% bring sun safety items to school (hat, sunglasses, sunscreen)
- Students showed a 18.5% improvement on the sun safety knowledge questionnaire from the preliminary survey to the secondary survey

Preliminary data showed that almost all students possessed sunscreen but few developed the habits to wear sunscreen. Students cited forgetting to bring sun protection to school and lack of habit development as reasons.

ACT TO IMPROVE

Improvement Selection and Implementation Plan:

Looking at the data collected, we plan to put forward the following recommendations to the EPSB in our next Plan-Do-Study-Act (PDSA) cycle.

1. Continue the dialogue. Create a sun safety committee consisting of physicians, teachers, parents, and regulatory board (EPSB) members.
2. Make sun safety a priority:
 - Education for students, teachers and parents
 - Put sunscreen, hats, and sunglasses on the school supplies list
 - Sun safety reminder posters
 - Verbal reminders before recesses and lunch by the teacher
 - Allow time to put on sunscreen, hats and sunglasses
 - Periodic parental newsletters
3. Consistent delivery in all affiliated schools.

Process measures include the proportion of students that bring sun safety items to school following recommendations

Outcome measures include periodic student self-assessments of their overall sun safety habits (daily wear of sunscreen, using hats and sunglasses when UV index >3, choosing to spend more time in the shade outdoors)

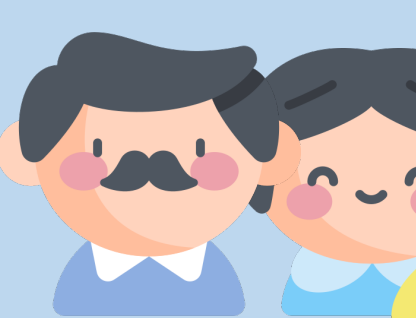


SHARE LEARNING

Why This QI Project Matters:



To students: Increased sun safety awareness and reminders of sun safety practices promotes lifelong good practices, which will have a preventative effect towards adverse dermatological conditions.



To families: School-based intervention strategies take the burden of sun safety education off parents, and help to standardize knowledge delivery to the Edmonton population.



To schools: Standardization of delivery of sun safety information will help by closing education gaps between the Edmonton curriculum and those of other cities.



To Albertans & the health care system: Reducing incidence of UV related dermatological conditions can potentially save millions of dollars per year, while reducing the cost delivery burden on hospital & laboratory staff. This will free up resources.

Lessons Learned:

- There is a need for sun safety interventions in Edmonton schools.
- A singular classroom session was able to increase sun safety knowledge BUT was insufficient for sustained behavioural change. Implementation of curricular-integrated longitudinal interventions is needed

Melanoma Statistics. Canadian Cancer Statistics. 2019.
 Oliveria SA, Saraiya M, Geller AC, Heneghan MK, Jorgensen C. Sun exposure and risk of melanoma. Arch Dis Child. 2006;91: 131-138.
 Pinault L, Fioletov V. Sun exposure, sun protection and sunburn among Canadian adults. Statistics Canada. Ministry of Industry Health Reports. 2017; Accessed January 21, 2020 from <https://www150.statcan.gc.ca/n1/pub/82-003-x/2017005/article/14792-eng.htm>