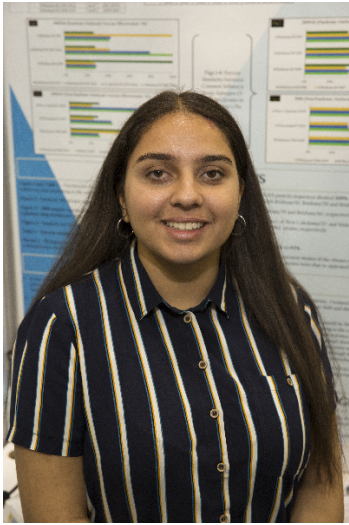


## CWSF 2019 - Fredericton, New Brunswick



### Malika Sharma

#### **Pandemic Influenza Outbreaks: Investigating Vaccine Effectiveness Using Sequence Alignment**

**Challenge:** Discovery

**Category:** Senior

**Region:** Cariboo Mainline

**City:** Kamloops, BC

**School:** St Ann's Academy

**Abstract:** I analyzed and estimated the vaccine effectiveness of the most recent pandemic outbreak and compared it with that of a non-pandemic season. By also estimating the RNA dissimilarity in the H1N1 subtype through the years, we can effectively protect humans against upcoming strains of H1N1 influenza outbreaks. This is important as some parents are now turning their backs towards vaccines and their effectiveness .

#### Biography

My name is Malika Sharma. I am in Grade 11 at St. Ann's Academy, Kamloops, BC. In my spare time, I enjoy playing the guitar, singing, and volunteering at my local hospital, senior home, and with many charity organizations. I am also attending SHAD this year, have received the SCWIST award, and have been on my school's Principal's list numerous times. A news report about vaccines and their non-effectiveness and my previous project about DNA barcoding were the inspirations of this year's project. For the future, I would want to explore if outbreak patterns could be modeled to predict an outbreak well ahead of time for creating a universal flu shot with consistent efficacy. I have been to CWSF three times and have been a part of over fifteen science fairs. Therefore, I have had my fair share of failures and successes over the years. So my advice for any prospective students contemplating about doing a science fair project is to remember that your purpose of participating is not to win or lose but, it is to remind you the importance of helping our society with new innovative ways.

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