

## ML - Covid-19 Vaccine Priority Tracker Action Plan

Idea to suggest what locations should receive better resources/priority access to COVID-19 vaccine (sourced by any company) for booking based on the speed @ people in that province are getting fully vaccinated.

### Data Collection

vaccinations over time for { different ages  
different zones } → Canada, Alberta, nation ally, provincially

Vaccination rates over time for each province.  
Based on percenta & single net number of people.

### Intersections x-value of intersection points indicate time

@ which vaccination percentages are the same. Based on when each province started vaccinating, each province has a particular 'stopcheck' for % vaccinations that they should meet. That time gets compared to the current time of the intersection point, & a suggestion is made to the government to send more vaccines/resources to that province.

### Specifics

Intersection point  $x$ -value > stopcheck value  
Increase vaccine resources for province w/ initially lower values  
→ change slope w/o changing intercept

Intersection point  $x$ -value < stopcheck value  
Increase vaccine resources for province w/ initially higher values

Implementation Use lines of best fit & the intersection points to make predictions for which areas deserve priority.

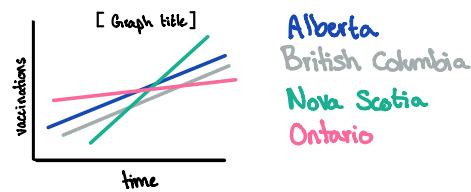
### Algorithm - linear regression

- calculates average slope of each output to the original input (different colour)

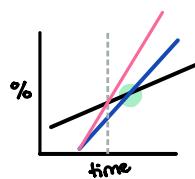
### Projected: How it works

1. Vaccine percentage is graphed against time.
2. Different lines of best fit correspond to different age/zone categories
3. Program will interpret intersection points of different slope lines & suggest what ages/zones in Alberta should have improved exposure to vaccine rollout

### Sample Graph

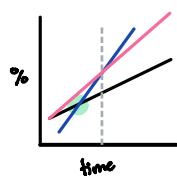


Intersection points:  
Vaccine %'s are same  
for relevant provinces @ specific times.



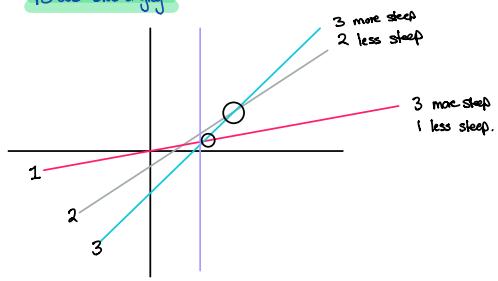
### Considerations

For every comparison, you can suggest to make trendline 1 more steep or trendline 2 less steep. Consider how to decide suggestion to make.

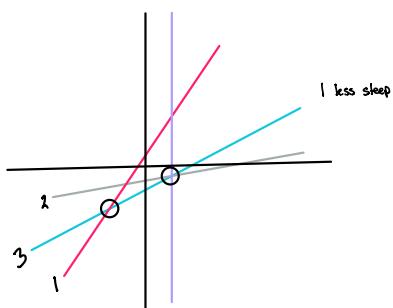
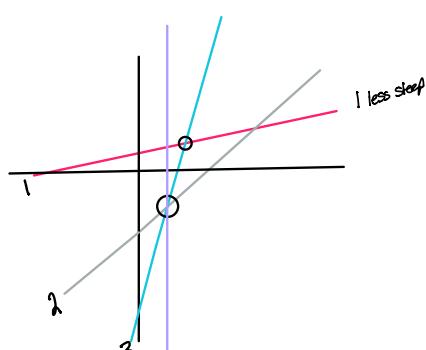
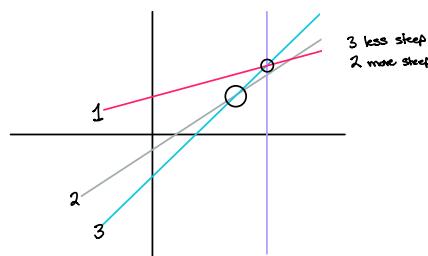
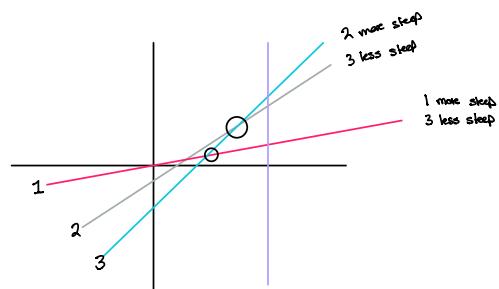
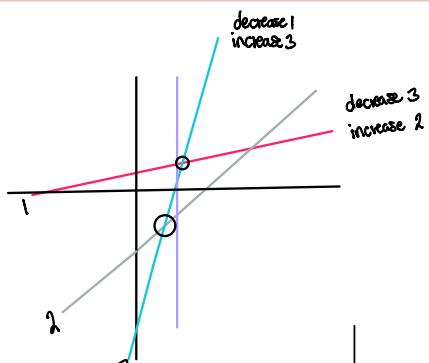
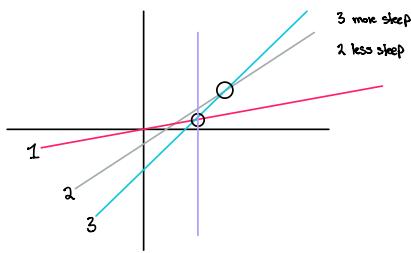
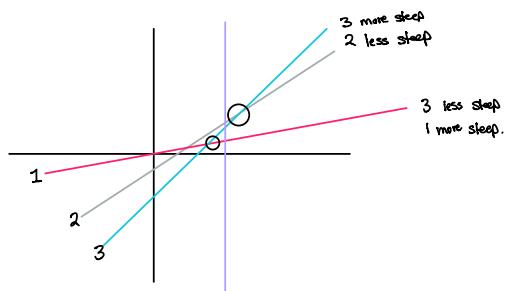


## Analysis Comparisons Proofs

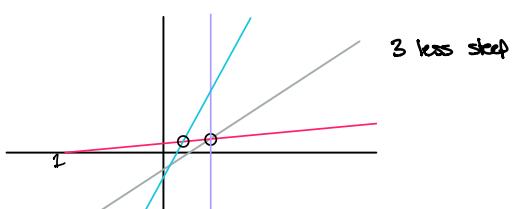
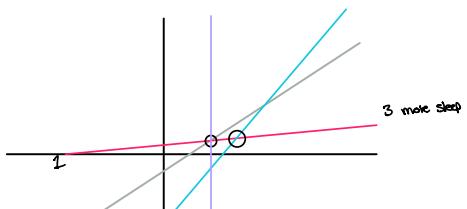
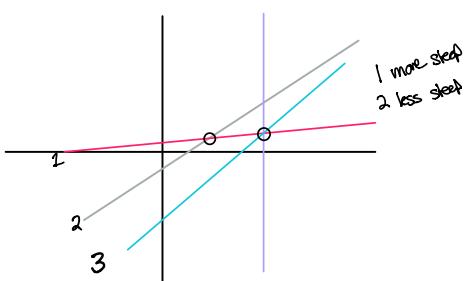
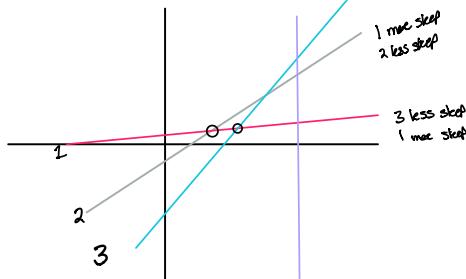
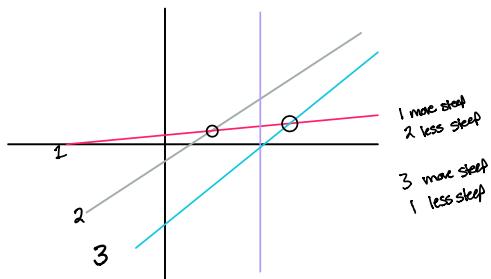
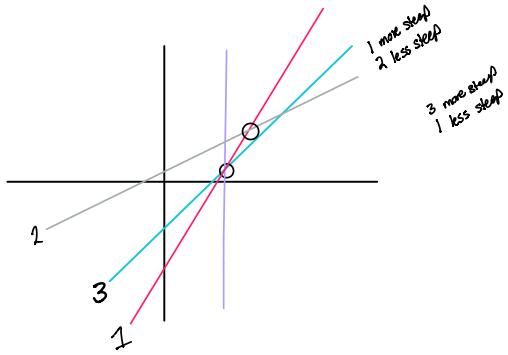
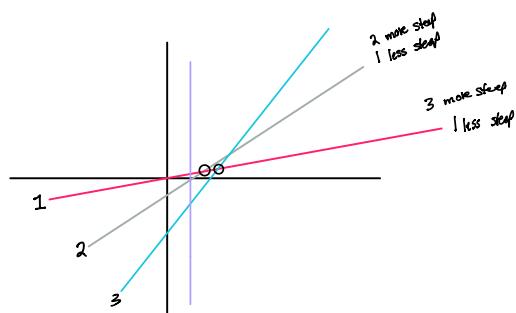
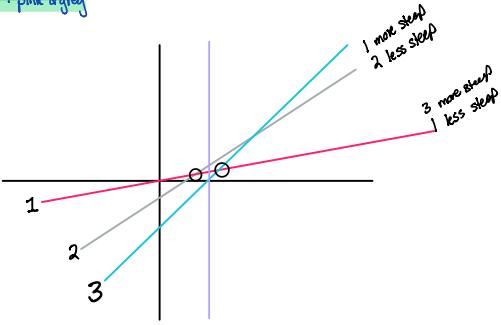
Focus: blue & gray



- - intersection points
- - target line
- 1 - Nunavut
- 2 - Northwest Territories
- 3 - Yukon



Faults : pink & grey





Facts: pink & blue

