Executive Summary

Covid-19 took the world by storm by the end of 2019 and not in a good way. Most people alive today have not seen a pandemic of this magnitude since the last one that occurred was more than 100years ago. Because of our technological advances it has been contained relatively well contained compared to the “Spanish flu” pandemic. However, it was still a pandemic, and many people lost their lives, especially the elderly people. Our duty as engineers is to bring forward technologies and ideas to make the lives of people better and it is therefore critical to investigate the subject. The idea behind this project is to prepare Canada better for another pandemic -if it happens. The core of our research and discussions is focused on the procurement and distribution aspects of vaccine distribution. To do so we compared Canada’s strategy with Israel and UK mainly for the following reasons:

1. Both countries formed part the leading countries in terms of vaccine distribution. These are explained in terms of figures in the project
2. UK has manufacturing abilities, and this affected their procurement and distribution strategy
3. UK’s population is comparable to that Canada, although not so as remote
4. Israel’s did very well with majority of the population vaccinated by March 2021, although it did not have a manufacturing facility. It was interesting to see how their contracts worked with suppliers.

The findings from our research were used to define the main and additional recommendations explained in the project. The key recommendations are as summarized below:

1. Logistics can be better handled by Canadian Military
2. Investing in a University-based, domestic vaccine making capability
3. Expanding existing cold-chain storage facilities to accommodate more vaccine doses
4. Creating Plan-B lists of patients can reduce vaccine wastage and in maintaining the vaccine progress

It is important to note that there are factors like political issues, prioritization and administrative issues were not fully considered. The main reason being that these can be projects in themselves and highly complicated issues.