

Cold Chain and Inventory Management

- Vaccines are becoming increasingly expensive. For example, if an office with a birth cohort of 100 babies per month had enough vaccines to immunize them up to 18 months of age, their fridge inventory could be worth \$42, 000.
- Every office needs an established “base order” which considers the birth cohort, the number of doses for each vaccine, and seasonal programs.
- The Biologicals Products Consultant (BPC) needs to review the base order quarterly.
- The Biologicals Products Monitor (BPM) needs to review the fridge on the last business day of every month and a) return expired vaccines to BCCDC and, b) make a plan for others that are close to expiry.
- 0 - 2° C is not a break, depending on the accuracy of your thermometer. Adjust your fridge. Know your thermometer.
- Most breaks are less than 72 hours. Gardasil is stable up to 25° C provided total time out of refrigerator does not exceed 72 hours.
- About \$2, 000, 000 worth of vaccines are returned to BCCDC annually.
- Doctors offices especially need help with maintaining cold chain.
- Cold chain issues with First Nations people are even more complex.
- There are 170, 000 FN people in BC; about 4% of the population.
- 60,000 live in First Nations communities or 35%.
- Issues include remoteness of the offices, electrical failures, part time staff, no room for appropriate fridges.
- If vaccine is stored at the local public health office, this will increase the travel time of the nurse, and may lead to missed opportunities to immunize.

- Taylor min/max thermometers are battery operated and popular @ \$30 each
- If the thermometer indicates a minimum temperature less than 2° C or a maximum temperature greater than 8° C, the BPM needs to check the data logger in their computer to get a profile of what has happened to that vaccine.
- Dixon weekly paper logs are less popular now. They are expensive, need to be changed, are hard to service, and the graph line can get too wide.
- Smart buttons are popular data loggers. They include a sensor which is the size of a quarter and are battery powered. The software is downloadable from the internet free of charge. They are Vancouver based and are \$150 each.
- The Libero data logger is also popular and a similar price.
- BCCDC is co-ordinating a project to test these items.
- FNIH has a plan to survey their cold chain capacity as part of their pandemic planning. Results will be available soon.
- BC needs a co-ordinated approach to consistent cold chain management in the field.