



Training RNs to Prepare Multiple Doses of BCG Vaccines from Ampoules



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INTRODUCTION

Background:

BCG vaccine manufactured by Staten Serum Institut (SSI), was used in KK Hospital for many years. As the preparation of SSI vaccine is in multi-dose vial, the reconstituted vial is placed in ice-filled thermos flask to maintain cold chain of temperature of 2°C to 8°C. Prior to administration, the required dose is prepared in individual syringe to be administered to the neonate. Unused reconstituted vaccine in the vial can be kept in a refrigerator in an ice-filled thermos flask for up to four hours as recommended by the manufacturer. According to Ministry of Health guidelines, BCG vaccine that is prepared in a syringe should not be kept longer than 30 minutes.



BCG Vaccine by SSI

Current situation:

As there is a worldwide shortage of SSI BCG vaccine, KKH Pharmacy and Therapeutic Committee decided to use multi-dose BCG vaccine manufactured by Japan BCG Laboratory. As the preparation of this BCG vaccine is in ampoule form, training had to be conducted for the Registered Nurses (RNs) to acquire the knowledge and skills in reconstituting, withdrawing and preparing multi doses of BCG vaccines.. The team discussed and developed the training materials and conducted training for the RNs.

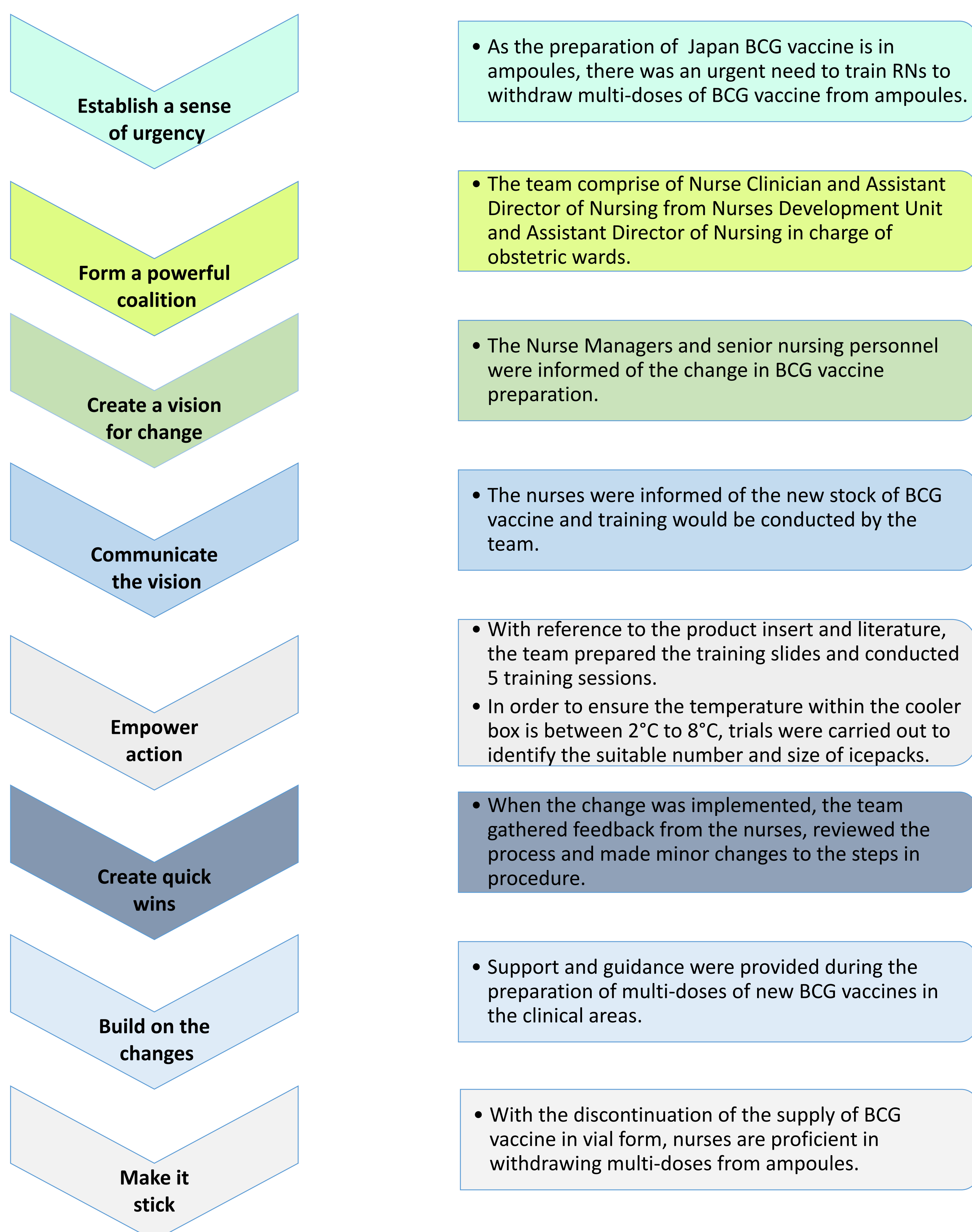


BCG Vaccine by Japan BCG Laboratories

Anticipated challenges:

1. RNs are not familiar with the preparation of BCG vaccine from ampoules.
2. When the ampoule is broken, multiple doses had to be prepared in syringes immediately when reconstituted to prevent contamination from exposure.
3. Maintaining cold chain of prepared syringes of vaccines.

METHODOLOGY – KOTTER'S CHANGE MODEL



Two fully frozen ice packs (19 x 10.5 x 3cm) and one (18.5 x 9.5 x 2.5cm) are used to maintain cold chain



Positioning of ice packs in the cooler box.



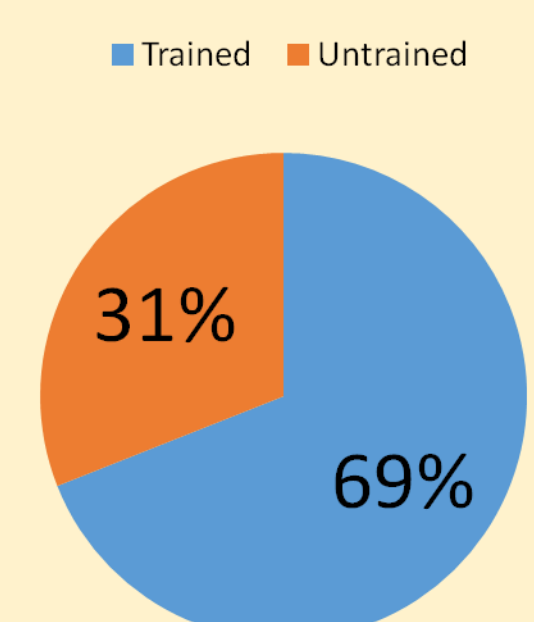
Vaccine loaded syringes in the cooler box at temperature of 5°C



Training of RNs to prepare BCG vaccine from ampoule

RESULTS

PERCENTAGE OF BCG TRAINED STAFF, TRAINED TO PREPARE BCG FROM AMPUOLE



The RNs were trained and competent in withdrawing multi-doses of BCG vaccines when preparation were in ampoules and maintaining cold chain. The training slides were disseminated to NMs to train the remaining nurses.

RNs were able to prepare multiple doses from a vaccine ampoule without contamination. Cold chain was achieved by placing two fully frozen ice packs (19 x 10.5 x 3cm) at the bottom and one (18.5 x 9.5 x 2.5cm) at the side of a cooler box (4.7L).

CONCLUSION

The Kotter's 8 step change model is a successful change management tool which was useful to change our practice. This initiative enabled us to maintain cold chain throughout the BCG administration process, ensuring patient safety.