

### **Project Title**

Registered Nurses' Competency in Collecting Blood Cultures and Educational  
Intervention to Reduce the Contamination Rate

### **Project Lead and Members**

Project lead: Siti Zainah Mohamed Rian

Project members: Ambrose Tan Keng Leong

### **Organisation(s) Involved**

Ng Teng Fong General Hospital

### **Healthcare Family Group Involved in this Project**

Nursing

### **Applicable Specialty or Discipline**

Phlebotomy

### **Project Period**

Start date: July 2020

Completed date: December 2020

### **Aims**

The aim of the project is to train nurses on collecting blood sample for blood culture  
with the intent to reduce blood culture contamination rate to less than 3%.

### **Background**

See poster appended/ below

### **Methods**

See poster appended/ below

## **Results**

See poster appended/ below

## **Lessons Learnt**

Continuous reinforcement by supervisors at the clinical setting will help to sustain the reduced contamination rate.

## **Conclusion**

See poster appended/ below

## **Project Category**

Care & Process Redesign

Risk Management, Preventive Approach

## **Keywords**

Contamination Rate, Blood Sample Collection for Blood Culture, Elearning

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# REGISTERED NURSES' COMPETENCY IN COLLECTING BLOOD CULTURES AND EDUCATIONAL INTERVENTION TO REDUCE THE CONTAMINATION RATE

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- ☐ SAFETY
- ☒ QUALITY
- ☐ PATIENT EXPERIENCE
- ☐ PRODUCTIVITY
- ☐ COST

## Introduction

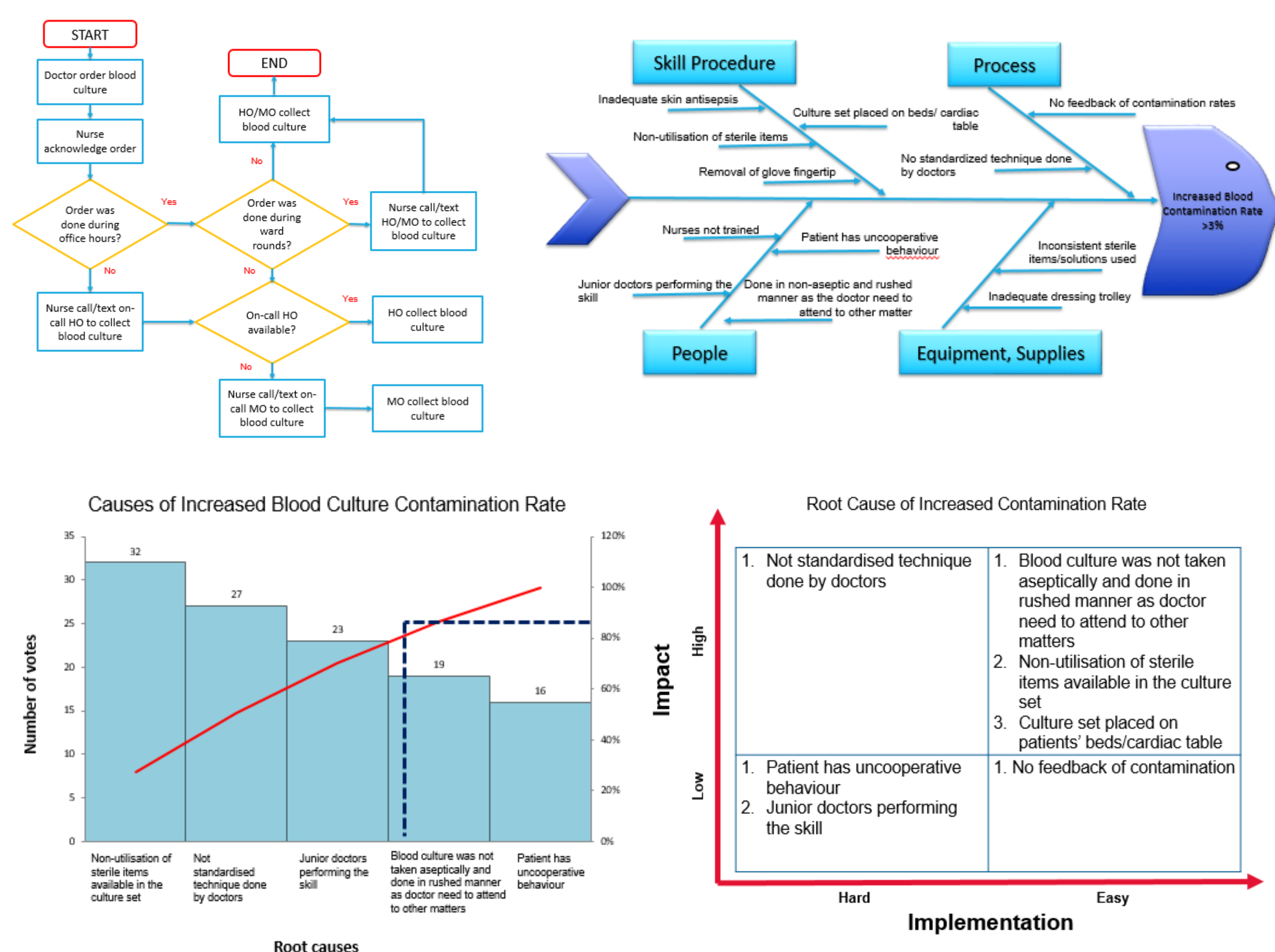
### BACKGROUND:

False positive blood culture results due to contaminated samples have shown to increase patient's length of stay, increased healthcare cost and unnecessary usage of antibiotics. Blood cultures were primarily taken by doctors and the target rates for blood culture contamination had been set as 3%. However, contamination rate in some departments were shown to be above 3%. Thus, the decision to train nurses in collecting blood sample for blood culture was made to achieve a reduction in the contamination rate

### AIM:

The aim of the project is to train nurses on collecting blood sample for blood culture with the intent to reduce blood culture contamination rate to less than 3%.

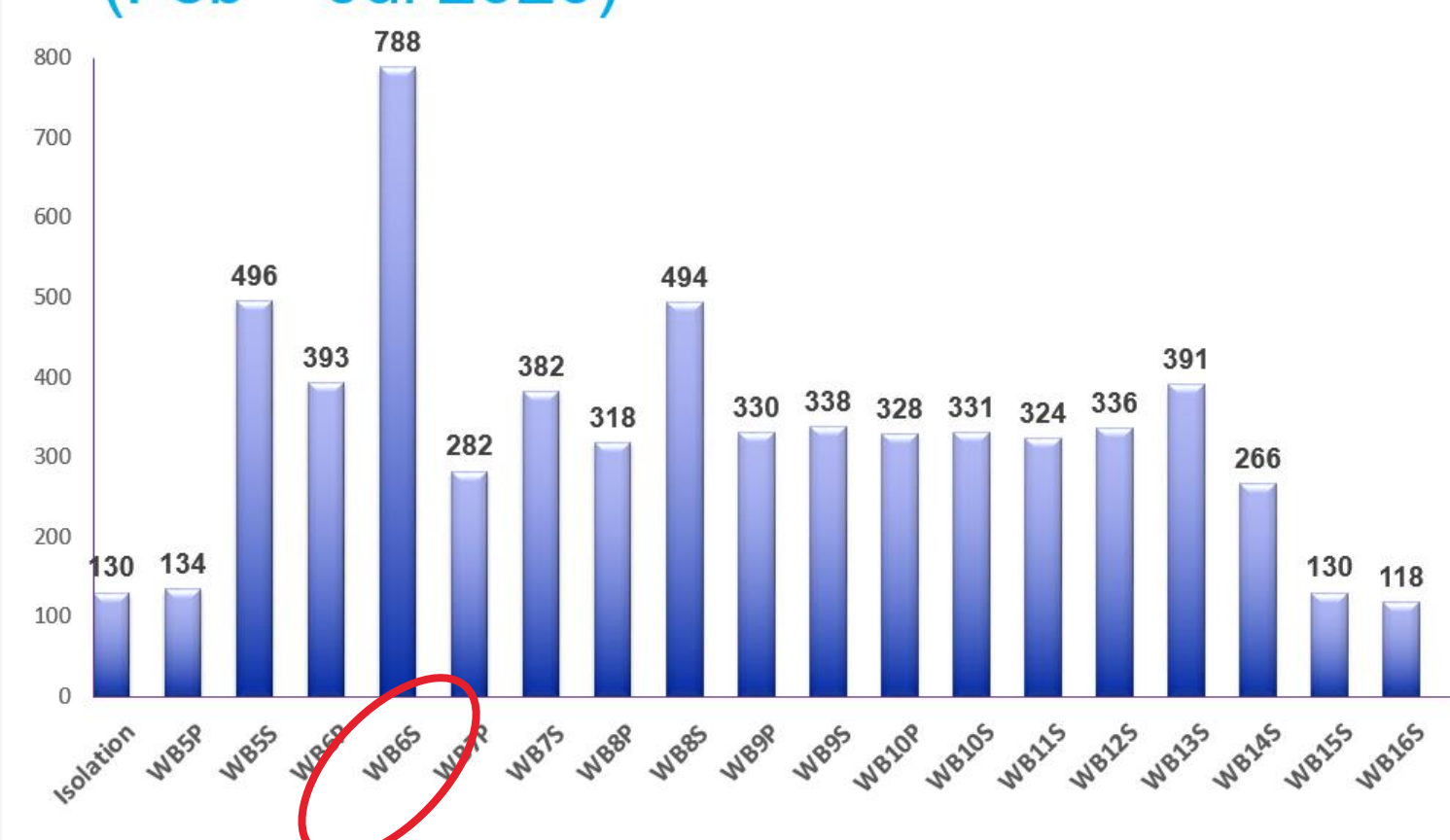
## Problem Analysis



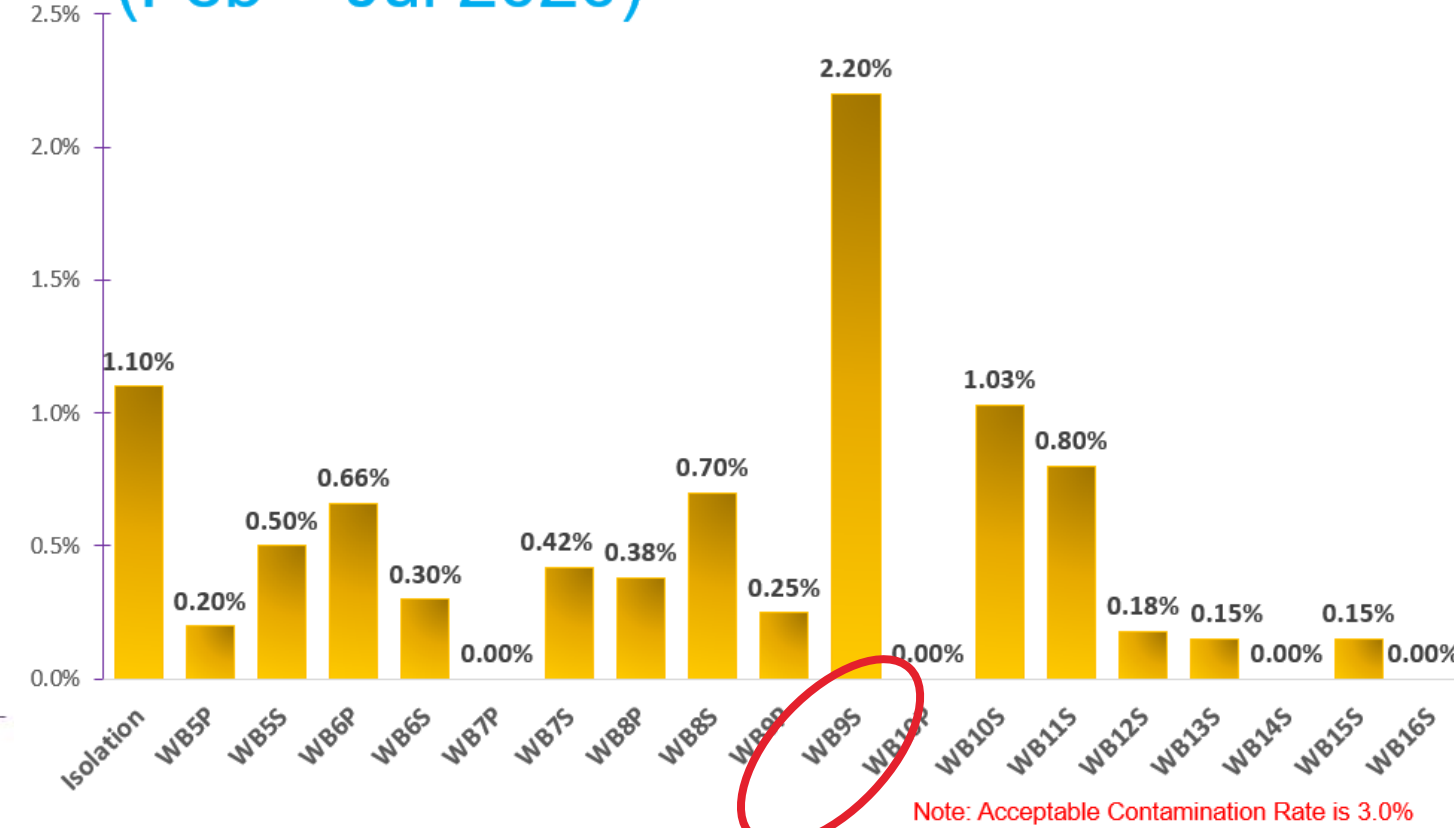
## Measures

The project was targeted at two piloted wards that had the most number of blood culture collection (WB6 Subsidised) and high contamination rate (WB9 Subsidised).

Total number of Blood Culture Received (Feb – Jul 2020)

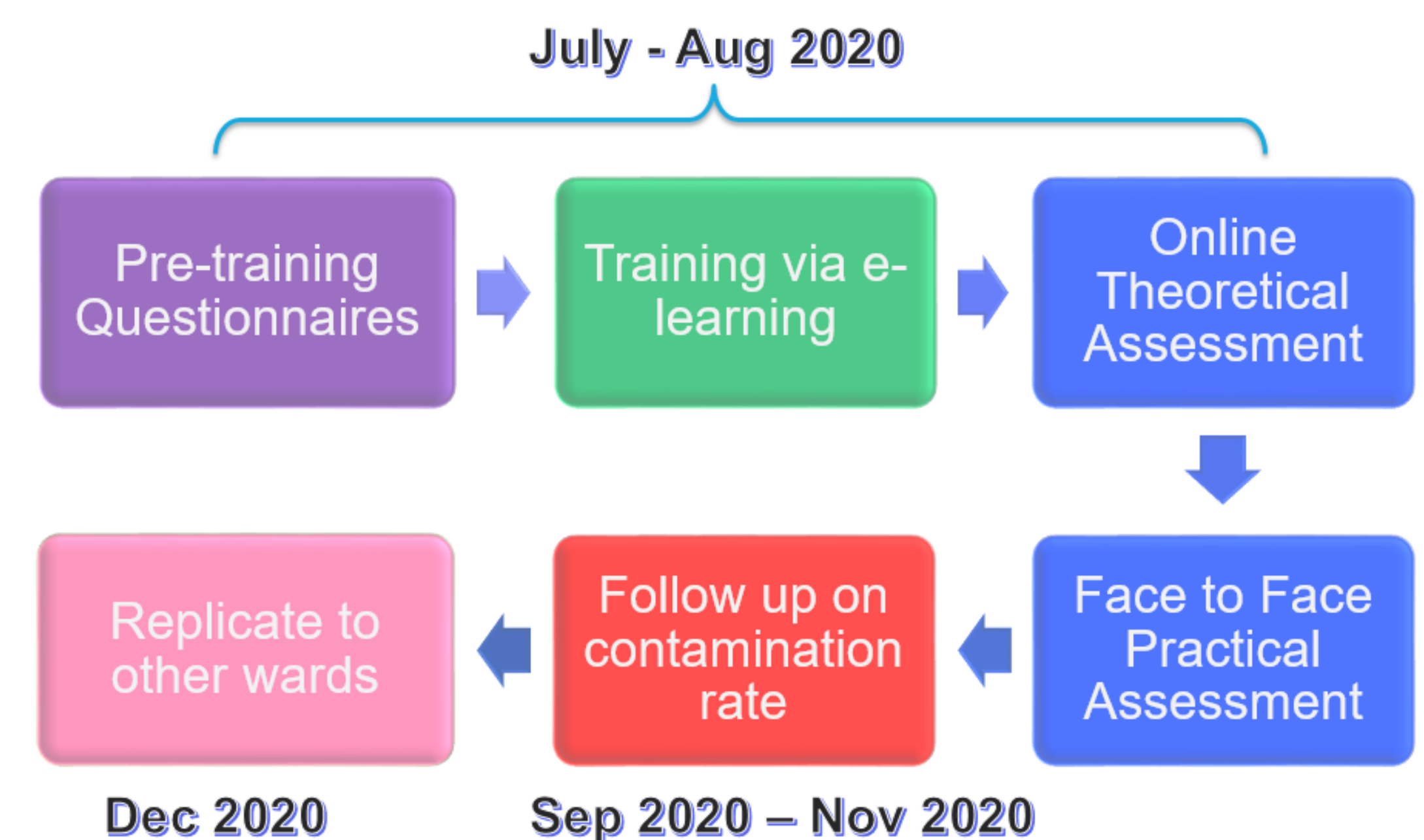


Blood Culture Contamination Rate (Feb – Jul 2020)



## Methods

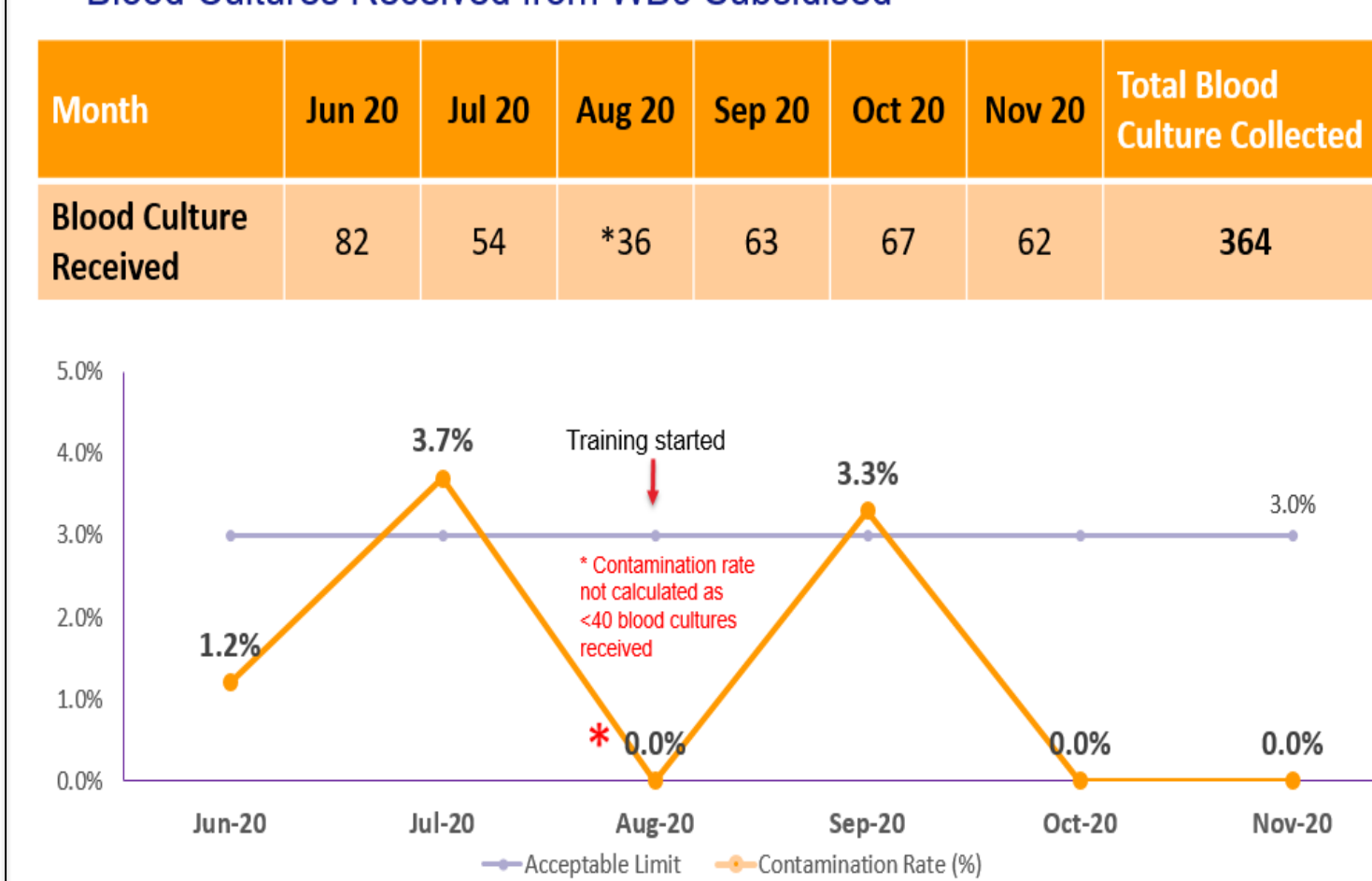
Trainings were provided to the nurses and blood culture results and error rates were investigated prospectively.



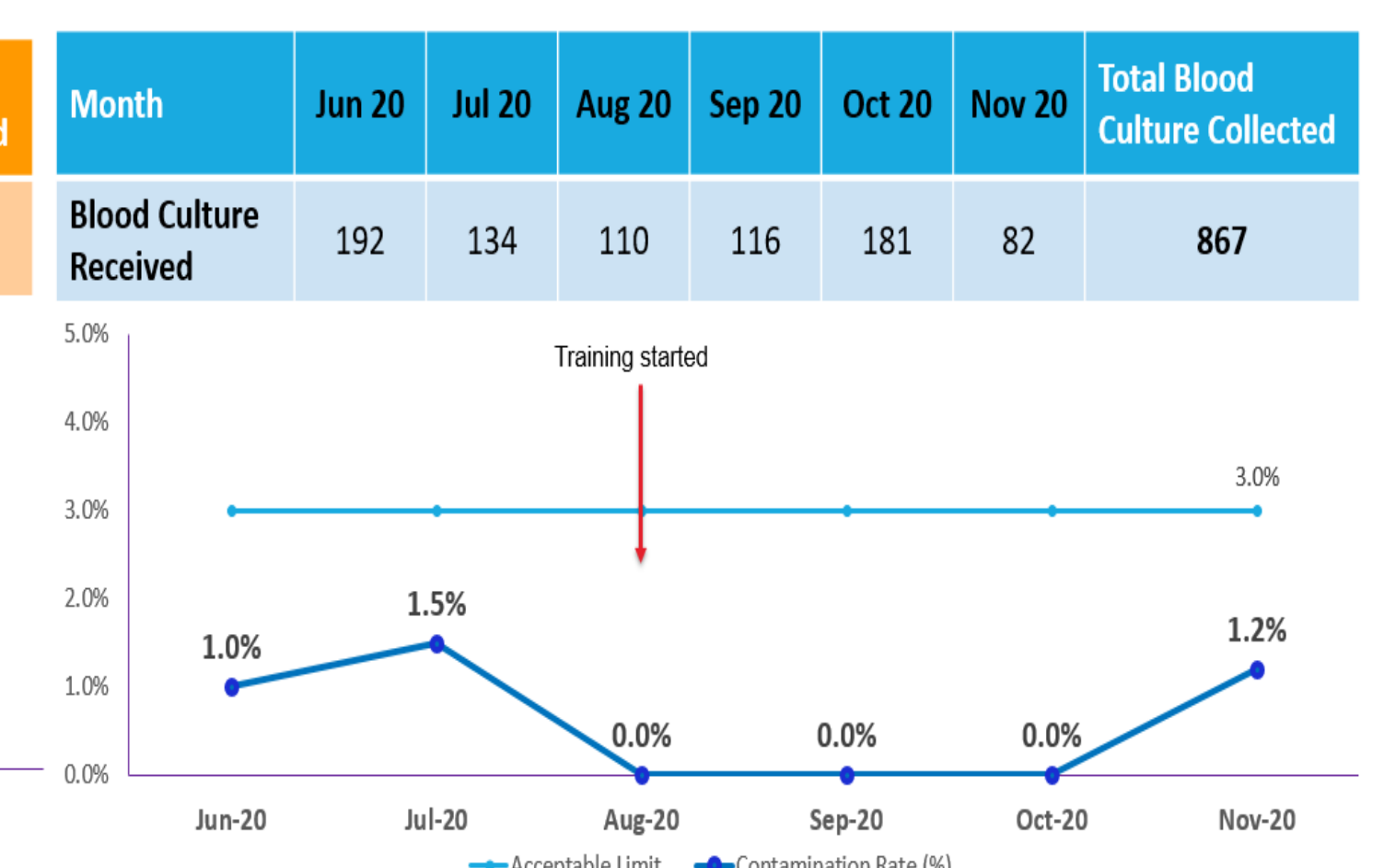
## Results

Results have shown a decrease in contamination rate post training.

Blood Cultures Received from WB9 Subsidised



Blood Cultures Received from WB6 Subsidised



## Follow-up

- The training was extended to all Registered Nurses at JurongHealth Campus by 2021.
- Continuous reinforcement by supervisors at the clinical setting will helped to sustain the reduced contamination rate.