CENTRE FOR HEALTHCARE INNOVATION

CHI Learning & Development System (CHILD)

Project Title

Label Innovation to Improve Food Traceability and Food Safety in a Community Hospital

Project Lead and Members

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Organisation(s) Involved

Yishun Community Hospital

Project Period

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Project Category

Productivity, Process Improvement

Keywords

Productivity, Process Improvement, Staff Training, Safe Care, Food Safety, Kitchen Operation, Yishun Community Hospital, Food Handling, Food Traceability, Food Labelling, Food Labelling Sticker, Vendor Collaboration, Shelf Live, Storage Conditions, Standardised Processes, Time Saving, Manpower Saving, Learn Unlearn & Relearn, The Food Services Department.

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Label Innovation to Improve Food Traceability and Food Safety in a Community Hospital

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Background

The Food Services (FS) department prepares approximately 800 patient meals per day. The core of kitchen operation is safe food handling. Kitchen staff must be aware of the shelf life and storage conditions of various foods.

It is also critical for the prepared foods and seal-broken food products to have a clear indication of production-and-expiry dates. This is to help kitchen staff trace back their production (or opened) date and to use them before the expiry date. Also, expired food will not be utilized and food safety risks are minimized.

Objective

The objective of this project was to improve food traceability and food safety for prepared and seal-broken food items. The team intended to promote standardized processes and to have staff pay more attention to food safety and to take better ownership of their work.

Problem Analysis

The team was formed to study the practices of food handling. Members observed that when prepared food was ready for chilling or freezing storage, or seal-broken foods were ready for storage, kitchen staff would paste a non-waterproof food labelling sticker onto the cling wrap, gastro norm (GN) pans or plastic food containers.
Permanent marker pen was used to indicate the 'opened' (production) and 'expiry' dates as shown in Diagrams 1 to 3.

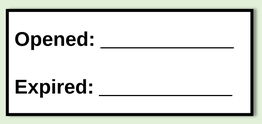

Diagram 1:
Food Labelling sticker

Diagram 2:
Sticker pasted on plastic food container

Diagram 3:
Sticker pasted on Cling wrap

Problems Identified

1. An average of 200 pieces of labelling stickers were used to support daily operations. **25 % or 50 pieces of sticker were disposed** due to the following reasons:-
   - ➲ Permanent marker or pen ink-fading due to moisture.
   - ➲ Torn sticker due to moisture / non-waterproof sticker.
   - ➲ Sticker drop off from GN pan or cling wrap due to prolong freezing / chilling time.
   - ➲ Cling wrap needs to be removed as it was torn during removal of the sticker.
2. Kitchen staff were not taking proper ownership for their work as they were not required to initial on the stickers.
3. Even after removal of the label sticker, stubborn stains of adhesive residues remained on the surface of GN pans, plastic container and crockery as shown in Diagram 4.

Diagram 4:
Adhesive residues

Implementation Plan

The team brainstormed to innovate a set of label stickers that would address the problems. The requirements for the new food labelling stickers were:

- ☑ Waterproof
- ☑ Non-sticky (non-residue) and easily removed
- ☑ Able to withstand low temperatures of chilling and long-term freezing
- ☑ Able to contain additional information for staff initial and food naming
- ☑ Able to provide coloured contents to indicate different days of the week

The team worked with a vendor to design the new food labelling stickers as shown in diagram 5. The labels enable the recording of the **important Information** (refer to Diagram 6.

Diagram 5:
New colour-coded labels

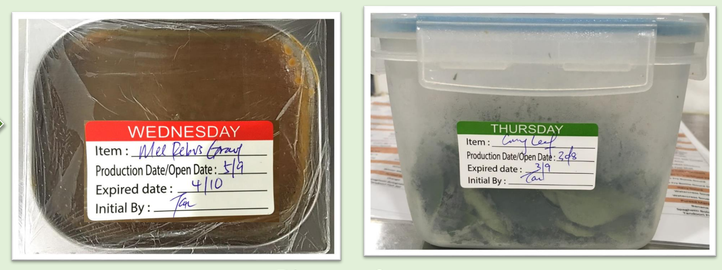

Diagram 6:
Coloured-coded Food Labelling Stickers with important information

Benefits / Results

A Reference Chart on food self-life was introduced to train and guide staff before implementation of the new labels in November 2017. This resulted in **zero stickers** being disposed of within 3 months of implementation (refer to Diagram 7).

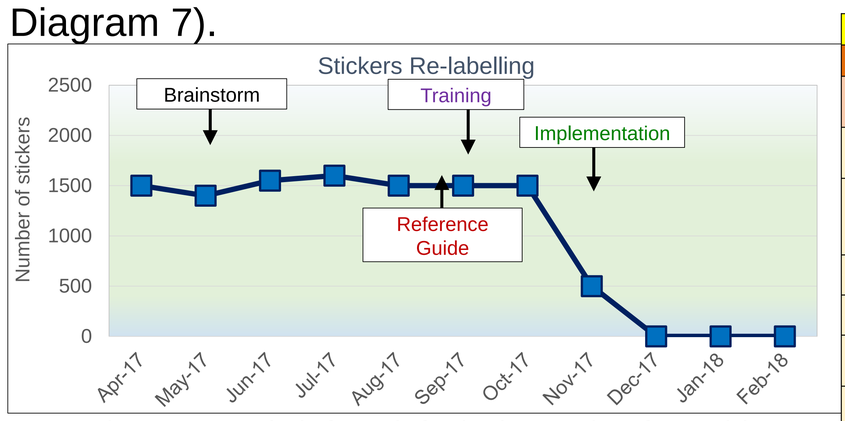

Diagram 7: Results before ad after implementation of new sticker

Reference Guide

INGREDIENTS SHELF LIFE	
Food Processes	**Shelf Life date / month**
Thawing of frozen Items	≤ 48 hours
Marinating of meats and seafood	P + 3 days
Cut vegetables	P + 3 days
Cut fruits	P + 1 day
Frozen sauce	P + 1 month
Chilled sauce	P + 1 week

Project Impact (Effects of Change)

Time – saving

Staff took 2 minutes to completely replace the sticker as per time-motion study conducted (refer to Diagram 8). After the implementation of the new labelling stickers, staff saved time in re-labelling the food items as shown in Diagram 9.

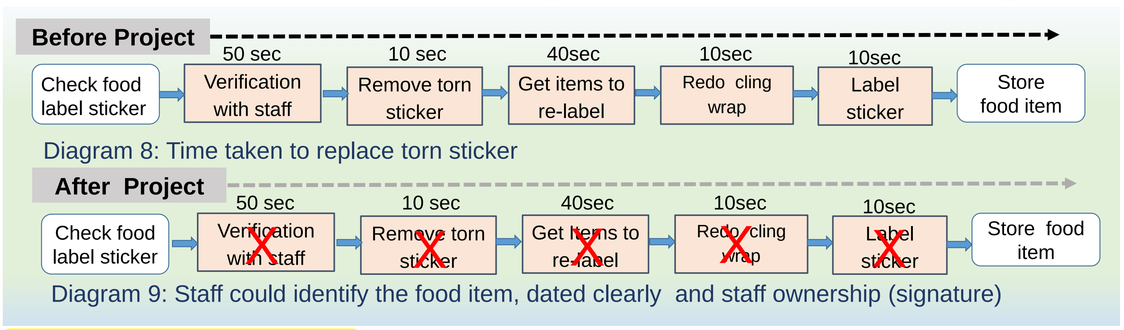

Diagram 8: Time taken to replace torn sticker

Diagram 9: Staff could identify the food item, dated clearly and staff ownership (signature)

Man-hours **saved**

TIME TAKEN PER STICKER	QUANTITY OF STICKERS REPLACED	OVERALL TIMING	COST IMPACT
Per replacement process → 2 minutes	Per day → 50 stickers Per month →1,500 stickers	Per day → 1 hour 40 minutes Per month → 50 hours	Average staff cost → S$ 8.52 per hour Per month → 50 hours x S$ 8.52 = S$ 426 Per year → **S$ 5,112**

Conclusion / Sustainability

Through training, staff were encouraged to **adopt "learn, unlearn and re-learn"** mindset. Any new kitchen staff could easily be trained on the standardized process. Monthly checks on the food labels will be conducted by the team leaders.