

# Enhanced Process Control of Laundry Services in Hospital Authority

Antony LUI

Senior Manager (Business Support Services)

Hospital Authority

4 May 2016

# Laundry Services



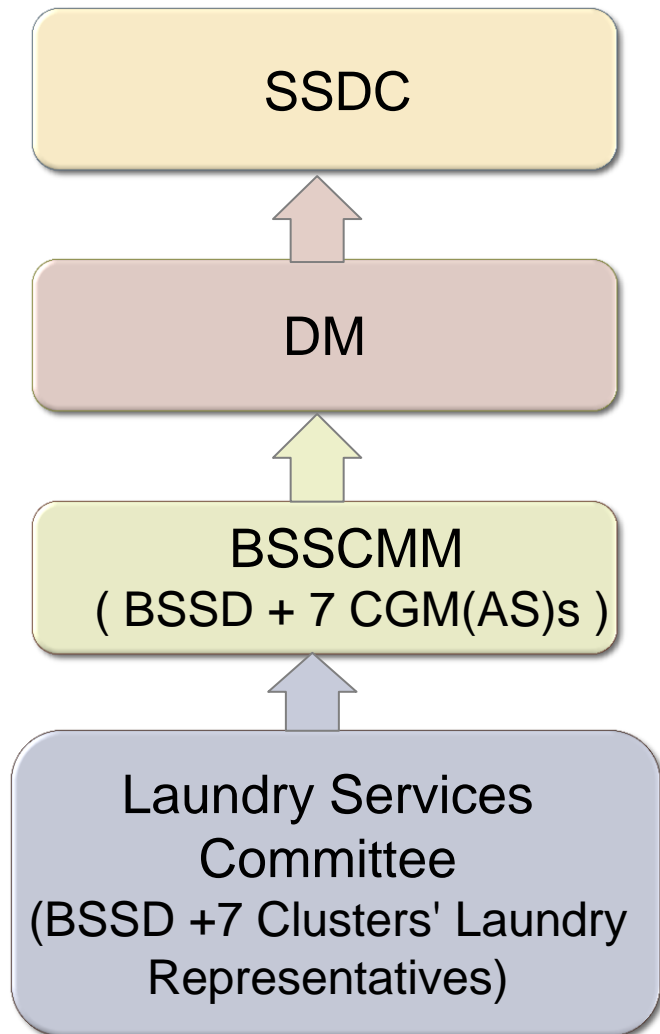
# Background

# Background

- In 1991:
  - inherited 17 laundries of various size providing in-house services to HA hospitals and some government out-patient clinics
- In 2000:
  - services re-organized and reduced to 10 laundries

# Governance Structure

## Head Office Level



- Planning and development of laundry services management in HA
- Co-ordination for urgent back-up or contingency support in emergency or disaster situations
- Performance benchmarking

SSDC - Supporting Services Development Committee

DM - Directors' Meeting

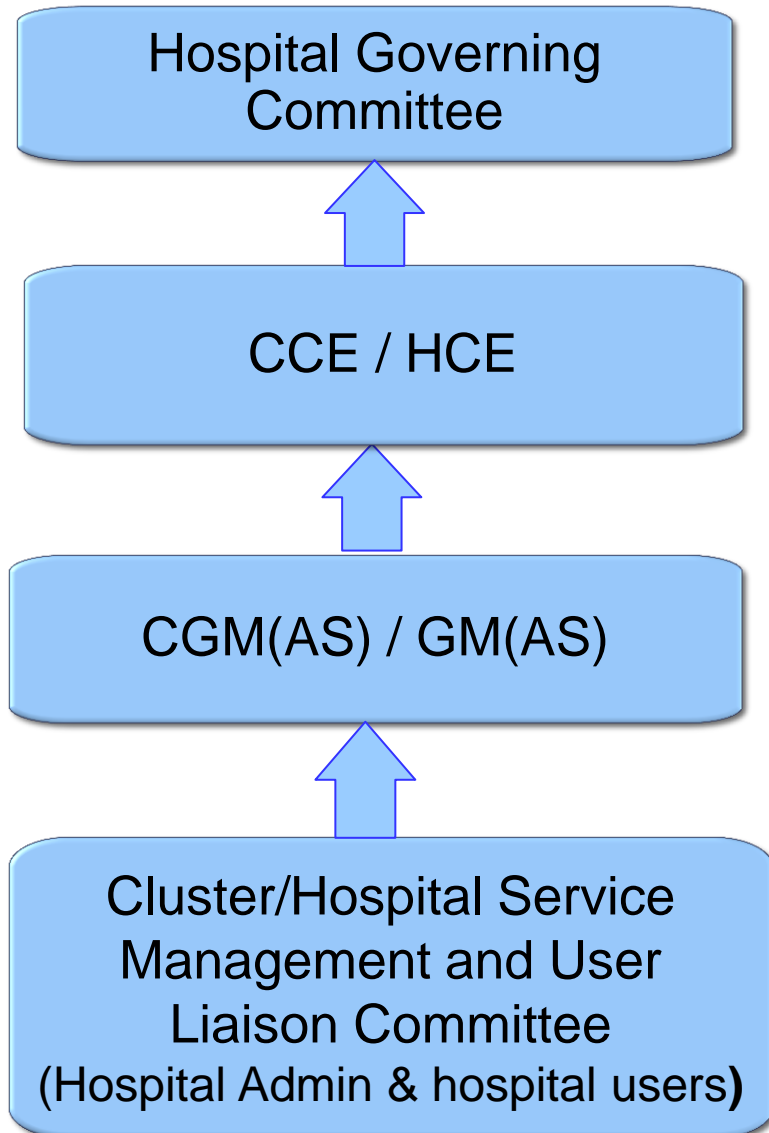
BSSCMM - Business Support Services Corporate Management Meeting

BSSD – Business support Services Department

CGM(AS) - Cluster General Managers (Administrative Services)

# Governance Structure

## Hospital Level



- Daily operation monitoring and management
- Risk assessment
- Improvement planning

CCE - Cluster Chief Executive  
HCE - Hospital Chief Executives  
CGM(AS) - Cluster General Managers (Administrative Services)  
GM(AS) - General Managers (Administrative Services)

# Distribution of 10 Laundries

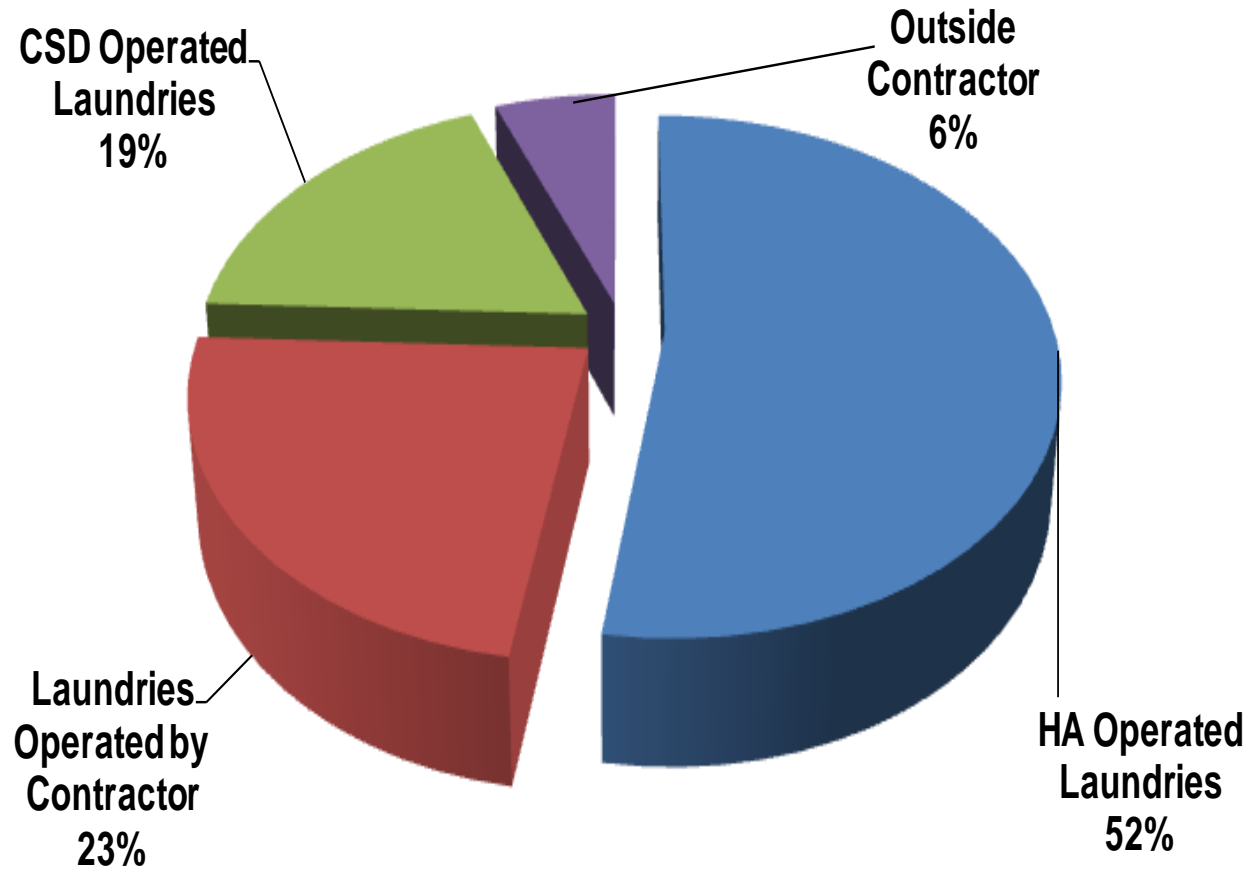


- 4 HA-operated Laundries
- 3 HA Laundries operated by contractor
- 3 CSD-operated Laundries

# Laundry Operation



# Mode of Operation (2014/15)



# Laundry Operation



# Shum Wan Laundry (SWL) Incident

The incident at Queen Mary Hospital in June – July 2015 after investigation revealed that **the source of infection was originated from patient linen.**


# **Service Monitoring before the SWL Incident (1/3)**

## **1. Regular site inspections with records**

- daily production, including soiled linen backlog
- environmental cleansing and housekeeping
- equipment maintenance
- occupational safety and health
- infection control


# Service Monitoring before the SWL Incident (2/3)

## 2. Daily quality control inspections

- visual quality checking 
- rewash rate
- torn linen rejection

# Service Monitoring before the SWL Incident (3/3)

## 3. Washing quality control

- Arrange monthly test with Drycleaning & Laundry Institute (DLI) (an independent accredited testing centre of the United States)  measuring
  - whiteness degree
  - yellowness
  - blood stain removal
  - soil removal
  - bleach effectiveness
  - tensile strength loss

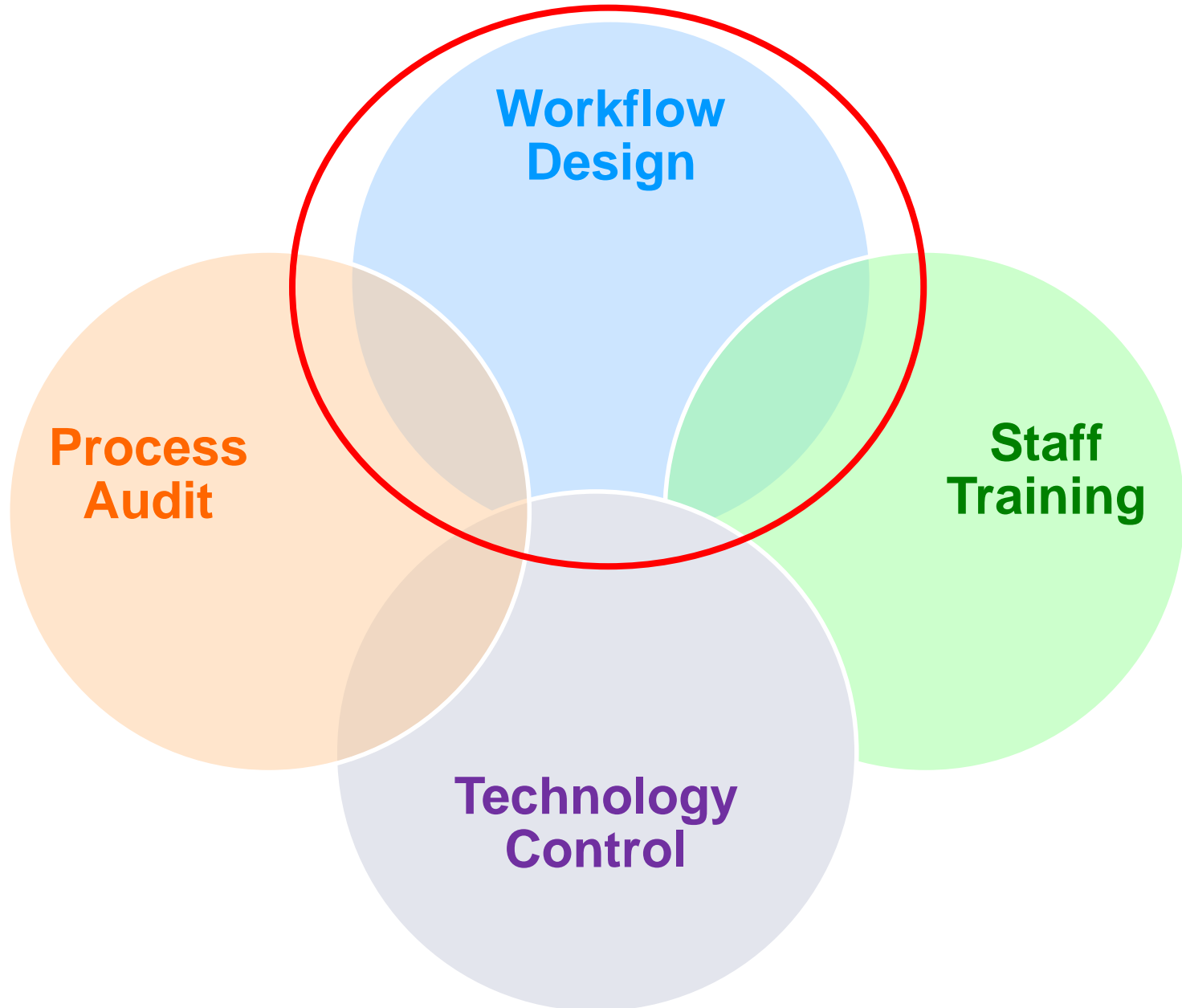
# After the SWL Incident .....

# Review of Laundry Service Management

- Formation of Task Force & Working Groups at HAHO to
  - follow up on the recommendations of the Investigation Panel
  - **conduct an overall review of the monitoring mechanism of laundry operation in HA**
  - review the current mode of operation and propose the future direction for HA laundry services
  - provide input to Chief Infection Control Officer (CICO) on review of Infection Prevention and Control Guidelines for Healthcare Linen



# Enhanced Process Control



# Workflow Design (1/4)

## Laundries



### Work Process

- Raised the washing temperature from 71°C to 75°C for 5 minutes as recommended by Chief Infection Control Officer (CICO)
- Stopped the use of starch powder for ironing of staff uniform

# Workflow Design (2/4)

## Laundries

### Work Process


- Strengthening moisture control during the drying and packing process
- Cooling down of hot linen items before wrapping 
- Further review of the segregation between clean and dirty areas 

# Workflow Design (3/4)

## Laundries

### Work Process

- Clear segregation of soiled and clean containers 

- Labelling of washed trolleys 

### Environment Improvement

- Periodic and thorough deep-cleaning and de-dusting

# Workflow Design (4/4)

## Laundries & Linen Exchange Rooms (LER)

### Linen Storage

- Must be in well ventilated environment
- Replacing wooden pallet with plastic pallet

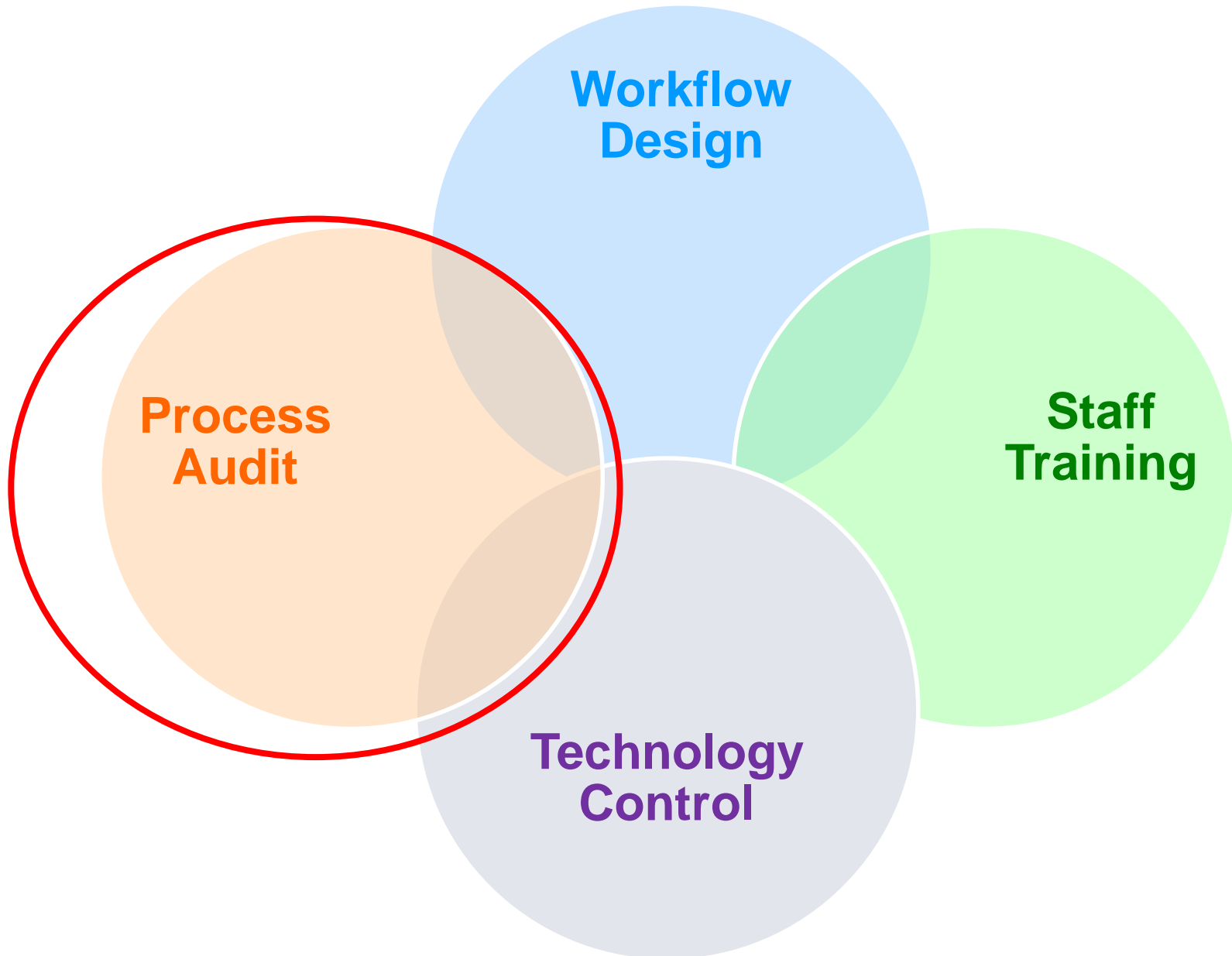


## Hospitals

### Linen Consumption

- “First-in-first-out” principle

# Enhanced Process Control



# Process Audit

## Laundries & Linen Exchange Rooms (LER)

### QA Enhancement

- **Checklists** developed for implementation in laundry plants and linen exchange rooms to **standardize work process monitoring**



Checklist for  
laundry plant



Checklist for LER

# Process Audit

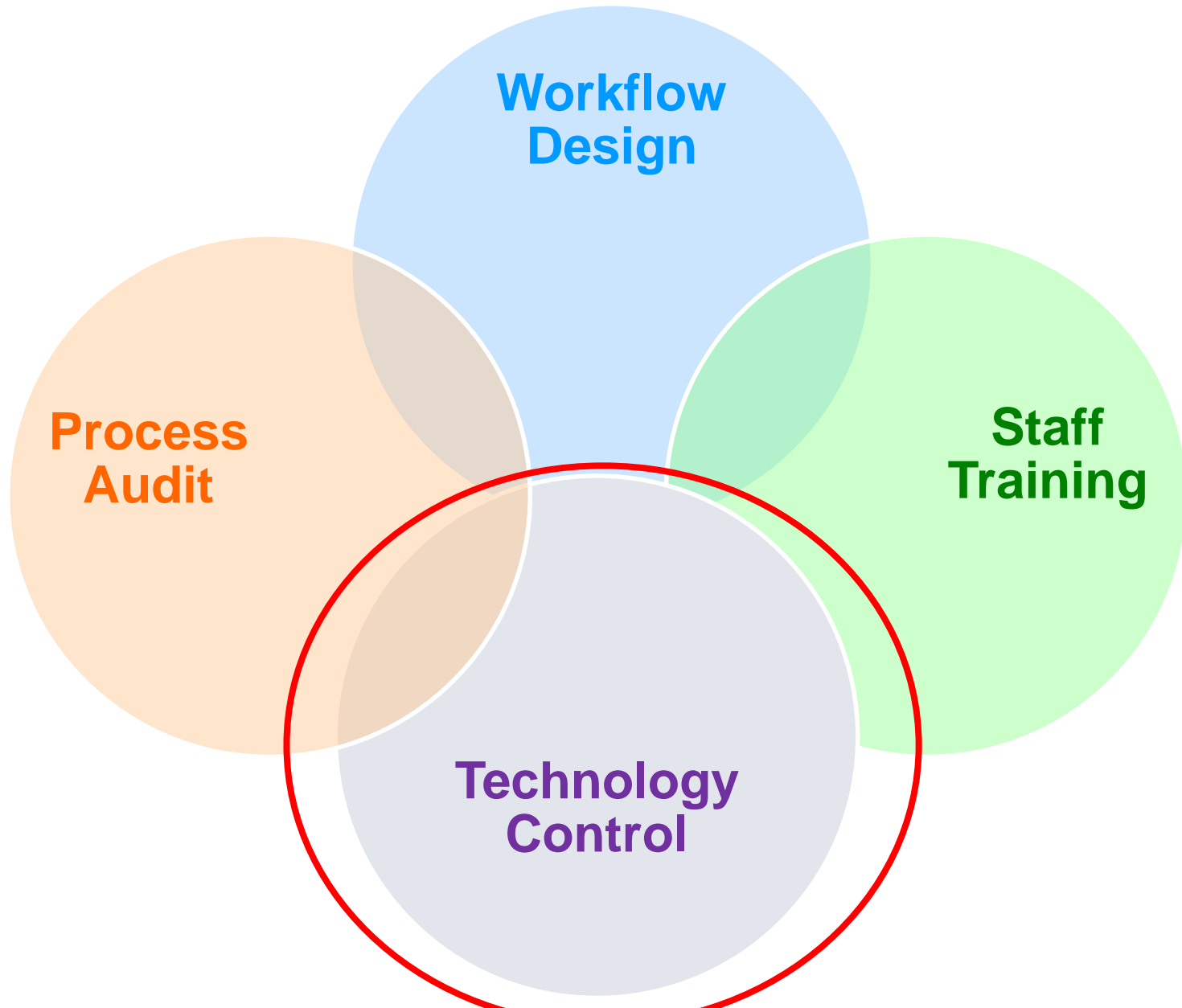
## Laundries & Linen Exchange Rooms (LER)

### QA Enhancement

- **Cross-cluster checking** by laundry managers / hospital managers to enhance performance management and experience sharing



# Enhanced Process Control



# Technology Control (1/2)

## Laundries

Equipment  
Management

- Temperature sensors checking and calibration with documentation annually

Equipment

- Checking the washing temperature of the main wash of the tunnel washer/tumble washer by using temperature data logger



Use of Temp  
Data Logger

# Technology Control (2/2)

## Laundries & Linen Exchange Room (LER)

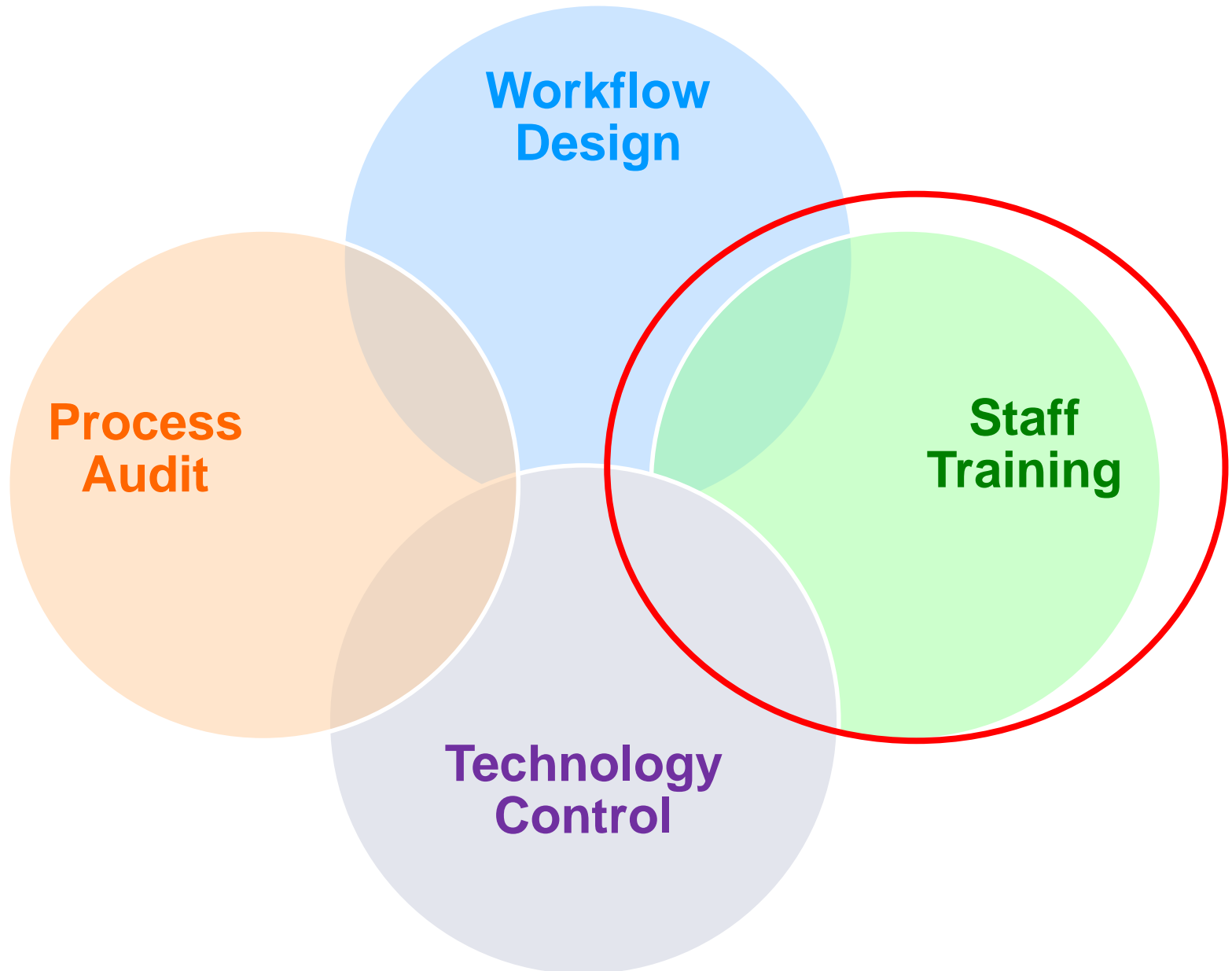
### Equipment

- Sample moisture retention checking by
  - (1) using **moisture meter by laundry** before delivery of clean linen to hospitals
  - (2) using **moisture meter by hospital LERs** upon receipt of clean linen from laundry



Use of Moisture  
Meter

# Enhanced Process Control



# Staff Training

## Laundries & Hospitals

### Staff Training

- Identify the training needs of HA laundry staff including managerial, supervisory and frontline staff and arrange training as appropriate
- Further assess and identify training partner in Hong Kong
- Review and arrange on the job and refresher training for staff

# Way Forward

- All the above measures have been implemented
- Employed HKPC to further evaluate the effectiveness of the enhanced measures
- Review the mode of service delivery later

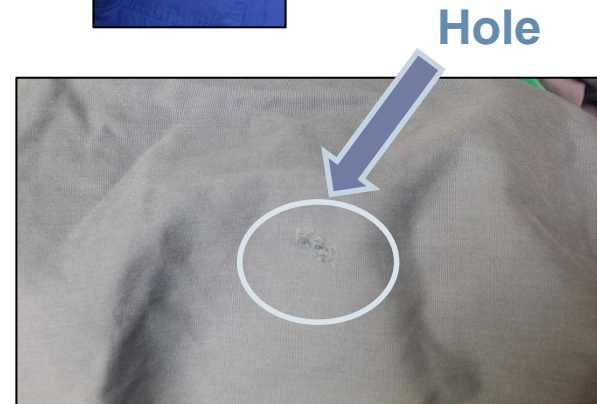
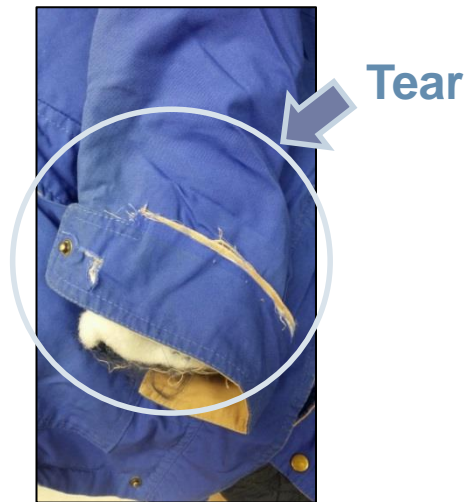
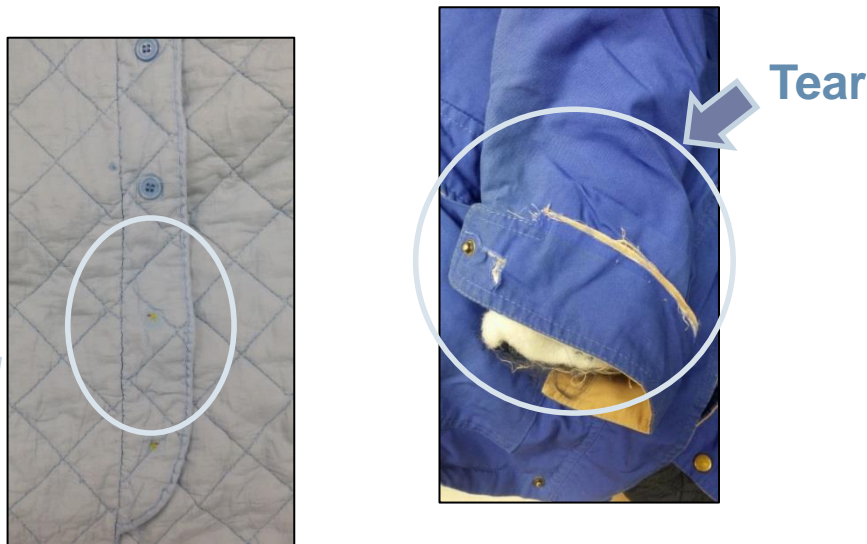
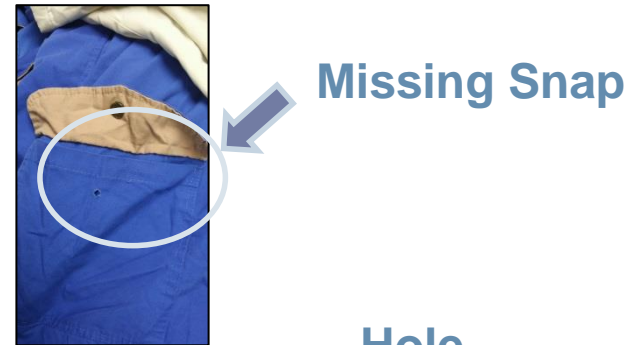
**Thank you**

# Inspection Criteria

- Appearance (e.g. stains, colour fading)



- Physical Defects





# Monthly DLI Report

## Drycleaning & Laundry Institute international

### Confidential Laundry Performance Evaluation

Mr. Charles Cheung  
 Kreussler Hongkong Ltd.  
 1102 Prosperity Ctr.  
 Kwon Tong, Kowloon  
 Hongkong,  
 China

6/30/2015

Report # 68328

Location : D'Hoodge ISS SWL Form. 01

Classification: cotton

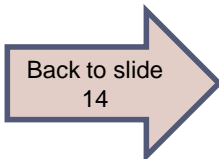
Soil Level: Heavy

Tensile Strength Loss: 1  
 Whiteness Degree: 100  
 Yellowness: -3.9  
 Blood Stain Removal: 92.5  
 Soil Removal: 27.4  
 Chlorine Bleach Effectiveness: 54.8

CONDITION MEASURED	ACCEPTABLE	UNACCEPTABLE - Recheck
Final Whiteness Degree	80.0 or more	79.9 or less
Final Yellowness	-2.0 or lower	-1.9 or higher
Blood Stain Removal	40.0 or more	39.9 or less
Soil Removal	28.0 or more	27.9 or less
Bleach Effectiveness	52.0 or more	51.9 or less
<b>TENSILE STRENGTH LOSS</b>		
Light Soil Loads	5% or less	6% or more
Moderate Soil Loads	10% or less	11% or more
Heavy Soil Loads	15% or less	16% or more

LPT results should be used to monitor your particular wash formula. Fluctuations in an established pattern of results could warrant your investigation.

Possible causes for unacceptable results are on the reverse side of this report.



# Cooling Down of Hot Linen Items before Wrapping



Back to slide  
18

# Clear Segregation of Soiled & Clean Areas



Back to slide  
18



# Clear Segregation of Soiled & Clean Containers



Back to slide  
19

# Labelling of Washed Trolley



Back to slide  
19

# Plastic Pallets



Back to slide  
20