



**Singapore Healthcare Management 2024**

# Zap Zap to the Rescue!

Lee Chiew Ping, Ricardo Chang Wei Hui  
SingHealth Environmental Services, SingHealth HQ

## Introduction

In October 2023, ES team were alerted by Physiotherapists at L4 Rehab Centre 'E' and 'F' Gym to terminal clean certain gym equipment due to patient tagged with CP-CRE using them.



CP-CRE refers to Carbapenemase-Producing Carbapenem Resistant Enterobacterales. These microbacterial organisms are resistant to antibiotics and are easily transmitted from person to person in healthcare settings<sup>1</sup>.

It was discovered that these CP-CRE patients were previously discharged but still tagged with CP-CRE status until they are next screened which may take up to a year. Hence, when patients return for follow up rehabilitation session as an outpatient at Rehab Centre, their records will still indicate them as CP-CRE positive.

The typical cleaning process as instructed by Infection Prevention and Epidemiology (IPE) for such cases would be: (1) wipe down by therapist immediately after every patient use with Mikrozyd alcohol wipes, (2) terminal cleaning by housekeeper with 5000ppm dilution of Sodium dichloroisocyanurate.



## Problem

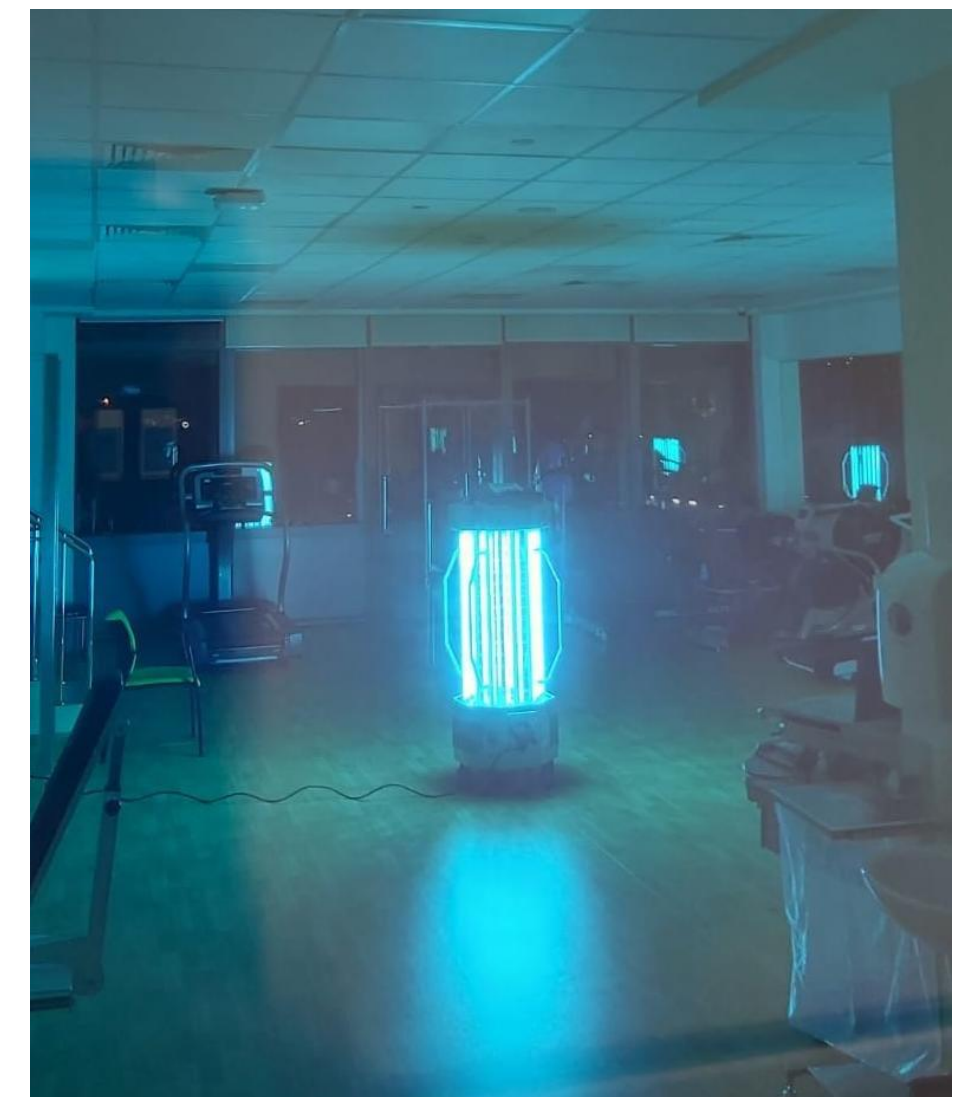
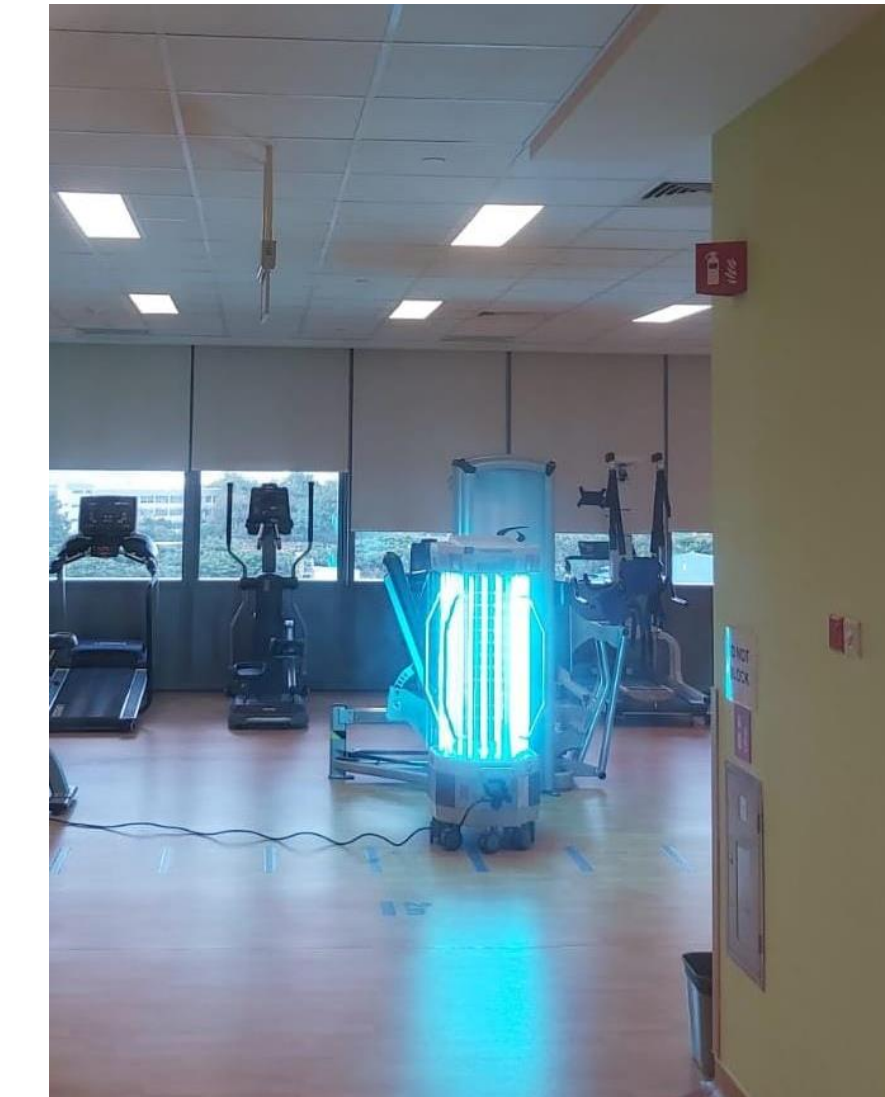
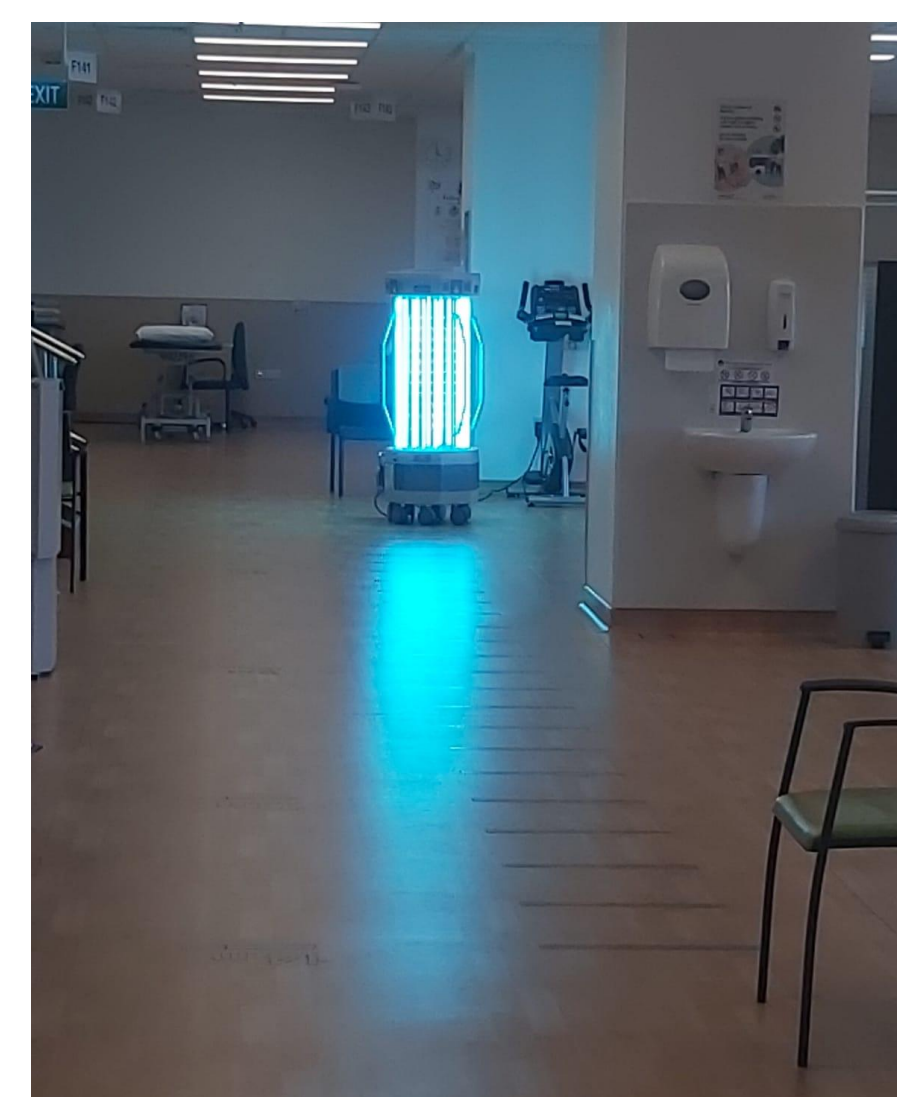
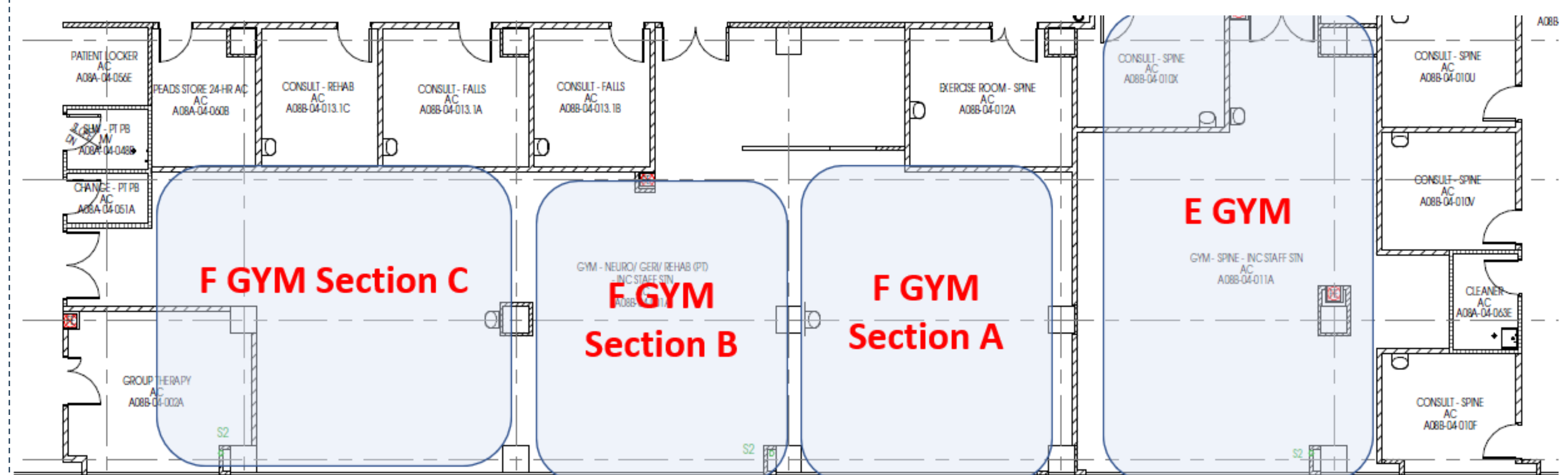
Due to influx of CP-CRE patients at Rehab Centre, housekeeping team has been activated multiple times in a day to perform terminal cleaning and UVC disinfection on used rehab gym equipment; sometimes multiple times on same equipment in a day. As such, we worked with IPE and Physiotherapists to revise existing workflow to make it more effective for all parties while still achieving disinfection of patient shared equipment and the environment.

## Methodology

Physiotherapists would schedule these patients towards the end of clinic sessions. They will wipe down equipment after used by CP-CRE patients immediately with Mikrozyd alcohol wipes. Housekeeping team will be informed and would proceed with terminal cleaning of affected gym equipment during post clinic cleaning.

As an additional step of disinfection, both 'E' and 'F' Gyms were divided into four sectors in total. Each of these sectors would be treated with Ultraviolet-C (UVC) once a week, rotating between each sector, resulting in a combined frequency of once a month for each sector.

Location	Day	Frequency	Rotated each area every Sunday			
			1st Sunday of the month	2nd Sunday of the month	3rd Sunday of the month	4th Sunday of the month
L4 Rehab - E Gym	Sun	Monthly	✓			
L4 Rehab - F Gym (Section A)	Sun	Monthly		✓		
L4 Rehab - F Gym (Section B)	Sun	Monthly			✓	
L4 Rehab - F Gym (Section C)	Sun	Monthly				✓



Alternating UVC treatment to different sections of E and F gym weekly

## Result

With this new workflow, physiotherapists and patients are assured that environment is clean and shared equipment is safe in preventing cross contamination. Most importantly, housekeeper workload would not be overly stretched due to multiple terminal cleanings in a day if physiotherapist had activated them after every single CP-CRE case they see.

## Conclusion

Housekeeping and IPE need to work hand in hand to ensure that cleaning is carried out in an appropriate and effective manner. Proposed workflow needs to be sustainable in terms of manpower; yet meeting stringent hospital standards of cleanliness. This is one successful implementation at SingHealth Tower.

<sup>1</sup>Retrieved from <https://odh.ohio.gov/know-our-programs/antibiotic-resistance/antimicrobial-threats/cp-cre>