



Reducing Slips, Trips and Falls in Hospitals

WSHC x CHI

1st December 2024 – 24th July 2025



Reason for action: STFs are a leading source of workplace injuries in healthcare

According to a 2023 national report,

STFs was the leading cause of both major and minor workplace injuries within the healthcare industry and, accounted for significant man-days lost.



Project Challenge

How might we (HMW) better understand the causes of slips, trips, and falls (STFs) within hospital settings to identify the opportunities for reducing STF?

Desired Outcomes

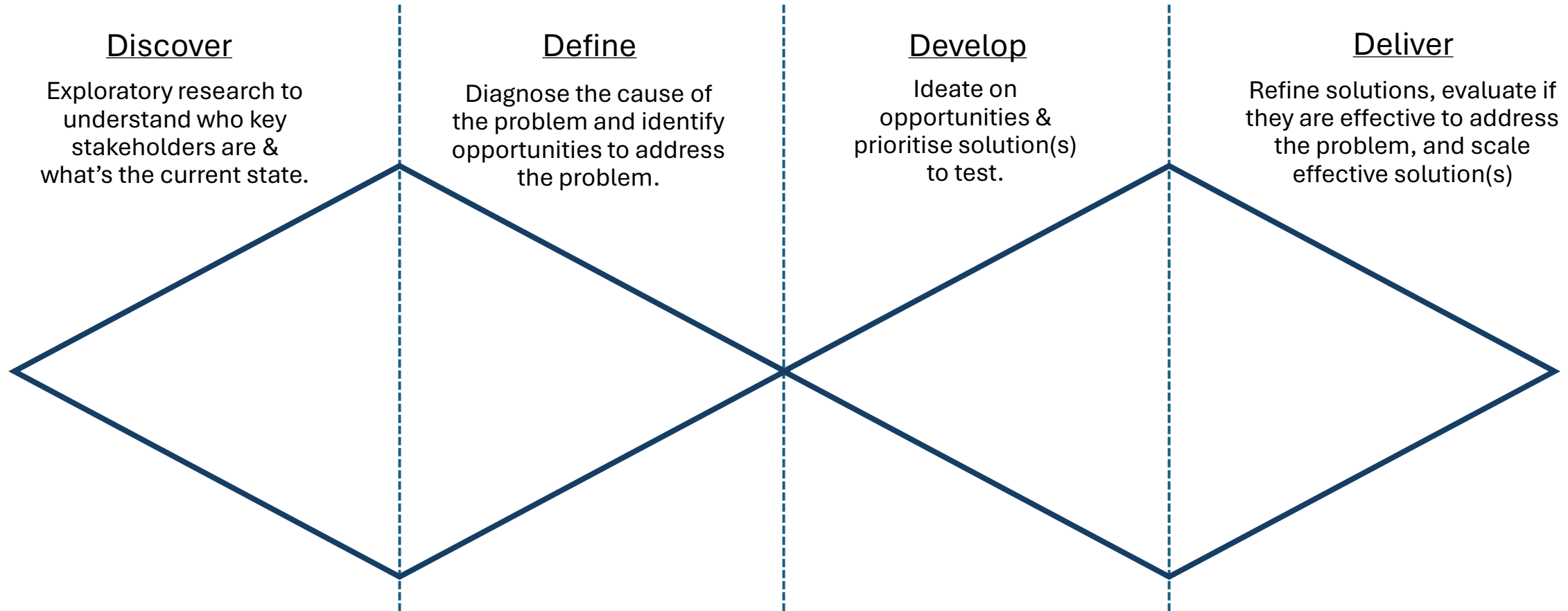
30% reduction of **STF incidents** in hospitals from FY23, by FY27.

Hospitals covered for this research





Process



Double Diamond Design Framework



Prioritised Insights



Patient-first instincts may result in healthcare workers taking unsafe acts, increasing STF risks

The nature of certain healthcare worker activities – especially time-sensitive ones – may pre-dispose them to a higher risk of STF. However, spaces and internal processes may not best safeguard HCWs from the risk of STF.

Case 1: Rushing to get medical consumables during a procedure

In another case, a nurse tripped along the Operation theatre corridor while rushing to get medical consumables during a procedure. In this scenario, it is within reason to expect that the nurse would be inclined to rush or run which places her at a higher risk of falling.



Could the space be better designed to contain the necessary consumables within reach?



HMW identify time-sensitive activities that pose high risk for STF amongst HCWs, and redesign spaces and internal processes to reduce risks of STF?



HMW reduce the risk of hazards during the window between reporting of hazard and rectification, in areas of inevitable rushing?



Middle managers are an important but under-engaged stakeholder in addressing STF.

Across all institutions, apart from WSH teams, middle managers tend to be the ones who report cases on behalf of staff who fell, and they also tend to be the first line of investigators. After investigation, middle managers are also often the ones who are facilitating the implementation of solutions.

Most institutions currently design outreach and educational materials for staff in general but as a key stakeholder, middle managers, are under-engaged. Institutions may want to design to engage these middle managers more when creating STF resources.



What are the needs, motivations and challenges middle managers experience when it comes to STF reporting?



HMW empower and engage middle managers to become proactive leaders in STF prevention, reporting, and solution implementation?



Well-meaning workplace changes may lead to STFs risks.

Across the institutions, there has been several cases of HCWs implementing changes within their workplaces (often with the intention of improving safety or work processes), and unknowingly creating fall risks that ultimately led to a STF.

Case 1: 'Safely stored' step ladder

A nurse placed a step ladder within a storage area which she deemed was a safe place. However, due to the changing volume and pattern of human movement within the space, another nurse tripped over the leg of the ladder and fell.



Could nurses be reminded to consider other factors of WSH to make a better decision when deciding where to store objects?

Case 2: Satellite gym in wards

A physiotherapist created a satellite gym with light gym equipment to increase the accessibility of physiotherapy for patients. However, having left a small block unsupervised, a visitor had tripped and fell. This could have been another HCW resulting in a workplace injury.



Could there be guidelines that HCW could refer to implement such improvements safely?



HMW create accessible resources that HCWs can/want to refer to before making changes to their workplaces?



Proposed Solutions:

Opportunity area

1. HMW reduce the risk of hazards during the window between reporting of hazard and rectification, in areas of inevitable rushing?

2. HMW empower and engage middle managers to become proactive leaders in STF prevention, reporting, and solution implementation?

3. HMW create accessible resources that HCWs can/want to refer to before making changes to their workplaces?

Mitigate

Investigate and Report

Rectify

Reinforce

Process step

Concept

Quick Fix Safety Cone

A quick deploy cone coupled with absorption pads to rectify spillages and reduce risk during housekeeping **response** time.

Collaborative Reporting

An AI enabled reporting process that eases the coordination work of Middle managers when **investigating and reporting** STF cases.

IdeaMate!

An AI enabled consulting chatbot that curate resources depending on the intervention staff intend to **implement**.

Reward System

Several ideas on a reward system for reduction in STF incidents or number of preventive/ corrective interventions implemented.



Respond:

Quick Fix Safety Cone

Objective:

To reduce the risk of slips during the response time of housekeeping staff in addressing spillages, this solution aims to provide a form of ‘partial, immediate’ clean up, paired with a visual cue to alert passers-by of the spill.

Opportunity:

HMW reduce the risk of hazards during the window between reporting of hazard and rectification, in areas of inevitable rushing?



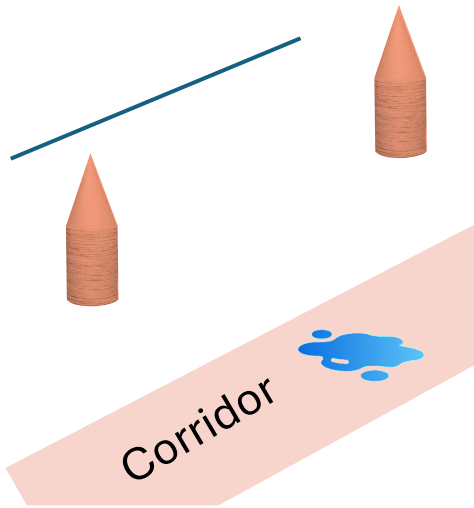
Respond:

Quick Fix Safety Cone

Concept:

1

A spill is noticed by a passerby/staff



2

'Dispensable absorbent safety cones' are placed at regular intervals along corridors. Accessible to everyone.



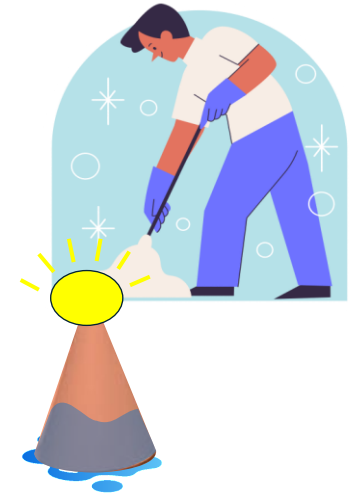
3

Passerby/Staff can pull the safety cone and place the cone on the spill. The absorbent cone absorbs the spill and provides a 'temporary fix'.



4

The cone also acts as a beacon which notifies housekeeping where the spill is.





Investigate and Report:

Collaborative Reporting

Objective:

Reduce the workload of middle managers who have to conduct thorough investigations of incidences themselves.

Concept:

Create a digital solution (e.g. app/ web feature), where we utilize AI picture recognition to collect preliminary information (e.g. location, cause of fall, time and date) and notify necessary stakeholders. Also provides an auto-filled draft with standardised reporting format to help middle managers.

Opportunity:

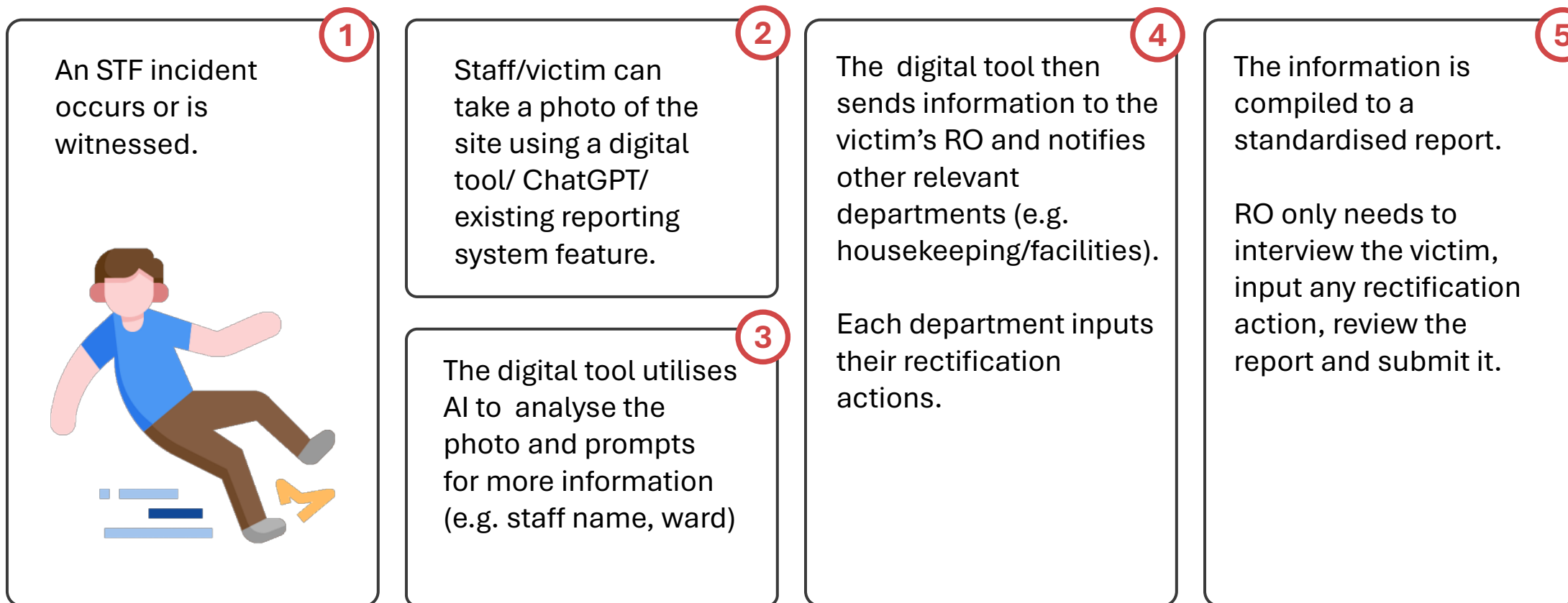
HMW empower and engage middle managers to become proactive leaders in STF prevention, reporting, and solution implementation?



Investigate and Report:

Collaborative Reporting

Concept:





Rectify:

IdeaMate!

Objective:

To prevent information overload and the reduce the need to search through all resources for specific information when staff wants to implement daily improvements in their workspace or rectify current STF risks.

Concept:

An advisory chatbot that retrieves past case studies or interventions based on prompts from staff who have ideas or are looking for solutions to prevent STFs. In addition, the chatbot also recommend institution specific advisors to staff.

Opportunity:

HMW create accessible resources that HCWs can/want to refer to before making changes to their workplaces?



Implement: IdeaMate!

Concept:

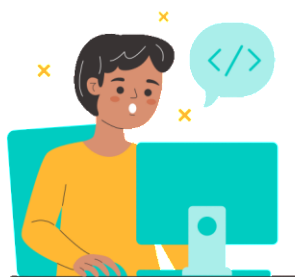
1

A staff has an idea to solve a STF hazard, prevent a risk or an overall improvement to the workplace.



2

Staff can share their idea with an online chatbot. (e.g. Pair chat)



3

The chatbot provides a curated list of case studies, and resources for the staff to refer to, to assist in the implementation of their idea.



4

Staff will also be referred to institutions' WSH teams who can act as advisors to assist teams.





Reinforce:

Reward System

Objective:

Several teams have hypothesized that a reward system could potentially encourage safe WSH behaviours or incentivise healthcare workers to push for improvement measures. The objective is to build a culture that places importance on WSH and improvement activities to reduce STF risks.

Concept:

Rewarding the implementation of preventive measures.

Reward the rectification of hazards

Reward the reduction of total incidences.

Methods for sharing case studies.

- Roll call,
- WSHC content



Reducing Slips, Trips and Falls in Hospitals

WSHC x CHI

Thank you