A retrospective analysis of the strengths of recommendations from root cause analysis

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Problem Statement

Traditionally, following Serious Reportable Events (SREs), Root Cause Analyses (RCA) are performed to investigate and pinpoint the contributing factors that led to the adverse incident. Thereafter, recommendations are implemented to prevent the recurrence of similar incidents.

However, SREs of the same nature continue to repeat itself. This raises the question, are RCAs useful in effecting long-term solutions to prevent the incidence of SREs?
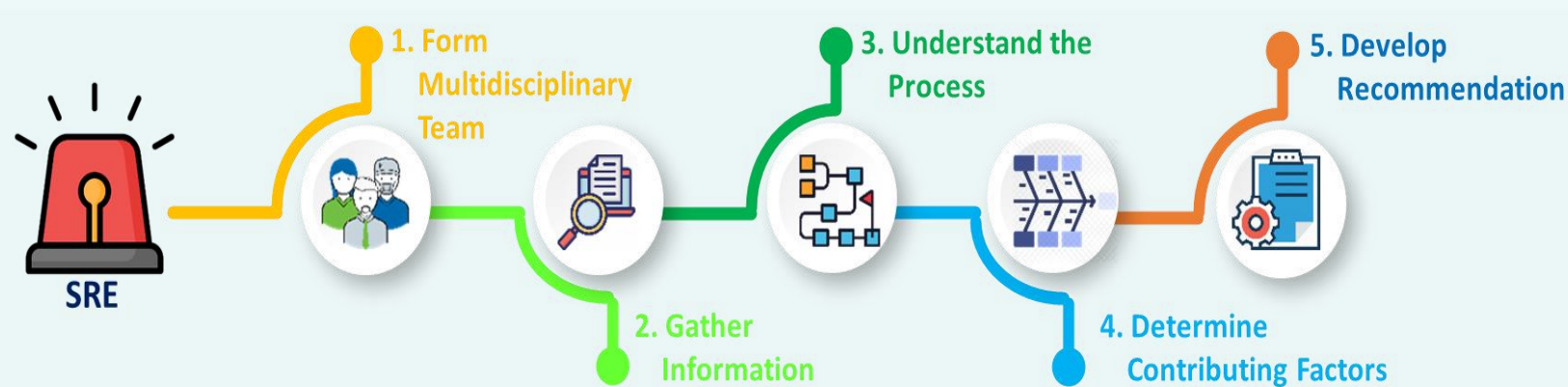

Figure 1: RCA Workflow

Project Aim

- A retrospective review of SREs and the corresponding recommendations implemented from 2016 to 2022.

- The data were analysed to understand the relationship between the types of SREs, strength and type of recommendations.
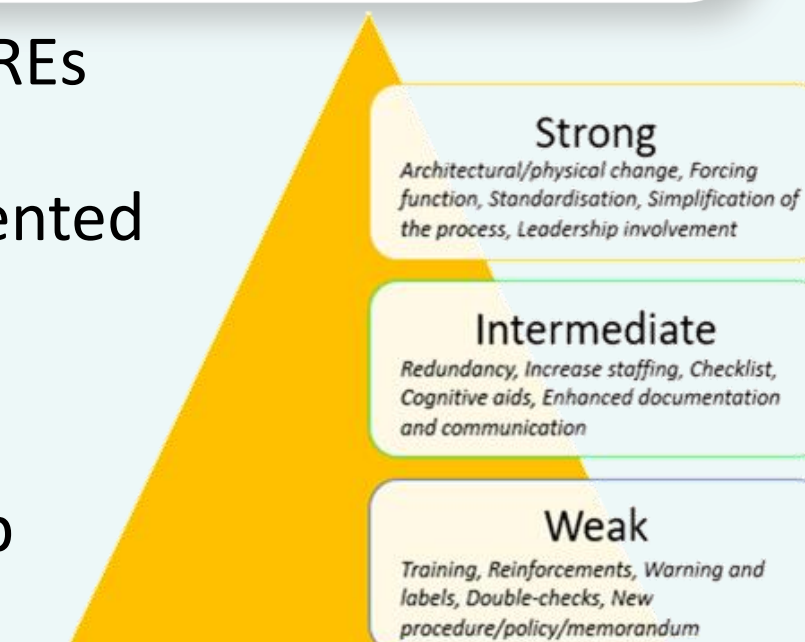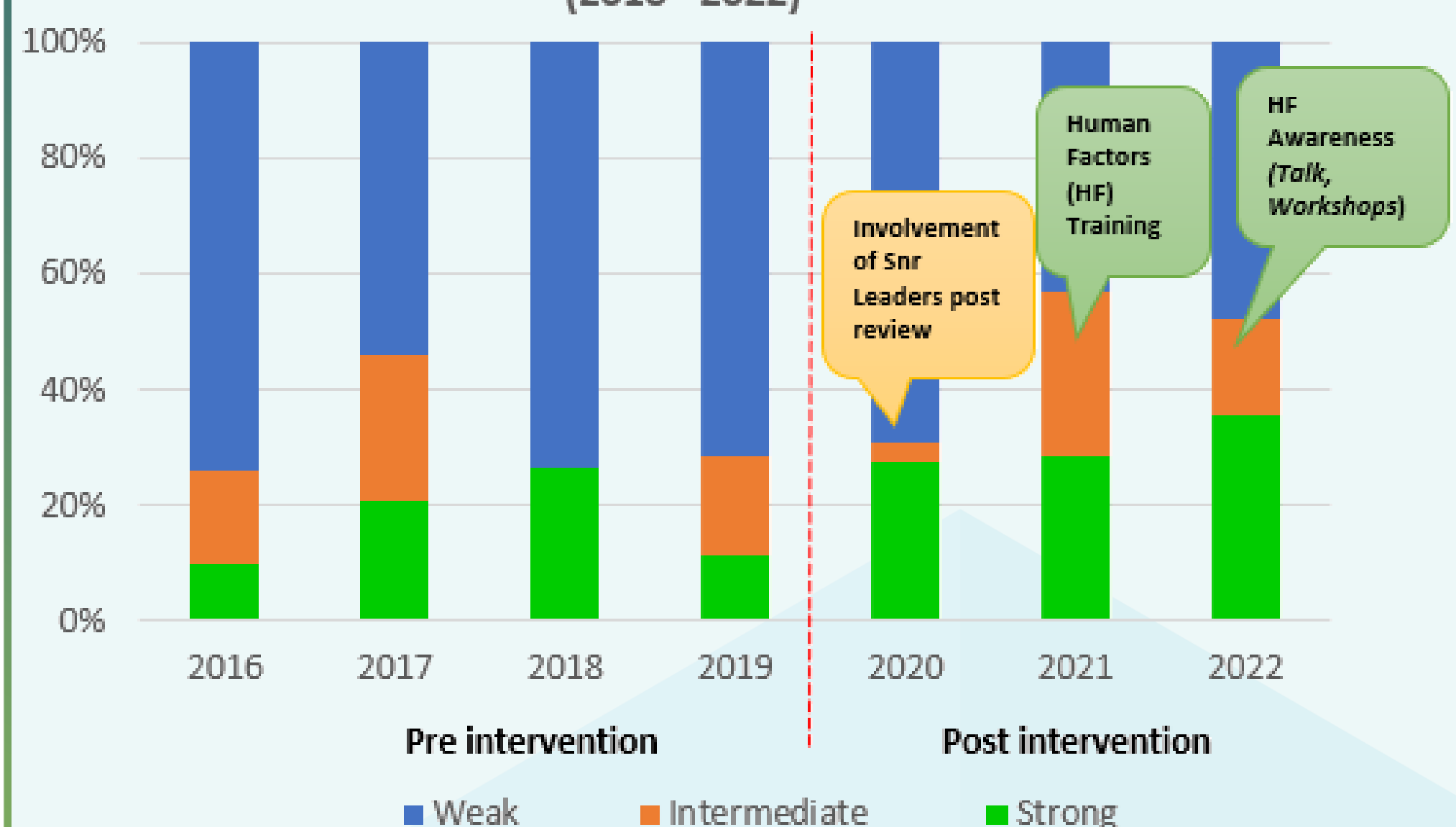

Figure 2: Hierarchy of Interventions

Lessons Learnt

- The disproportionate number of weak recommendations implies that many of the control measures only resolve active errors while neglecting the latent factors that underlie the SREs.

- The best of way to increase the proportion of stronger recommendations is to enhance the quality of SRE investigations first by adopting Human Factors concepts to explore deeper into the underlying system failures. It is also vital to get senior leadership involvement in the review process.

- Although the proposed recommendations could be resource intensive, there is a need to measure the actual costs savings for future studies.

Potential Solutions

By studying the relationship of the strengths of recommendations and the eventual impact, the project team have implemented multiple ways to improve the quality of SRE investigations and subsequent risk mitigation actions which includes:

- **Incorporating human factors** in incident investigations, holding on-site observations and simulations to better understand how error occur and proposed better solutions.

- **Involving senior leaders and key stakeholders** during post review discussion for support, accountability and provision of resources to implement the changes.

Figure 3: Human Factors Programme

Outcomes & Impacts

- Following the implementation of interventions, the **proportion of strong and intermediate recommendations had increased**.

- With a better **understanding on how incidents occur** and **support from senior leaders**, stronger solutions or mitigation measures could be implemented for SREs.