



# SHORTFALL IN QUALITY INVESTIGATION *for* KPI Program Perubatan

*Dr. Khairulina Haireen Khalid  
M.D (UKM), M.S (Nagoya)  
Clinical Performance Surveillance Unit  
Medical Care Quality Section  
Medical Development Division  
Ministry of Health Malaysia*

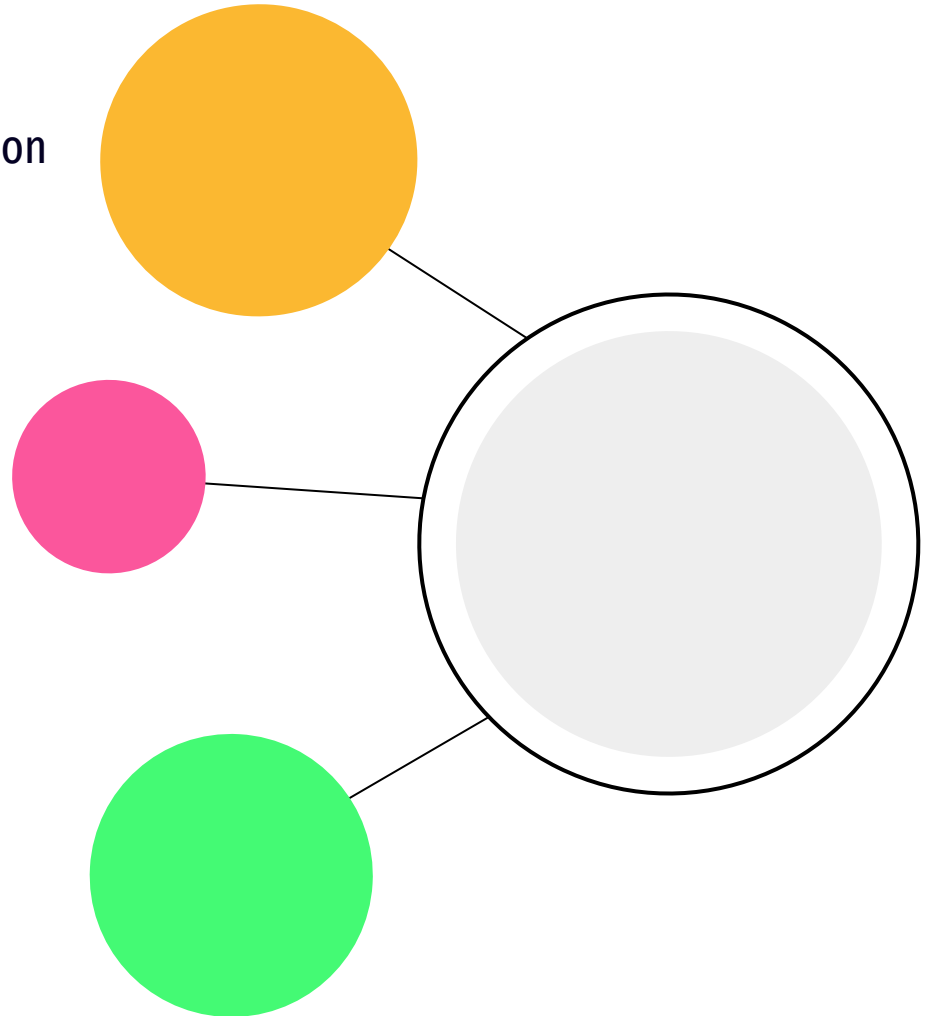


# Content

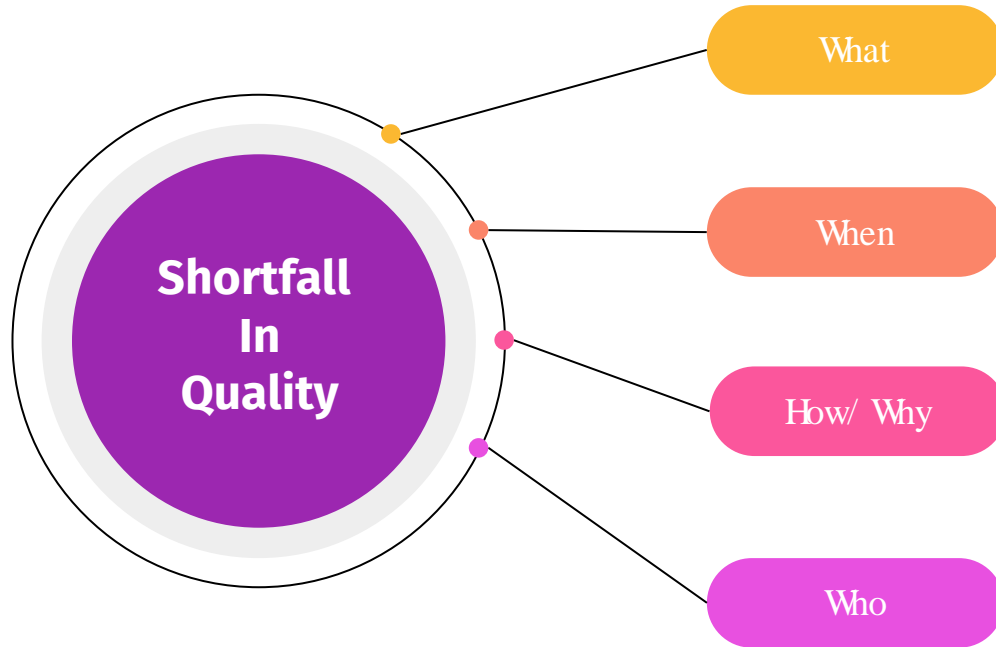
- Introduction

## How to investigate SIQ

- Team investigation
- Finding loop hole  
using system approach
- Risk Reduction Strategies and
- Action Plan Table



# Introduction



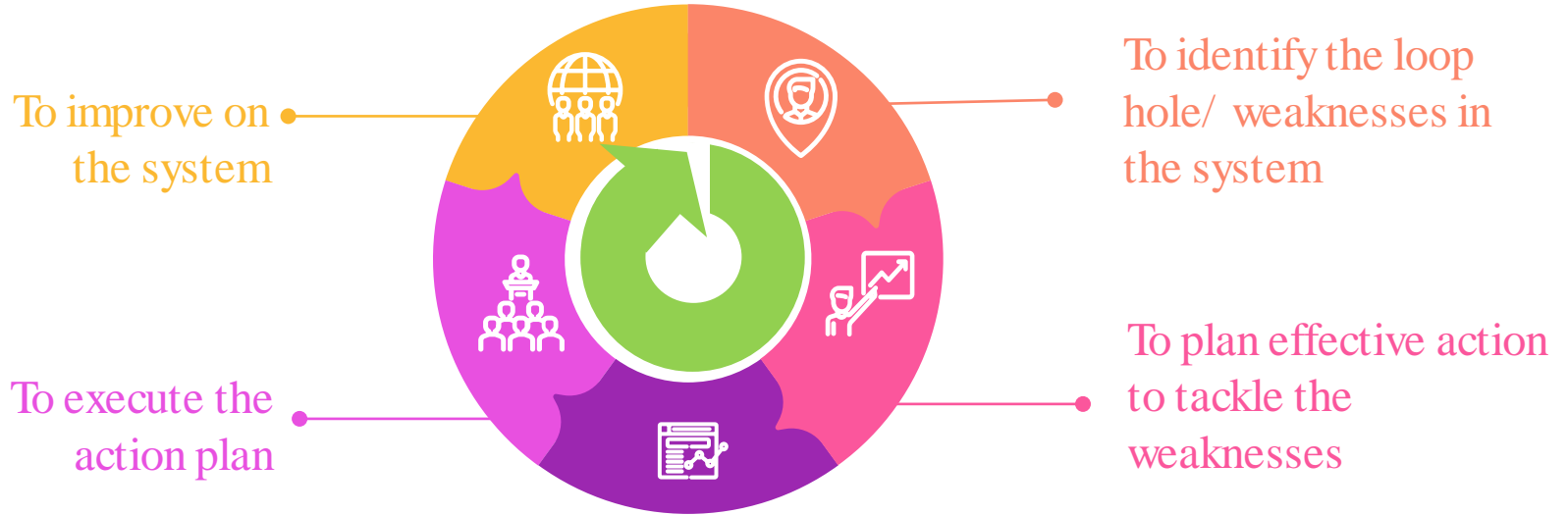
SIQ happened when the indicator does not achieved its target/ standard

Few incidents → lead to SIQ

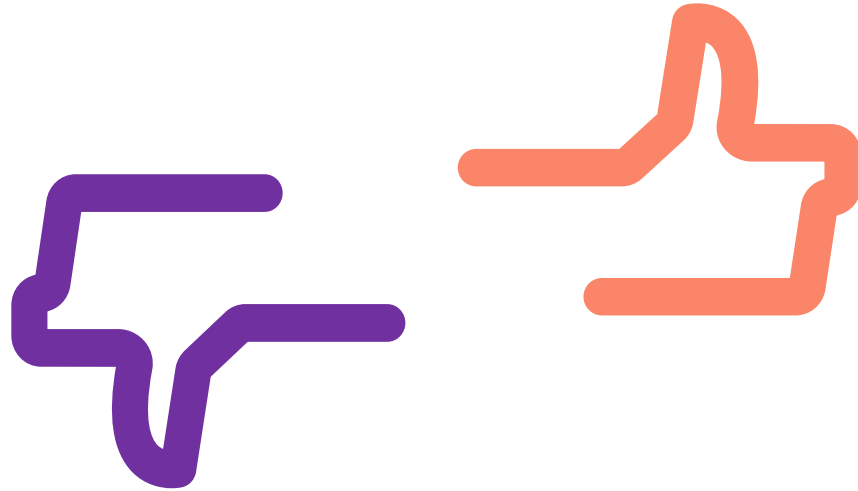
Need to look back at the incident/s -to find the problem in order to tackle it

HOD/ Quality officer/ PKN

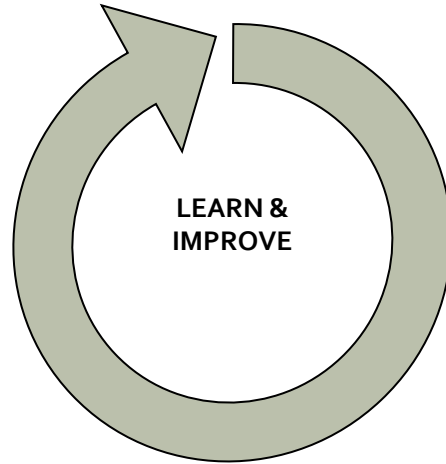
# Objective of SIQ Management



Presence of SIQ: good or bad?

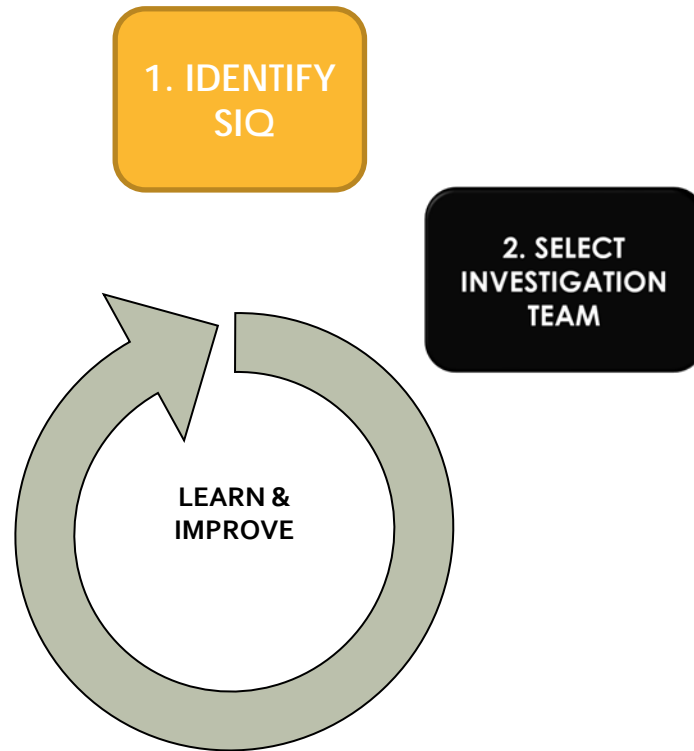


1. IDENTIFY  
SIQ



## **STEP 1: Identify SIQ**

Ensure the data is correct – inclusion/ exclusion criteria has been met



## STEP 2: Select Team

- 
- 1 team coordinator/ leader
- The numbers of the team members should depend on the complexity of the cases
- Ideally 4-6 members
- knows the right process and procedures involved.
- Preferably should consist of at least 1 member who is trained in RCA/ investigation that direct towards system approach

# SIQ INVESTIGATION



## STEP 3: Plan the investigation

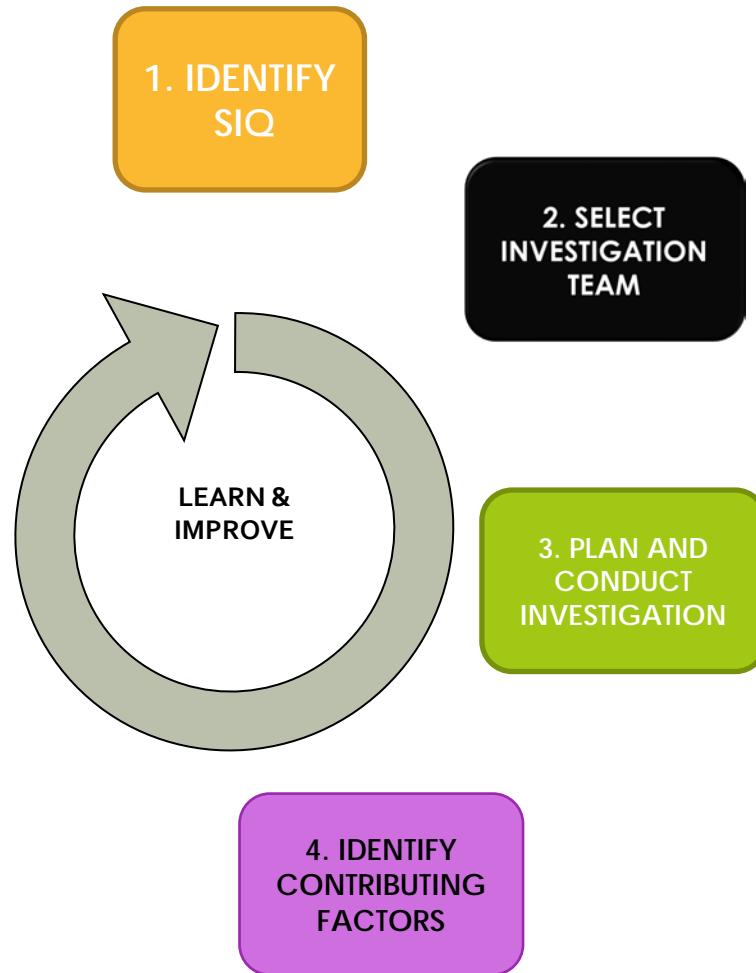
Collect fact, knowledge and physical item related to the cases that contribute to the SIQ :

- Interview
- Patient Record
- Policy / SOP available
- Pictures
- Schedule / Work shift

Divide the cases/ work between the members



# SIQ INVESTIGATION



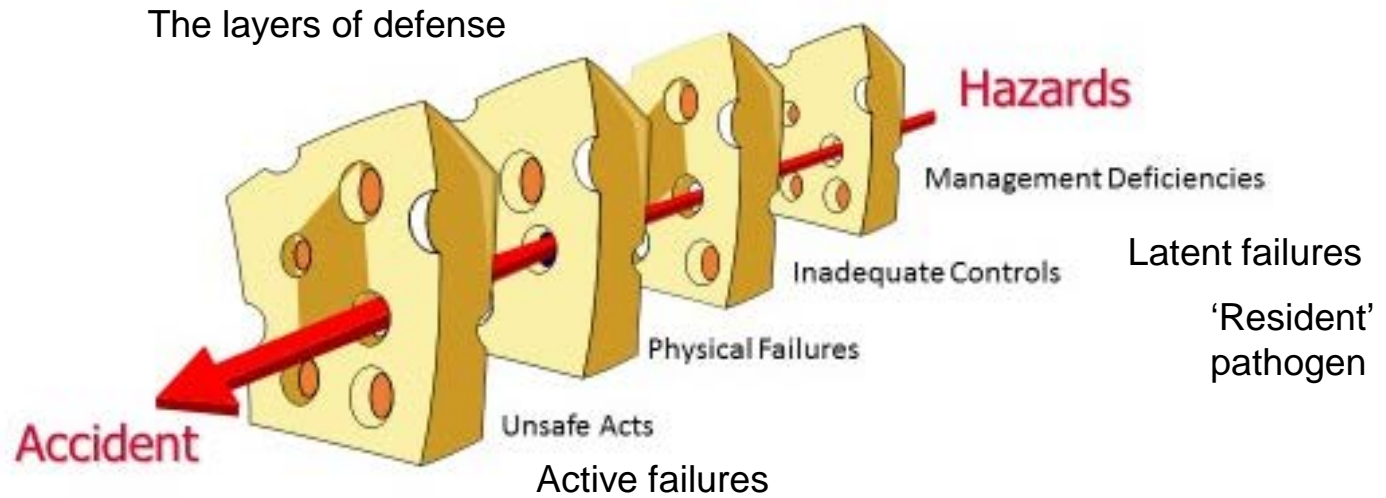
**STEP 4: Identify contributory factors of each cases – finding loop holes**

- list down the contributory factors of each cases
- find out which is the most significant factors (the most frequent factors found) to cause SIQ

How to identify the loop hole?  
How incidents happen?



# The swiss cheese model by James Reason (1990)



# Latent Conditions/ Failures

They arise from decisions made by designers, builders, procedure writers, and top level management.



inexperienced

understaffing

Insufficient equipment

Unworkable S.O.P

Unsuitable policies

Error provoking conditions

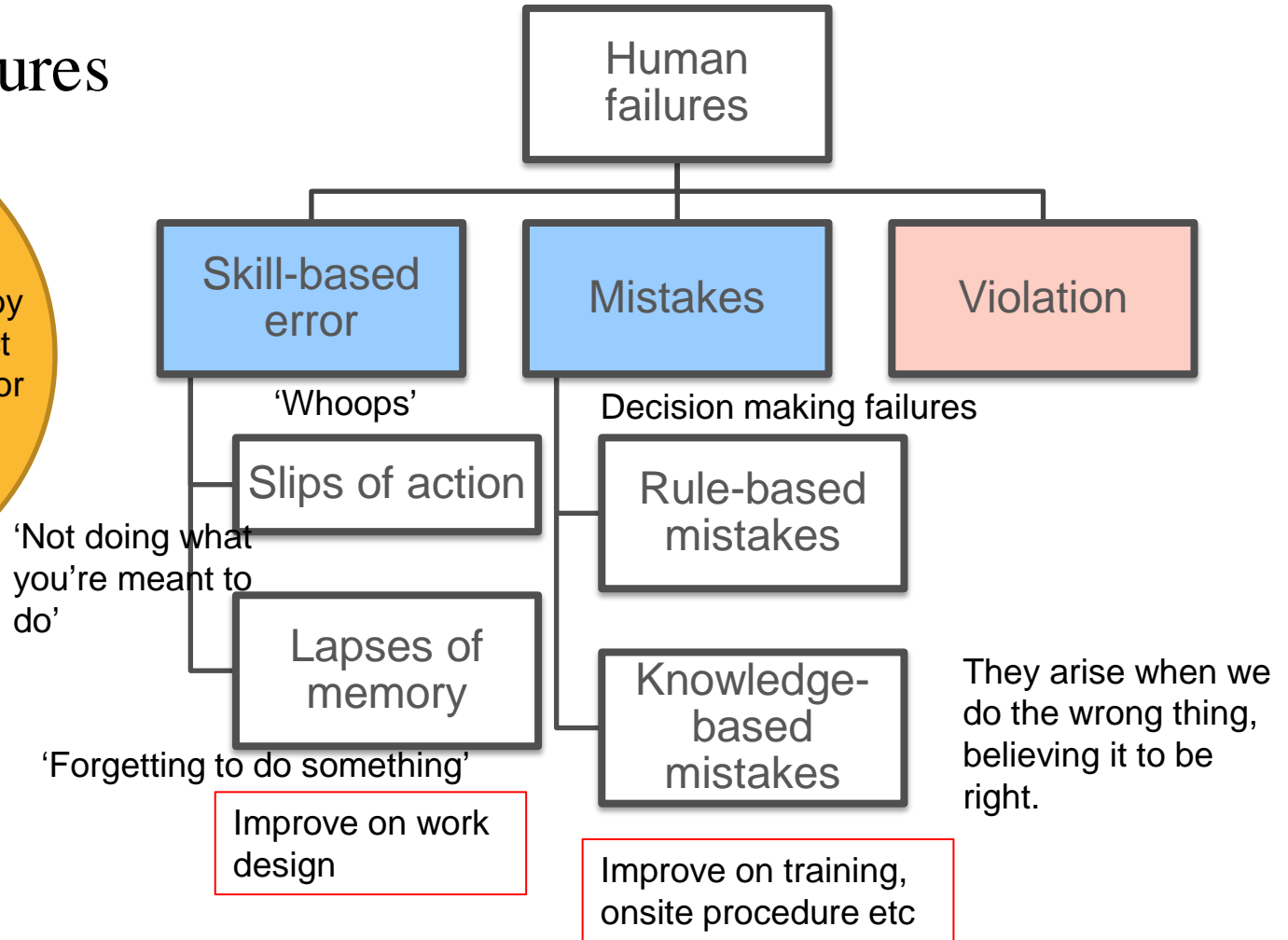
Long lasting holes/ weaknesses in the system

All such strategic decisions have the potential for introducing pathogens into the system.

# Active Failures

Active failures are the unsafe acts committed by people who are in direct contact with the patient or system.

Human error must have a preceding cause



# Violation

## Typical causes of violation:

Each procedural deviation must have a preceding cause

**Deliberate deviation from rule/ procedure**

**Deliberately doing the wrong thing**



Time pressure



Not having enough workers to do the work



Lack of insight

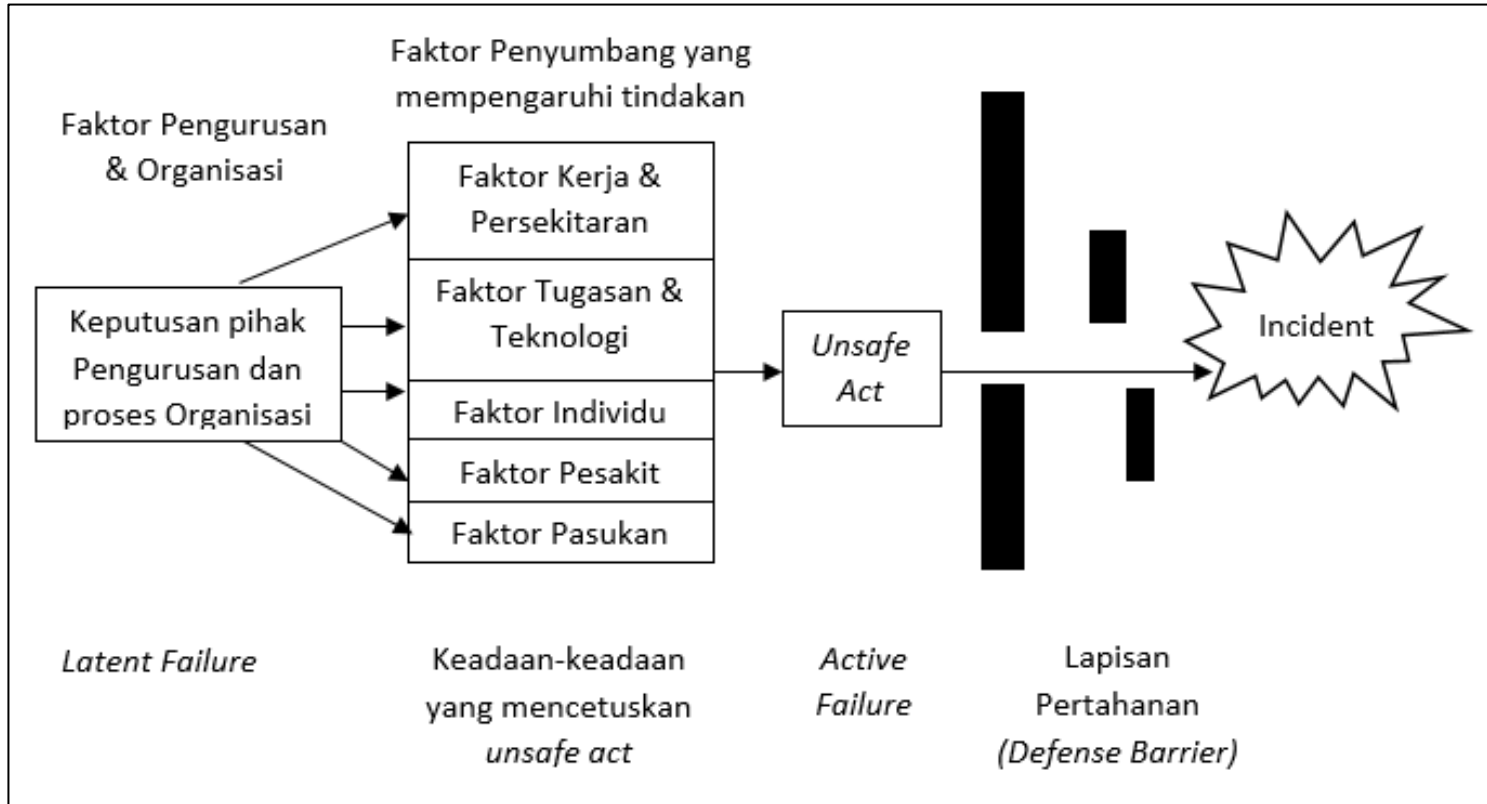


Irrelevant rules and impractical

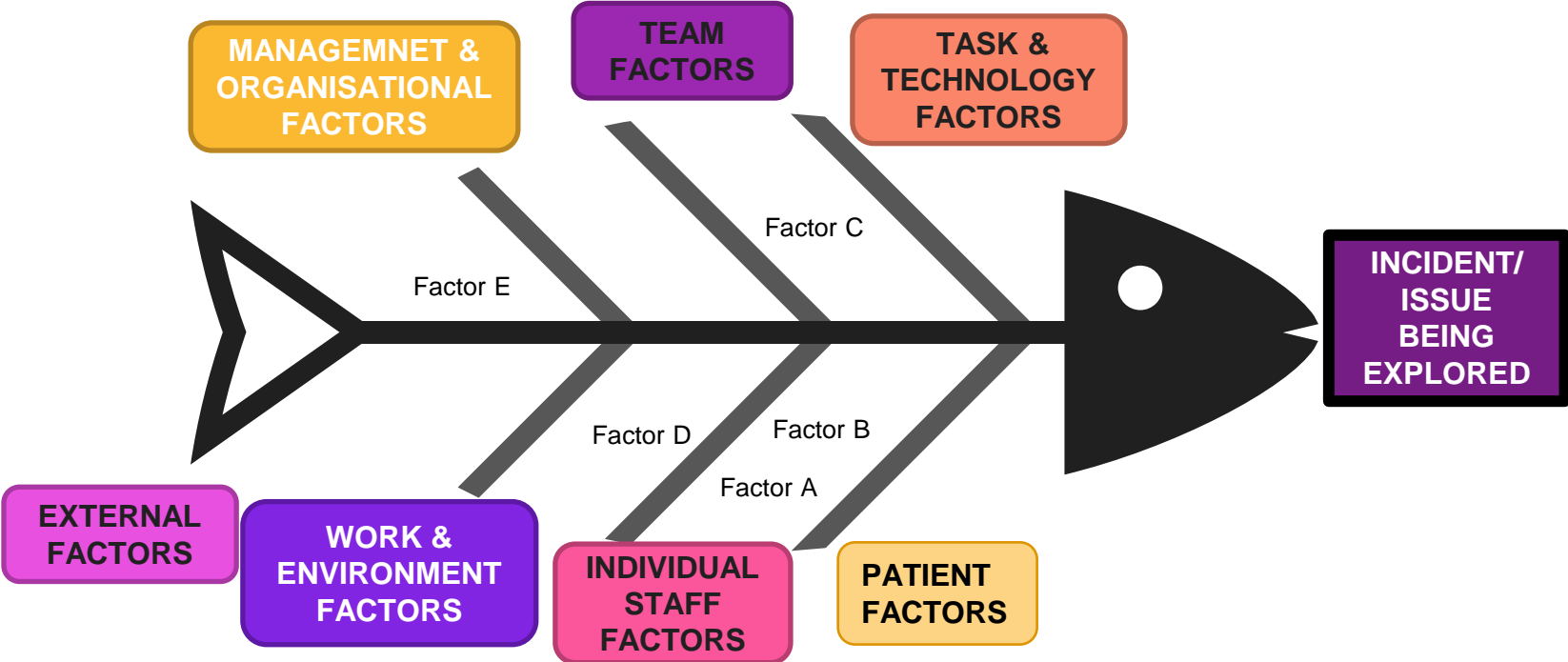


Wanting to take the easy option

# How incidents happen



# System Approach - Fishbone Diagram





# CONTRIBUTORY FACTORS

- ❖ Looking at wide angle
- ❖ Multifactorial
- ❖ Focus on system issue rather than individual issue

## Patient Factor

- Co-morbidity
- Difficulty in diagnosis
- Physical factor
- Personality
- Miscommunication
- Language barrier

## Individual/Staff Factor

- Competency/ knowledge
- Fatigue, stress, distraction
- Non compliance
- Interpersonal issue
- Unsafe behavior: assuming

## Work/Care Environment

- Building, design
- Physical environment
- Equipment: malfunction, maintenance
- Staffing allocation
- Service delivery: delay, missed, inappropriate
- Work load

## Team Factor

- Ineffective communication (verbal/written)
- Lack of supervision
- Ineffective leadership
- Problem in seeking help

## Task / Technology

- Protocols/ SOP/ Guideline
- Availability of info
- Decision making aids
- Availability of IT
- Decision making aids
- Medication related

## Management & Organization

- Leadership, governance
- Policy & standard
- Resource constrain
- Safety culture & priorities

# SIQ INVESTIGATION

1. IDENTIFY  
SIQ

2. SELECT  
INVESTIGATION  
TEAM

3. PLAN AND  
CONDUCT  
INVESTIGATION

4. IDENTIFY  
CONTRIBUTING  
FACTORS

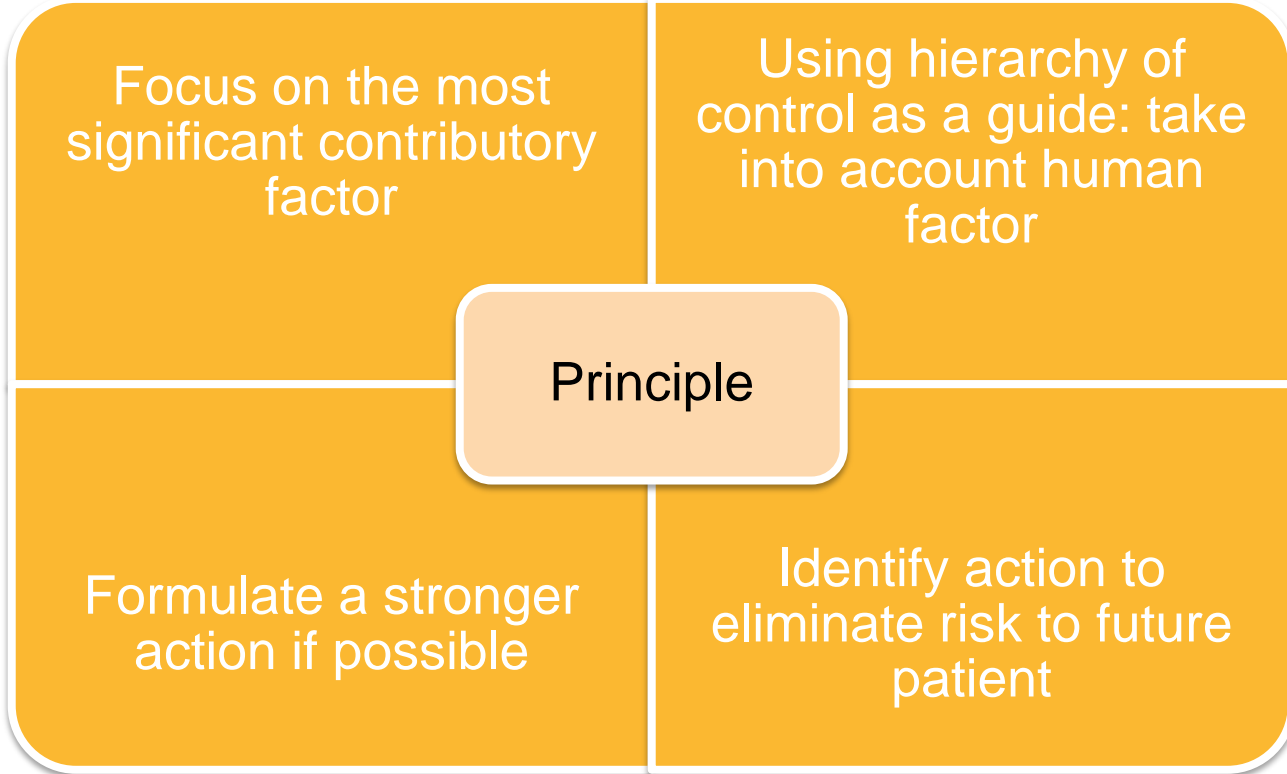
5. DEVELOP  
RISK REDUCTION  
STRATEGIES

LEARN &  
IMPROVE

**STEP 5: Develop Risk Reduction Strategies by using Action Plan Table**

- Develop action plan based on the most significant factors found
- Use Hierarchy of control/ Action Hierarchy as a guide
- Action plan must be specific

# RISK REDUCTION STRATEGIES - PRINCIPLE

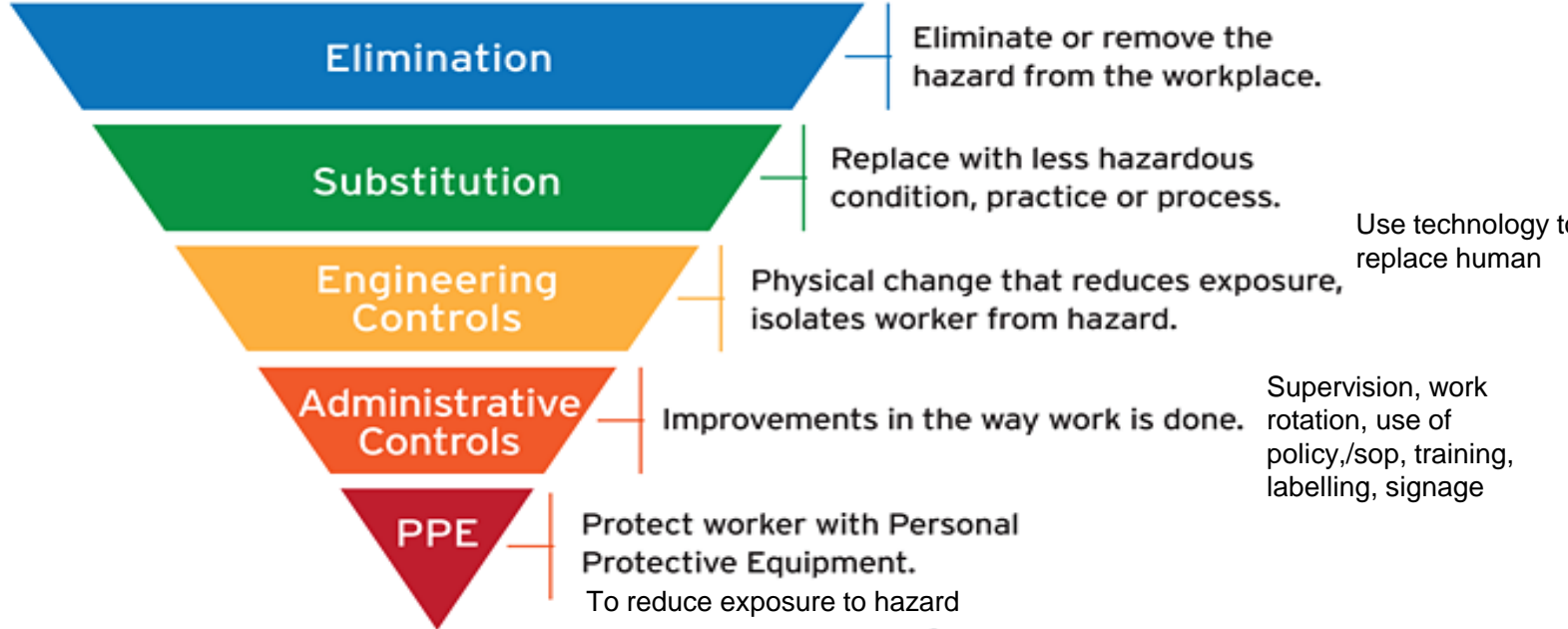


**MOST**  
Effective  
Reliable  
Sustainable

# HIERARCHY OF CONTROLS



**LEAST**  
Effective  
Reliable  
Sustainable



# ACTION HIERARCHY

## stronger

- Architectural change
- Engineering control/ forcing function
- Simplify process
- Standardize on equipment/ process
- Tangible involvement by leadership

## intermediate

- redundancy
- Increase in staffing
- Software modification
- Reduce distraction
- simulation based training with periodic refresher session
- Checklist/ cognitive aid

## weak

- Double checks
- Warning
- Policy
- Training



Least dependence on the human

Most dependence on the human

**Stronger actions:** The best at removing the dependence on the human to “get it right” (they are physical and permanent, rather than procedural and temporary).

Questions to ask in evaluating if the action is stronger in preventing the event/cause:

Does the action force the person to get it right?

Does it eliminate the chance to choose the wrong option?

Is it designed for the environment or system to operate without additional issues/concerns for the person taking the action?

Can this be replicated successfully under any circumstance or by a different person?  Does it require minimal supervision or measurement of compliance?

Does it involve standardized forcing functions to remove human error and variation through technology and/or design?

Example of a stronger action statement (a forcing function): All passwords must be at least eight characters long and contain a combination of upper and lowercase letters, numbers and symbols. The login system will not accept passwords without these

### **Intermediate actions**

Reduce the reliance on the human to get it right, but do not fully control for human error. o

Questions to ask in evaluating if the action is intermediate in preventing the event/cause:

Does the action help the person to remember the process?

Does it improve upon the information needed to do the process?

Does it serve as a guide tool used during the process?

Does this action reduce variation of the outcome (most people do it successfully)?

Does this action account for human limitations: time, workload, tasks?

Example of an intermediate action statement (a checklist): A checklist located next to the computer shows the steps and requirements necessary to login to the system, including password requirements. •

**Weaker actions** o Support/clarify the process, but rely solely on the human. These actions do not necessarily prevent the event/cause from occurring. o

Questions to ask in evaluating if the action is weaker:

Is this action focused on informing the person?

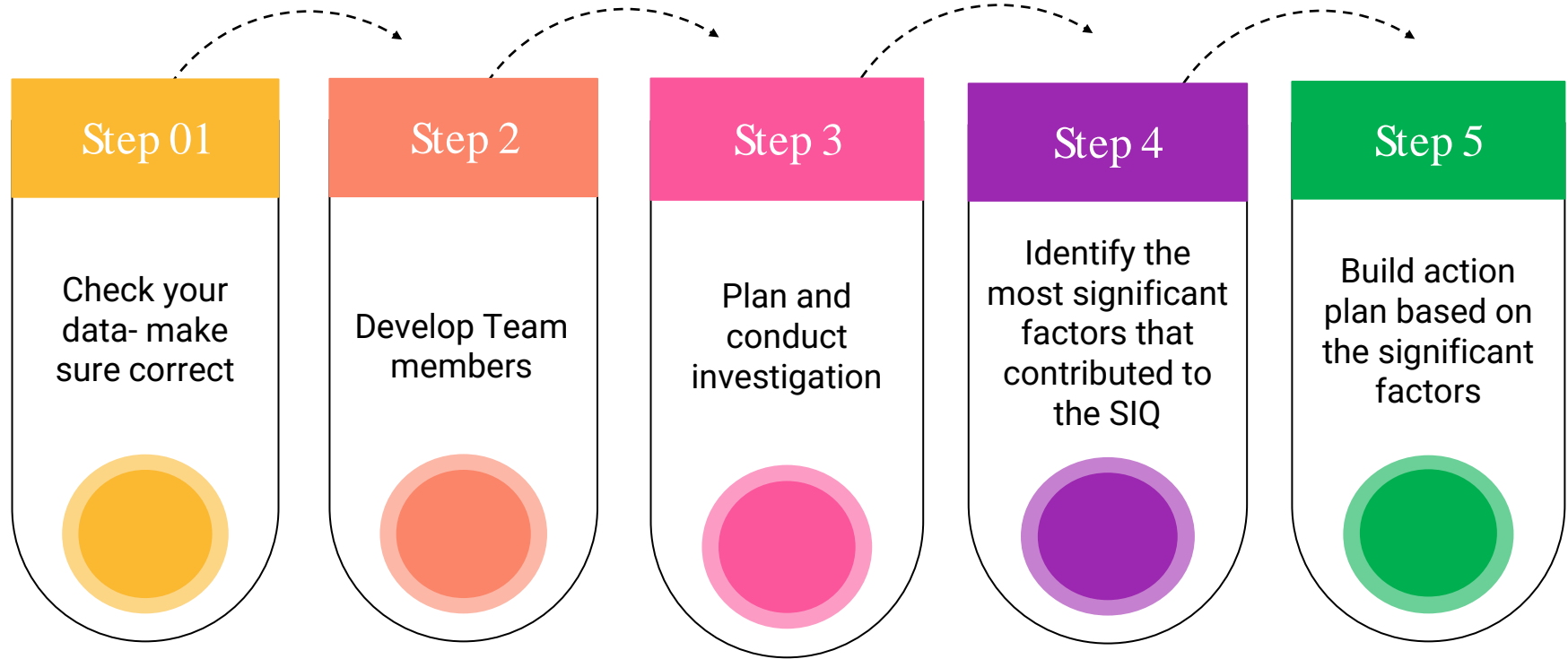
Is this action establishing rules that do not already exist?

Does this action prompt, warn or alert a person (capture their attention)?

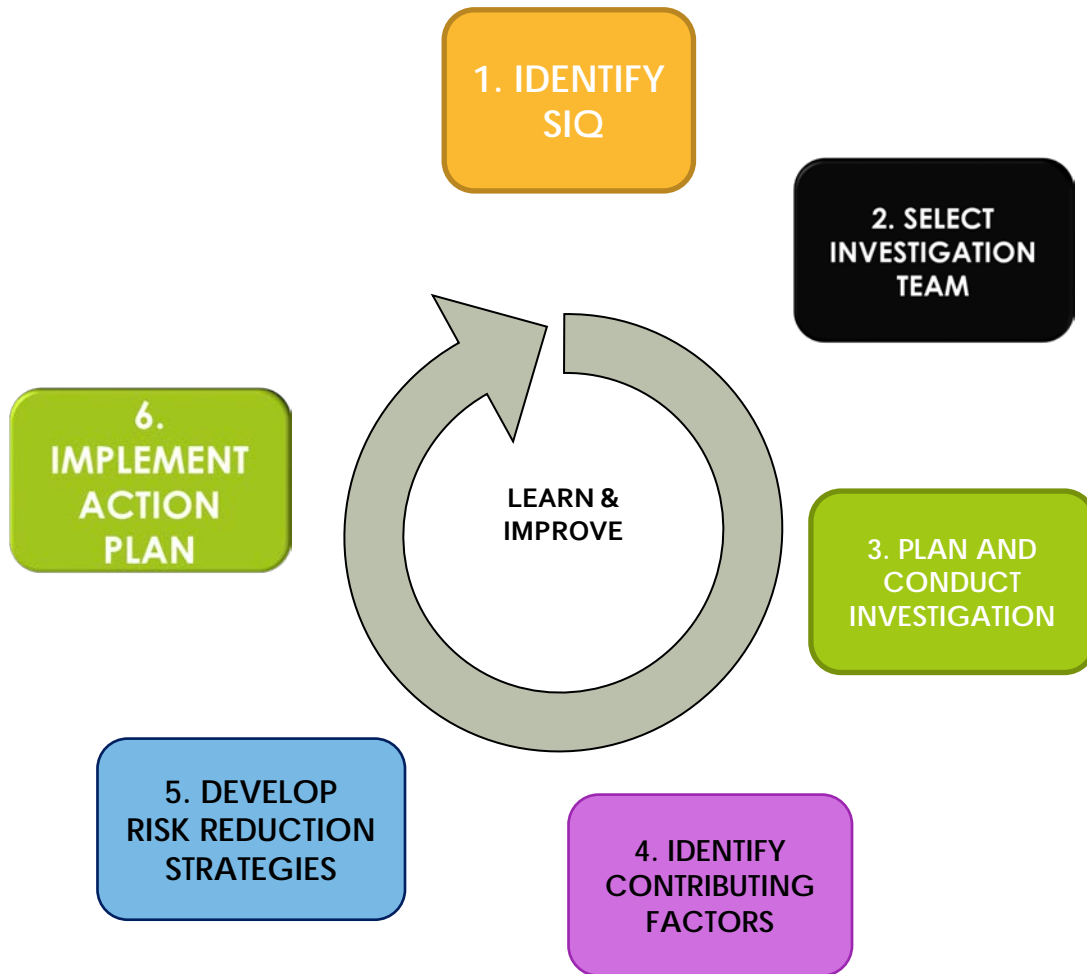
Does this action examine if the process could be improved/made better?  Is the outcome of the action left up to personal interpretation?

Example of a Weaker Action statement (a policy): All computer users must maintain strong, unique passwords for system accounts.

# How to investigate SIQ



# SIQ INVESTIGATION

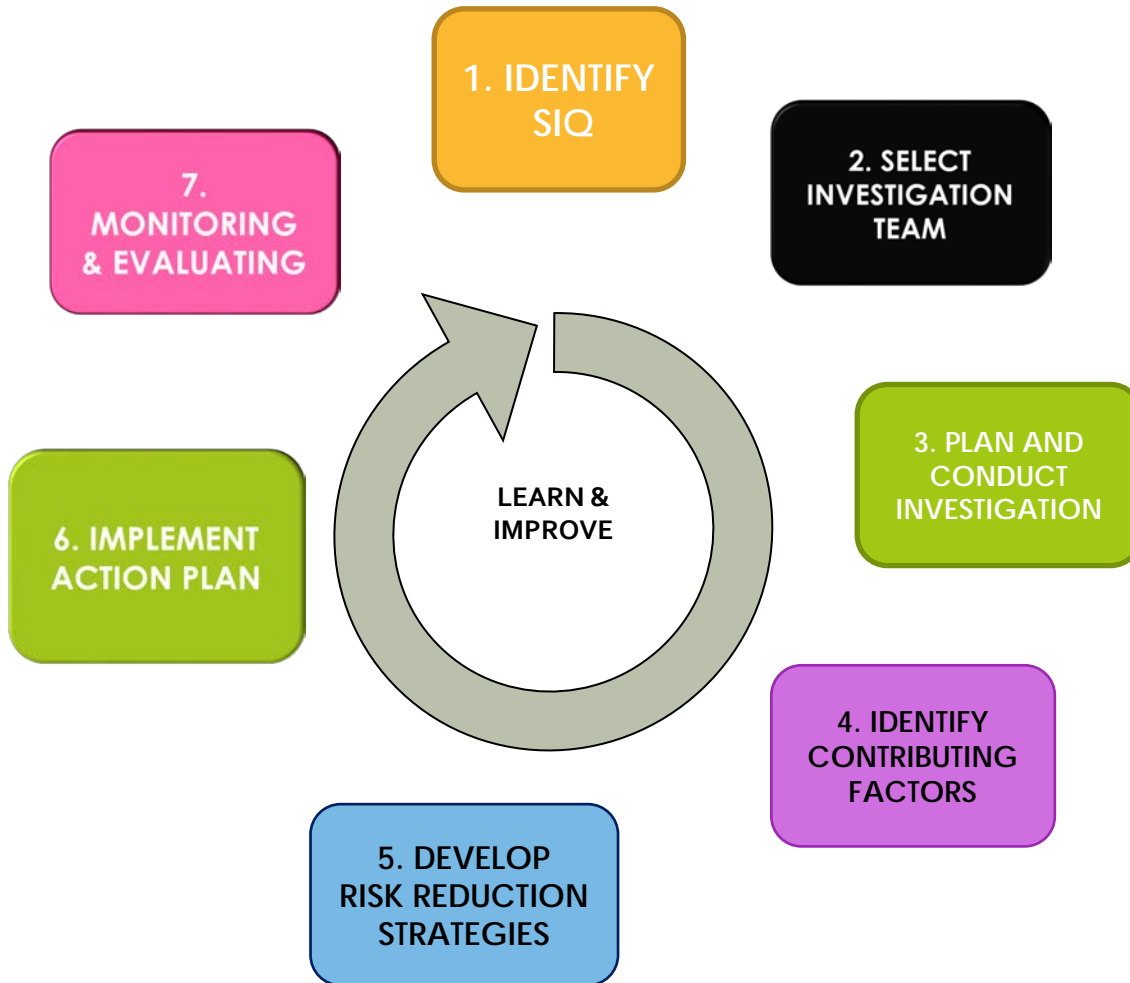


## STEP 6: Implement Action Plan

- Inform HOD & Person responsible for the action



# SIQ INVESTIGATION



## STEP 7: Monitoring & Evaluating

- HOD must ensure the action plan has been carried out
- Quality Officer/ in-charge officer need to monitor the progress/ evaluate the effectiveness of the action plan

Thank You