Dr. Israa Al-Rawashdeh MD,MPH,PhD
Faculty of Medicine
Mutah University
2023
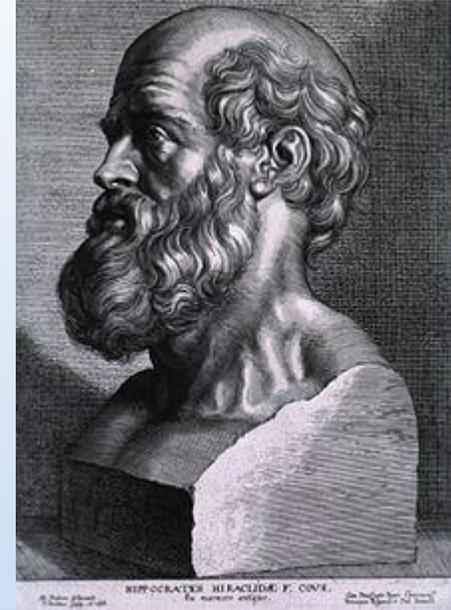
Risk Management in Healthcare

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First, Do Not Harm

- Primum non nocere
- **Hippocratic Oath**

# *BUT....*

Things can go wrong sometimes!

Definitions

Hazard VS. Risk

A hazard is something that has the **potential to cause harm**

Risk is the **probability** that a hazard **will cause harm**

SHARK

A shark in the ocean **is a hazard**

Swimming with a shark **is a risk**

- **Probability:** is the measure of the likelihood that an event will occur.
- **Hazard:** potential source of harm.
- **Risk:** "is a threat that any event or action will adversely affect the ability to achieve the desired goals , it may be avoided through preventive action/s".
- **Risk management in healthcare:** an organized effort to identify, assess, and reduce risk to patients, visitors, staff and organizational assets

Hazard
Something that can potentially cause harm

Risk

= hazard + exposure
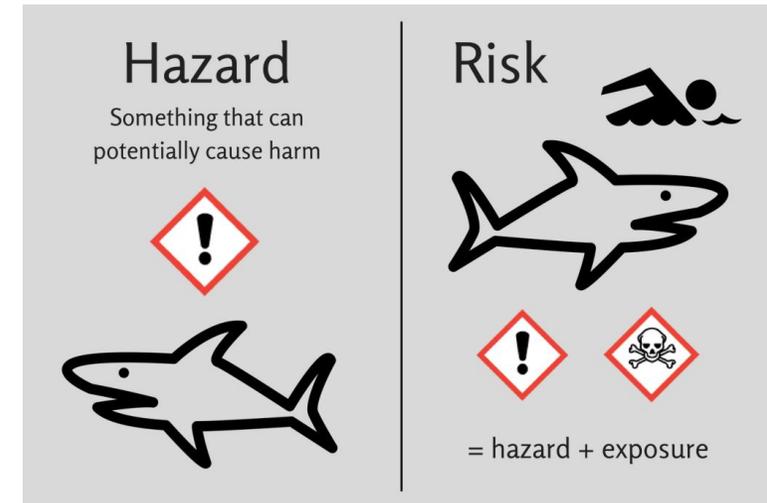
Factsheet

- Risk of dying while travelling by airplane= 1 in 3 million
- Risk of patient death occurring due to a preventable medical accident, while receiving health care = 1 in 300
- Risk of a patient being harmed while receiving hospital care = 1 in 10

(WHO, 2023)

Risk management

- Is the organized effort of *strategies* determined *to reduce* the negative impact of *risk*.

- There are two ways :

Reactive vs proactive

1. **Reactive:** strategy is a response-based approach to **risk**. A plan that specifies what actions staff members should take after an adverse outcome has occurred.

2. **Proactive :** a plan to prevent the opportunity for an adverse outcome (harm) before it happens.

Reactive strategies should be studied to determine if a proactive strategy might be developed to prevent this specific outcome from happening again.

RISK MANAGEMENT STEPS
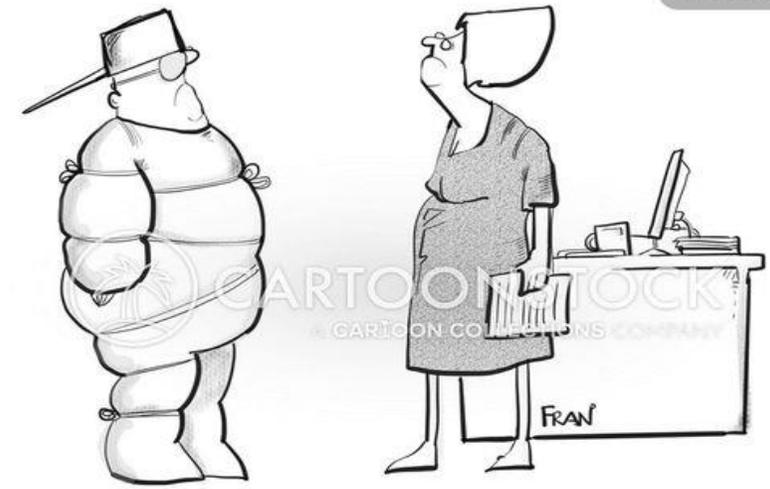
Life is about MANAGING risk, not not taking any.

Risk Management Framework

| Establish the Context | Identify Risks | Analyse & Evaluate Risks | Treat Risks | Monitor & Review |

Periodic Review & Continuous Improvement

Risk management process uses a five step management decision-making model.

Source: *AS/NZS ISO 31000:2009*

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Step 1: Establish the Context

- It is done by an evaluation of the <u>external and internal factors</u> that may currently impact the healthcare system.

✓ **External risks** are exposures that result from conditions that the health system commonly cannot influence

✓ **Internal risks** are exposures that derive from decision-making and the use of internal and external resources, including the health system operations and its objectives

Factors can be categorized:

- Structural factors (economic, political or demographic structure)
- Situational factors (focusing events, natural disasters, epi/pandemics)
- Cultural factors (organizational culture,society norms)
- or International factors (globalisation, donors).

Step2: Identify Risks

- Risk identification is the process whereby the healthcare professional and the healthcare employees become aware of the risks in the health care services and environment.

The risks identified are entered in
the Risk Management Tool (RMT)
(See next slide)

Risk Management Tool in healthcare

Department

System/Process

1-5	Low risk	
6-12	Medium risk	
15-25	High Risk	

Risks Identified	Date risk identified	Causes	Current Controls in the system	Likelihood (L) (score 1 to 5)	Impact Severity (S) (Score 1 to 5)	Overall Risk Rating R= L X S (High, Medium, Low)	Risk Response Strategy (Accept, Control, Transfer, Avoid)	Actions required	Responsible person/s	Resources required	Due Date for actions	Post treatment Likelihood (L) score 1 to 5	Post treatment impact severity (S) score 1 to 5	Post-treatment Risk score (High, medium, low)	Review date	Contingency plan (What will you do if the risk really happens?)
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Figure 2: Risk Management Tool in healthcare.

Step2: Identify Risks

(what can go wrong?)

- **Identify why and how can it happen**

- Consider the possible *causes and scenarios* of each risk identified.

❑ **Cause** - identify the potential triggers that may result in the risk event occurring. A single risk event may have a specific cause or multiple possible causes. A single cause may be applicable to multiple risks.

❑ **Consequence** - identify the possible impact should the risk event occur. A single risk event may have a specific consequence or multiple possible consequences. A consequence may be common across multiple risks
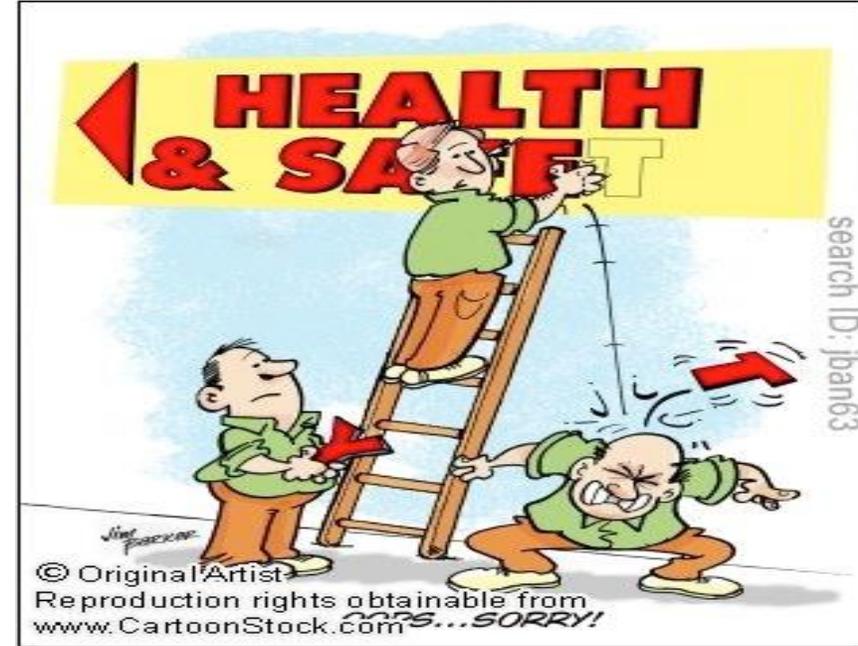
Identify Who is at Risk

who is exposed to the harm?

- 3 groups: staff, patients, and visitors.
- Physical, financial, psychological harm

At Risk to Fall

Step2: Identify Risks

Sources of risk identification

- Discussions with department Chiefs, managers and staff
- Patient Tracer Activity (Tracing the journey of a patient from admission till discharge)
- Retrospective screening of patient records
- Reports of accreditation bodies
- Incident reporting system & unanticipated events
- Healthcare associated infections (HAI) reports
- Patient complaints and satisfaction survey results
- Specialized committee reports (such as Morbidity and mortality committee, medication management and use, Infection control, blood utilization, facility management and safety committee).

Categories of Risk in healthcare

1. **Patient care-related risks**
2. **Medical staff-related risks**
3. **Employee-related risks**
4. **Property-related risks**
5. **Organizational risks**
6. **Financial risks**

Patient Care-related Risks

- Risk associated with clinical practice – direct patient care and indirect.

- **Direct association with patient care:**

❖ Consequences of inappropriate or incorrectly performed medical treatments

❖ Confidentiality and appropriate release of information

❖ Protection from abuse, neglect and assault

❖ Was patient informed of risks?

❖ Non-discriminatory (equal) treatment

- **Indirect patients care** :

❖ Security, personal, infection control, management of buildings and the environment.

Medical Staff-related Risks

- Was the patient properly managed?
- Do we have adequately trained staff?

Medical Staff-related Risks:

❖Occupational safety and health,

❖Working practice,

❖Legislative requirements,

❖Training and education.

Employee-related Risks

- Maintaining a safe environment
- Employee Health Policy
- Risk of occupational illness and injury
- Provision for the treatment and compensation of workers for work-related illnesses or injuries

Property-related Risks

❖ Losses of assets due to fires, floods, etc.

❖ Loss or damage of paper and/or electronic records

❖ Presence of insurance to protect facility from losses

- **Organizational risks**

❖ Claims management,

❖ Communication and information technology development.

Examples of Projects that Pose risk

- **New equipment:** The purchase of anything from a new brand of tongue depressors to a new robotic operating system
- **New physical space:** Expansion of the existing physical space or moving to a new location
- **Additional staff:** The hiring of clinical or administrative staff
- **Additional services:** The addition of services provided to your patients, such as an in-house pharmacy or imaging equipment.
- **Expansion of population services:** The addition of community outreach initiatives, such as flu shots provided at the local community center.
- **Technology:** The use of technology or enabling physicians to access patient information from outside the facility so they can provide interpretation and consults.

Step 3: Analyse & Evaluate Risks

- **Analyze Risks:** developing an understanding of the risks identified. It includes the following:
1. **Level of the risk or Risk score (Analyze inherent risk)**
2. **Underlying causes**
3. **Existing control measures**

Existing controls: examining their adequacy, method of implementation and level of effectiveness in minimizing risk to the lowest reasonably practicable level.

Examples:
- Policies, procedures, protocols, guidelines
- Alarms and beeps
- Engineering controls ,
- Insurance coverage programs
- Code teams
- Trainings
- Emergency arrangements
- Preventative maintenance controls
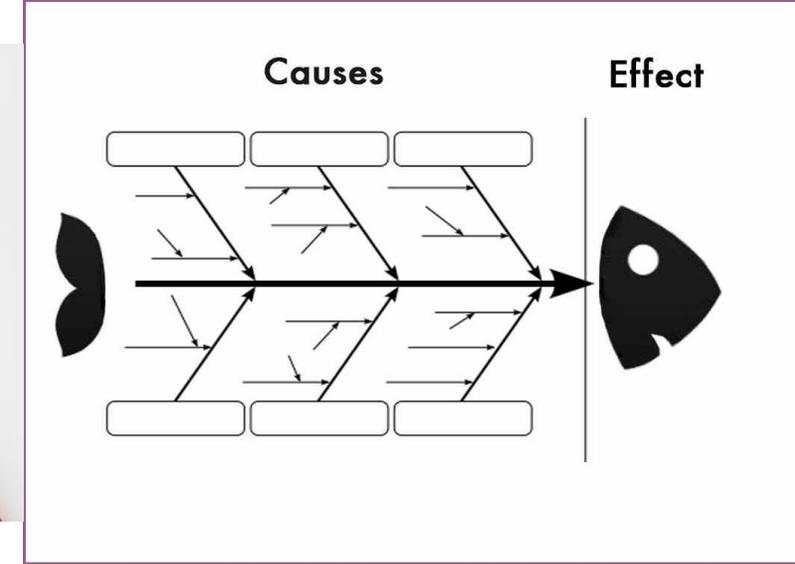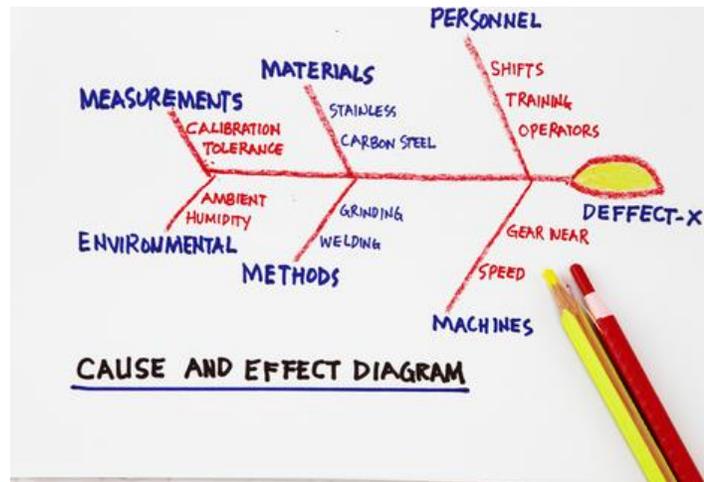4. **Analyze residual risk**

RISK PERCEPTION   RISK ANALYSIS   RISK MANAGEMENT
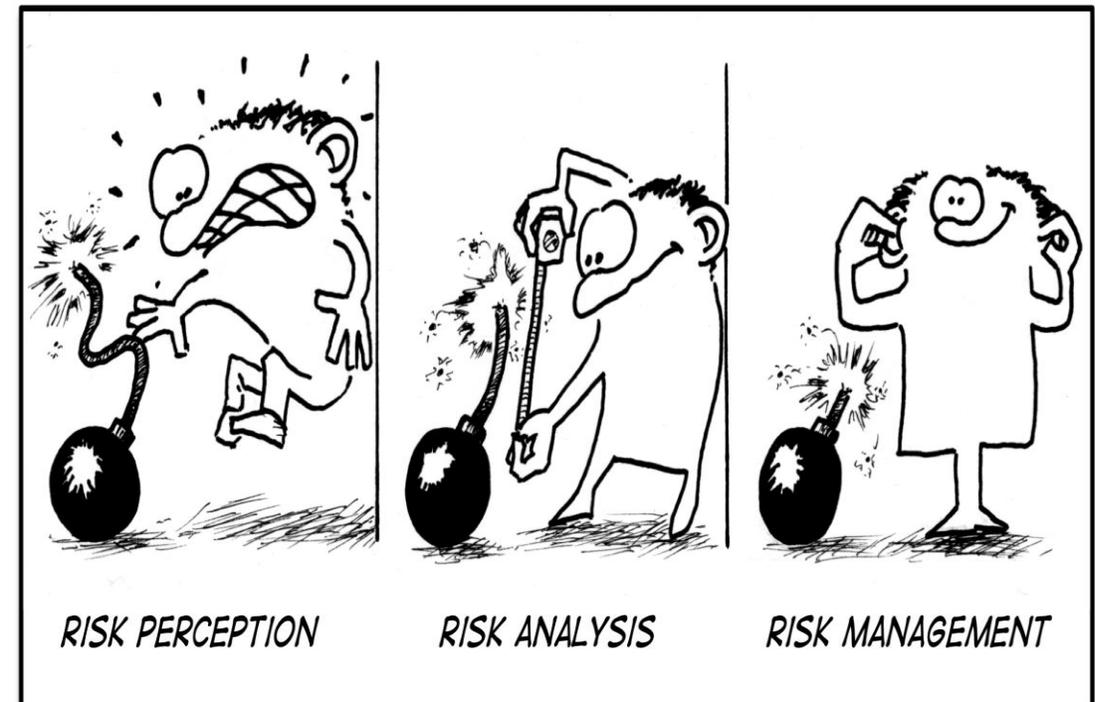
Step3: Analyse & Assess Risks

Risk analysis can be done using Root Cause Analysis (RCA)
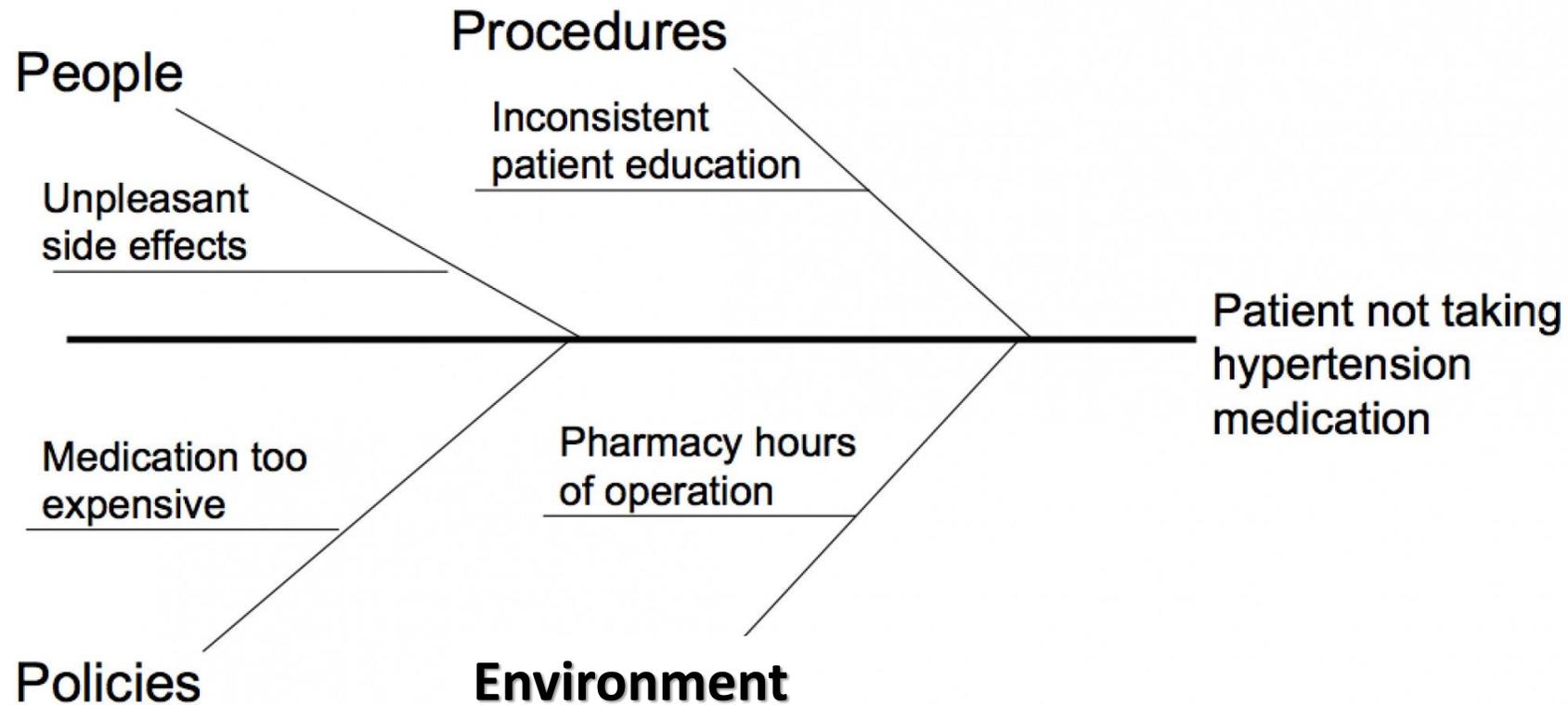
Root Cause Analysis

CAUSE AND EFFECT DIAGRAM
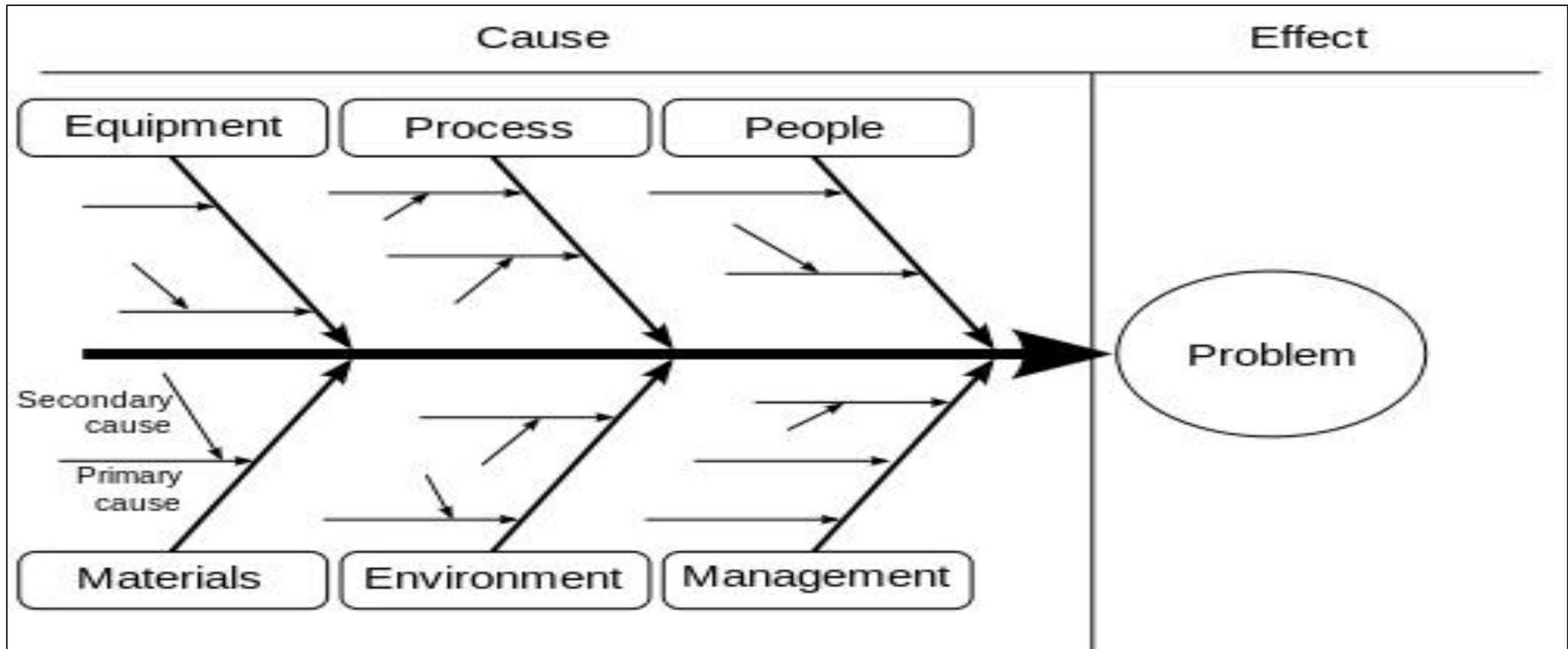
- Fishbone diagram
- Systematic Approach
- Best method to do RCA is brain storming!
- The purpose is to prevent recurrence at lowest cost in the simplest way.
- A root cause : if removed from the problem-fault-sequence prevents the final undesirable outcome from recurring.
- A causal factor is one that affects an event's outcome, but is not a root cause (i.e. removing a causal factor can benefit an outcome, it does not prevent its recurrence with certainty)
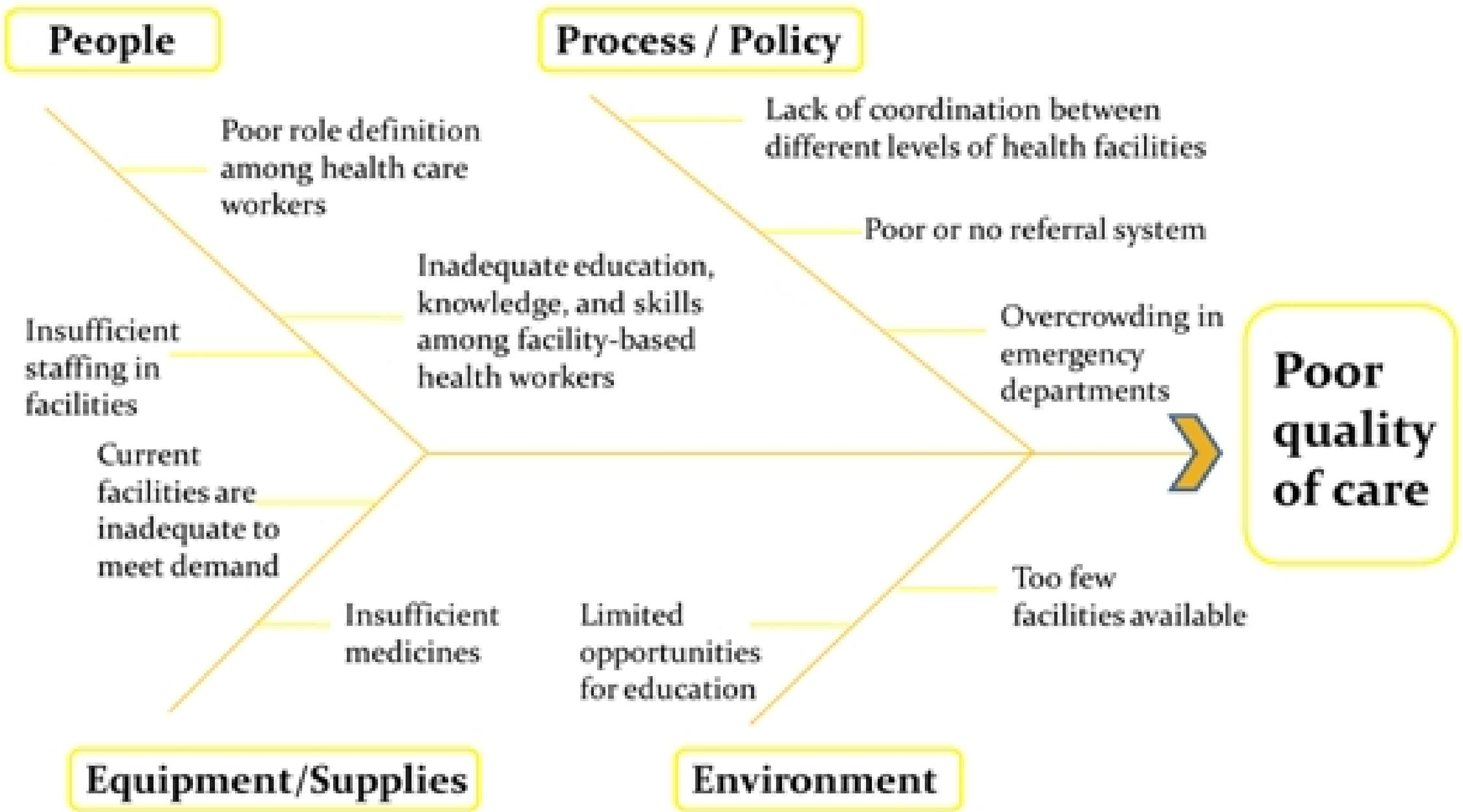- Not all problems have a single root cause.

RCA

Simple Fishbone Diagram Example

People

Unpleasant side effects

Procedures

Inconsistent patient education

Patient not taking hypertension medication

Medication too expensive

Pharmacy hours of operation

Policies

Environment

People

- Poor role definition among health care workers
- Insufficient staffing in facilities
- Current facilities are inadequate to meet demand

Process / Policy

- Lack of coordination between different levels of health facilities
- Poor or no referral system
- Inadequate education, knowledge, and skills among facility-based health workers
- Overcrowding in emergency departments

Poor quality of care

Equipment/Supplies

- Insufficient medicines

Environment

- Limited opportunities for education
- Too few facilities available

Step 3: Analyse & Evaluate Risks

Risk assessment: Determine the Risk Level

Risk score (R) = Likelihood (L) × Severity of impact (S)

Risk Assessment

- ### Quantitatively or Qualitatively

- In **Quantitative Risk Assessment** (QRA) a numerical estimate is made of the probability that a defined harm will result from the occurrence of a particular event.

- Require measurable and objective data for determining asset value, probability and risk values.

- More accurate
- Difficult to implement
- Large scale complex organizations

Quantitative risk assessment example

EVENT	LIKELIHOOD (A)	IMPACT (B)	RISK FACTOR (A x B)
Fire in data center	0.7	0.9	0.63
Loss of power	0.5	0.8	0.40
Staff illness	0.6	0.5	0.30
Hurricane	0.4	0.9	0.36
Water leak	0.3	0.5	0.15
Employee forgot to log off	0.8	0.3	0.24

- **Qualitative risk assessment:**

- Categorization of the risks

- Relies on the risk assessor's experience and knowledge (subjective rating system)

Categories:

- **Low risk** = probability of any harm is unlikely (<10%); any harm caused could be minor or insignificant

- **Medium risk** = probability of harm is moderate (10%—50%); any harm caused could be moderate; preventive measures can reduce possibility; moderate limitations should be initiated

- **High risk** = probably of harm is likely or almost certain (>50%->90%); any harm caused could be major or catastrophic; preventive measures can somewhat reduce probability; strict limitations must be initiated

Likelihood

Risk score (R) = Likelihood (L) × Severity of impact (S)

- Based on the expertise, knowledge!
- Generally the higher the degree of controls in place, the lower the likelihood.
- 1-5 score
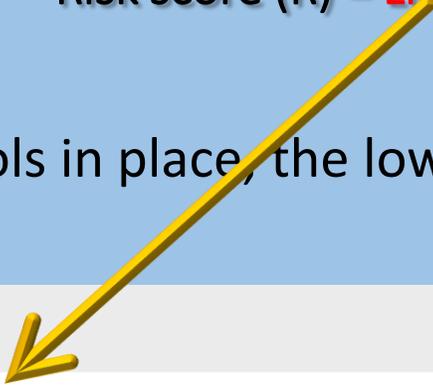
LIKELIHOOD

The probability of risk occuring, say within the next twelve months, that can be expressed in terms of a percentage between 0% and 100%

RATING		POTENTIAL FOR RISK TO OCCUR	PROBABILITY
5	ALMOST CERTAIN	Likely to occur frequently (At least monthly)	>90%
4	LIKELY	Likely to occur several times a year (Bi-monthly)	50%-90%
3	POSSIBLE	Possibly occurs once a year -<2 years	10%-50%
2	UNLIKELY	Likely to occur once every few years (2->5 years)	5%-10%
1	RARE	May occur once in 5 years Or more	<5%

Severity of impact (S)

Risk score (R) = Likelihood (L) × Severity of impact (S)

Score	Impact
1	Negligible
2	Minor
3	Moderate
4	Major
5	Extreme

Severity of impact scoring guide.

- Severity of impact indicates the impact of harm to service users, employees, service provision, environment or the organization.
- The scoring ranges from 1 (Negligible impact) to 5 (Extreme impact).

Examples of impact severity

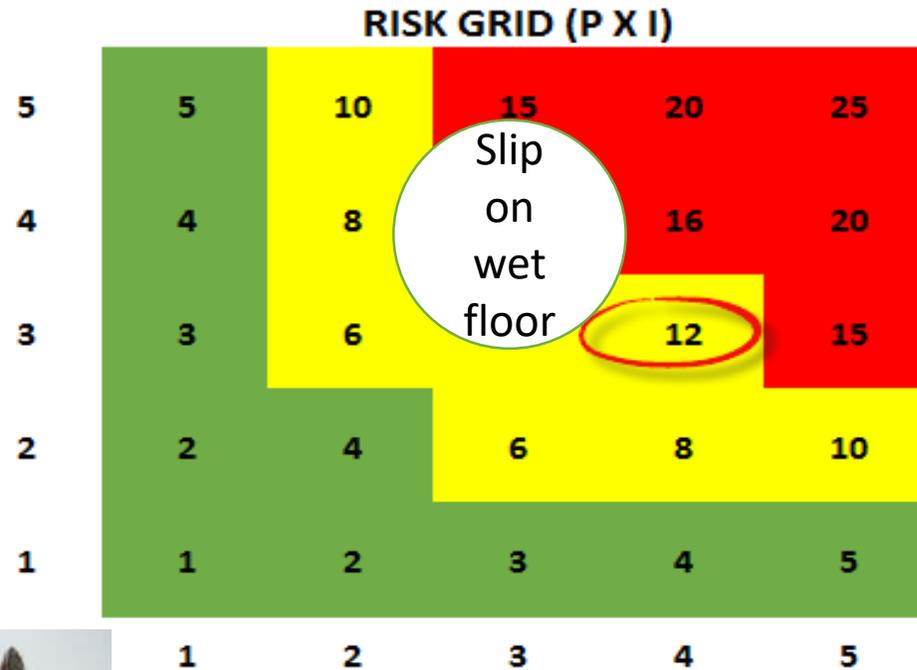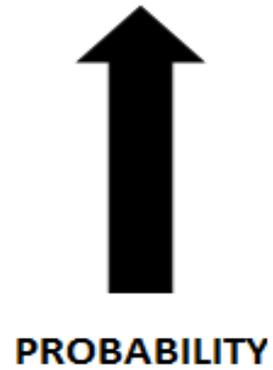|	Insignificant	Negligible	Moderate	Major	Extreme
People	Minor injury or first aid treatment	Injury requiring treatment by medical practitioner and/or lost time from workplace.	Major injury / hospitalization	Single death and/or multiple major injuries	Multiple deaths
Property	Minor damage or vandalism to asset.	Minor damage or loss of <5% of total assets	Damage or loss of <20% of total assets	Extensive damage or loss <50% of total assets	Destruction or complete loss of >50% of assets
Economic	1% of budget (organizational, division or project budget as relevant)	2-5% of annual budget	5-10 % of annual budget	> 10% of budget	> 30% of project or organizational annual budget

Risk Impact Areas:
People
Economic
Information
Property
Reputation
Capability

Risk Assessment matrix

Risk score (R) = Likelihood (L) × Severity of impact (S)

RISK GRID (P X I)

PROBABILITY					
5	5	10	15	20	25
4	4	8		16	20
3	3	6	12	15
2	2	4	6	8	10
1	1	2	3	4	5
	1	2	3	4	5

Slip on wet floor

IMPACT

LEGEND

HIGH (15-25)

MEDIUM (6-12)

LOW (1-5)

Risk: Description of the Risk

Probability	3
Impact	4
Risk Value	12

Risk is classified as MEDIUM.

Step 3: Analyse & Evaluate Risks

The purpose of risk evaluation is to *prioritize* the risks based on risk analysis score and to decide which risks require *treatment* and the mode of treatment.
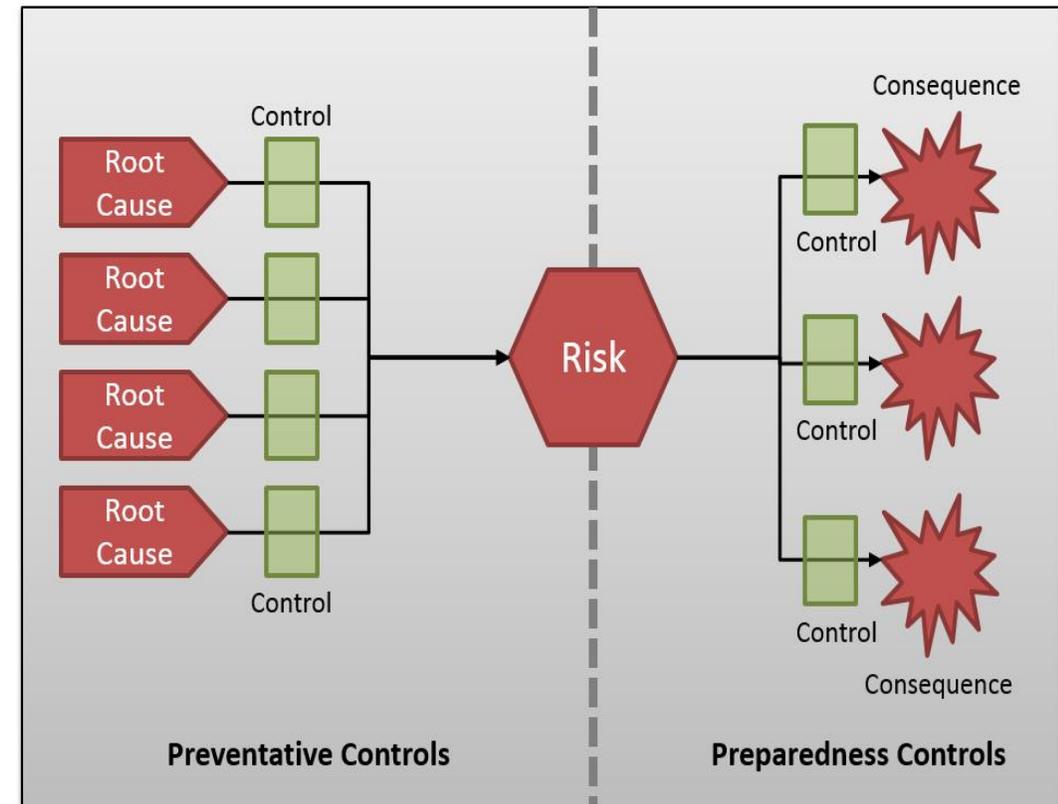
Step 4: Treat risk

Controlling Risk

- **Risk Avoidance** – This strategy involves a decision to <u>avoid completely</u> a particular risk by discontinuing the operation producing the risk e.g. the replacing a hazardous chemical by one with less or no risk potential.

- **Risk Reduction (mitigation /Control)** – Here the risks are systematically reduced through control measures, and by implementing a strategy that is designed to <u>reduce the likelihood or consequence of the risk to an acceptable level</u>. This occurs when risk avoidance is considered to be difficult to do in terms of time or expense.

Step 4: Treat risk

- **Risk Transfer** – This refers to the legal assignment of the costs of certain potential losses from one party to another. The most common way is by insurance. The third-party accepting the risk should be aware of and agree to accept this obligation.

- **Risk Retention** – making decision that the risk rating is at an acceptable level or that the cost of the treatment outweighs the benefit. (Accept it)

This option may also be suitable in situations where the level of the risk is so low that specific treatment is not appropriate within available resources or when a *residual risk* remains after other treatment options have been put in place or no treatment option is available.

 No further action is taken to treat the risk. However, ongoing monitoring is recommended.

Residual Risk: Residual risk is the risk that remains after we apply controls. It's not always feasible to eliminate all the risks. Instead, we take steps to reduce the risk to an acceptable level. The risk that's left is residual risk. Residual Risk = Total Risk - Controls
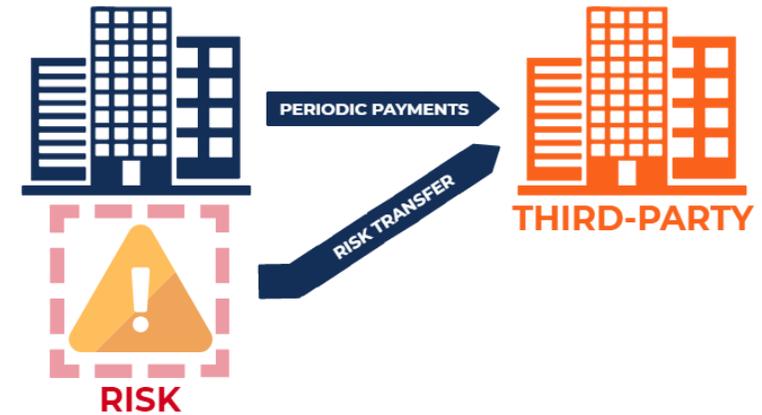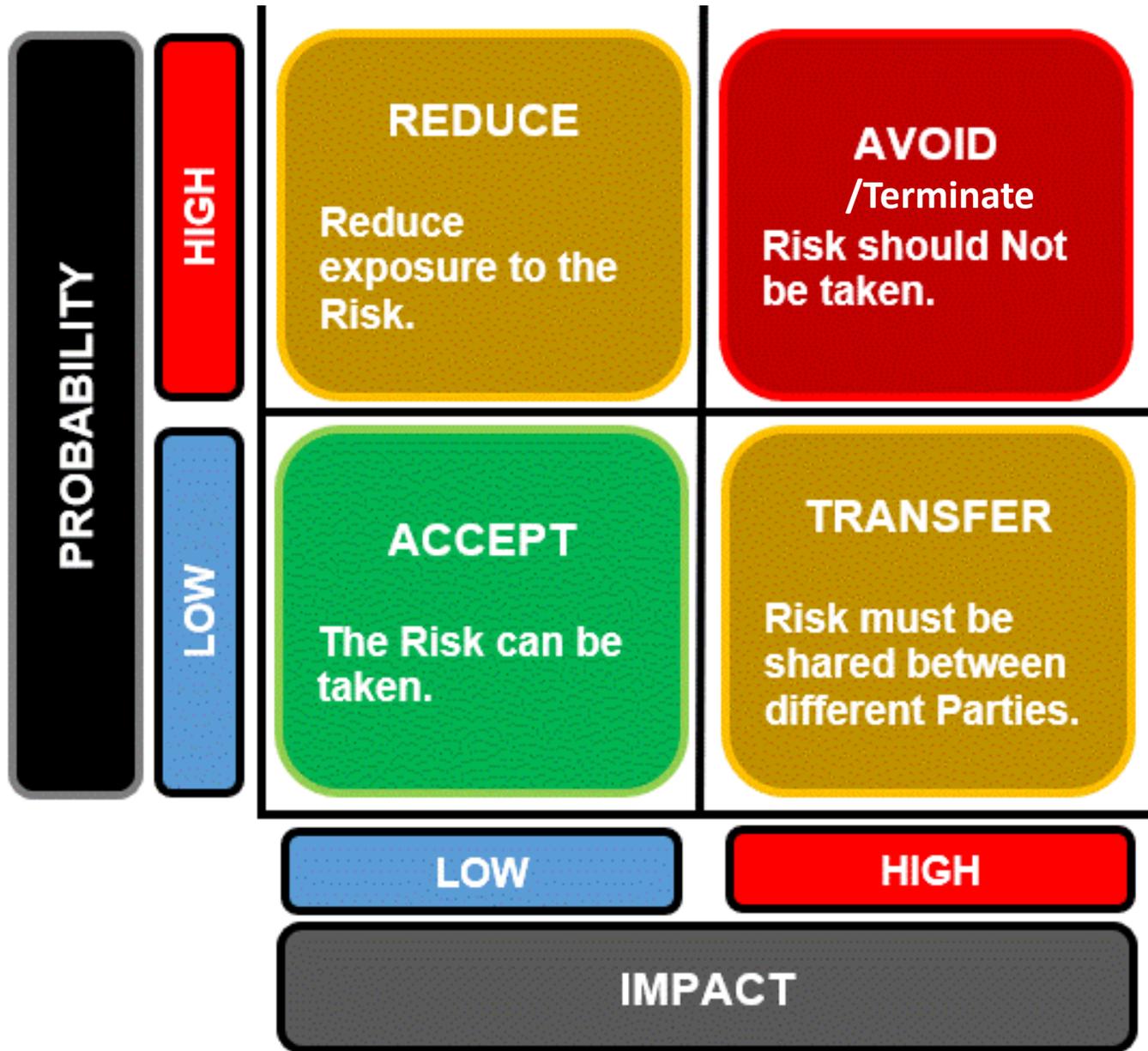
- https://survey.charteredaccountantsanz.com/risk_management/small-firms/context.aspx
- https://pdfs.semanticscholar.org/d57e/c1af8951cf441643fccfbea7c28807cfa5cd.pdf?_gl=1*1ucq4og*_ga*ODAxNzUzNzkxLjE2ODM2NTcxODU.*_ga_H7P4ZT52H5*MTY4NDY2MDU2OC4yLjAuMTY4NDY2MDc0MS42MC4wLjA.

" If you fail to prepare, you prepare to fail "