



IHEA PD3 (2013)

Mitigating Risk through Asset Management

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We would not be where we are without taking Risks



Supervision to the degree necessary that prevents or controls potentially harmful interactions is neither possible nor practical

Injury prevention strategies are necessary

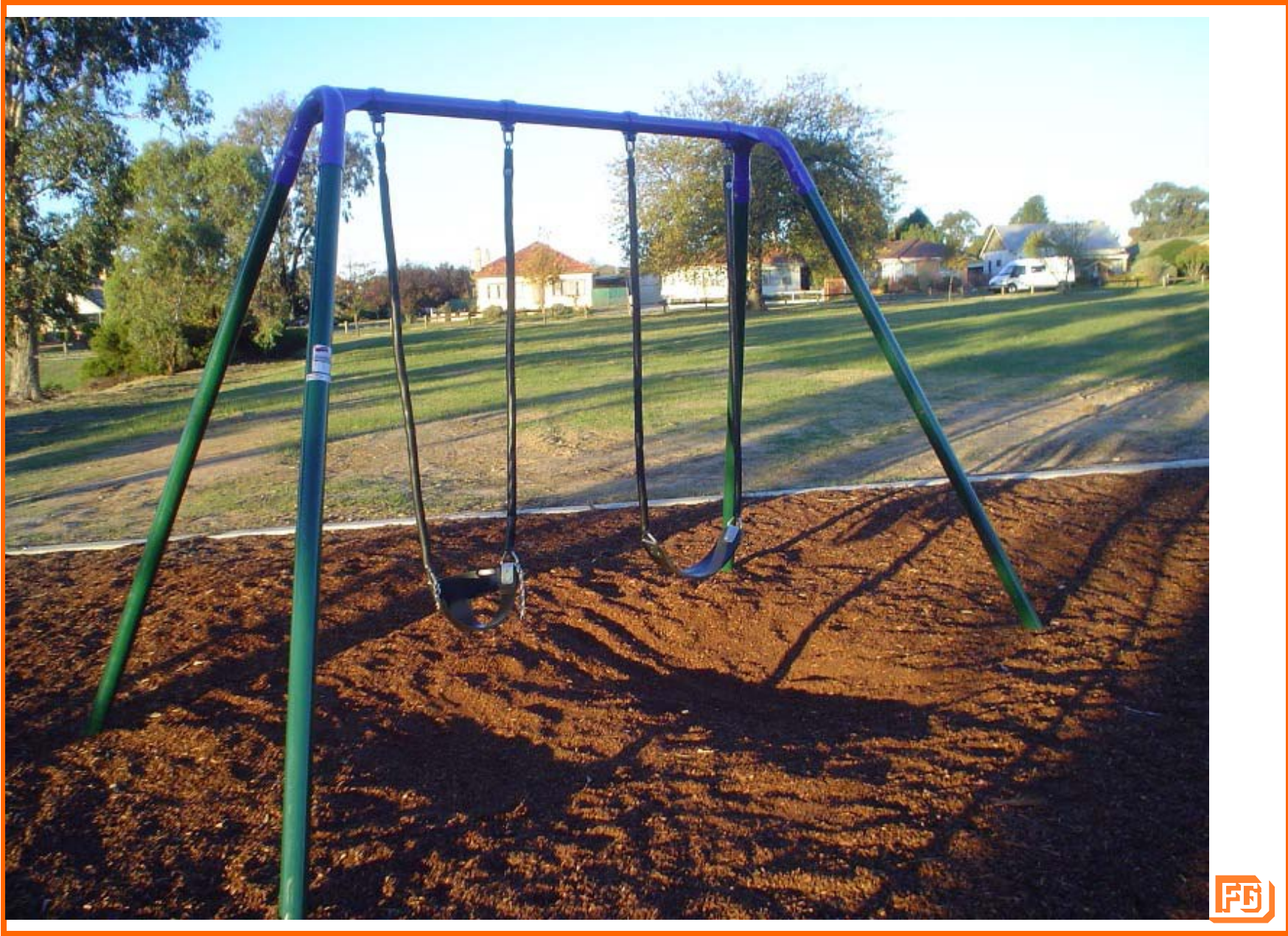
The primary aim is to stimulate imagination, provide excitement and adventure in safe surroundings; a balance must be found between risk and safety

So, we need to take Risks

The trick is to manage them





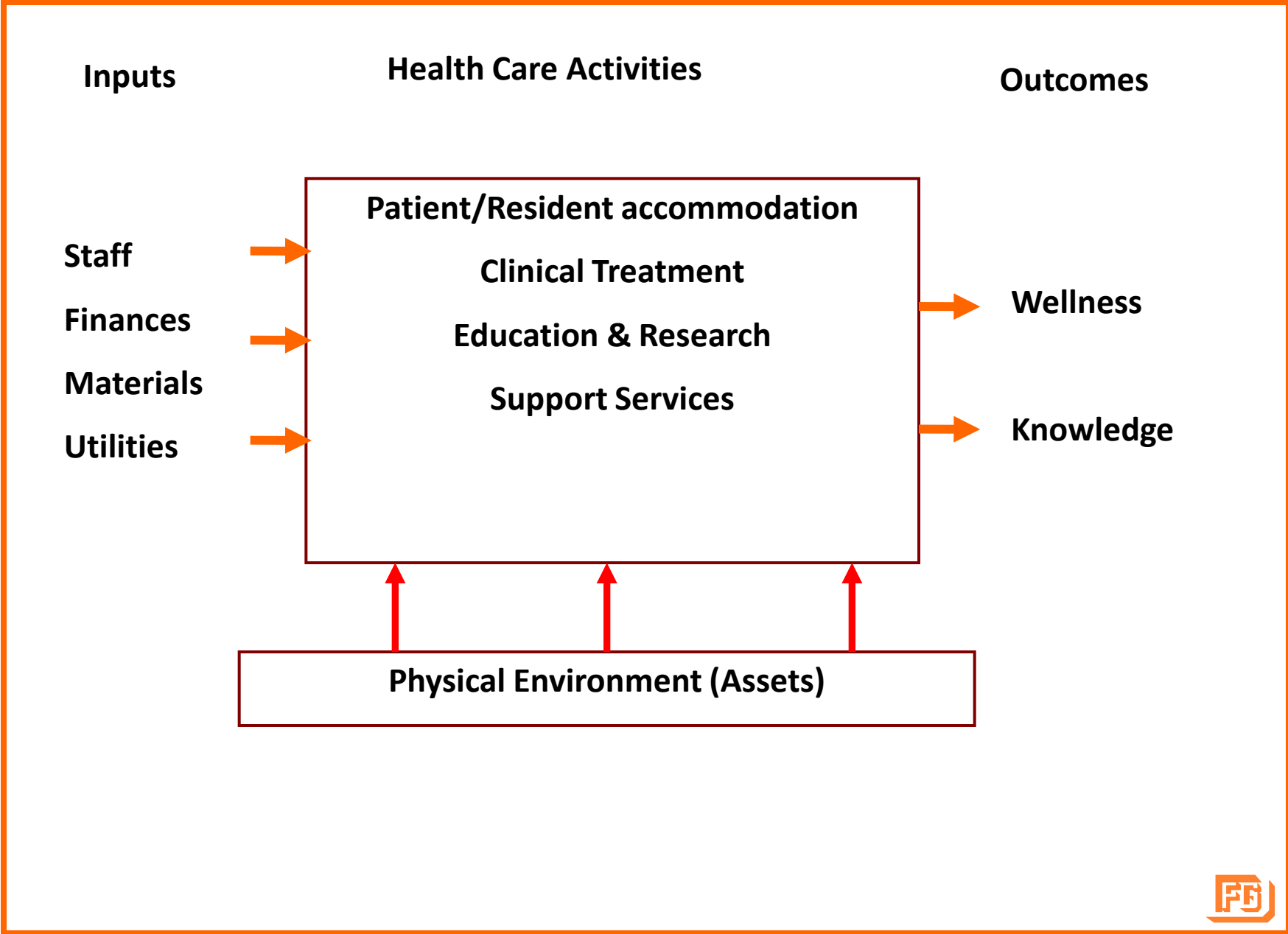


Playground Equipment

Main Hazards:

- Fall from height
- Impact
- Entrapment





Base Level

We know that assets will deteriorate due to the effects of:

- Use
- Abuse
- Environment
- Age



Condition

Evidence of Wear	Visual, feel and audible cues
Performance	Maintenance records, performance monitoring
Safety	Is the asset safe for use and does it comply with Occupational Health & Safety requirements?
Availability	How often is the asset used, for how long, and what are the consequences of it being unavailable?
Reliability and Maintainability	As a measure of the ease with which the system is able to be maintained to function reliably
Efficiency	Assessed in terms of utilities, staff and financial resources
Hygiene	Assessed in terms of ability to be cleaned and need to minimise cross-infection
Consequence of delay	In terms of impact on service delivery, escalating costs to repair, compromising health and safety and/or amenity
Visual Appearance	As a measure of the importance of the visual appearance in delivering appropriate services.

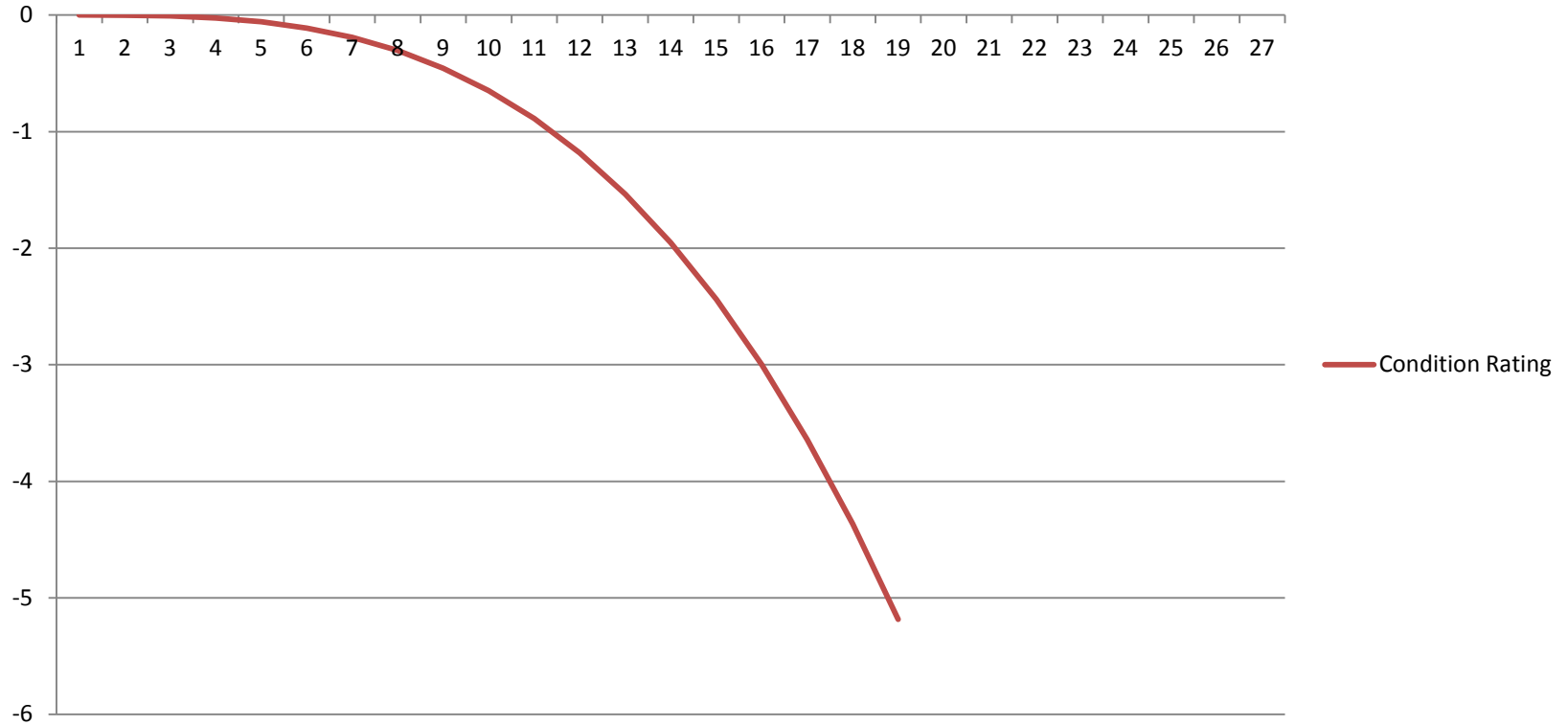


Condition Ratings

Score	Condition Rating	Condition
0	Excellent	Practically as new, full compliance with current requirements
1	Good	Fully functional, minor wear and tear, minor non-compliance with current requirements
2	Fair	Showing further signs of deterioration, but still generally functional, not compliant with current requirements, although generally compliant with requirements at time of commissioning
3	Poor	Asset has deteriorated such that safety and functionality are compromised, significant non-compliance with mandatory requirement
4	Unacceptable	Asset is unsafe and non-functional, serious non-compliance with mandatory requirement



Condition Rating



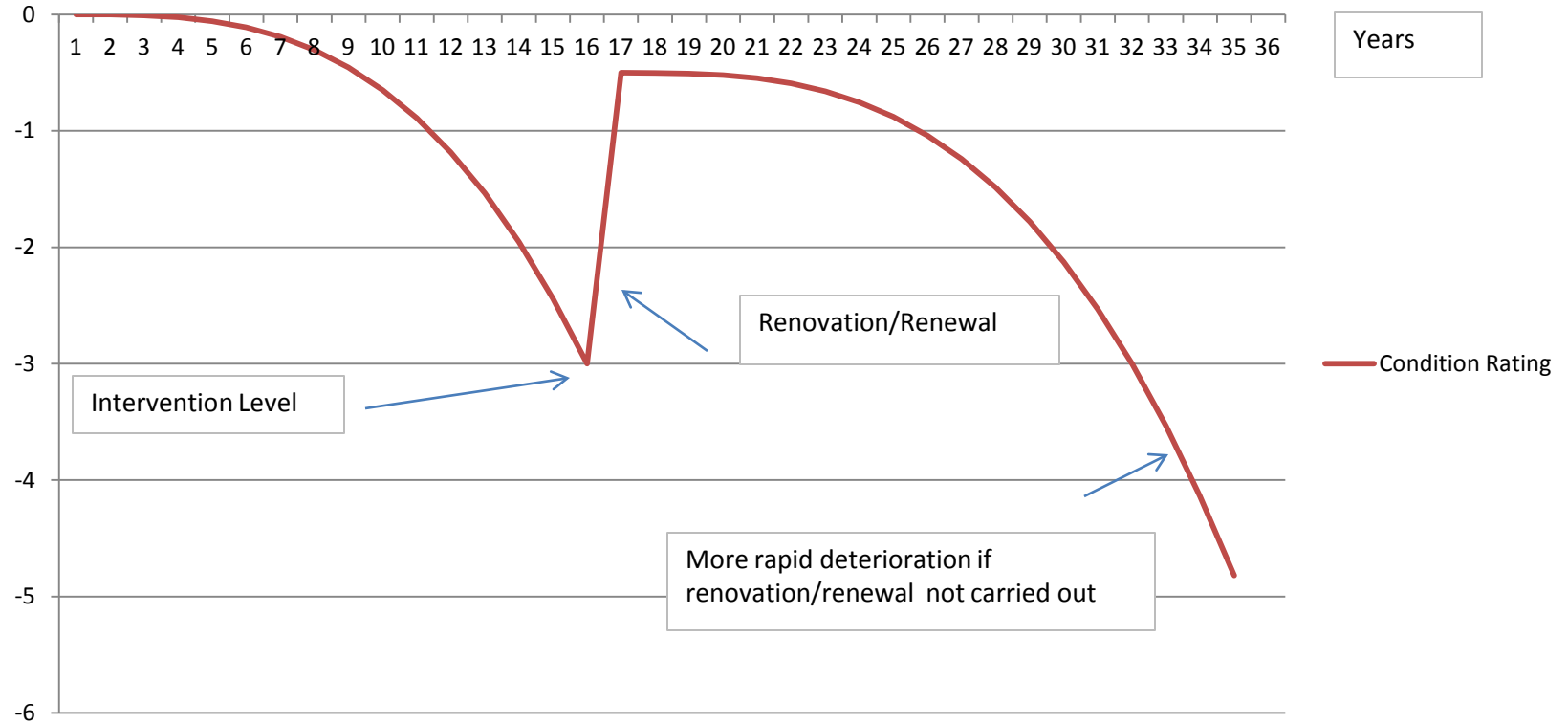


Basic Needs

- **Structural Integrity**
- **Exclude Weather**
- **Exclude Vermin**
- **Fit-for-purpose**
- **Make safe**



Condition Rating





Failure Mode, Effect and Criticality Analysis (FMECA)

Failure mode	How does it fail Can the failure be predicted
Effect	What are the consequences of the failure
Criticality	How critical is the service/element



Risk Types

General:

- **Business disruption**
- **Health and Safety Risks**
- **Financial risks**

Health Care

- **Clinical**
- **Infection**

All lead to Risk to Reputation

Business Function

Business Disruption	The effect on the ability to continue to deliver appropriate and effective health services including reputation, financial loss
Compliance	Comparison with current standards, codes and guidelines (mandated or 'best practice') to which the system needs to comply
Capacity for expansion	Are there limitations that may adversely affect the health service as it expands

Health and Well-being

Infection Control	The degree to which a failure may increase the risk of cross-infection
Clinical Risk	The degree to which a failure may compromise clinical outcomes

Weighting

Weight	Type	Examples
1	Non-clinical	Offices, staff areas, cafeterias, retail
2	Clinical	Wards, clinics, consulting rooms, imaging, medical records
3	High Dependency	Operating Theatres, Procedure rooms, CSSD, ICU, CCU, Emergency Dept, R&D, Laboratories, ICT

Criticality is a function of:

Score	Business Function
0	No impact
1	Minor disruption to service
2	Significant disruption to service
3	Major disruption to service
4	Critical plant

Score	Clinical/Infection Risk
0	Low impact; serves general or non-patient care areas
1	Minor affect; serves general or non-patient care areas
2	Significant impact on infection control and/or clinical outcome
3	High impact on infection control and/or clinical outcome
4	Infection control and/or clinical outcome severely compromised



Criticality

Applied independently of condition

= (Business function Rating + Clinical Rating) X Weighting

Criticality Range	Criticality Rating
0-5	Low
6-10	Medium
11-15	High
16-20	Very High
21-25	Extreme

Risk Matrix

Probability Category	Descriptor	Definition	Frequency
A	<i>Almost certain</i>	Possibility of repeated incidents	At least once a year
B	<i>Likely</i>	Possibility of isolated incidents	Say, every 3-5 years
C	<i>Possible</i>	May occur sometime	It has happened
D	<i>Unlikely</i>	Not likely to occur	Have heard of it happening
E	<i>Almost Impossible</i>	Theoretically possible	No record of it happening

Consequence Category	Descriptor	Health & Safety	Equipment Damage	Interruption to Service	Damage to Environment
1	<i>Severe</i>	Fatality	Major >\$100K	> 1 week	Major
2	<i>Major</i>	Serious injury	\$50K - \$100K	1 day - 1 week	Serious
3	<i>Moderate</i>	Average LTI	\$5K - \$50K	1 hr – 1 day	Moderate
4	<i>Minor</i>	Medical treatment	\$1K - \$5K	1 min- 1 hr	Minor
5	<i>Barely Noticeable</i>	Minor impact	Minor <\$1K	< 1 min	Minimal



Risk Matrix

Condition Impact	Likelihood				
	<i>Almost certain</i>	<i>Likely</i>	<i>Possible</i>	<i>Unlikely</i>	<i>Almost Impossible</i>
<i>Severe</i>	A1	B1	C1	D1	E1
<i>Major</i>	A2	B2	C2	D1	E2
<i>Moderate</i>	A3	B3	C3	D3	E3
<i>Minor</i>	A4	B4	C4	D4	E4
<i>Barely Noticeable</i>	A5	B5	C5	D5	E5

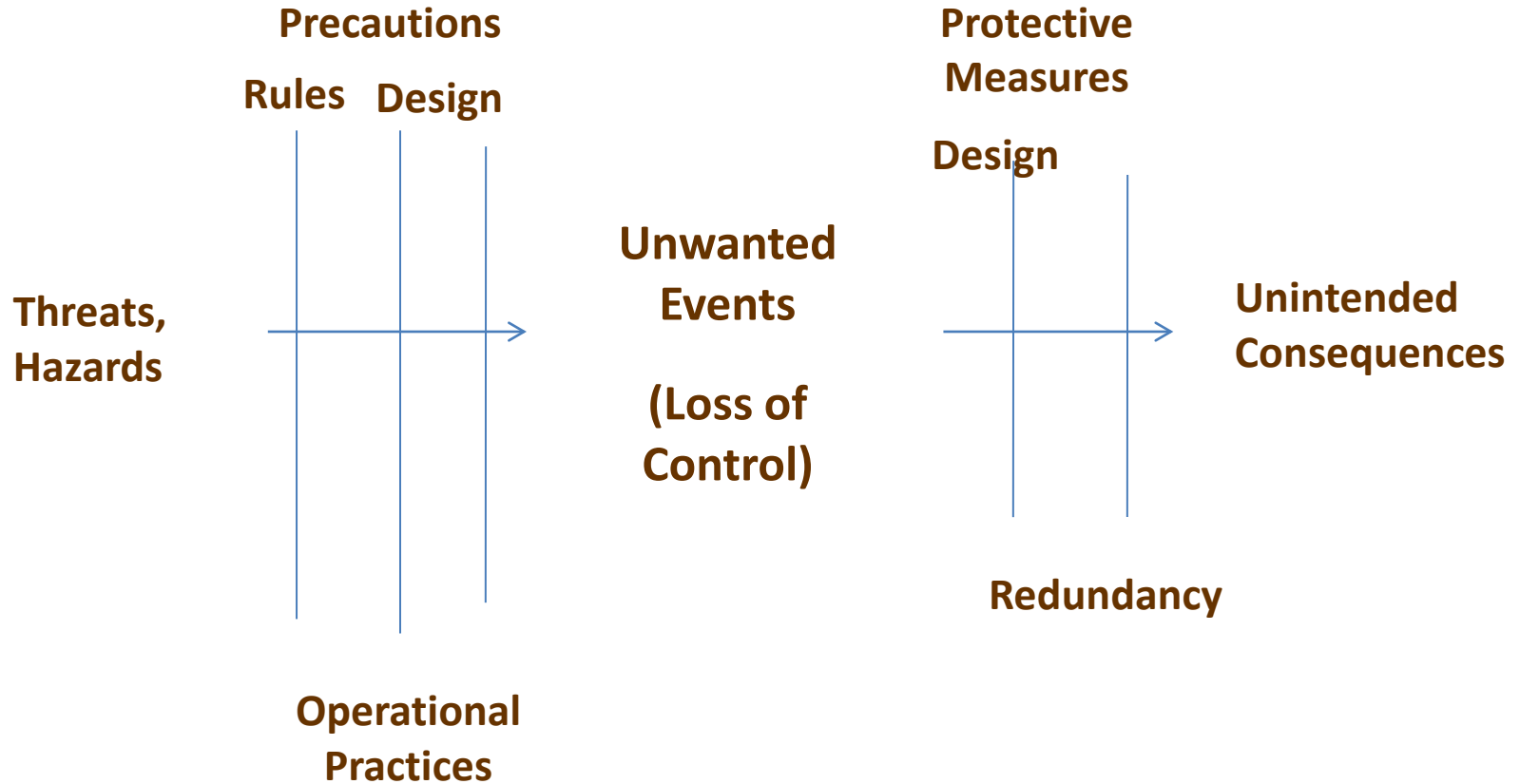


Simplified Damage Model





Simplified Damage Control Model





**Threats,
Hazards**

Precautions

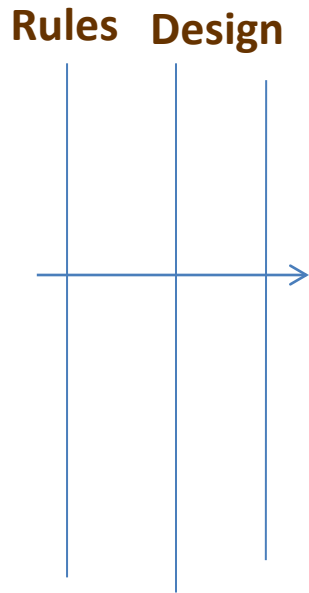
**Protective
Measures**

**Unintended
Consequences**

Driver:
Speed
Fatigue
Alcohol
Drugs

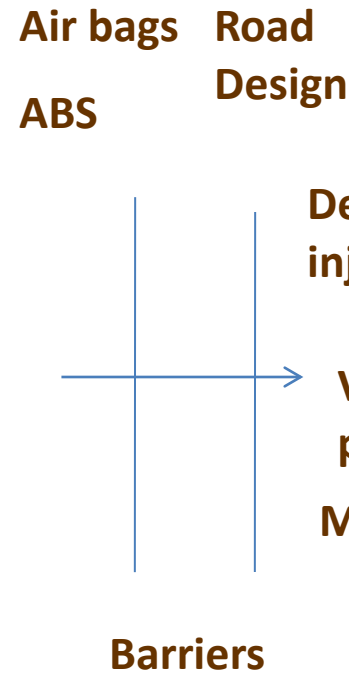
**Vehicle
Condition**

**Road
Condition**



**Defensive
Driving**

**Unwanted
Events
(Loss of
Control)**

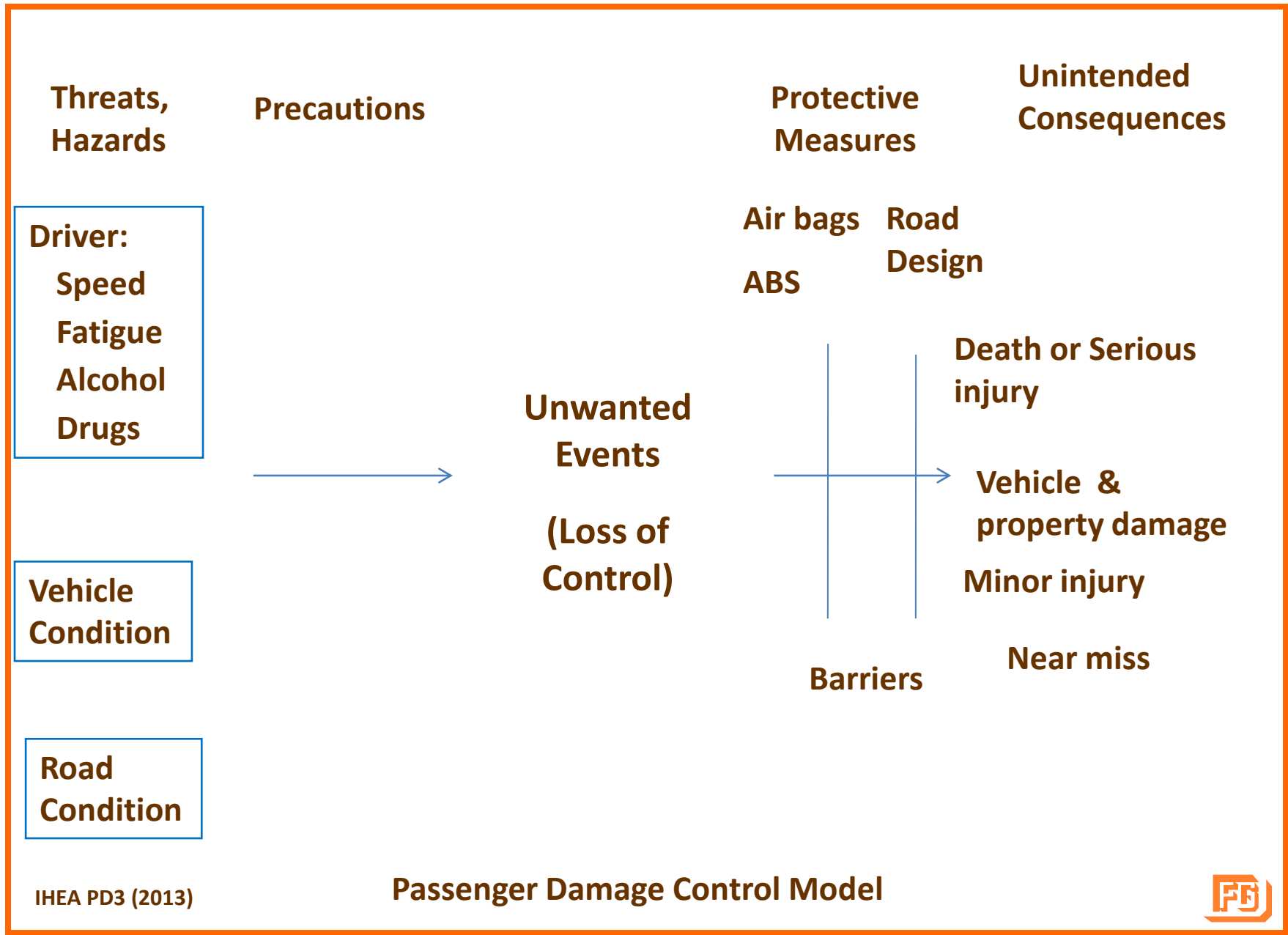


**Death or Serious
injury**

**Vehicle &
property damage**

Minor injury

Near miss





Publicly accessible buildings and places:

- **Owners/operators have limited control over non-staff**
- **Users (including visitors) have even less control**



Terms:

ALARP: As Low as Reasonably Practicable
Manages risks to lower than tolerable level
(people can still die, just not so many)

SFAIRP: So far as is Reasonably Practicable
Implements all practicable precautions,
Based on significance of risk vs mitigation effort



Risk Analysis Process

What needs to line up to allow:

- The unwanted event; and
- The unintended consequence

Leading to:

- What actions will remove the risk



**Threats,
Hazards**

Precautions

**Protective
Measures**

**Unintended
Consequences**

Emergency Generator

**Staff
intervention**

Wiring Rules

Design

Patient care

**Loss of
Electricity**

No power

Food preparation

**RCD/C-b
trip**

Security

Controls

UPS

Regular maintenance

