



# The components of a safety system.

## A Human Factors approach to OH&S



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# The NZ Injury Prevention Strategy -

- ❑ Reinforces a collaborative, multi-disciplinary approach
- ❑ Acknowledges that multiple factors contribute to injury
- ❑ Highlights the need to avoid fragmentation of effort
- ❑ Stresses the need for co-ordination to maximise generic interventions which are reinforcing and complementary

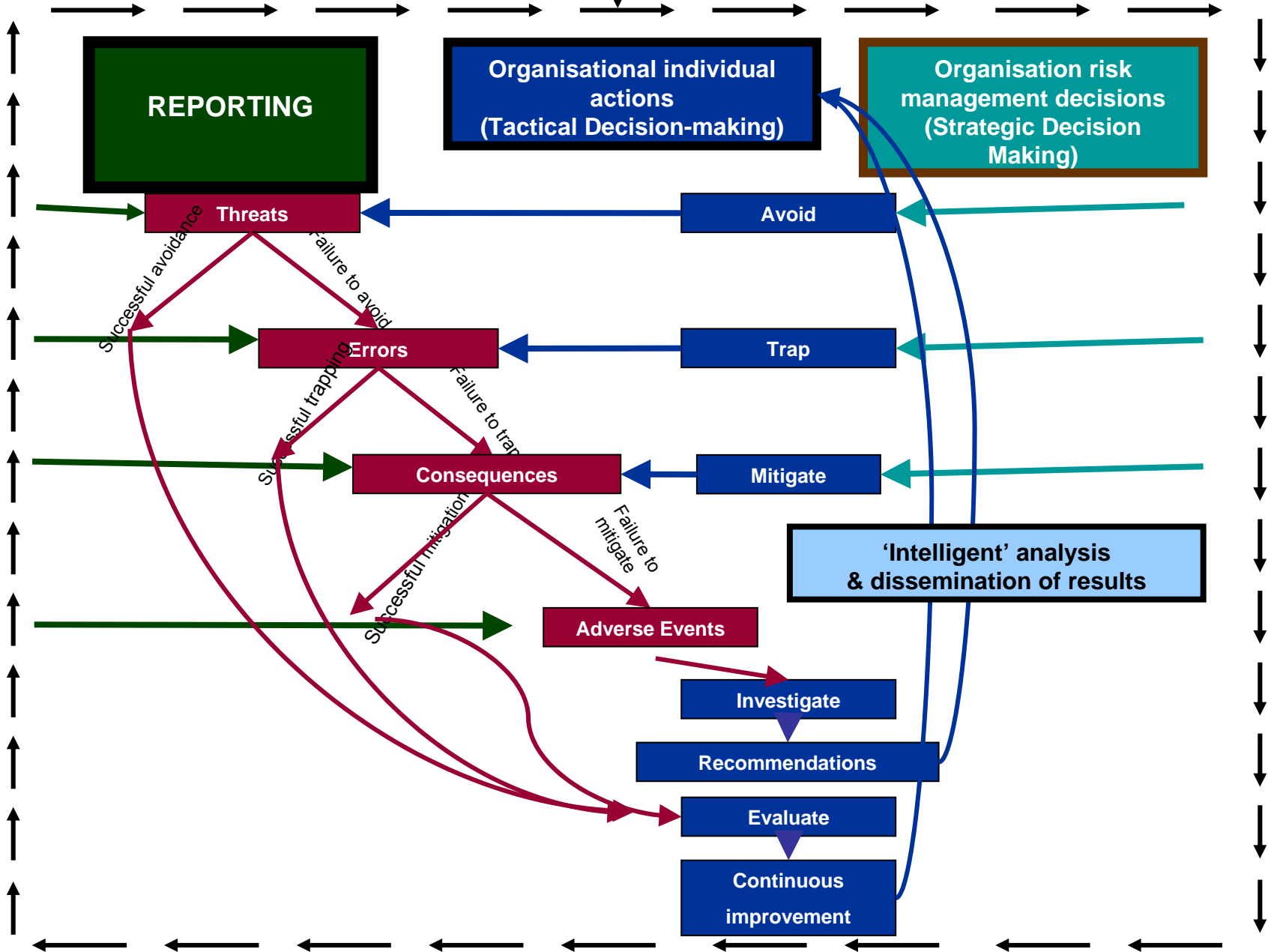
# Key components of a safety system

- ❑ Event investigation
- ❑ Threat and error management
- ❑ Reporting, documentation and follow up systems
- ❑ Proactive audit
- ❑ Production-safety trade off decision-making

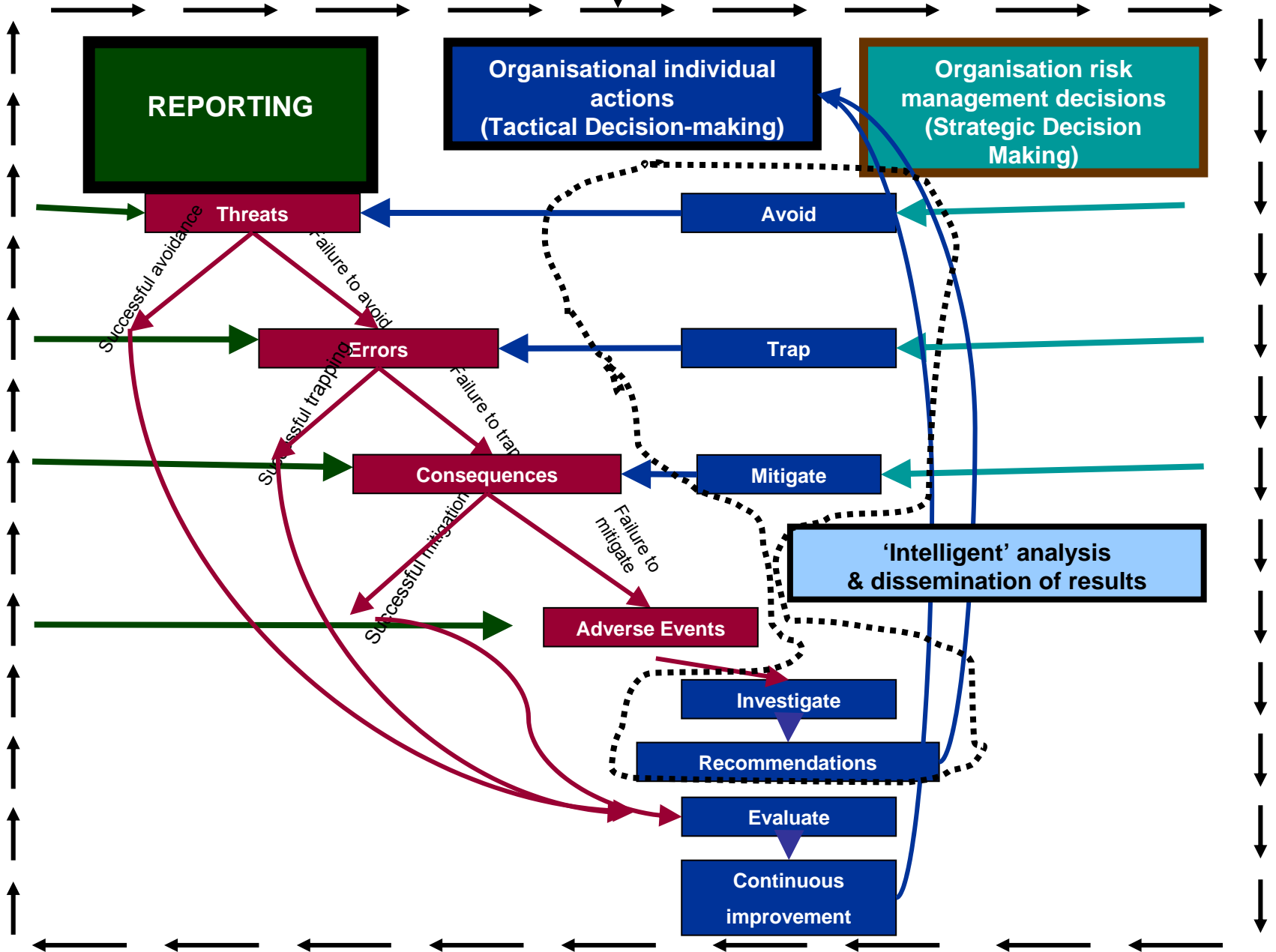
Coupled with:

- ❑ Individual and group values, attitudes, perceptions, competencies and patterns of behaviour that commit to the safety system

# Proactive audit of all systems



# Proactive audit of all systems



- ❑ Explicit documentation of reason for undertaking investigation
  - ❑ ?legislation
  - ❑ ? Social conscience
  - ❑ ?avert loss
  - ❑ ?enhance organisational performance (gain)

# Investigations

- ❑ Explicit documentation of model on which investigation is to be based

## ❑ Chicago Convention

### ❑ Annex 13

#### ➤ Chapter 3.1

- *“the sole objective of the investigation of an accident or incident shall be the prevention of accidents and incidents. It is not the purpose to apportion blame or liability”.*

# DoL investigation

<http://www.osh.govt.nz/services/investigations.html> - accessed 19/3/07

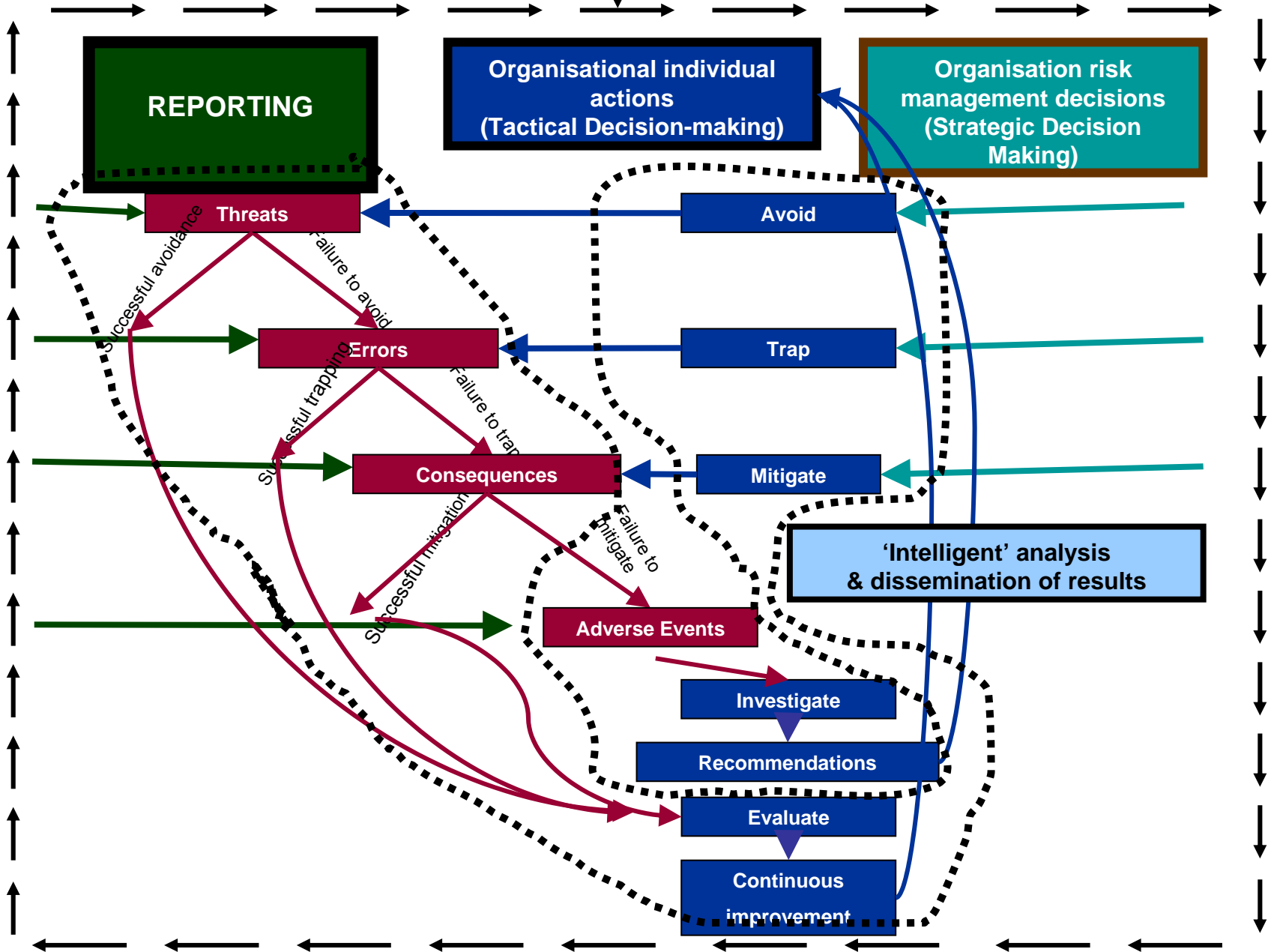
- ❑ **Investigations are undertaken in order to determine:**
  - Causes
  - Whether action has been taken or needs to be taken to prevent recurrence, and to secure compliance with the law
  - Lessons to be learnt, both in the workplace involved and in industry at large, and to influence the law and health and safety standards and guidance material
  - If there has been any breach of the law, and the appropriate response.

## ❑ Standardise data collection and reporting

### ❑ Previous plus:

- *High level written agreement within and between relevant organisations*
- *Definition of minimum competency of investigators*
- *Standardisation of process (forms, interviews, reporting format etc).*

# Proactive audit of all systems



# Threat and error management (TEM)

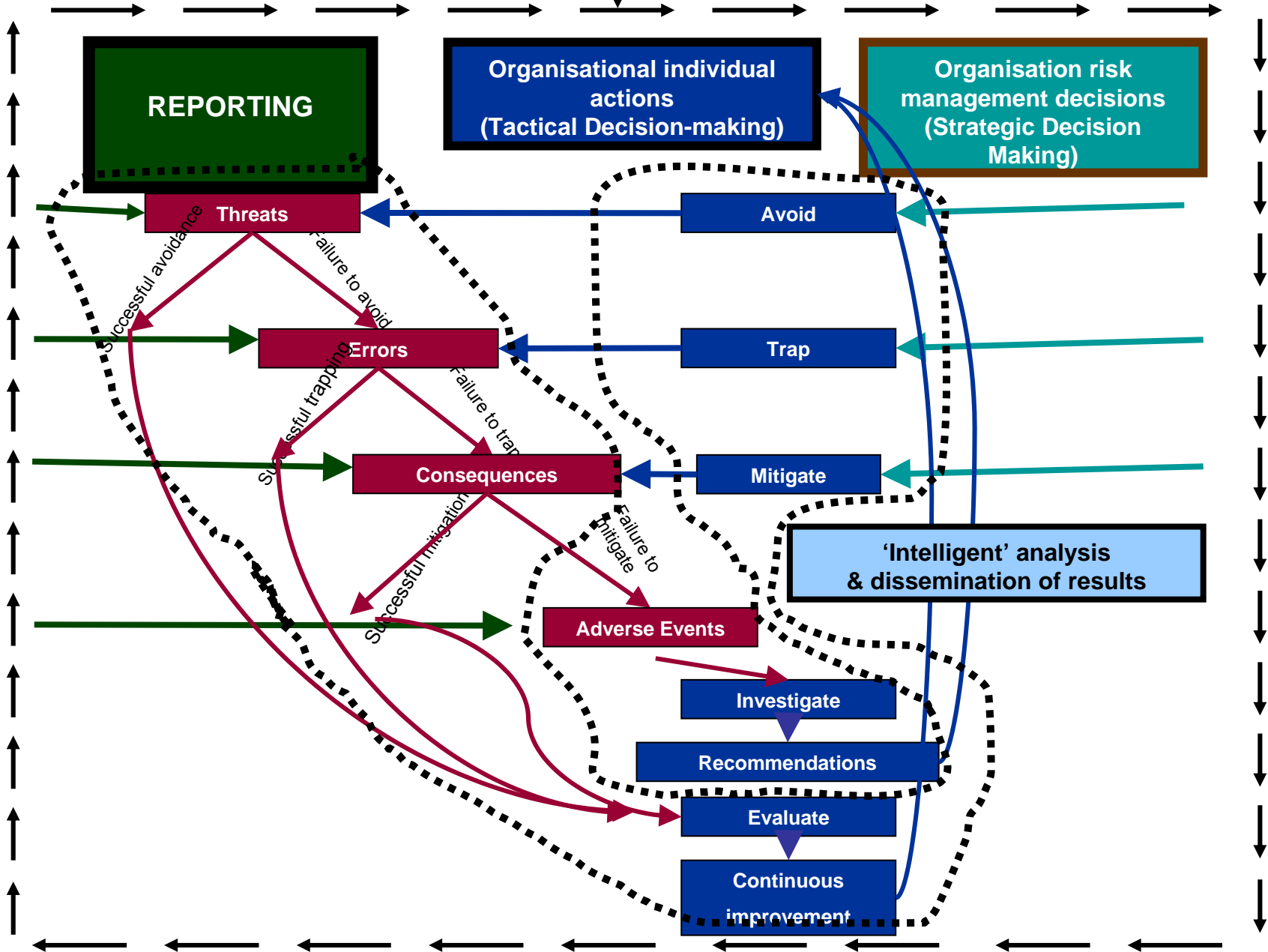
- ❑ Investigation is reactive; threat and error management is proactive
- ❑ Based on the concept of a “pristine” day...where nothing out of the ordinary happens and no adaptation is required from the ideal plan

# “Threats”

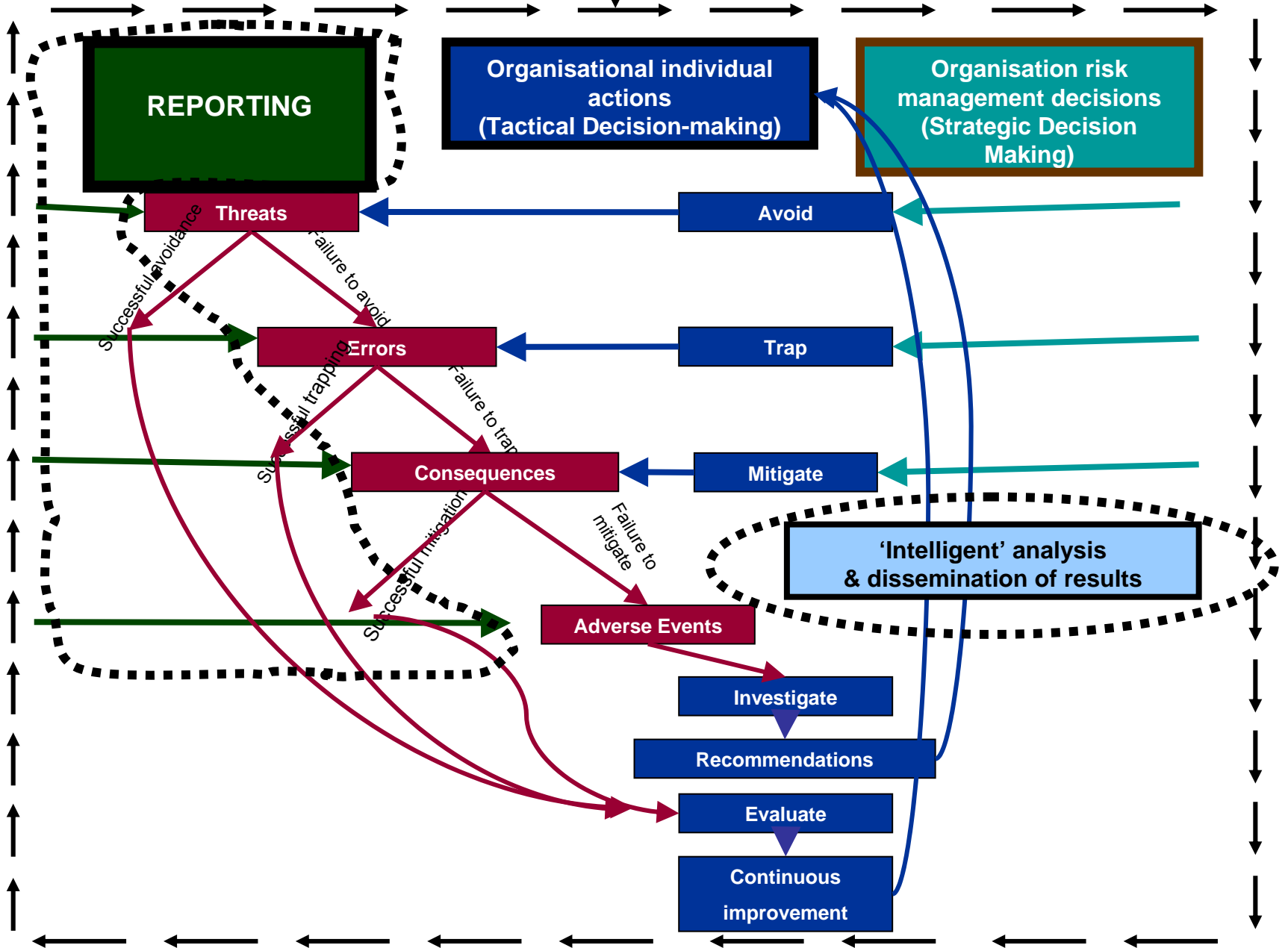
- ❑ “any aspect that requires a team member’s time, attention or action to manage, above and beyond, the tasks of a ‘pristine’ day”

- ❑ Many threats can be anticipated and avoided
  - Fatigue – rostering/monitoring/ability to ‘put hand up’ without penalty
- ❑ Sometimes threats will lead to errors which again can be anticipated and trapped as they occur
  - Nurse prepares wrong dose of medicine – trapped by nurse ‘checker’
- ❑ Sometimes, threats and errors result in anticipated consequences that we can mitigate the adverse effects of
  - Post needle stick injury protocol
- ❑ Sometimes, threats and errors result in catastrophe
- ❑ Not all threats, errors and consequences can be anticipated but most can and we can continually update our data base of these

# Proactive audit of all systems



# Proactive audit of all systems



# Reporting, documentation and “following up”

- ❑ Iraq and Afghanistan wars – lowest level of death due to battle wounds (25% previously, ↓ 10%)
- ❑ ?new treatments and technologies

**Atul Gawande**

**“Better. A surgeon’s notes on performance”.**

Profile Books, 2007, page: 55-56

“How is this possible?” I asked [the surgeon]. I asked his colleagues too. I asked everyone I met who had worked on medical teams in the war. And what they described revealed an intriguing effort to do something we in civilian medicine do spottily at best: to make a science of performance, to investigate and improve how well they use the knowledge and technologies they already have at hand”.

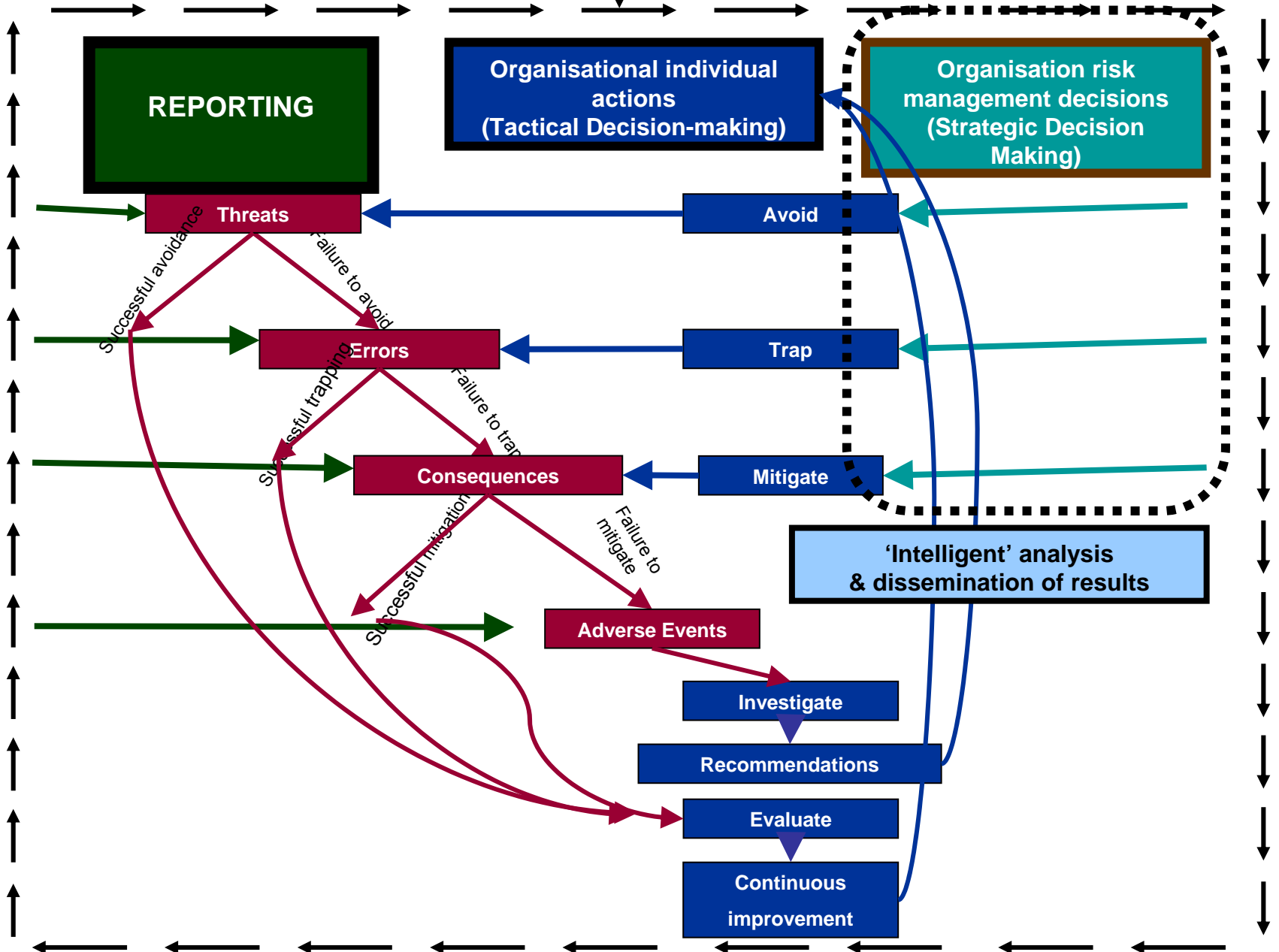
# Reporting, documentation and “following up”

- ❑ Effective TEM and investigation is predicated on effective reporting, documentation and “following up”
  - ❑ Explicit documentation of reason for reporting, documenting and following up
  - ❑ Standardisation of process
  - ❑ “intelligent” analysis
  - ❑ Reporting of meaningful leading and lagging measures of performance
  - ❑ Continually working to enhance performance through feedback loops
  - ❑ Proactive audit of all systems
  - ❑ And very importantly, encouraging a safety culture!

# And before you mention lack of time.... Gawande again

“We do little tracking like this here at home....Doctors don’t have time, I am tempted to say. But then I remember those surgeons in Baghdad in the dark hours at their PCs. Knowing the [data – 75 different pieces of information on every casualty] was so important to them that they skipped sleep to gather the data. They understood that such vigilance over the details of their own performance – offered the only chance to do better” (p. 64).

# Proactive audit of all systems



- ❑ What is the level of risk the organisation is prepared to accept? (production-safety trade-off)
  - Must be driven by highest decision-makers (CEO)
  - Explicit process for decision-making
  - Must be based on good information
  - Open and transparent relay of decisions
  - All aspects of organisation involved eg: acquisitions

# My view of where we are

- ❑ A collaborative, multi-disciplinary approach?
- ❑ Acknowledgment that multiple factors contribute to injury?
- ❑ Avoidance of fragmentation of effort?
- ❑ Co-ordination to maximise generic interventions which are reinforcing and complementary

# The future?

- ❑ A small group of DHBs leading the way (with the ability to undertake the following)
- ❑ Strategic document produced for research-based enhancement of “OH&S” systems
  - ❑ Recommendations for changes in organisational philosophy, structure and process based on the current evidence
  - ❑ Before and after measures of health, safety, productivity and cost effectiveness of change
  - ❑ Informed basis for implementing wider changes
- ❑ ?Co-funding between DHB and MOH