

WHAT SHOULD WE LEARN FROM TO MAKE HEALTH CARE SAFER?



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Safety-I – when nothing goes wrong

Safety is traditionally defined by its opposite – the lack of safety.



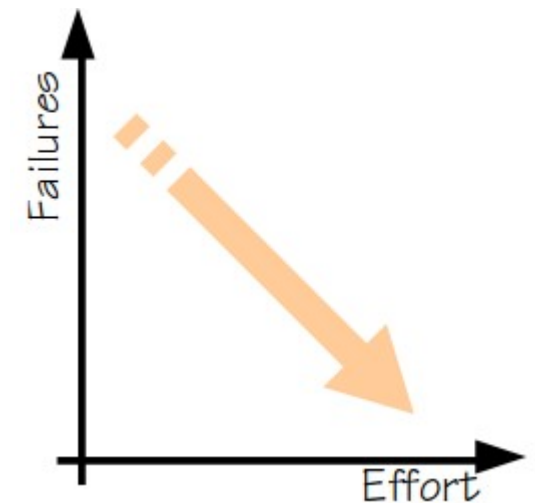
The lack of safety means that something goes wrong or can go wrong.

Safety-I focuses on situations where nothing goes wrong or can go wrong: the number of adverse outcomes (accidents/incidents/near misses) is as low as possible.



Safety-I requires the ability to prevent that something goes wrong. This is achieved by:

1. Find the causes of what goes wrong (RCA).
2. Eliminate causes, disable possible cause-effect links.
3. Measure results by many fewer things go wrong.



The causality credo

Adverse outcomes (accidents, incidents) happen because something goes wrong.

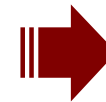
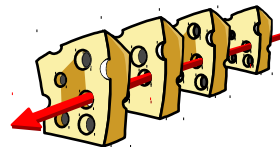
Adverse outcomes therefore have causes, which can be found and treated.

Find the **component** that failed by reasoning backwards from the final consequence.



Find the **probability** that something “breaks”, either alone or by simple, logical and fixed combinations.

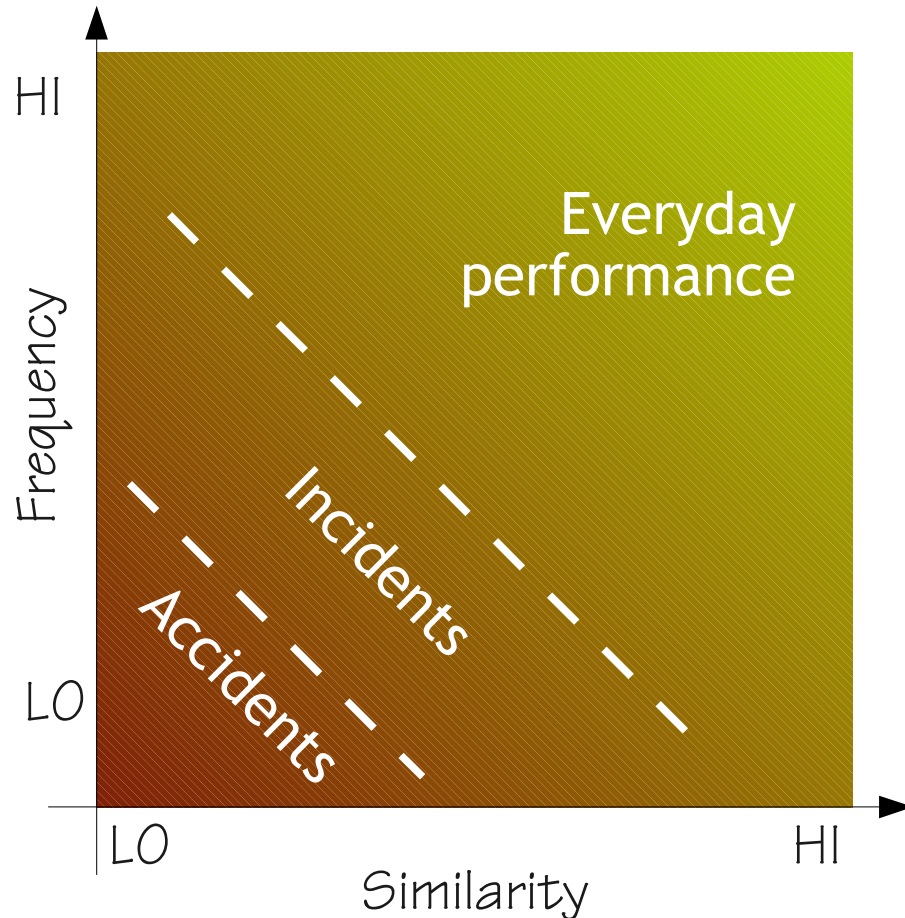
Accidents result from a **combination** of active failures (unsafe acts) and latent conditions (hazards).



Look for single failures **combined** with latent conditions that may degrade barriers and defences.

Learning should therefore focus on events with adverse outcomes.

What does it take to learn?



Opportunity (to learn): Learning situations (cases) must be frequent enough for a learning practice to develop

Comparable /similar: Learning situations must have enough in common to allow for generalisation.

Opportunity (to verify): It must be possible to verify that the learning was 'correct' (feedback)

The purpose of learning (from accidents, etc.) is to change behaviour so that certain outcomes become more likely and other outcomes less likely.

Learning from what goes wrong

<p><i>Opportunity to learn: How often does it happen?</i></p>	<p>Not good: Everything that can go wrong, usually doesn't. Serious adverse outcomes are rare.</p>
<p><i>Similarity / comparability: How much do different events have in common?</i></p>	<p>Very little: Serious adverse events are usually unique. They are due to combinations of conditions that are unlikely to be repeated.</p>
<p><i>Opportunity to verify: Is it possible to confirm that the learning was correct?</i></p>	<p>Not good: Accidents and incidents are both infrequent and dissimilar. There is little or no opportunity to verify that learning was correct.</p>

It is ironical that most efforts are spent on events that are least suited for learning.

Learning from what goes right

<p>Opportunity to learn: How often does it happen?</p>	<p>Excellent: Happens all the time, if we only bother to pay attention. [1 - 10⁻ⁿ]</p>
<p>Similarity / comparability: How much do different events have in common?</p>	<p>Very much: Everyday situations are similar rather than dissimilar: Otherwise efficiency would be impossible (e.g., RPDM, trade-offs).</p>
<p>Opportunity to verify: Is it possible to confirm that the learning was correct?</p>	<p>Very good: Direct and immediate feedback of learning by improved performance (productivity, quality, and efficiency).</p>

By facilitating what goes right safety, productivity, and quality can be improved in parallel.

Safety II – when everything goes right

Safety is the ability to succeed under varying conditions.

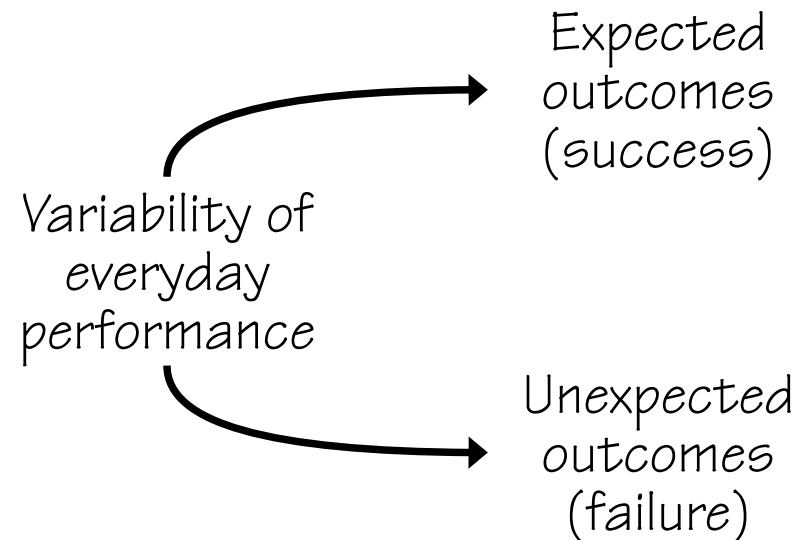
(Risk is the likelihood that this does not happen, that people do not succeed.)

The emphasis is on how things go right, how they work in the first place.

Different outcomes (“normal” results vs. failures) are not distinct binary categories, but rather judgements of value.

Unexpected outcomes are not necessarily a consequence of unexpected processes.

Individuals and organisations must *adjust* to the current conditions in *everything* they do. Everyday performance must be variable in order for things to work.



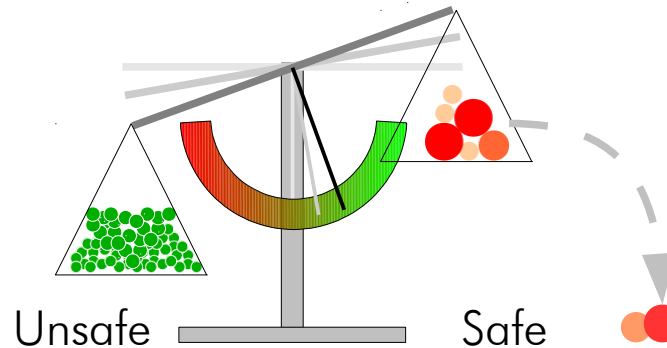
Safety-I: Eliminate the negative

Negative outcomes (accidents, incidents) are relatively rare.

Their size (cost) is variable, but often large.

Adverse events attract attention because they are unusual.

Reduce the number of things that go wrong



Negative outcomes are caused by failures and malfunctions.

Safety = Reduced number of adverse events.

Eliminate failures and malfunctions as far as possible.

Safety-II: Accentuate the positive

Improve *resilience*
(*respond, monitor,*
learn, anticipate).

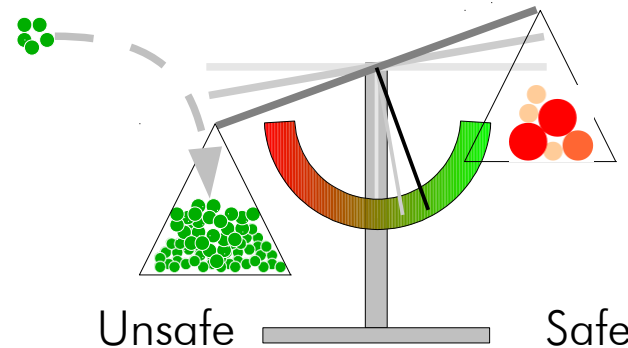


Safety = Ability to
succeed under varying
conditions.



All outcomes due to
performance
variability.

Increase the number
of things that go
right



Positive outcomes
(everyday activities) are
the norm rather than
the exception.

Their size (benefit) is
small, but known and
predictable.

Things that go right
happen all the time and
are therefore ignored or
forgotten.

Why should we study adverse events?

Similarity Bias (The Proportionality Principle)

There is a congruence between causes and consequences.

Large and unusual (adverse) outcomes have large and unusual (adverse) causes.



Verdict: Not true. Causes and consequences need not be proportional.

The “Error Mechanism” Bias

Accidents are caused by behaviours / functioning that is missing from non-accident situations.



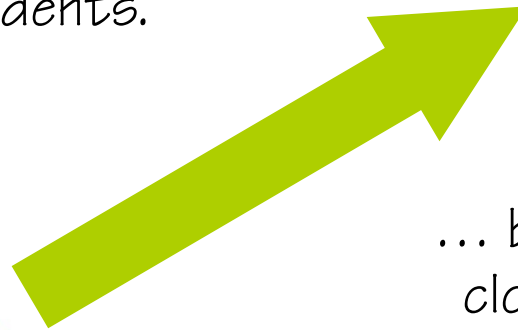
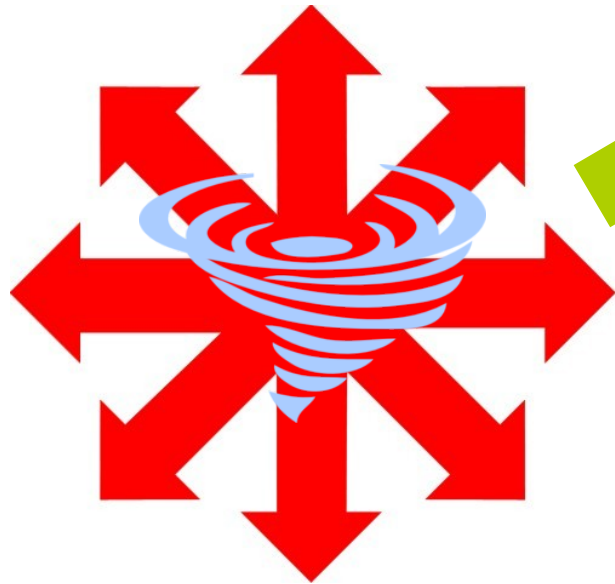
Verdict: Not true. Failures are the flip side of successes.

Conclusion: There is no scientific justification for basing research on adverse events.

Conclusions

(M)any direction(s) will take you away from what you want to avoid

Prevention of what goes wrong by studying accidents and incidents.



... but only one direction will bring you closer to what you want to attain.

Facilitation of what goes right by studying everyday performance.

Research based on adverse events will surely bring us somewhere – but it may not be where we wanted to be.

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Thank you for your attention