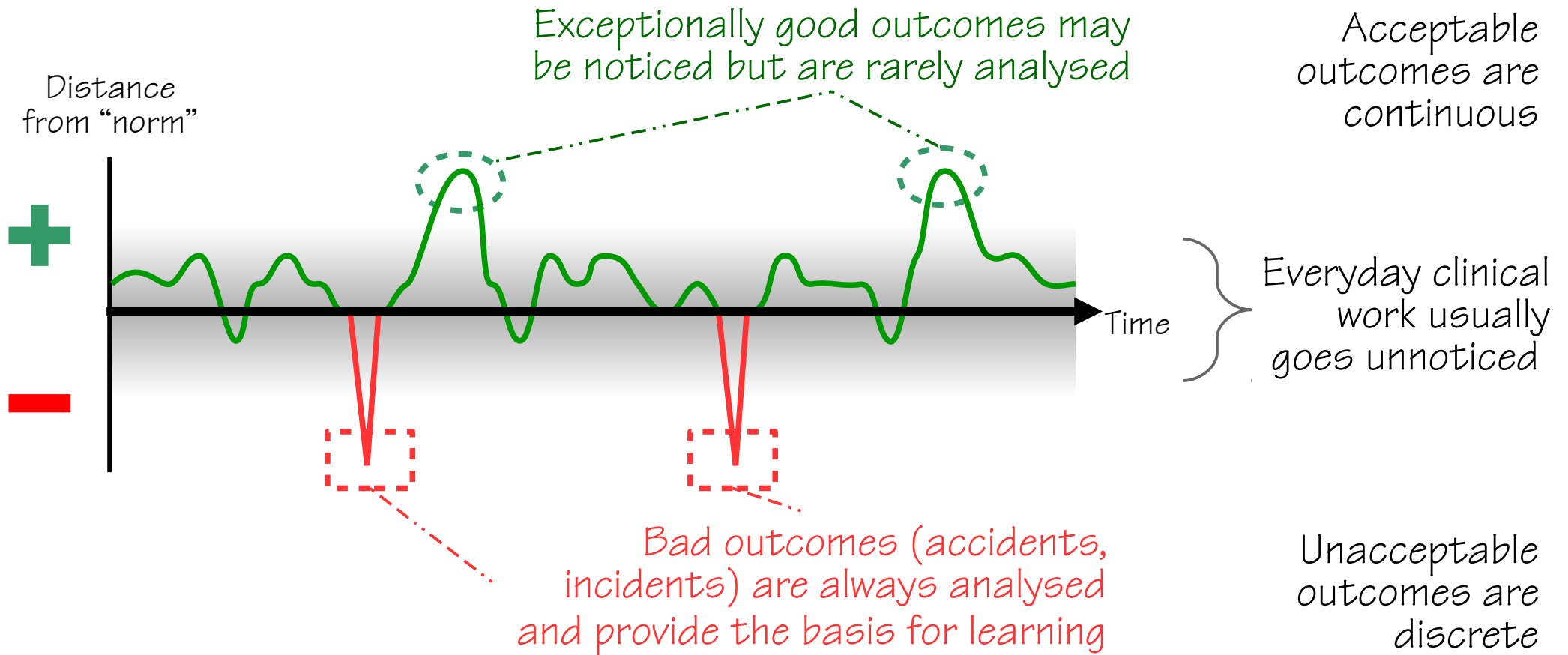


RESILIENT HEALTH CARE: INTEGRATION OF PARTS OR SYNTHESIS OF FUNCTIONS?

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The analysis of failures

Improvements of patient safety are based on analysing situations where something went wrong. The basis is a set of snapshots of a system that has failed, described in terms of individual “parts” or system structures.



Goal: Reduction of harm and waste

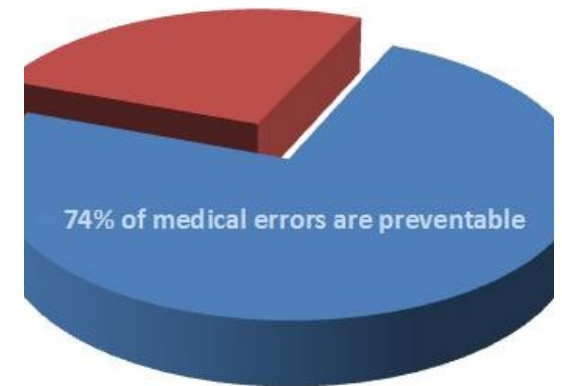
CONTINUITY OF EVERYDAY CLINICAL WORK



Harmful events attract attention. But they are rare and isolated.

Events are analysed step-by-step and part-by-part. Prevention/responses are developed for each problem found.

System integration, if any, refers to system structures rather than to system functions.



The noble intentions

“The goals of patient safety must be clearly articulated, designed throughout the healthcare sector, and woven into healthcare system operations. The end state ... must be envisioned, using the tools of a systems engineer.”

TRANSFORMING PATIENT SAFETY A SECTOR-WIDE SYSTEMS APPROACH

Report of the WISH (World Innovative Summit for Health) Patient Safety Forum 2015

“Healthcare must fully embrace a disciplined approach to patient safety that other industries have used. System integrators are required for each element of patient safety, such as legal, regulatory and technical systems. In turn, these integrators must work together to create an overall integrated system of safety.”

“Patient safety requires a regulatory body at the national/regional level empowered by law with strong enforcement mechanisms and associated standards of performance, robust data collection, and methodical analysis.”

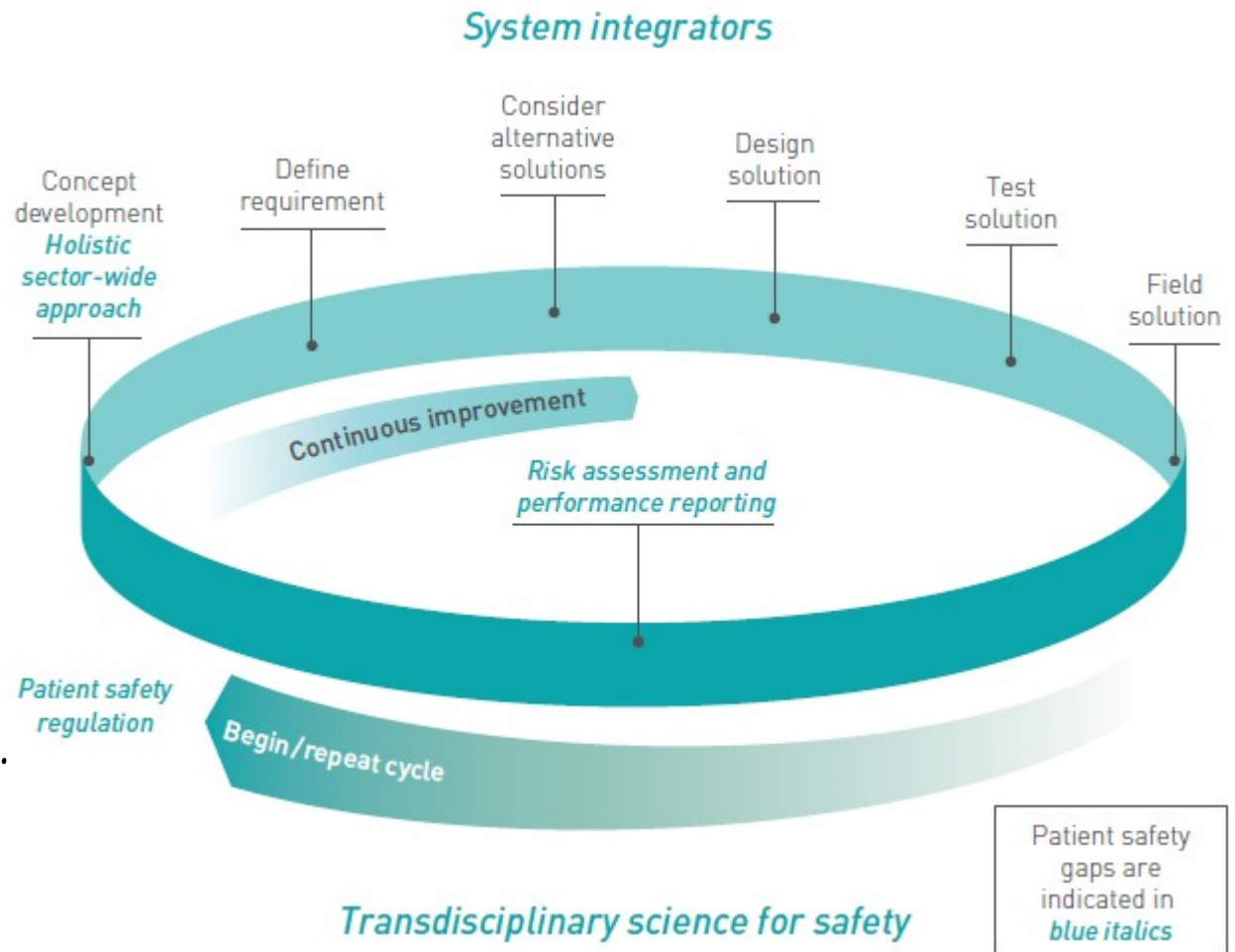
Diagnosis and cure

Current healthcare systems operate according to three premises:

Harms are inevitable.
Data silos are natural.
Heroism is the norm.

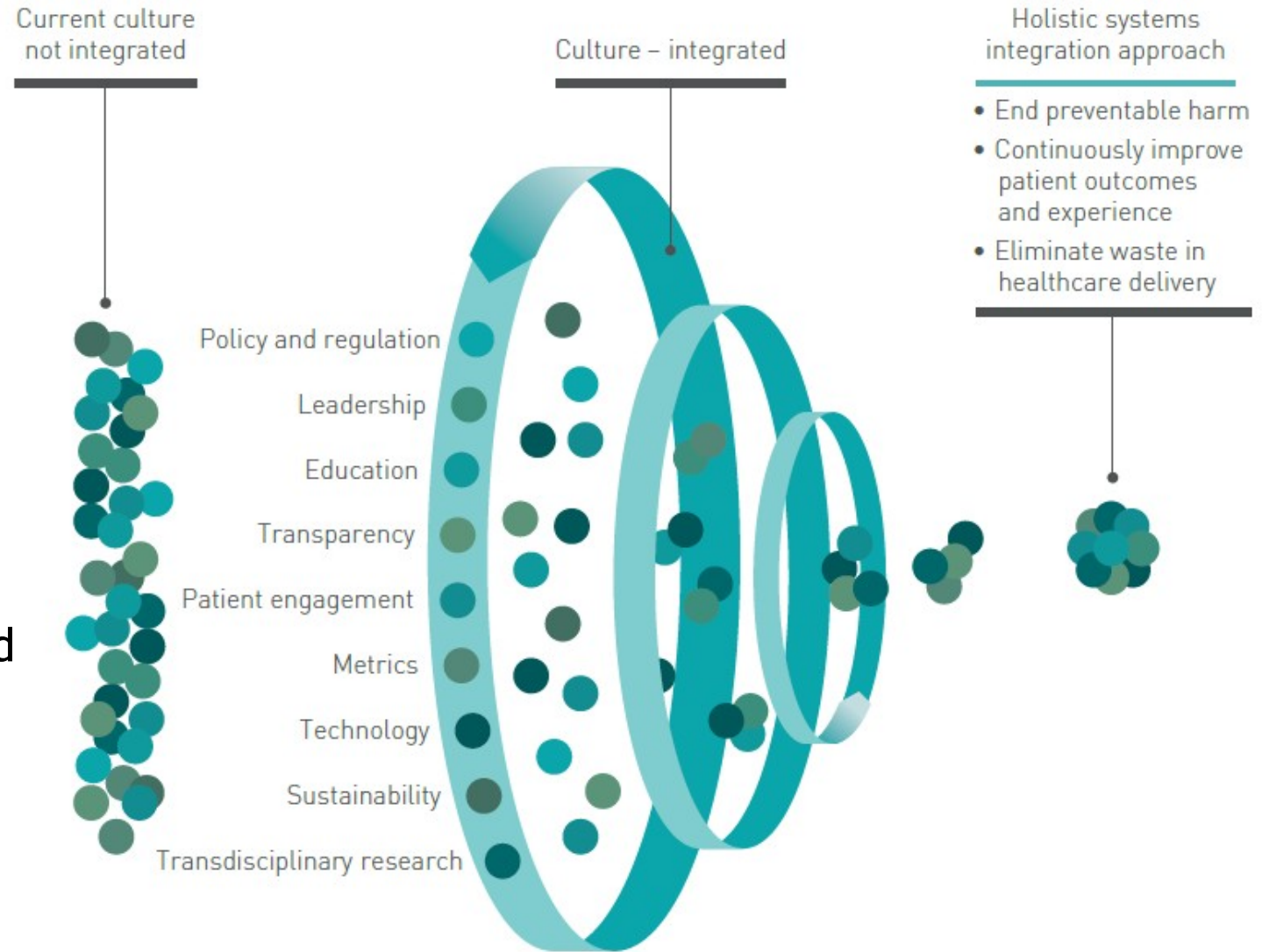
Current gaps

Holistic, sector-wide approach.
System integrators.
Risk assessment & performance reporting.
Patient safety regulation.
Transdisciplinary science for safety.



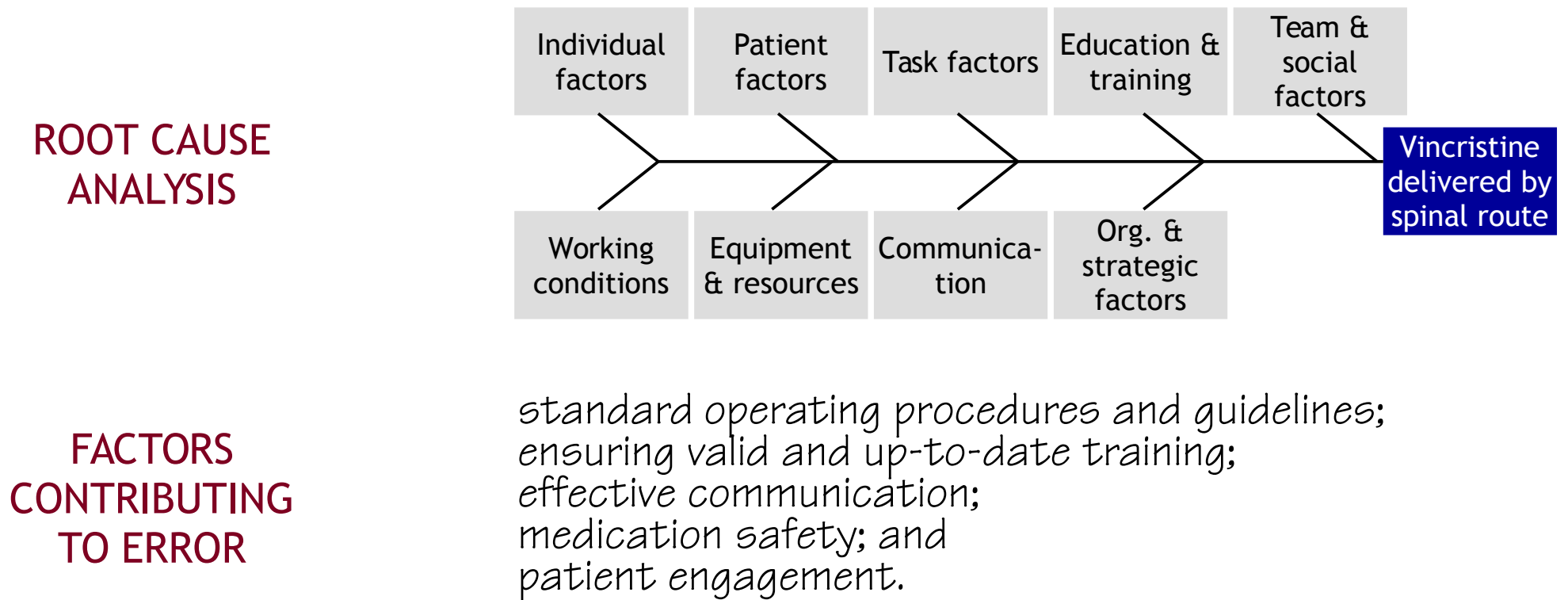
System integration?

The 10 themes as enablers to move healthcare into the envisioned system of tomorrow. The themes are interdependent and must be approached in an integrated fashion.



Vincristine accidents

Vincristine should only be administered intravenously. Many patients also receive other medication via a spinal route as part of their treatment. This has led to errors (n=55) where vincristine has accidentally been administered via a spinal route.

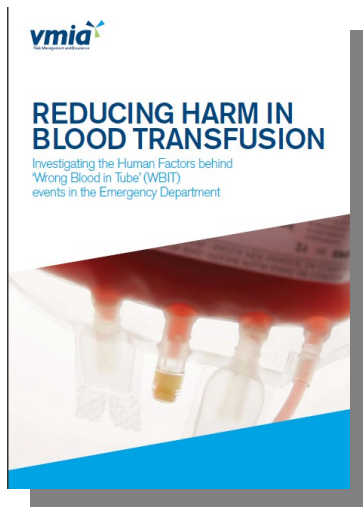


Wrong Blood in Tube (WBIT)

WBITs are estimated to occur at a rate of approximately 1 in 2.000 samples. Main causes are:



labelling of sample tubes away from the bedside
failure to check patient identity
similar names (together with incorrect identity checks)
use of pre-printed labels
confusion of patient notes and/or request forms
inaccurate verbal instructions/no request form



Environment	(3 recommendations)
Staff	(9 recommendations)
Equipment	(12 recommendations)
Patient	(2 recommendations)
Procedure	(6 recommendations)
Culture	(8 recommendations)

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(These recommendations) will provide input for those responsible for reducing errors related to mislabelling and miscollection of blood samples.

The implementation ... should be considered in the broader context of the organisational culture of Australian healthcare.

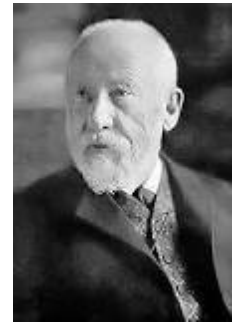
The facts of life



B. Pascal
(1623-1662)

“I consider it impossible to know the parts without knowing the whole, or to know the whole without knowing the parts.”

“A whole cannot be understood except by understanding its constituent parts, which cannot be understood except by understanding the whole.”



W. Dilthey
(1833-1911)

... a failed model of fragmented care in which different symptoms were managed by different specialities, and everyone did their job in the snapshot of a consult. No one strung those snapshots together into a moving picture of a patient ...
(Canfield, 2015)

Conclusions (1)

Event analyses have two serious limitations:

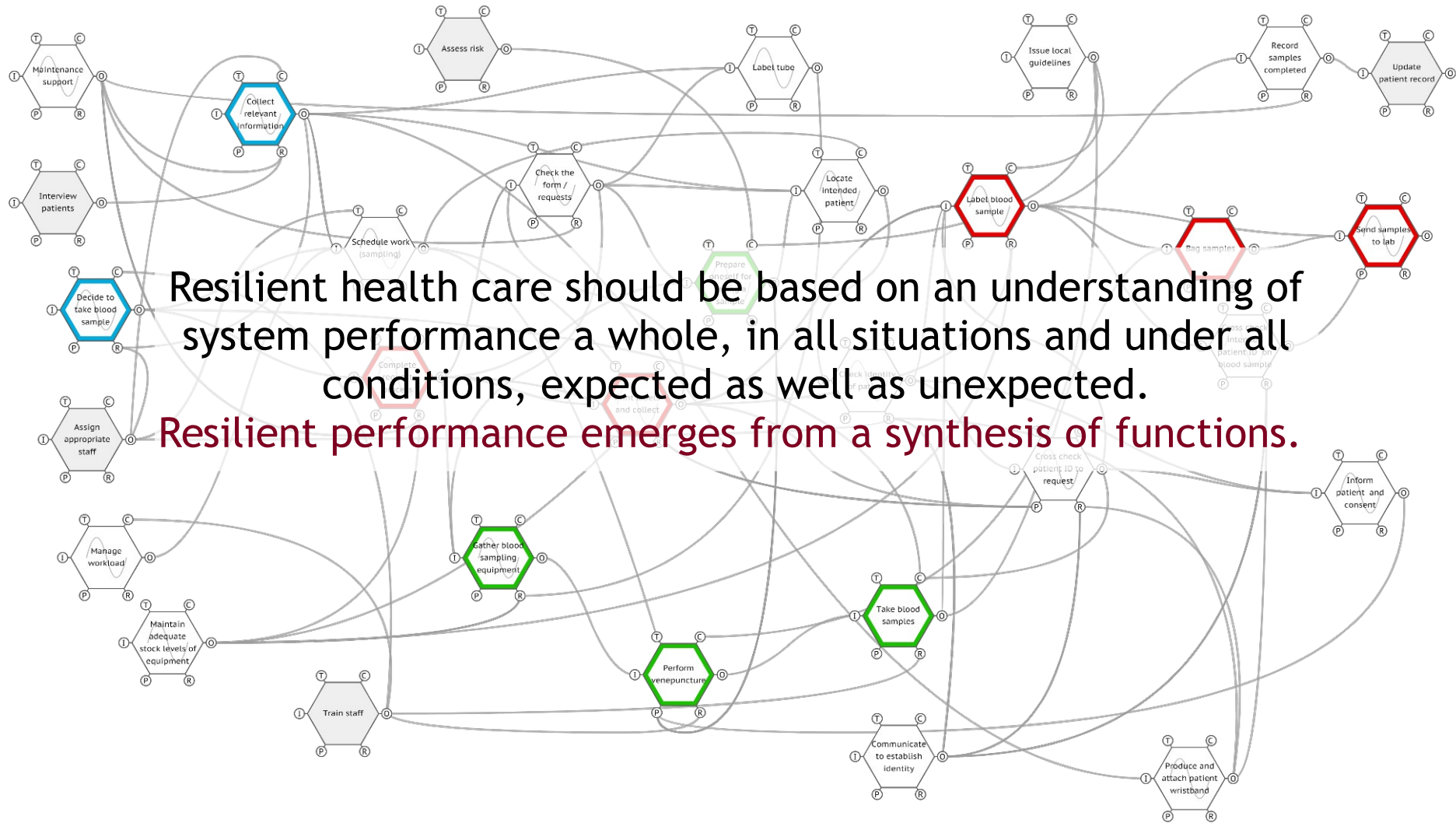
- (1) They are usually linear (cause-effect analyses, as in an Ishikawa diagram).
- (2) The analysis represents a single instance or snapshot of how the system (mal)functioned.

Recommendations for improvement will therefore (logically) only work if exactly the same instance or configuration occurs again.

Alternatively, recommendations should be based on an understanding of the typical performance, including how it is adjusted to the situation. Typical performance is continuous rather than discrete, which means that it must be based on analysis-by-synthesis rather than just analysis.

The synthesis means that proposals or suggestions for improvements are seen in relation to the broad spectrum of performance rather than single instances.

Synthesis of functions

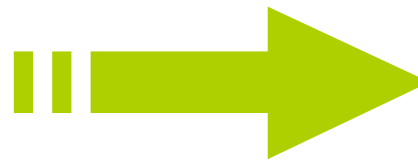


Safety through analysis or synthesis?

Safety-I:
Safety through analysis



Prevent, eliminate, constrain.
Safety, quality, etc. are different and require different measures and methods.



Safety-II:
Safety through synthesis



Support, augment, facilitate.
Safety, quality, etc. are inseparable and need matching measures and methods.