Karina Aase & colleagues

Taking Resilience in Healthcare (RiH) to the next level

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Copenhagen, August 30 – 31

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Thanks to……

Tanja Manser, Switzerland (methodology ++)
Janet Anderson, UK (resilience studies)
Mathilde Bourrier, Switzerland (comparative studies)
Carl Macrae, UK (theory ++)
Carolyn Canfield, Canada (patient & carer involvement)
Jane O'Hara, UK (patients, resilience studies)

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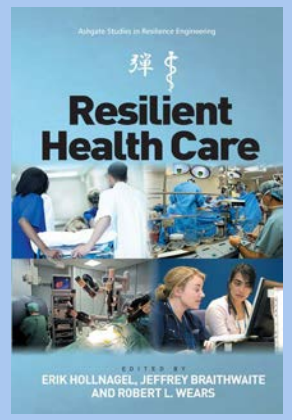
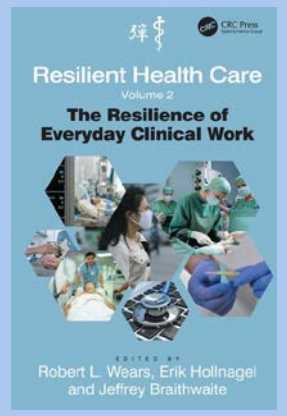
Background

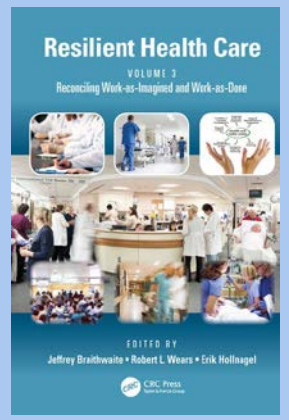
Resilience in healthcare (RiH) has gained widespread interest

RiH studies are conducted in a limited number of empirical settings

RiH studies apply theoretical constructs with variable maturity







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Resilience

- Individual (psychology, recovery)
- Organisational (system, complexity)
- Societal (ecology, disaster)

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Organisational resilience

- "the intrinsic ability of a system or an organisation to adjust its functioning prior to, during, or following changes and disturbances, so that it can sustain required operations under both expected and unexpected conditions" (Hollnagel, 2011, p. xxxvi)

More specifically…

- Proactive systems approach aimed at anticipating and preventing problems

- Based on the reality of clinical work –
  - Often messy, chaotic
  - Determined by social interaction and negotiation
  - Relies on co-ordination and articulation across groups, physical locations, time

CARe

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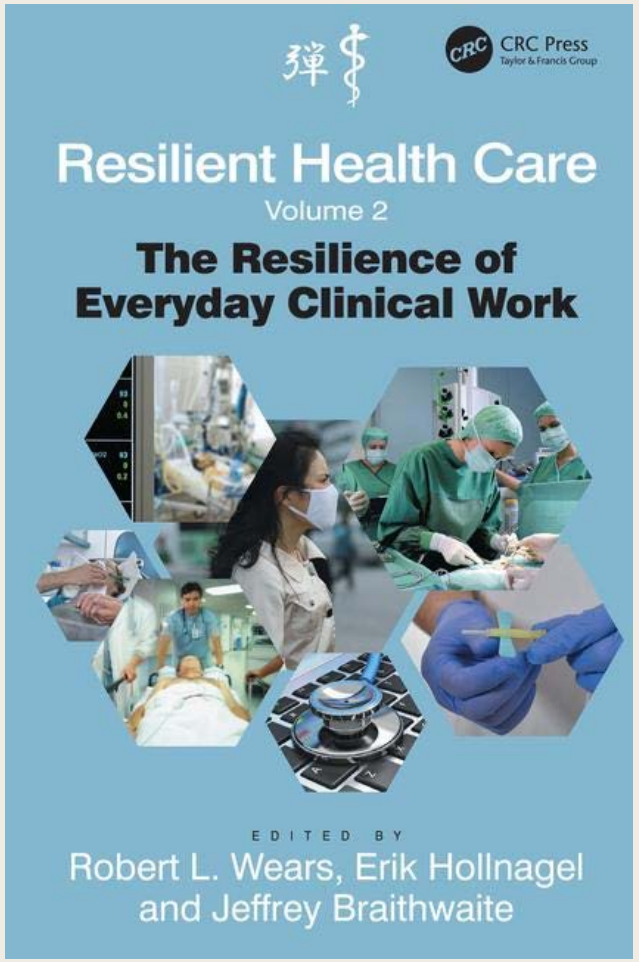
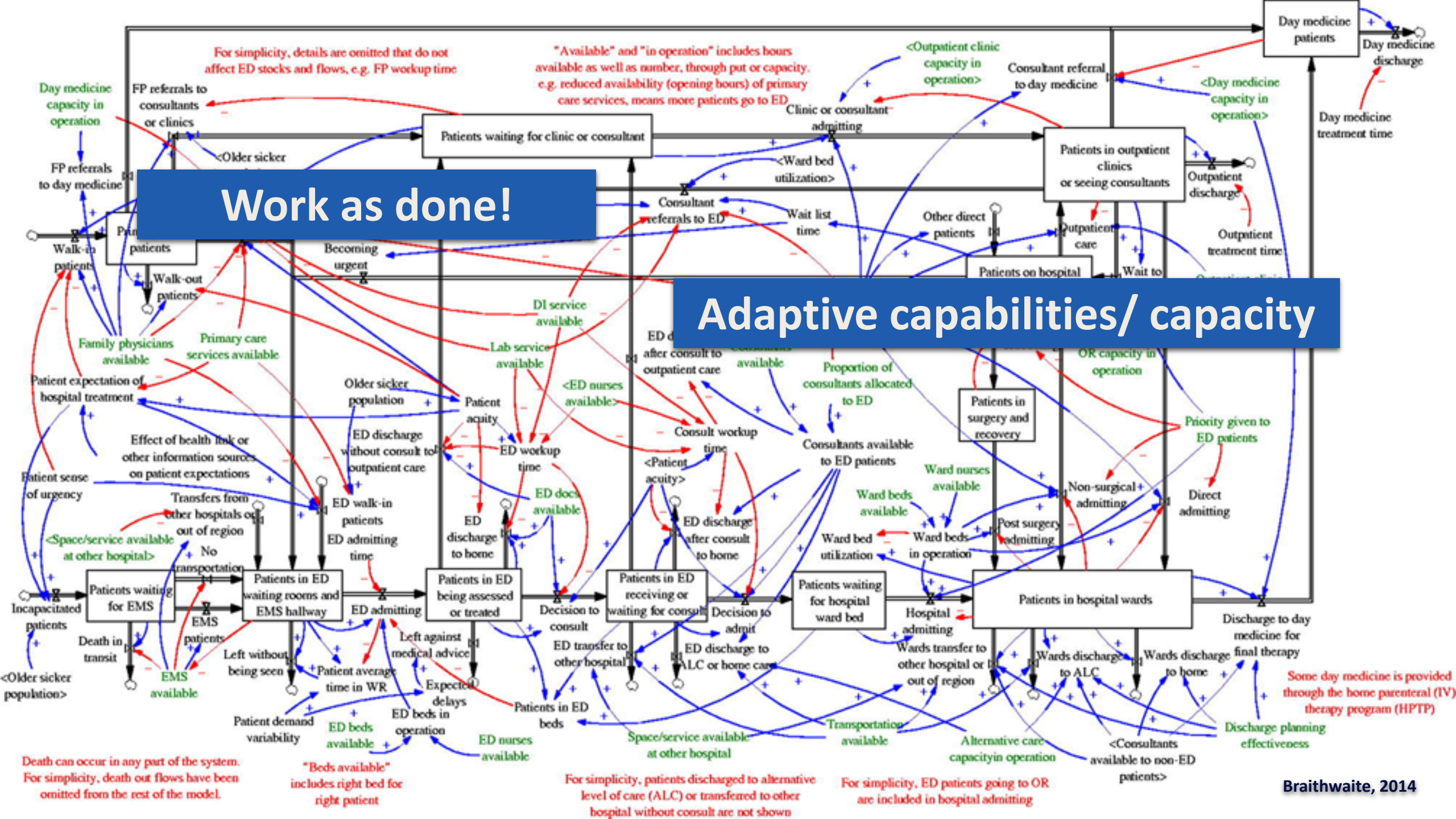
Describing Everyday Clinical Work (WAD)

- In order to make systems work, people
  - trade off competing goals
  - develop work arounds for system problems
  - improvise solutions to novel problems
  - find ways to do things with minimal time and effort




Work as done!
Adaptive capabilities/ capacity
For simplicity, details are omitted that do not affect ED stocks and flows, e.g. FP workup time
"Available" and "in operation" includes hours available as well as number, through put or capacity. e.g. reduced availability (opening hours) of primary care services, means more patients go to ED
Day medicine patients
Day medicine discharge
Day medicine capacity in operation
FP referrals to consultants or clinics
<Outpatient clinic capacity in operation>
Consultant referral to day medicine
<Day medicine capacity in operation>
Day medicine treatment time
Patients waiting for clinic or consultant
Clinic or consultant admitting
Patients in outpatient clinics or seeing consultants
Outpatient discharge
FP referrals to day medicine
<Older sicker
<Ward bed utilization>
Consultant referrals to ED
Wait list time
Other direct patients
Outpatient care
Outpatient treatment time
Walk-in patients
Becoming urgent
Walk-out patients
Patients on hospital
Wait to
DI service available
Lab service available
Family physicians available
Primary care services available
ED d
after consult to outpatient care
available
Proportion of consultants allocated to ED
OR capacity in operation
Patient expectation of hospital treatment
Older sicker population
Patient acuity
<ED nurses available>
Patients in surgery and recovery
Priority given to ED patients
Effect of health link or other information sources on patient expectations
ED discharge without consult to outpatient care
Consult workup time
Consultants available to ED patients
Patient sense of urgency
ED walk-in patients
ED workup time
<Patient acuity>
Ward nurses available
Non-surgical admitting
Direct admitting
Transfers from other hospitals or out of region
ED docs available
ED discharge after consult to home
Ward beds available
Post surgery admitting
<Space/service available at other hospital>
No transportation
ED admitting time
ED discharge to home
Ward bed utilization
Ward beds in operation
Patients waiting for EMS
Patients in ED waiting rooms and EMS hallway
Patients in ED being assessed or treated
Patients in ED receiving or waiting for consult
Patients waiting for hospital ward bed
Patients in hospital wards
Incapacitated patients
ED admitting
Decision to consult
Decision to admit
Hospital admitting
Discharge to day medicine for final therapy
Death in transit
EMS patients
Left against medical advice
ED transfer to other hospital
Wards transfer to other hospital or out of region
Wards discharge to ALC
Wards discharge to home
<Older sicker population>
Left without being seen
Patient average time in WR
Expected delays
ED discharge to ALC or home care
Some day medicine is provided through the home parenteral (IV) therapy program (HPTP)
EMS available
Patient demand variability
ED beds available
ED beds in operation
Patients in ED beds
Transportation available
Discharge planning effectiveness
ED nurses available
Space/service available at other hospital
Alternative care capacityin operation
<Consultants available to non-ED patients>
Death can occur in any part of the system. For simplicity, death out flows have been omitted from the rest of the model.
"Beds available" includes right bed for right patient
For simplicity, patients discharged to alternative level of care (ALC) or transferred to other hospital without consult are not shown
For simplicity, ED patients going to OR are included in bospital admitting
Braithwaite, 2014

RiH research – a hard problem!

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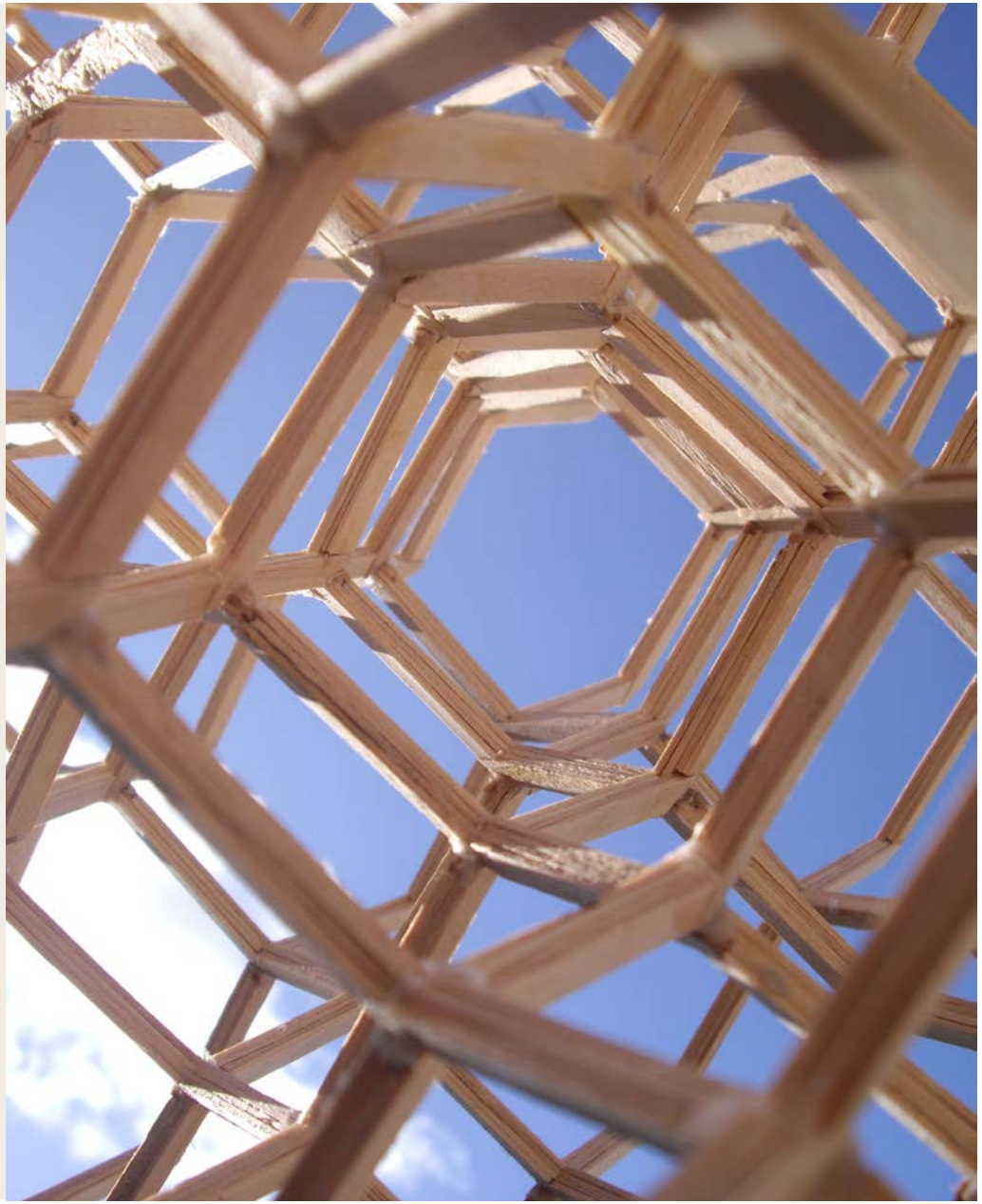
- Limited evidence base supporting the benefits of resilience engineering on quality and safety improvements
  - Difficulties operationalising key concepts
  - Difficulties capturing outcomes (adaptation can be positive or negative)
  - Focus on individual rather on organisational level phenomena

“The next level”?

- Theoretically
- Methodologically
- Collaborative
  - Patient, carers, stakeholders



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Theoretical background

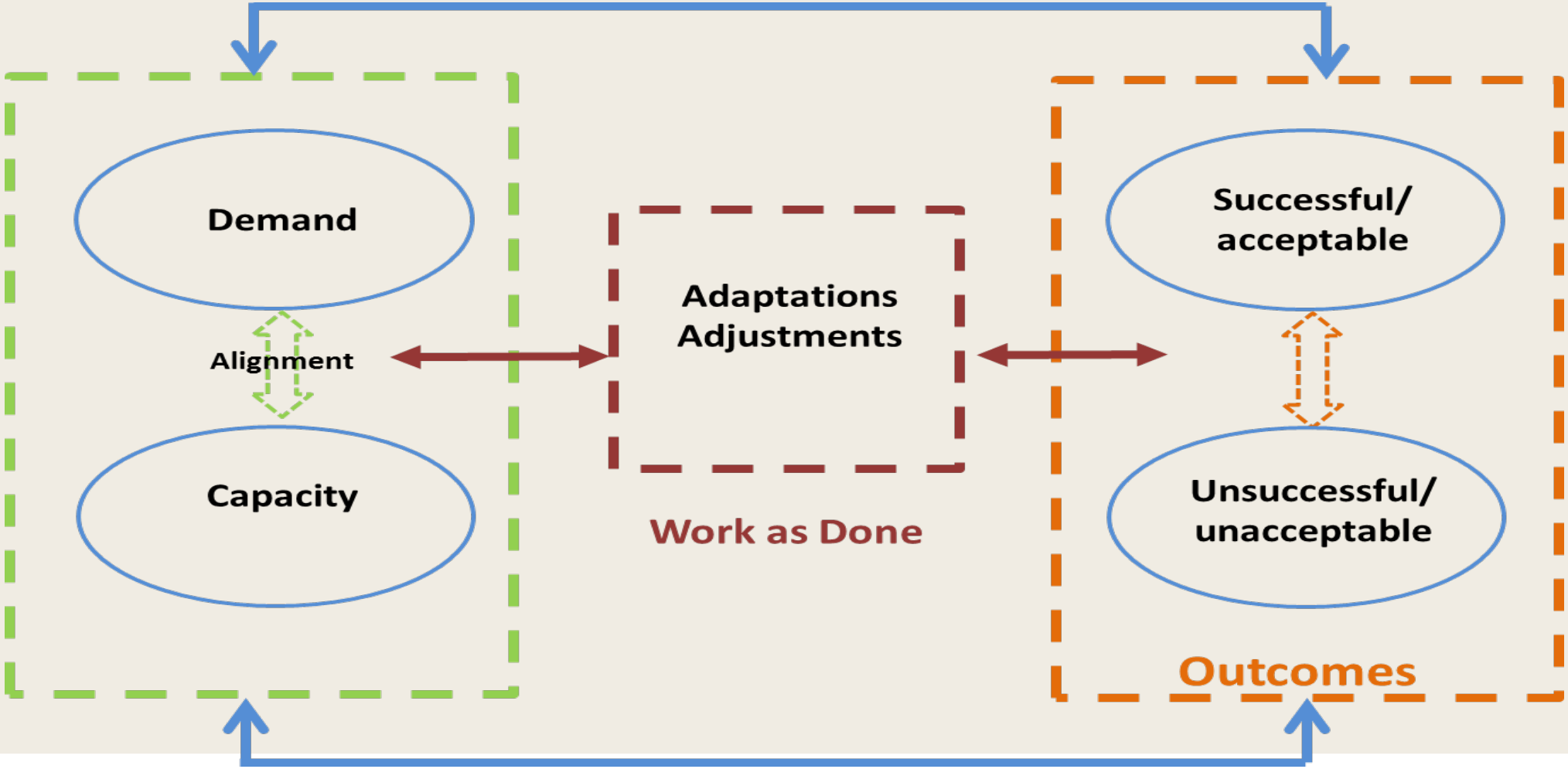
- Numerous definitions and models of resilience exist:
  - The shared use of the term does not imply unified definitions
- Efforts to define core constructs illustrated by practical examples
- Not yet any robust theoretical framework(s)

The four cornerstones

(1) monitoring / exploring the system's function and performance
(2) responding or reacting to events or conditions
(3) anticipating or foreseeing future events and conditions, and
(4) learning or reorganizing system knowledge

(Hollnagel, 2009)

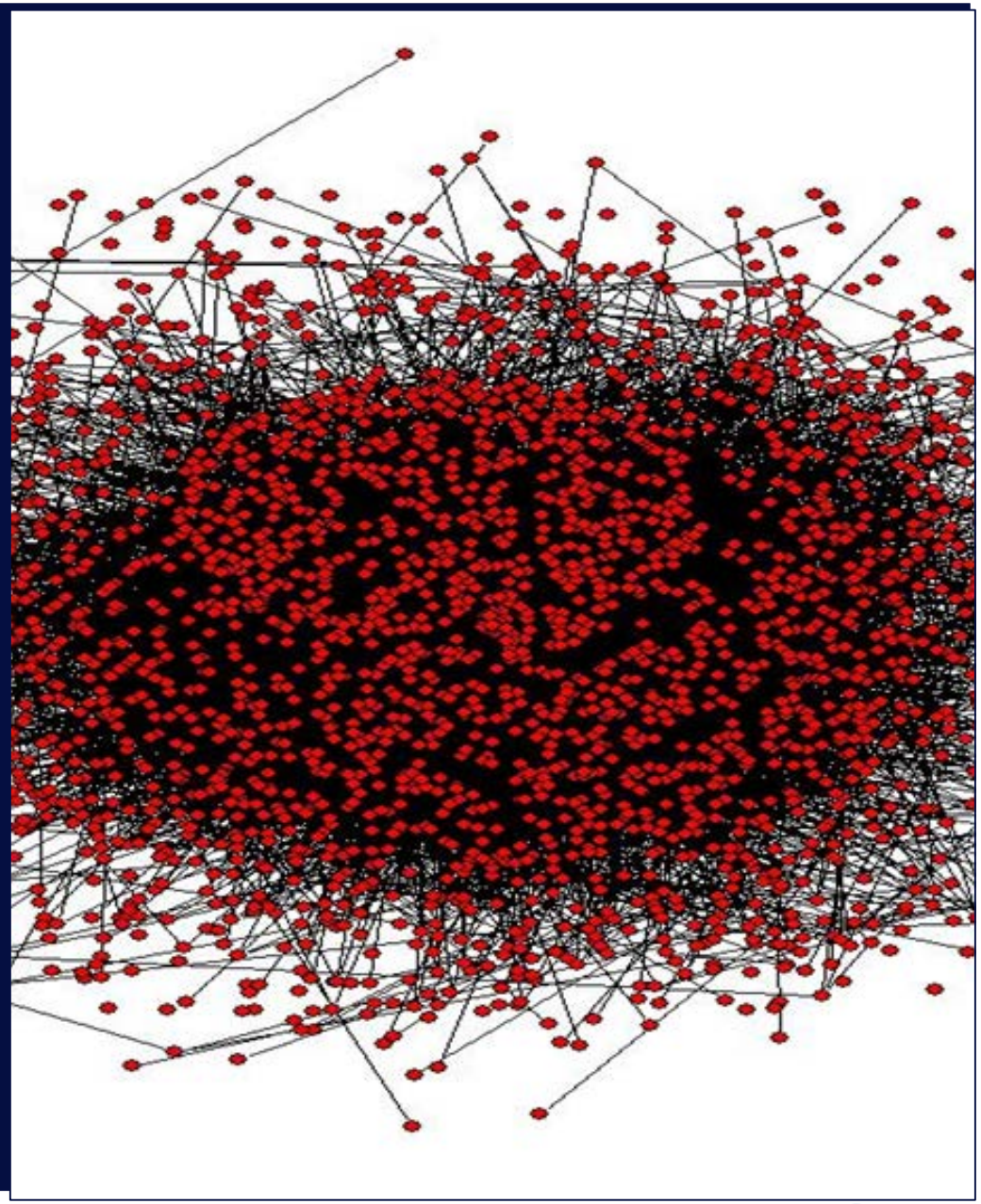
CARe - working model



Integrative RiH framework(s)?

- Fundamental principle:
  - All organised activity involves some degree of inherent fluctuation and variation
  - Resilience as the active application of different sociotechnical resources to handle the disruptions
    - skills, knowledge, relationships, equipment, values, creativity, etc

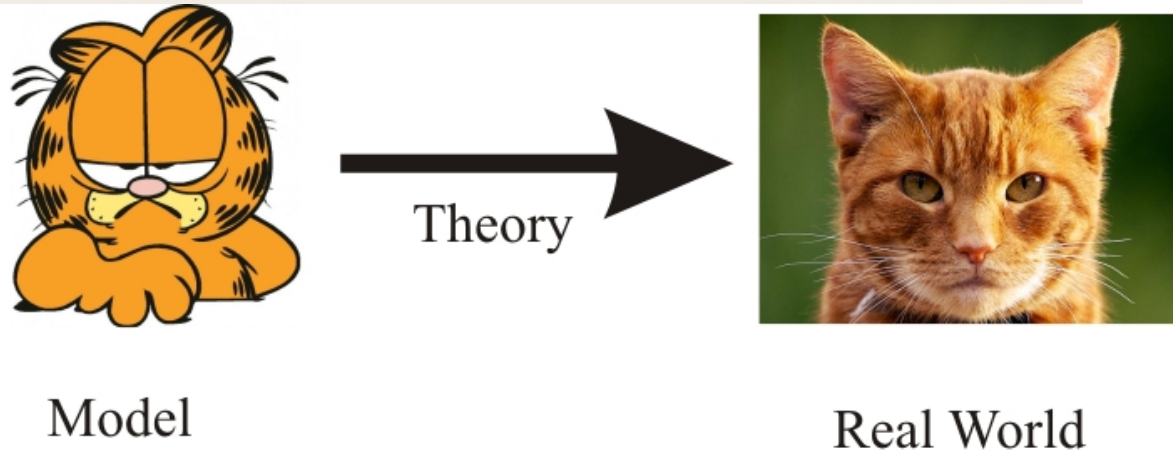
(Macrae & Wiig, in press)



Towards an integrative RiH framework?

- Resilience at different scales or levels:
  - from **situated** and immediate responses that unfold rapidly
  - to **structural** adaptations that involve longer processes of reorganisation
  - to long-term **systemic** reconfigurations involving system-wide reform.

(Macrae & Wiig, in press)



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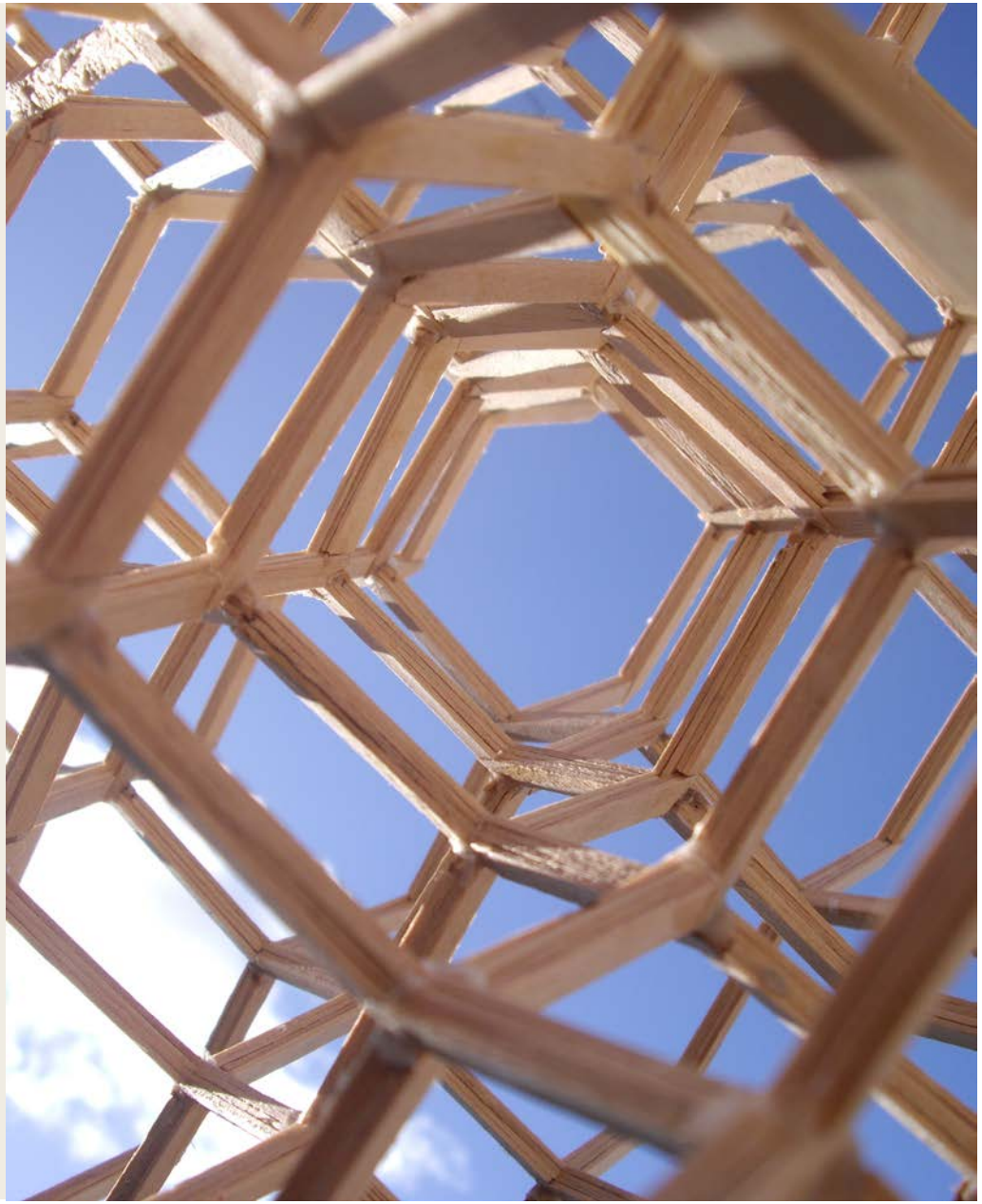

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Learning from the RE literature

- Rationale: Complexity
- Object: Capacity to adapt to emerging risks
- Subject: Sharp end staff and managers

- Mainly case study approaches
- Theory accounts for more than 50% of the literature
- Health care accounts for 19% of the literature

Challenges:
System boundaries?
Methods?
Data?

(Righi, Saurin & Wachs 2015; Bergstrøm, Winsen & Henriqson 2015)

Current RiH research approaches

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- Empirical setting
  - inpatient critical environments, geriatrics, pediatrics, primary care, etc.
- Case studies using diverse qualitative methods
  - observations, interviews, focus groups, critical decision-making method, audio-video recordings, FRAM, process mapping, simulation, etc.
- Data on behaviour and professionals' perceptions
  - Experiences, attitudes, decision processes, problem-solving, communication, understanding, sensemaking, etc.

Berg, S.H., Akerjordet, K., Ekstedt, M. & Aase, K. (2018).

Summarised

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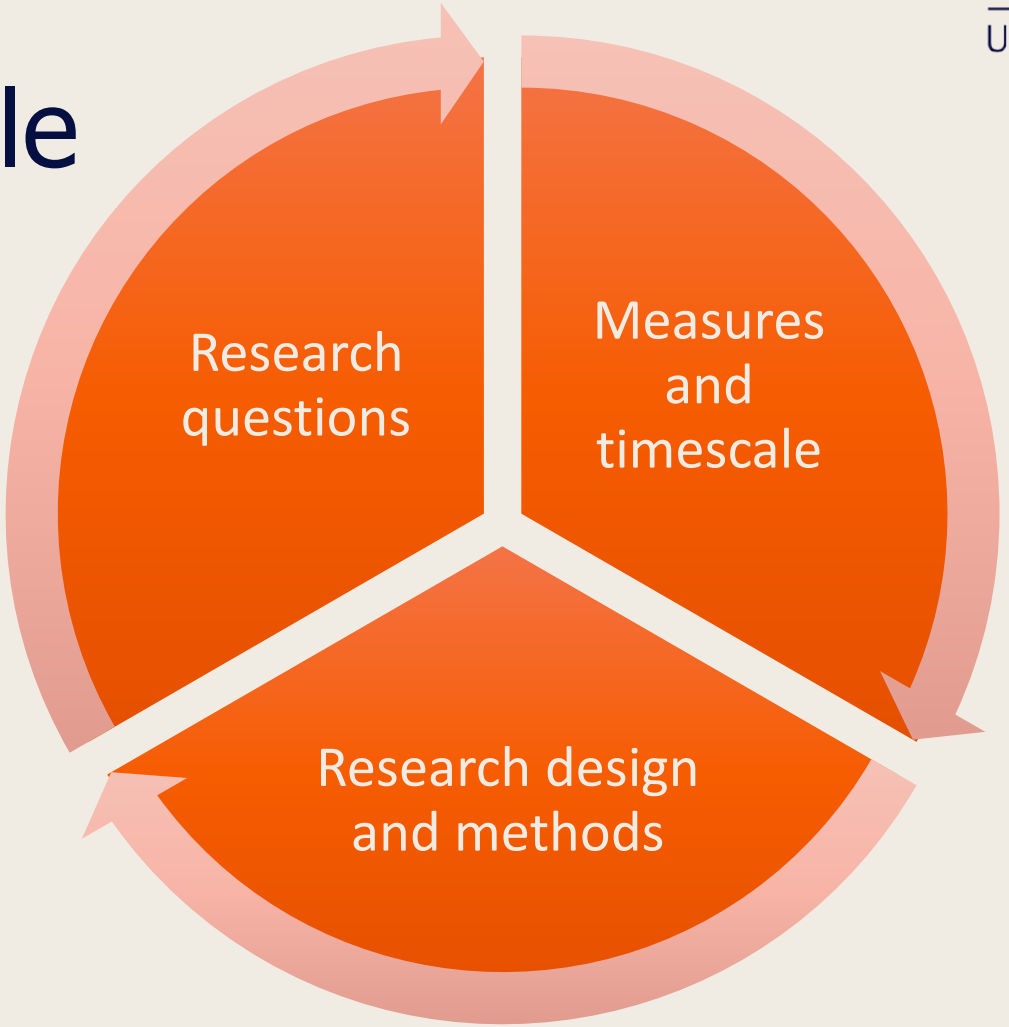
Data collected at micro level within single empirical settings.

System boundaries limited to sharp end.

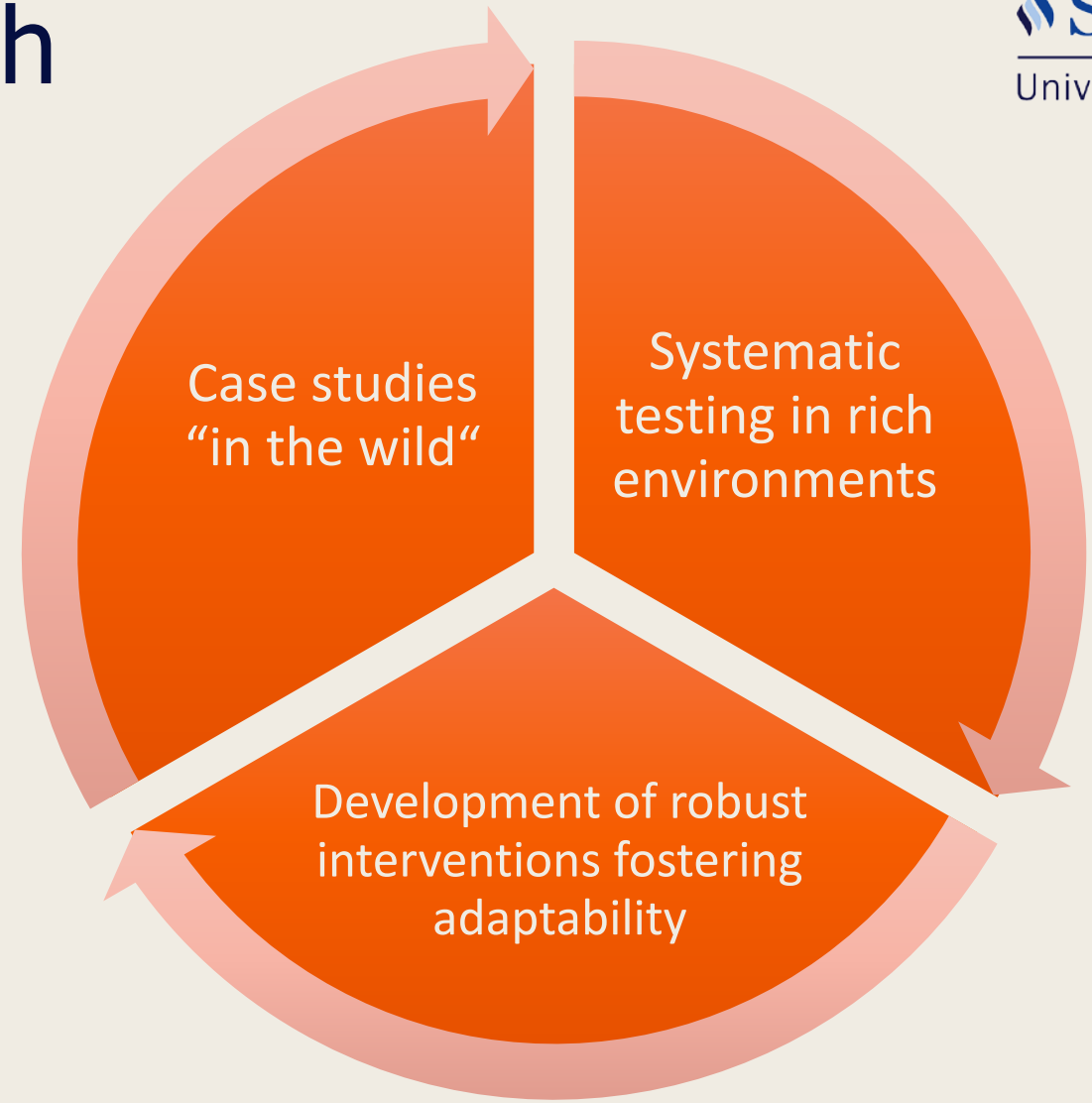
Few studies with a multi-level approach including e.g. organizational data, national health care strategies.

Berg, S.H., Akerjordet, K., Ekstedt, M. & Aase, K. (2018).

Traditional research cycle



RiH research cycle?



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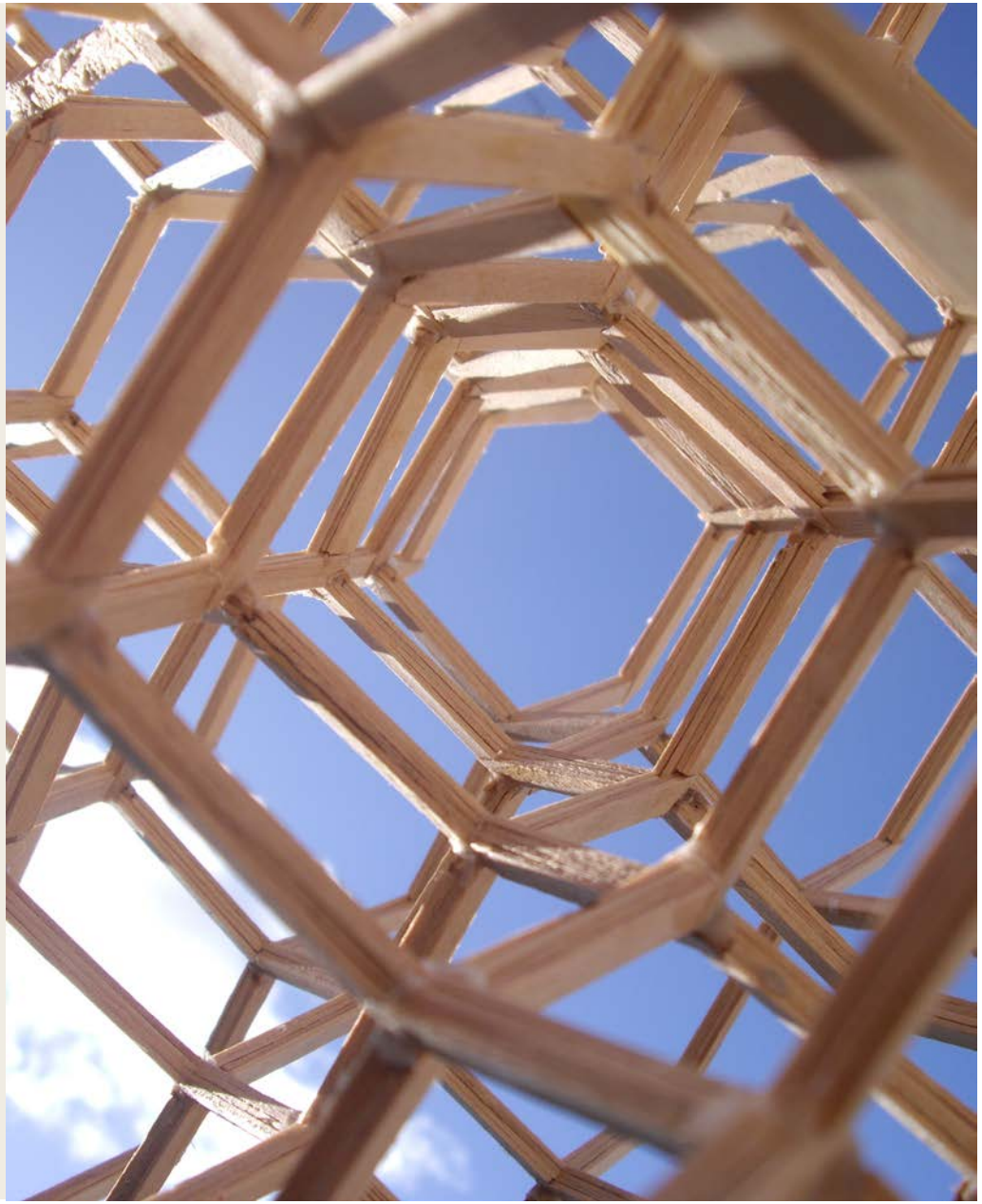

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Patients and carers

Lack of patient and carer perspectives in RHC studies
(Berg et al, 2018 upcoming; Laugaland & Aase, 2015)

Patients, next-of-kin and other carers are fundamental co-creators of resilience (Schubert et al, 2015; O'Hara et al, 2018)

Without these perspectives our understanding of WAD is limited in terms of experience, quality and outcome

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PC focus in resilience studies

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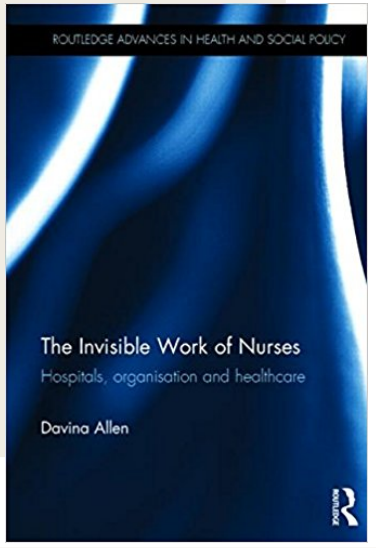
- "Reaching in" – "Scaffolding"
  - Medicines management (Fylan et al, 2017)
  - Correcting information on which clinical decisions are made (O'Hara, Aase, Waring 2018)
- Knowledge brokers
  - Becoming the main source of safety critical information for staff (Storm et al 2014)
  - Filling "structural holes" between interconnected system parts (Bishop & Waring, 2017)
- The invisible work (inspired by Allen 2014, "The invisible work of nurses")



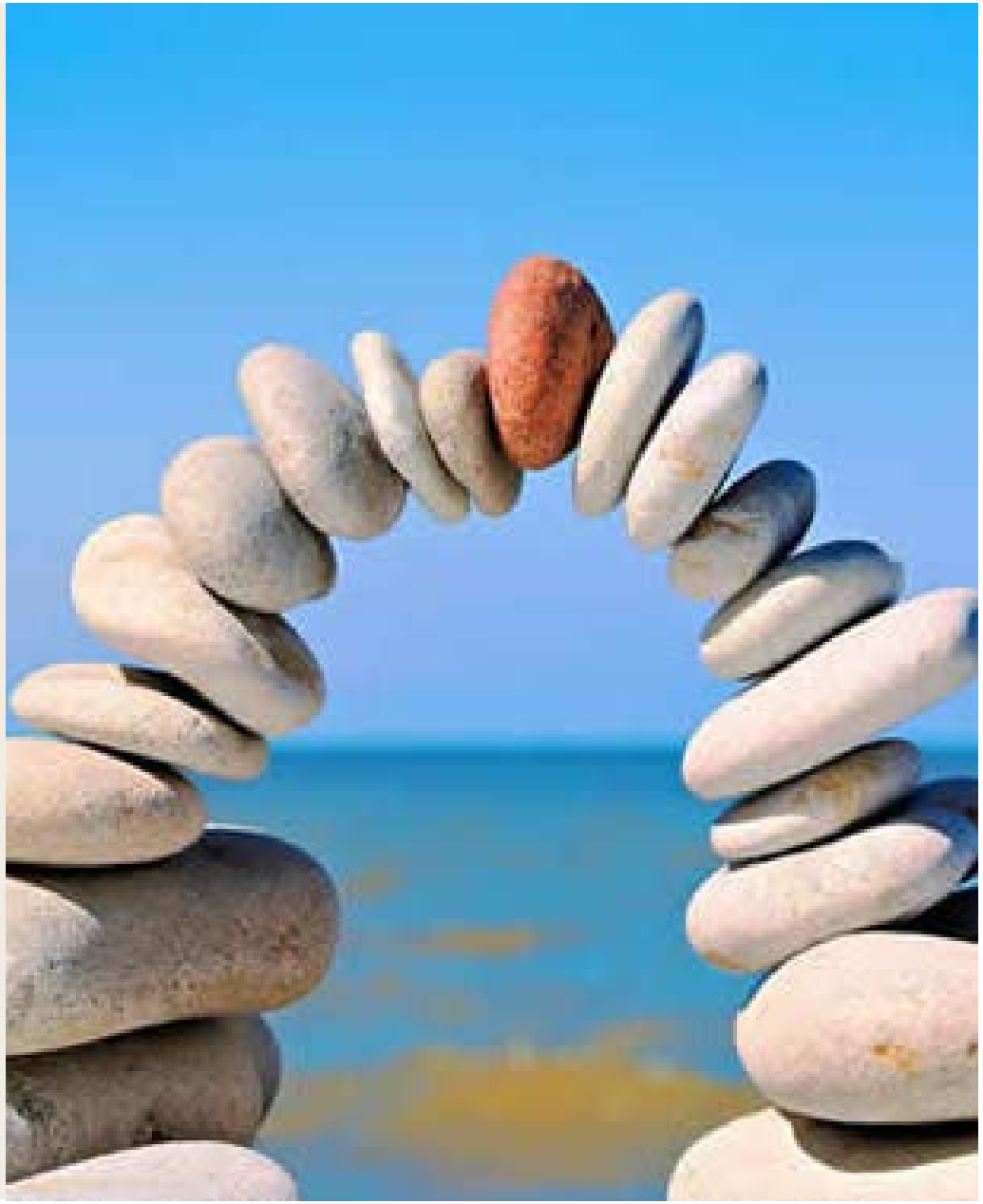
Framework for PC focus?

- A broadening of approaches
- Who sets the research agenda?
- A move towards patient experiences
- Collecting data with the aim of describing patients as sources of resilience

«Next level» implications

- Large-scale,
- multi-level,
- longitudinal
- cross-country research programmes

- Co-designed with patients & stakeholders
- Using collaborative translational learning tools



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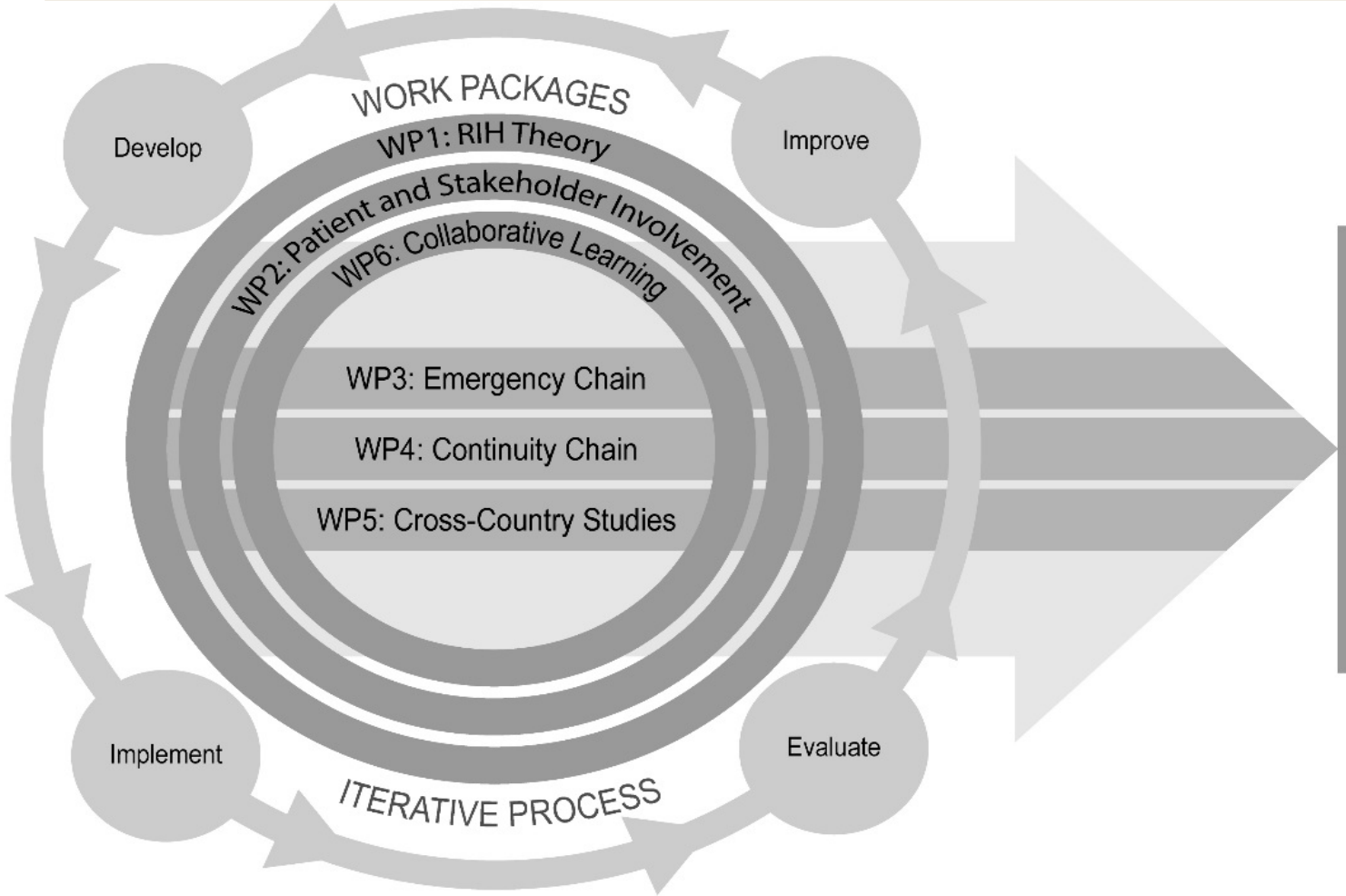
Resilience in Healthcare (2018-2023)



RIH FRAMEWORK OUTCOMES

State-of-the-art RIH theory (WP1),
Increase in RIH research studies and practices (WP1, WP6)
PSI strategy and model for RIH (WP2)
Resilience models and indicators (WP3, WP4, WP1)
Research methods to identify and evaluate resilience (WP3, WP4, WP6)
Evidence-based RIH interventions (WP1, WP3, WP4)
RIH case-study database (WP5)
Context-specific RIH tools and strategies (WP5, WP1)
Collaborative translational learning interventions and tools (WP2, WP6)

Partners

The Research Council of Norway

Norwegian Air Ambulance Foundation

NTNU
Norwegian University of Science and Technology

Oslo University Hospital

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St George's University of London

MACQUARIE University

University of Applied Sciences and Arts Northwestern Switzerland
School of Applied Psychology

Further reading

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Questions & debate!!?