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CAHO-ISQua Webinar 18:

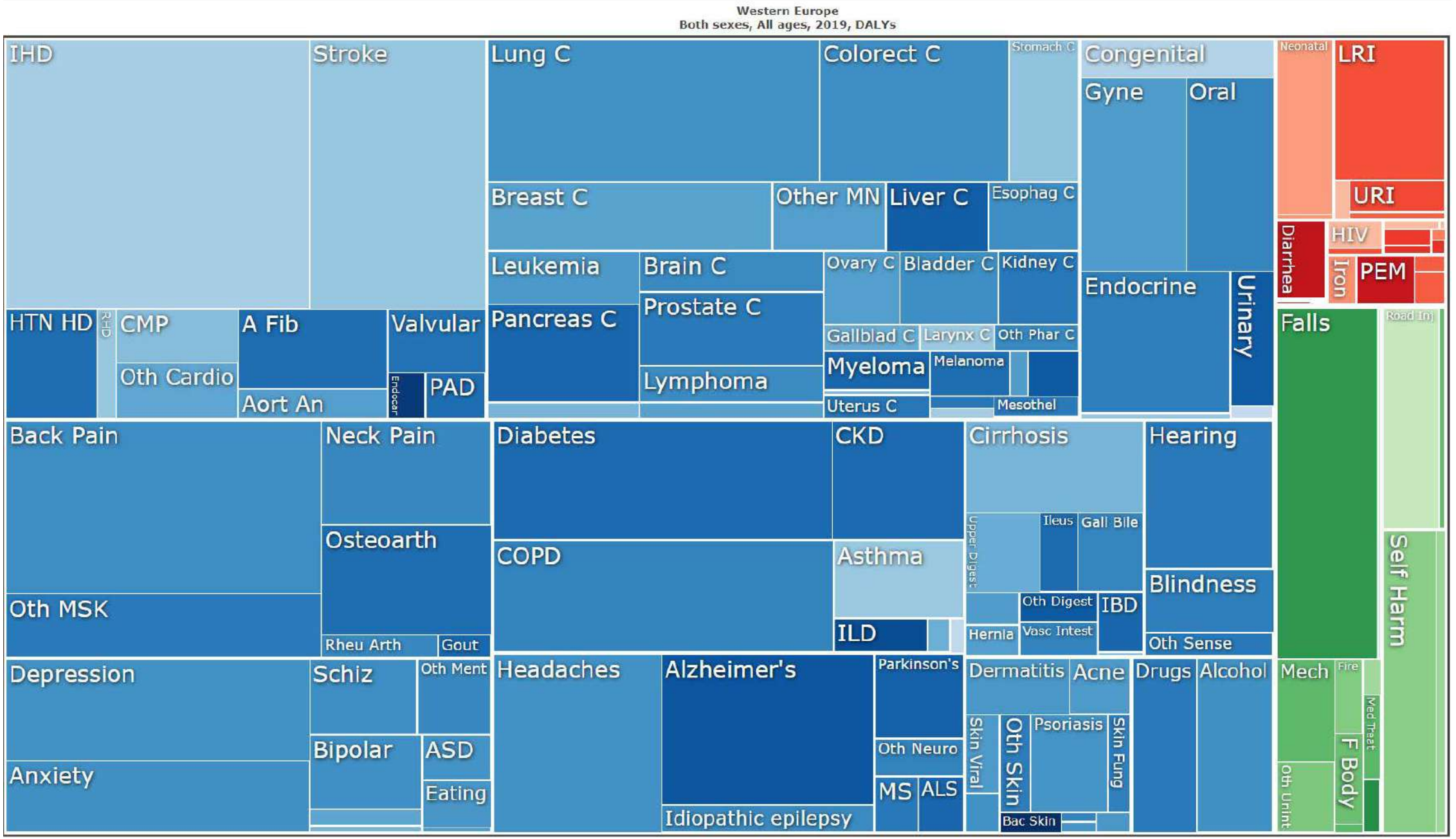
Patient safety: checklists, culture and the patient´s perspective

Dr Oliver Groene, Vice Chairman of the Board

07 June 2022

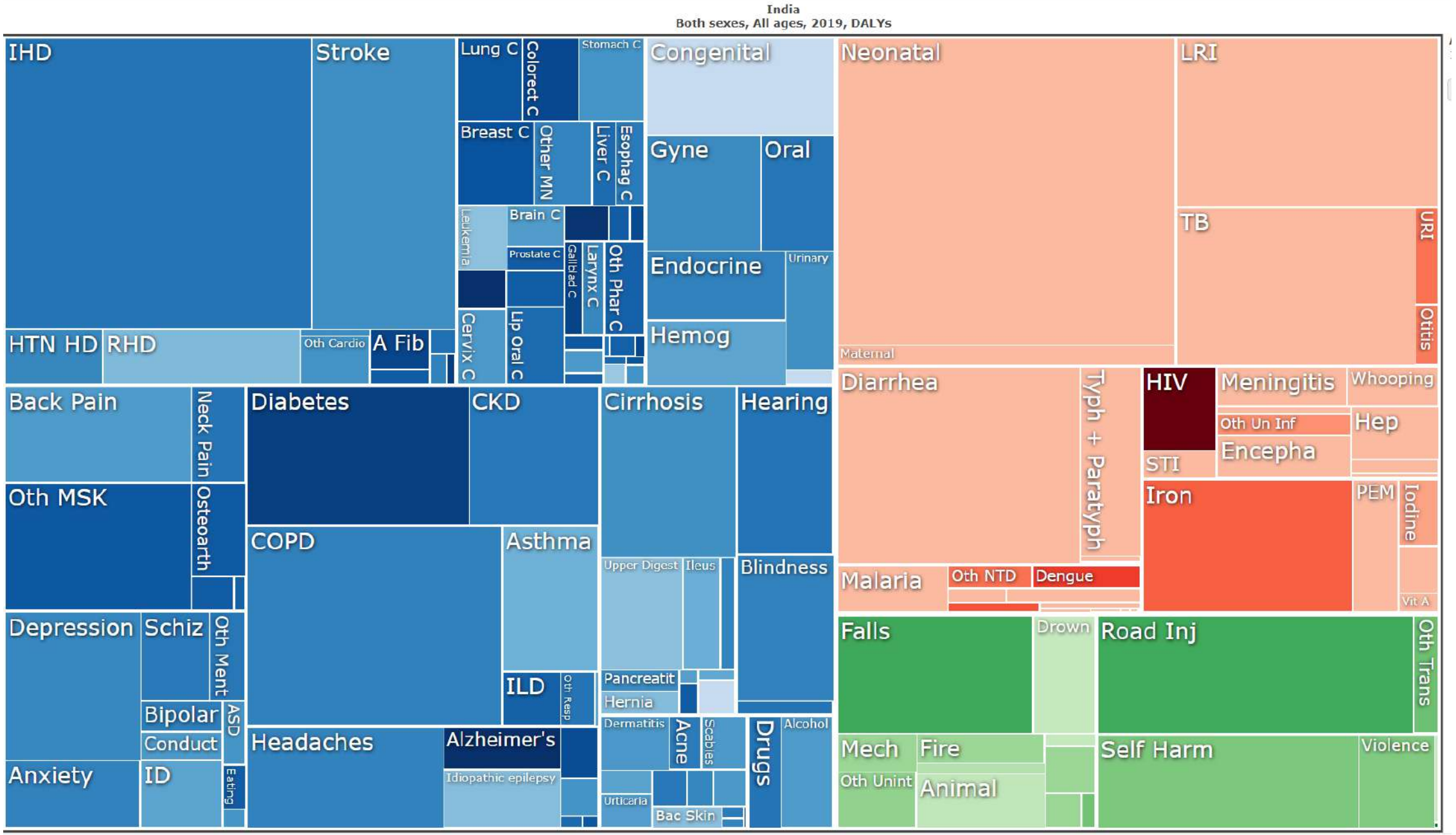
Disability Adjusted Life Years, **Western Europe**, both sexes, all ages

Global Burden of Disease Visualization Tool. https://www.healthdata.org/data-visualization/gbd-compare



Disability Adjusted Life Years, **India**, both sexes, all ages

Global Burden of Disease Visualization Tool, https://www.healthdata.org/data-visualization/gbd-compare



What is patient safety?

"A framework of organized activities that creates cultures, processes, procedures, behaviours, technologies and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make errors less likely and reduce the impact of harm when it does occur."

World Health organization. Global Patient Safety Action Plan 2021–2030 Towards eliminating avoidable harm in health care. https://www.who.int/publications/i/item/9789240032705

Epistemology of patient safety

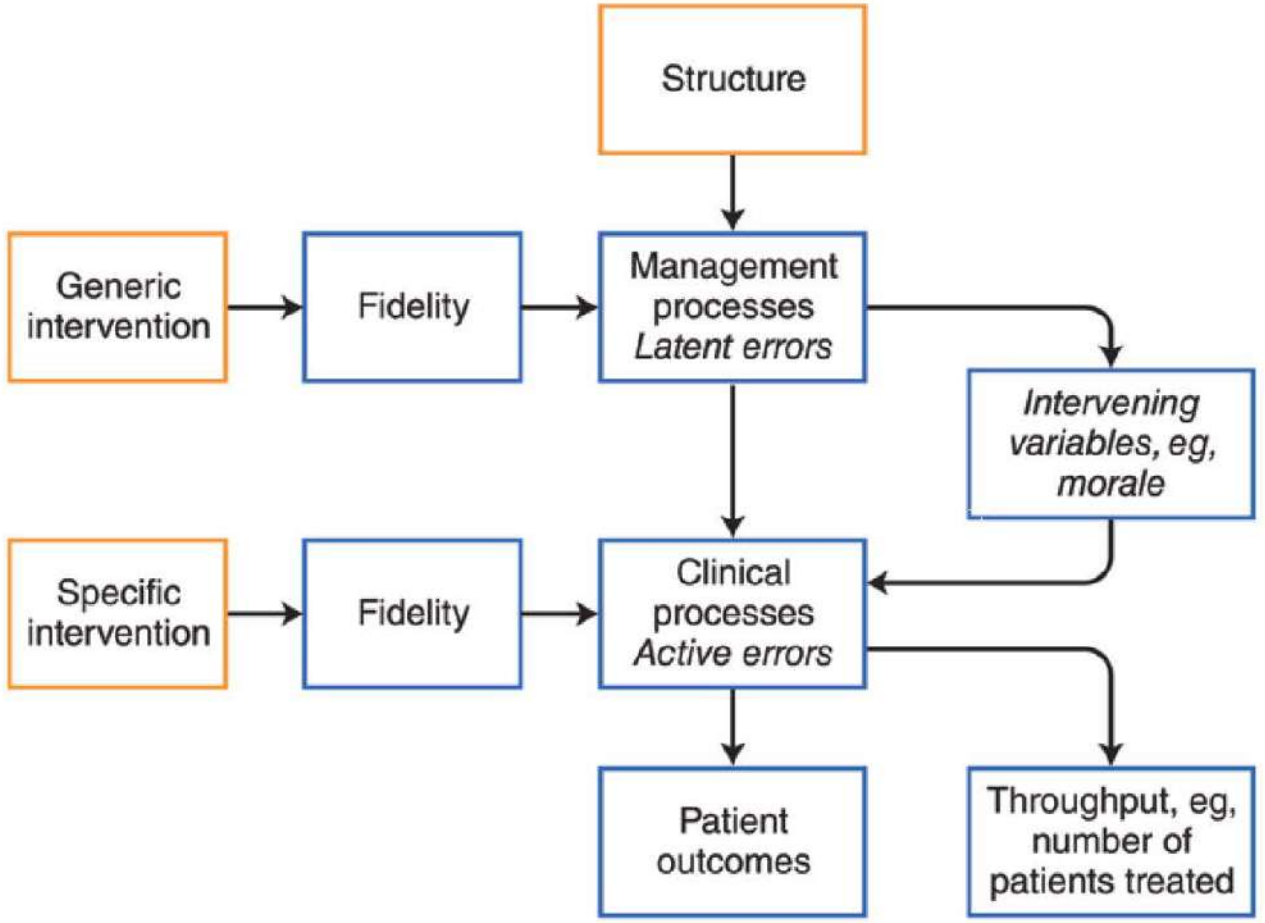


Fig. 2.1 General and specific interventions across the system and evaluation end points (modified from Brown et al.)

Groene O. Risk Factors and Epidemiology of Surgical Safety, 15-24. In: Sanchez J, Barach P, Johnson JK, Jacobs JP (eds). Surgical patient care. Springer, 2017

Epidemiology of patient safety

Table 2.1 Selected results of retrospective care record reviews (after deVries [13])

Study	Harvard Medical Practice study	Quality in Australian Health Care study	Utah and Colorado Study	Vincent et al. study	Adverse events in New Zealand Public Hospitals	Canadian Adverse Event Study
Country	USA	Australia	USA	England	New Zealand	Canada
Year	1984	1992	1992	1998	1998	2000
Cases reviewed	30,121	14,179	14,700	1014	6579	3745
Adverse event rate	3.8 %	16.6 %	3.9 %	10.8 %	11.2 %	6.8 %
Preventable adverse events	1.0 %	8.5 %	0.9 %	5.2 %	4.8 %	2.8 %

Groene O. Risk Factors and Epidemiology of Surgical Safety, 15-24. In: Sanchez J, Barach P, Johnson JK, Jacobs JP (eds). Surgical patient care. Springer, 2017

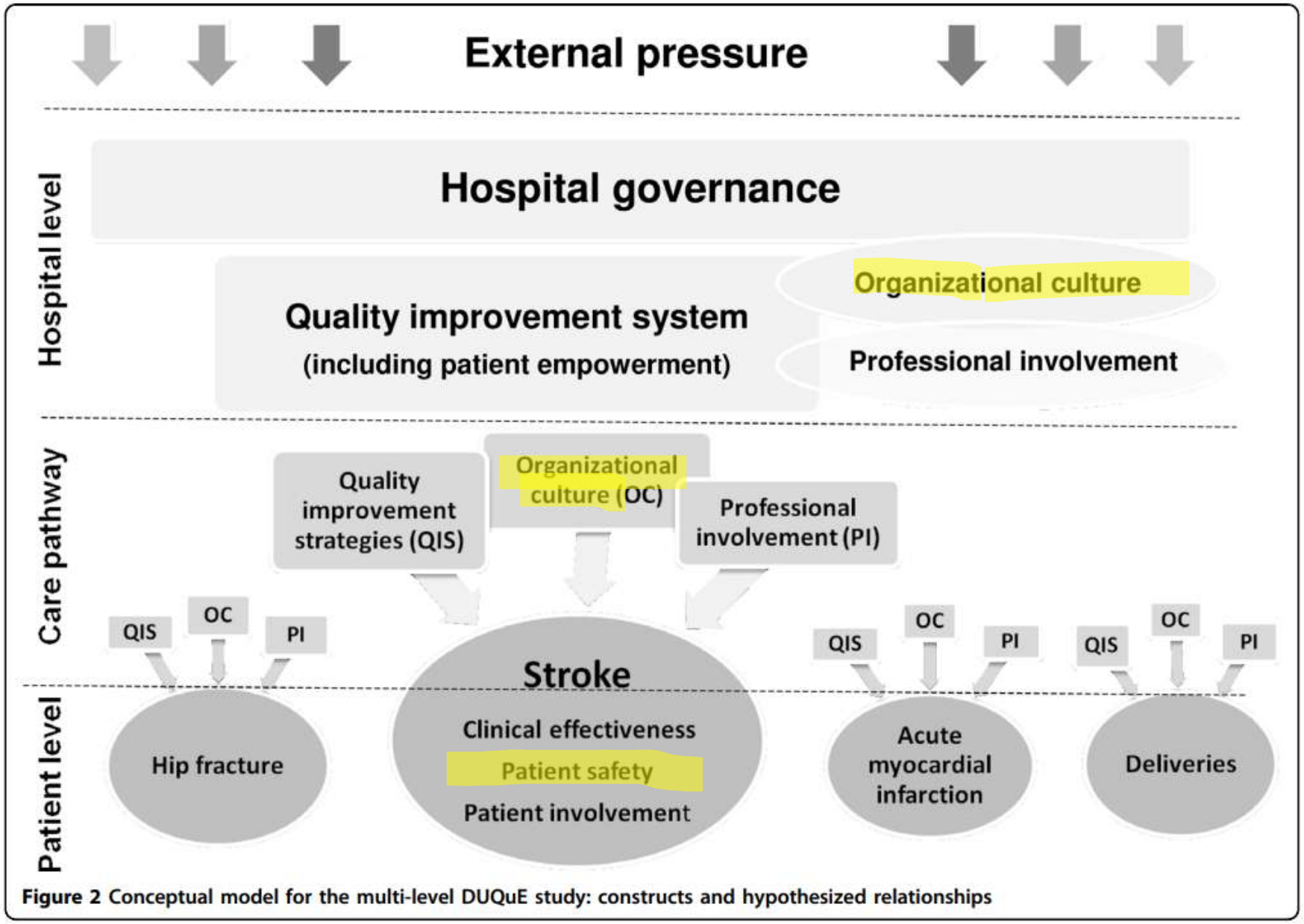


Figure 2 Conceptual model for the multi-level DUQuE study: constructs and hypothesized relationships

Groene O, Klazinga N, Wagner C et al. Deepening our Understanding of Quality Improvement in Europe Research Project. BMC Health Services Research. 2010 24;10:281.

Patient safety practices

An Updated Critical Analysis of the Evidence for Patient Safety Practices. https://www.ahrq.gov/research/findings/evidence-based-reports/ptsafetysum.html

see also Shekelle et al: Strongly encouraged patient safety practrices.

- Preoperative checklists and anesthesia checklists to prevent operative and post-operative events.
- Bundles that include checklists to prevent central line-associated bloodstream infections.
- Interventions to reduce urinary catheter use, including catheter reminders, stop orders, or nurse-initiated removal protocols.
- Bundles that include head-of-bed elevation, sedation vacations, oral care with chlorhexidine, and subglottic-suctioning endotracheal tubes to prevent ventilator-associated pneumonia.
- Hand hygiene.
- "Do Not Use" list for hazardous abbreviations.
- Multicomponent interventions to reduce pressure ulcers.
- Barrier precautions to prevent healthcare-associated infections.
- Use of real-time ultrasound for central line placement.
- Interventions to improve prophylaxis for venous thromboembolisms.

Sunol R, Wagner C, Arah O, […], and Groene O. *Evidence-based organization and patient safety strategies in European hospitals*. International Journal for Quality in Health Care. 2014 Apr; 26(S1: 47–55.

- Objective: To explore how European hospitals have implemented *patient safety strategies (PSS)* and *evidence-based organization of care pathway* (EBOP) recommendations and examine the extent to which implementation varies between countries and hospitals.

- Design: Mixed-method multilevel cross-sectional design in **seven countries** as part of the European Union-funded project 'Deepening our Understanding of Quality improvement in Europe' (DUQuE).

- Setting and participants: **Seventy-four acute care hospitals with 292 departments** managing acute myocardial infarction (AMI), hip fracture, stroke, and obstetric deliveries.

Compliance with patient safety practices is highly variable between and within countries (and within hospitals)

Sunol R, Wagner C, Arah O, [...], and Groene O. Evidence-based organization and patient safety strategies in European hospitals. International Journal for Quality in Health Care. 2014 Apr; 26(S1: 47–55.

Table 2 Compliance with PSS by department and country ranges[a]

	AMI ($n = 72$)	Country range	Obstetric deliveries ($n = 72$)	Country range	Hip ($n = 74$)	Country range	Stroke ($n = 74$)	Average country range	*P*-value[b]
	n (%)	%	*n* (%)		*n* (%)	%	*n* (%)	%	
Patient wristbands	31 (43.0)	25.0–63.6	43 (59.7)	0.0–90.9	37 (50.0)	25.0–75.0	41 (55.4)	25.0–91.7	0.2131
Needle disposal boxes	65 (90.2)	75.0–100.0	67 (93.0)	75.0–100.0	66 (89.1)	66.7–100.0	65 (87.8)	66.7–100.0	0.7537
Hand hygiene promotion/reminder	55 (76.3)	54.6–100.0	53 (73.6)	54.6–100.0	53 (71.6)	58.3–83.3	50 (67.5)	50.0–91.7	0.6809
Alcohol-based hand rubs	65 (90.2)	75.0–100.0	65 (90.2)	66.7–100	66 (89.1)	75.0–100.0	68 (91.8)	75.0–100.0	0.9567
No potassium chloride concentrate in patient services areas	11 (15.2)	0.0–50.0	22 (30.5)	8.3–50.0	7 (9.4)	0.0–41.7	8 (10.8)	0.0–41.7	0.0020
Resuscitation flow charts	14 (19.4)	0.0–100.0	11 (15.2)	0.0–75.0	10 (13.5)	0.0–75.0	10 (13.5)	0.0–50.0	0.7272
Crash cart	40 (55.5)	0.0–90.9	37 (51.3)	8.3–83.3	34 (45.9)	0.0–75.0	37 (50.0)	0.0–81.8	0.7111
Adverse event reporting system	25 (34.7)	8.3–75.0	23 (31.9)	16.7–75.0	22 (29.7)	0.0–54.6	22 (29.7)	0.0–75.0	0.9037
Adverse event reports used for quality of care evaluations	11 (15.2)	0.0–25.0	20 (27.7)	8.3–75.0	9 (12.1)	8.3–50	12 (16.2)	0.0–33.3	0.0737
Overall score, mean (SD)	2.6 (0.5)		2.7 (0.6)		2.5 (0.5)		2.5 (0.6)		

[a]Compliance is shown by number (%) of departments reporting full compliance; country ranges show minimum–maximum compliance rates (%) based on country averages.
[b]*P*-value for differences in items across pathways (χ^2 test).

Compliance with evidence-based organization of care pathways is also highly variable between and within countries

Sunol R, Wagner C, Arah O, [...], and Groene O. Evidence-based organization and patient safety strategies in European hospitals. International Journal for Quality in Health Care. 2014 Apr; 26(S1: 47–55.

Table 3 Compliance with evidence-based organization of care pathway recommendations for AMI

Item	*n* (%), full compliance	Average country range[a] (%)
Acute myocardial infarction departments ($n = 66$)		
1. There are written criteria and procedures for fast-track admission and treatment of patients presenting with acute chest pain	36 (54.5)	18.2–90.9
2. Arrangements ensure that eligible STEMI (S-T elevation Myocardial Infarction) patients can receive thrombolysis within 30 min of arrival at the hospital	37 (56.0)	18.2–85.7
3. Immediate access is available 24/7 to a specialist physician to determine whether coronary revascularization is appropriate	57 (86.3)	66.7–100.0
4. Facilities are immediately available for performance of and transport for emergency coronary angiography	48 (72.7)	40.0–90.9
5. Facilities are immediately available for performance of and transport for percutaneous coronary intervention	44 (66.6)	36.4–81.8

Patient safety culture

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Kristensen S, Hammer A, Bartels P, Suñol O, Groene O et al. Quality management and perceptions of teamwork and safety climate in European hospitals. International Journal for Quality in Health Care. 2015 Dec;27(6):499-506.

- Safety culture: "the way we do things around here", to which is sometimes added: "… when no one is looking!"
- **Often** the terms ***safety culture and climate*** are used interchangeable in the literature.
  - Patient safety culture is the deeper-rooted aspect of climate → professional's shared assumptions, values, attitudes and behaviors that characterize the safety of patients in a healthcare setting.
  - Climate represents the shared perceptions on the way patient safety is conceived, structured and implemented in a work-place → measurable by surveys.
- Patient safety improvement efforts have put special emphasis on **teamwork and safety climate**:
  - **Teamwork** → perceptions of healthcare professionals concerning working collaboratively to provide safe care for the patients.
  - **Safety climate** → professional's dedication to patient safety.

Kristensen S, Hammer A, Bartels P, Suñol O, Groene O et al. Quality management and perceptions of teamwork and safety climate in European hospitals. International Journal for Quality in Health Care. 2015 Dec;27(6):499-506.

- Objective: This study aimed to investigate a) *associations of quality management systems with teamwork and safety climate*, and b) to describe and compare *differences in perceptions of teamwork climate and safety climate* among clinical leaders and frontline clinicians.
- Setting and participants: Data on implementation of quality management system from seven European countries were evaluated including patient safety culture surveys from 3622 clinical leaders and 4903 frontline clinicians.

- To measure teamwork and safety climate, we used the 'Teamwork and Safety Climate Survey' composed of two scales for teamwork (14 items) and safety climate (13 items). However, we only used the abbreviated 6-item teamwork and the 7-item safety climate scales of the 'Safety Attitude Questionnaire' (SAQ) (Sexton JB 2006).
- Answers are given on a 5-point Likert scale (1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neutral, 4 = Somewhat agree, 5 = Strongly agree). Individual teamwork and safety climate scale scores were rescaled to a 100-point scale where 1 = 0, 2 = 25, 3 = 50, 4 = 75 and 5 = 100, individual scale scores of 75 or higher as an indication of a positive climate perception

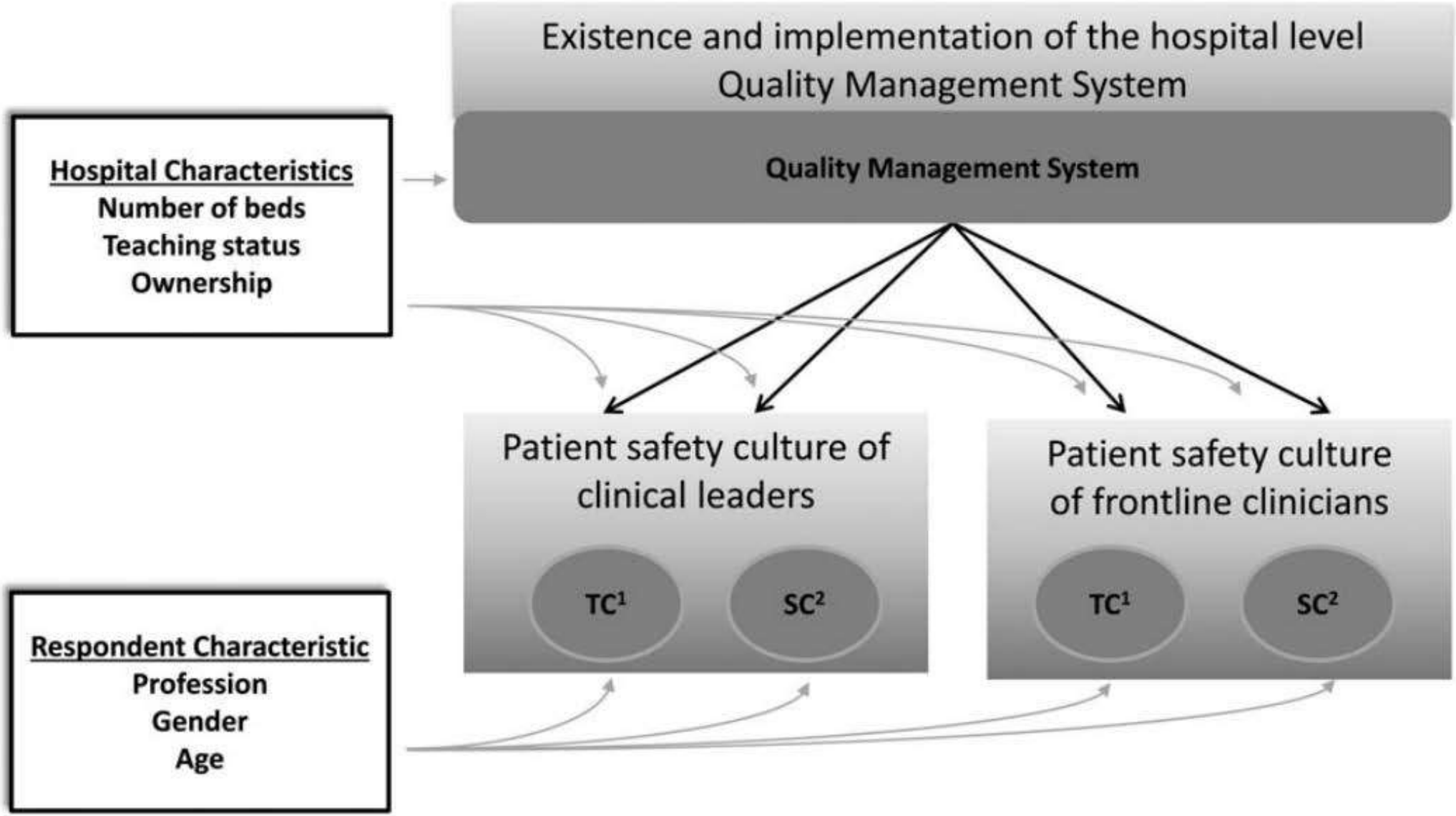

Figure 1 Directed acyclic graph of the conceptual framework for leaders and frontline clinicians. [1]Teamwork climate, [2]Safety climate.

Teamwork climate was reported as positive by 67% of clinical leaders and 43% of frontline clinicians. **Safety climate** was perceived as positive by 54% of clinical leaders and 32% of frontline clinicians.

We found **positive associations** between implementation of quality management systems and teamwork and safety climate

Table 3 Numbers and proportions of respondent who scored positively (individual scale score ≥75)

	N[a]	Missing[b]	% positive[c]	95% CI	*P*-value	
Population	**Teamwork climate**					
All respondents	4388	252	53.0	52.0–54.1		
Clinical leaders	2339	119	66.8	65.2–68.3		<0.0001[d]
Physicians	1216		72.0	69.9–74.2	<0.0001[e]	
Nurses	1123		61.9	59.6–64.1		
Frontline clinicians	2049	133	43.0	41.6–44.4		
Physicians	1049		51.7	49.5–53.9	<0.0001[f]	
Nurses	1000		36.5	34.7–38.3		
Population	**Safety climate**					
All respondents	3400	322	41.4	40.4–42.5		
Clinical leaders	1877	143	54.0	52.3–55.6		<0.0001[d]
Physicians	897		53.5	51.1–55.9	0.596[e]	
Nurses	980		54.4	52.1–56.7		
Frontline clinicians	1523	179	32.2	30.9–33.6		
Physicians	634		31.5	29.5–33.6	0.367[f]	
Nurses	889		32.8	31.0–34.5		

The patient perspective

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Aspects of patient care that can be assessed by patients

Stahl K, Groene O. PloS One 2021, Stahl K, Reisinger A, Groene O. BMJ Open 2022

- **Access to appointments**
- **Staff friendliness**
- **Consultation interactions (trust, involvement in care, sufficient explanation)**
- **Medication errors**
- **Care coordination**

Examples:

"*If a new medication is prescribed to you, does your doctor **explain in an understandable way how to take the medication** (dosage, frequency, time, before or after meals, etc.)?*"

[never, rarely, sometimes, often, always]

"*Does it happen that the **results of examinations carried out are not available**, although they are necessary for clarifying your complaints or planning your treatment (blood tests, X-rays, etc.)?*"

[never, rarely, sometimes, often, always]

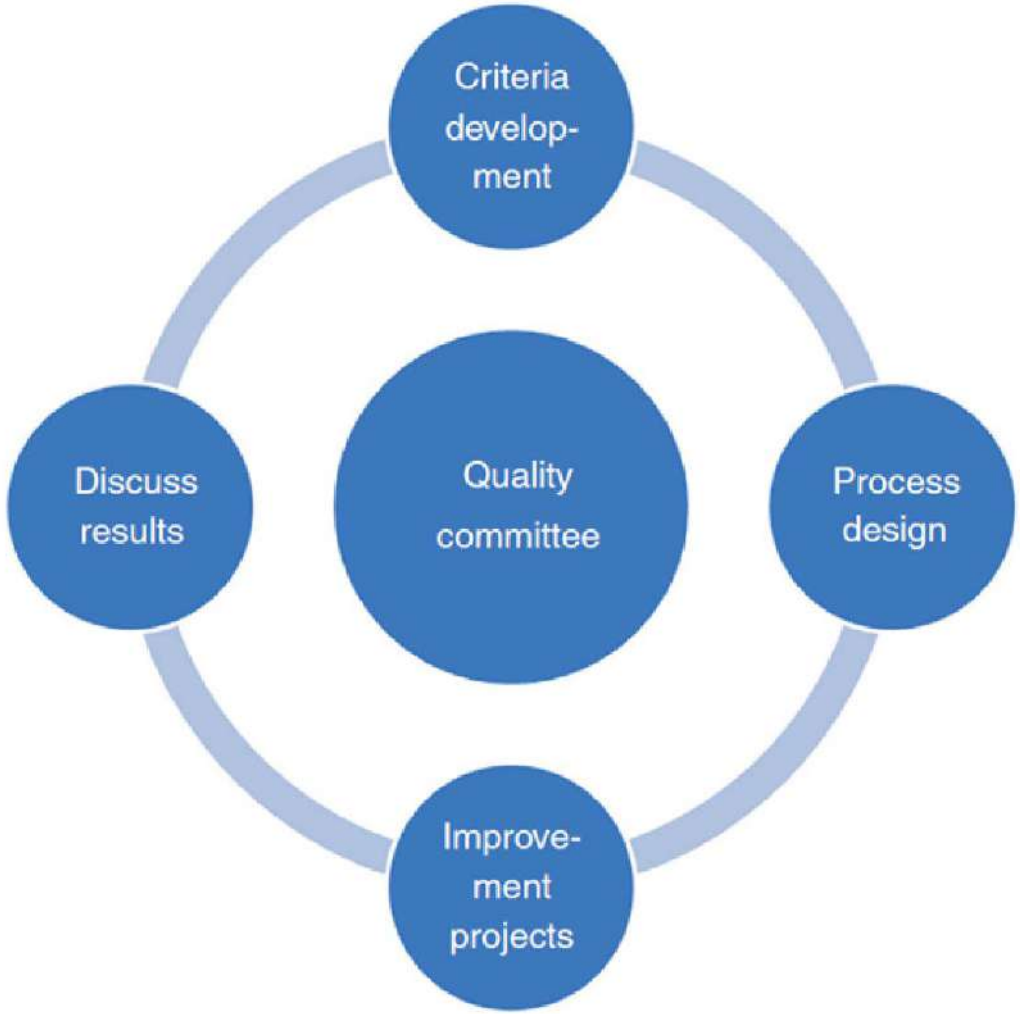
What roles can patients take to improve patient care and patient safety?

- Patient and public involvement (PPI) is referred to in many ways, both conceptually and in terms of terminology. Patient involvement is referred to under different terms in the literature, including “PPI”, “user involvement”, “lay involvement” or “patient representation” (Crawford et al., 2002).
- We will focus here on the established term PPI to denote the involvement of patients or their representatives in activities related to planning, designing or assessing quality management in hospitals (Groene et al., 2009).
- This paper aimed to review a) **how PPI can contribute** to quality improvement functions and b) **describe the levels of PPI in quality improvement** functions at hospital and departmental level in a sample of European hospitals.

What roles can patients take to improve patient care and patient safety?

Based on our previous research (Groene et al., 2009) we conceptualized **patient involvement in quality management to cover the following key domains**:

1. criteria development
2. process design
3. quality committees
4. improvement projects and
5. discussion of results



Groene O, Sunol R. Patient involvement in quality management: rationale and current status. Journal of Healthcare Organization and Management 2015: 29, 557-569

The level of patient involvement in formal quality and patient safety roles is very low in European hospitals!

	$n = 72$	Valid (%)
Development of quality criteria		
Never	42	58.3
Sometimes	20	27.8
Usually	8	11.1
Always	2	2.8
Design/organization of processes		
Never	45	63.4
Sometimes	21	29.6
Usually	3	4.2
Always	2	2.8

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	$n = 72$	Valid (%)
Quality committees		
Never	48	66.7
Sometimes	13	18.1
Usually	4	5.6
Always	7	9.7
Quality improvement projects		
Never	37	51.4
Sometimes	20	27.8
Usually	9	12.5
Always	6	8.3
Discussion of quality improvement project results		
Never	44	61.1
Sometimes	16	22.2
Usually	5	6.9
Always	7	9.7

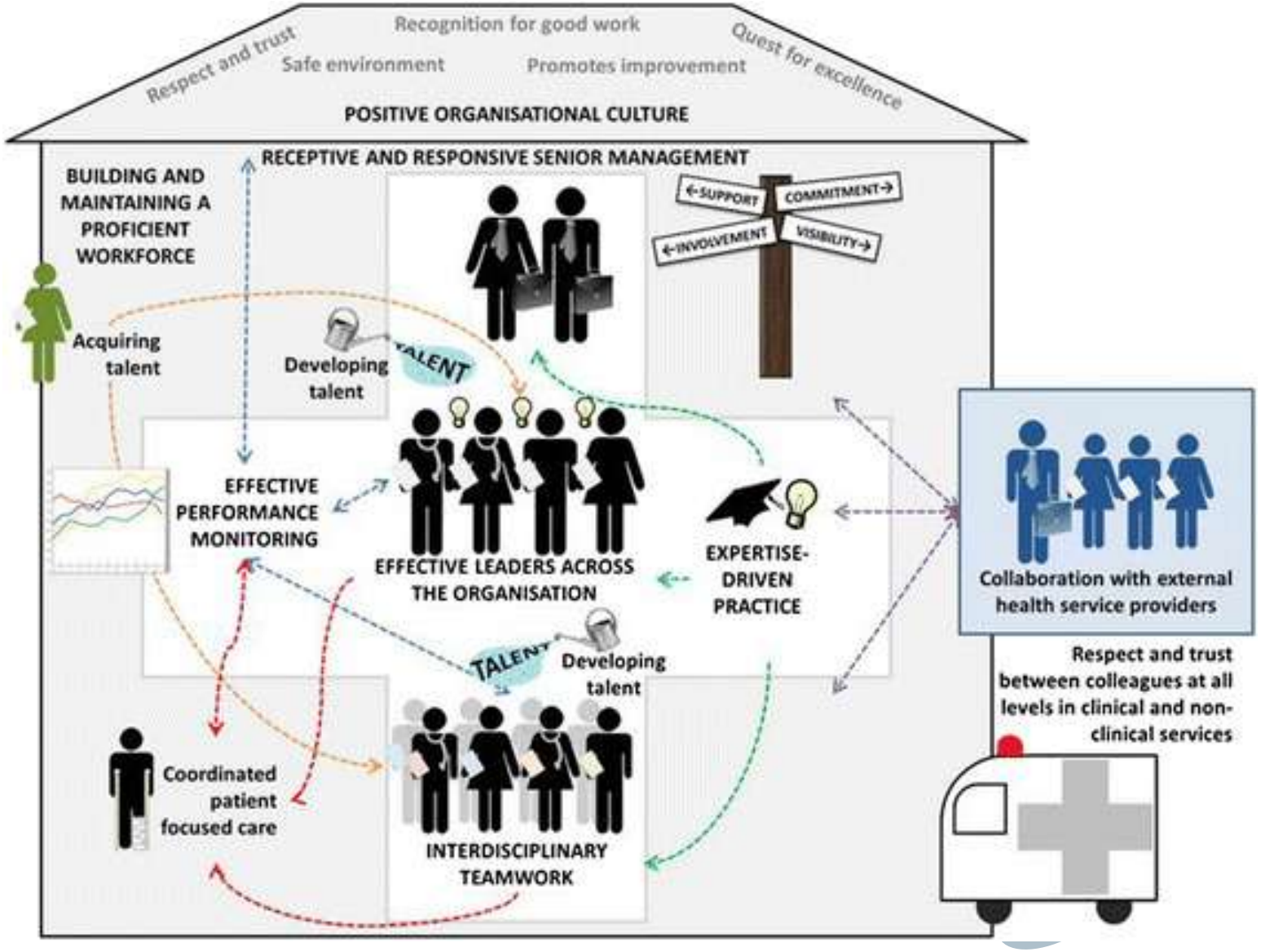
Towards an integrative approach

What are the characteristics of high-performing hospitals?

- High performing hospitals attain excellence across multiple measures of performance and multiple departments. Factors leading to high performance are complex and an exclusive quantitative approach may fail to identify richly descriptive or relevant contextual factors.
- The objective of this study was to **undertake a systematic review of qualitative literature to identify methods used to identify high performing hospitals, the factors associated with high performers, and practical strategies for improvement**
- Eligible studies required the use of a quantitative method to identify high performing hospitals, and qualitative methods or tools to identify factors associated with high performing hospitals or hospital departments
- A total of 19 studies from a possible 11,428 were included in the review.
- **Seven themes** representing key factors integral to high performing hospital organisations emerged from the thematic syntheses.

Taylor N, Clay-Williams R, Hodgen E, Braithwaite J, Groene O. *High performing hospitals: a qualitative systematic review of associated factors and practical strategies for improvement*. BMC Health Services Research. 2015; 15: 244.

1. *positive organisational culture*
2. *senior management support*
3. *effective performance monitoring*
4. *building and maintaining a proficient workforce,*
5. *effective leaders across the organisation,*
6. *expertise-driven practice*, and
7. *interdisciplinary teamwork*.



Wrap up

Epistemology of patient safety

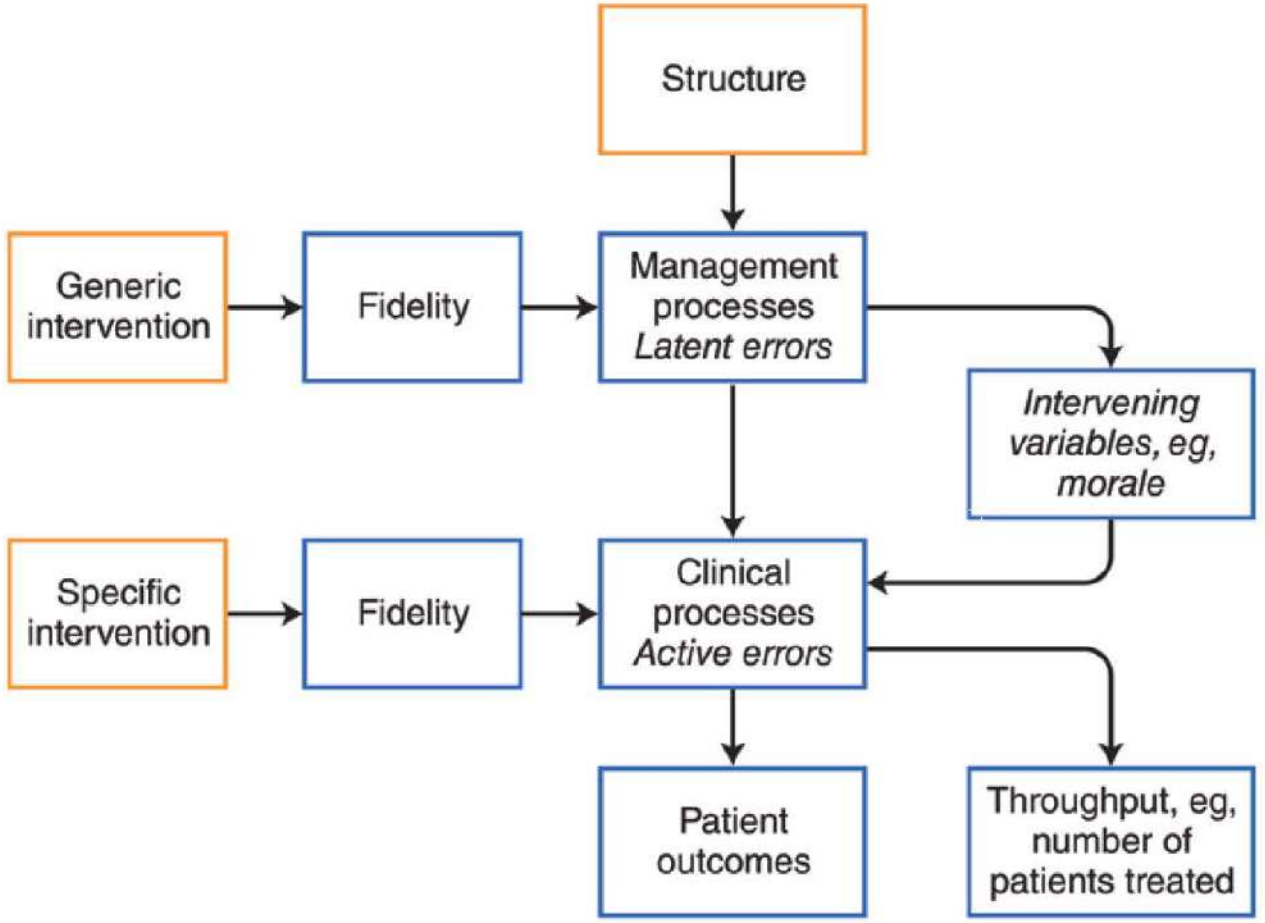


Fig. 2.1 General and specific interventions across the system and evaluation end points (modified from Brown et al.)

Groene O. Risk Factors and Epidemiology of Surgical Safety, 15-24. In. In: Sanchez J, Barach P, Johnson JK, Jacobs JP (eds). Surgical patient care. Springer, 2017

Seven guiding principles establish underpinning values to shape the development and implementation of the action plan:

1. engage patients and families as partners in safe care
2. achieve results through collaborative working
3. analyse and share data to generate learning
4. translate evidence into actionable and measurable improvement
5. base policies and action on the nature of the care setting
6. use both scientific expertise and patient experience to improve safety
7. instil a safety culture in the design and delivery of health care.

World Health organization. Global Patient Safety Action Plan 2021–2030 Towards eliminating avoidable harm in health care. https://www.who.int/publications/i/item/9789240032705

Let´s stay in touch

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