Assuring and improving healthcare quality in Europe

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Background

(1) "Quality" is one of the most often quoted principles of health policy, e.g. in EU health systems' common values and principles.

(2) Understanding the term and what it encompasses varies. Most definitions take a very broad perspective on quality which includes not only effectiveness, safety and responsiveness / patient-centredness, but – confusingly – also access, appropriateness, efficiency and equity (all part of the broader "health system performance").

(3) Many "movements" such as *evidence-based medicine*, *health technology assessment*, *accreditation*, *guidelines*, *patient safety* claim importance for their strategy, sometimes unaware of parallel activities under a different label.

Definitions

Institute of Medicine, IOM (1990)	Quality of care is the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge.
Council of Europe (1997)	Quality of care is the degree to which the treatment dispensed increases the patient's chances of achieving the desired results and diminishes the chances of undesirable results, having regard to the current state of knowledge.
European Commission (2010)	[Good quality care is] health care that is effective, safe and responds to the needs and preference of patients. "Other dimensions of quality of care, such as efficiency, access and equity are seen as being part of a wider debate and are being addressed in other fora"
WHO (2018)  	Quality health services across the world should be: • Effective • Safe • People-centred In order to realize the benefits of quality health care, health services must be timely […], equitable […], integrated […], and efficient […]

→ a strong focus on quality internationally …

… but no overview of specific quality strategies

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OECD
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Improving healthcare quality in Europe

Characteristics, effectiveness and implementation of different strategies

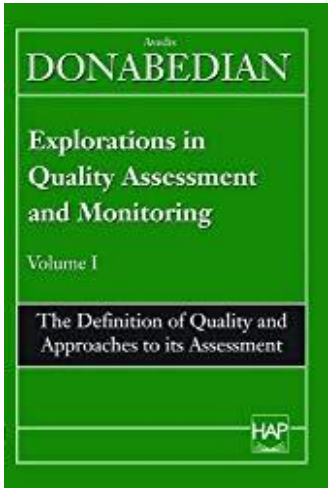
With our brand-new book,
we therefore aim at providing …

(1) a comprehensive framework for understanding, measuring, and ultimately improving the quality of health care through a variety of strategies,

(2) an overview on the status of activities of the various strategies in the countries of the European Region (including highlighting best practice examples) as well as European initiatives/ projects active in the respective areas,

(3) an analysis of the strategies‘ effectiveness and cost-effectiveness in actually improving quality of care, and

(4) lessons learnt for policy-makers interested in developing and implementing comprehensive approaches to improve the quality of their health system



The framework = based on Donabedian's Structure-Process-Outcome triad

Structure

- Setting
- Material, intellectual, and human resources
- *Facilities, professionals, knowledge*

Process

- Activities
- Clinical and organizational processes
- *Prescription patterns, supplies management*

Outcome

- Health Status
- Intermediate or final outcomes
- Blood pressure, well-being, quality of life, mortality

Two more important aspects (visualized along OECD's HCQI project)

1. Three dimensions of quality: effectiveness, safety, responsiveness/ patient-centredness
2. Four areas of care
   - Persons have different needs and seek different kinds of care
   - Indicators and quality strategies differ for different care needs areas

Current focus of HCQI project	Dimension			
	Quality			
Health care needs	Effectiveness	Safety	Responsiveness/ patient centredness	
1. Primary prevention			Individual patient experiences	Integrated care
2. Getting better				
3. Living with illness or disability/chronic care				
4. Coping with end of life				

But “performance” is more than “quality”
→ often not clearly differentiated

Figure 0.1 **OECD framework for health care system performance measurement**

Health

Non-health care determinants of health

Health Care System Performance
How does the health system perform?
What is the level of quality of care across the range of patient care needs ?
What does the performance cost?

Equity

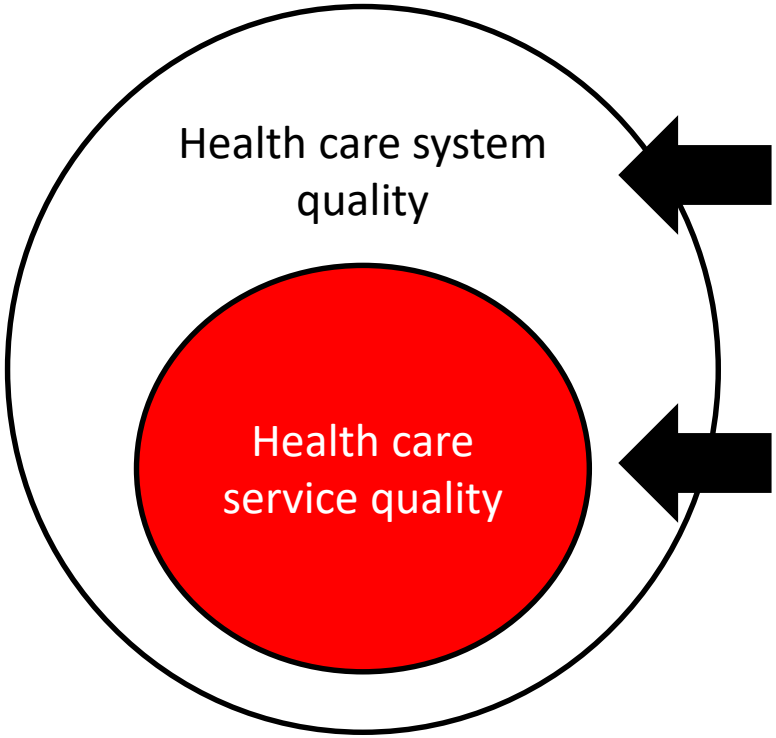
Current focus of HCQI project

	Dimension					
	Quality				Access	Cost/expenditure
Health care needs	Effectiveness	Safety	Responsiveness/ patient centredness		Accessibility	
1. Primary prevention			Individual patient experiences	Integrated care		
2. Getting better						
3. Living with illness or disability/chronic care						
4. Coping with end of life						

Efficiency
Macro and micro-economic efficiency

Health system design, policy and context

Levels of health care quality - simplified



= Health system performance

= Health care quality:
"the degree to which health services for individuals and populations are effective, safe, and people-centred"

The performance assessment framework

Access(ibility)
incl. Financial protection/ Coverage

x

Quality
(for those who receive services)

=

Population health outcomes
(system-wide effectiveness, level & distribution)

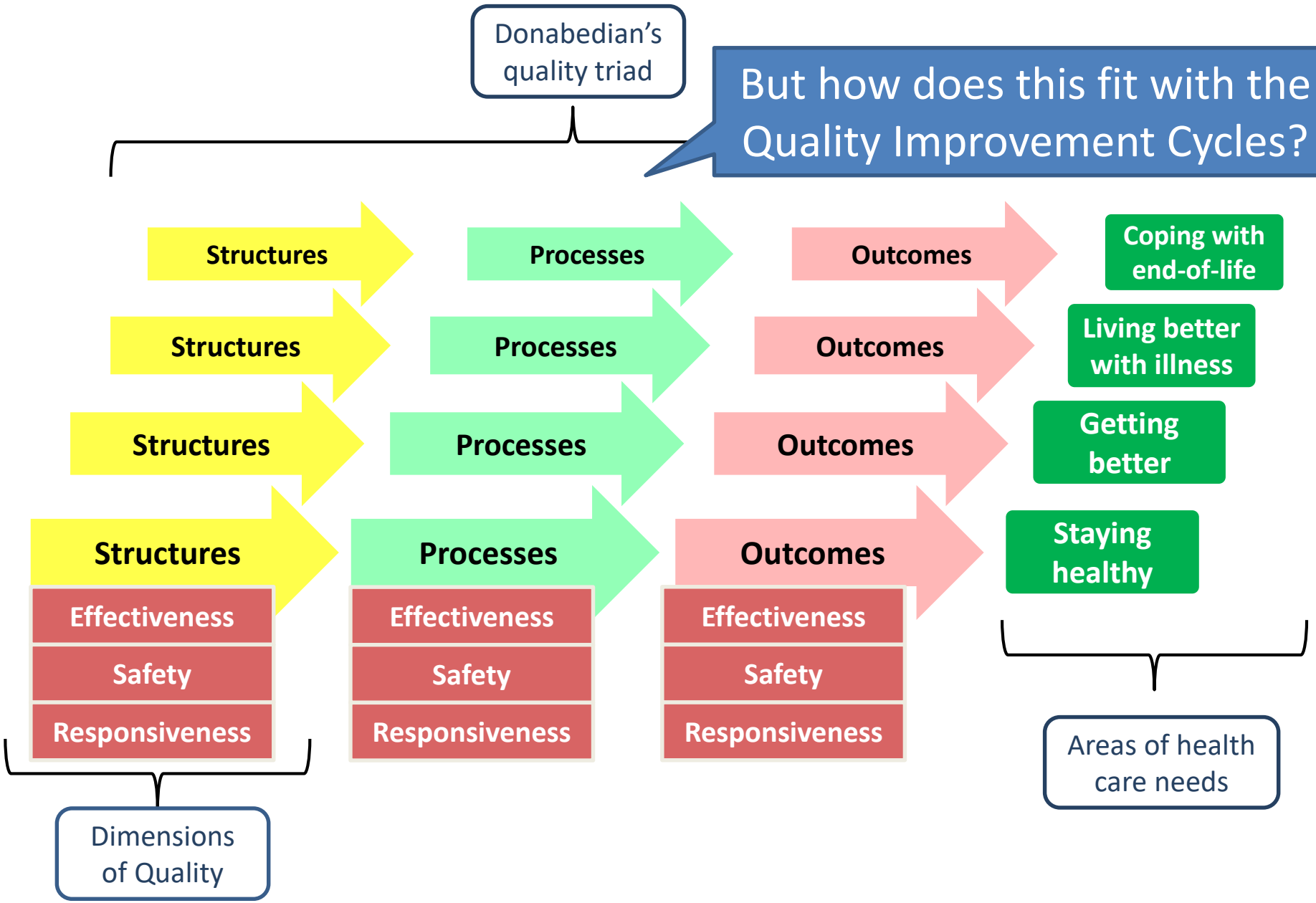
Responsiveness
(level & distribution)

Inputs (money and/or resources)

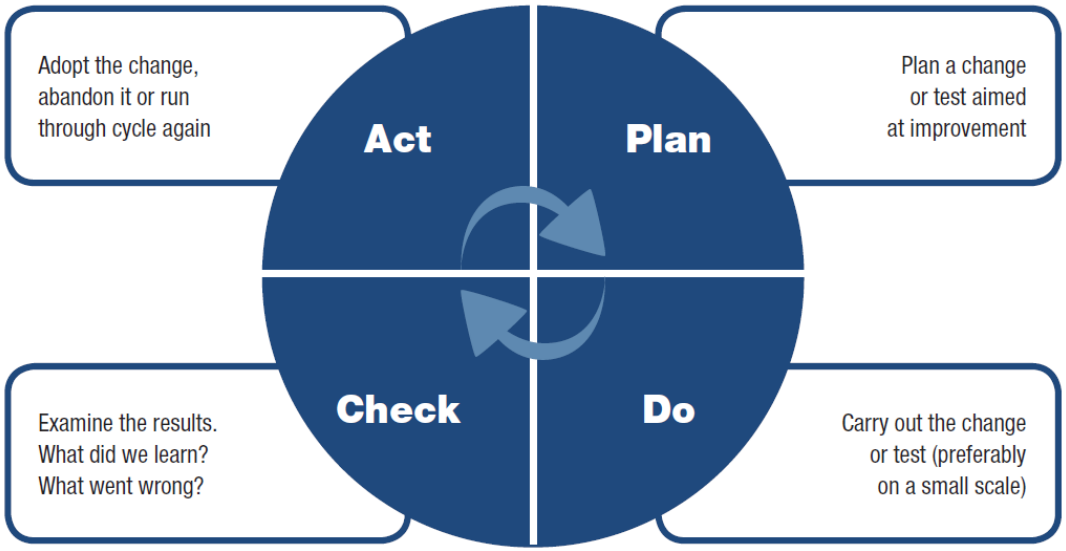
(Allocative) Efficiency
(value for money, i.e. population health and/ or responsiveness per input unit)

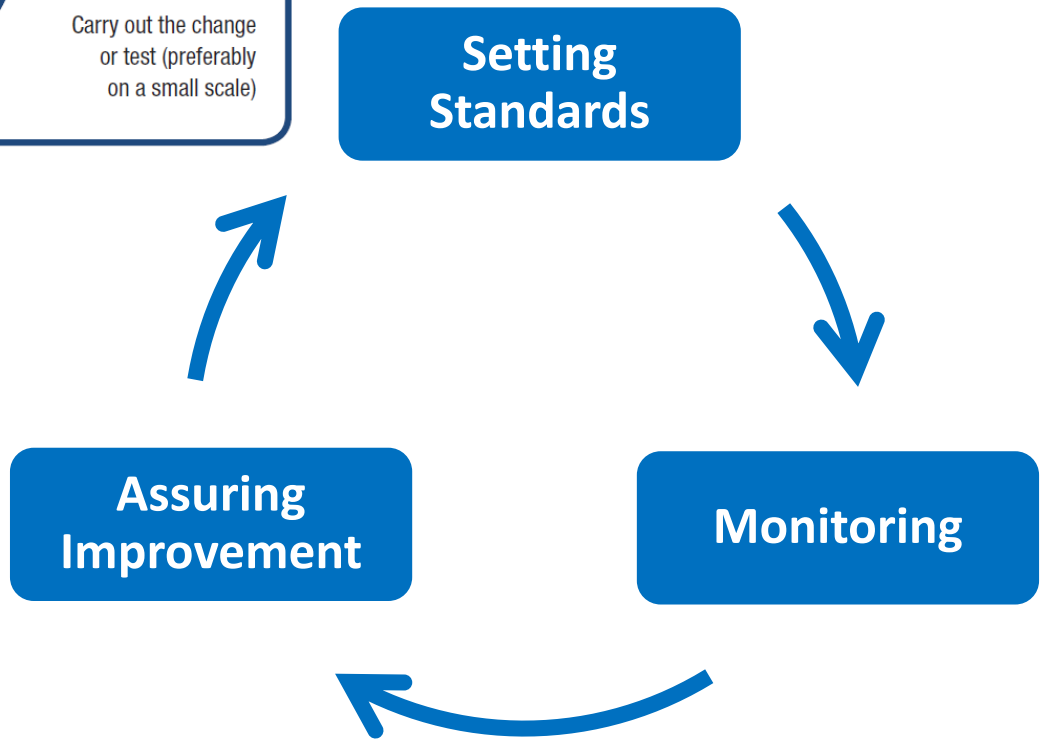
Health system performance

Combining the various quality aspects …

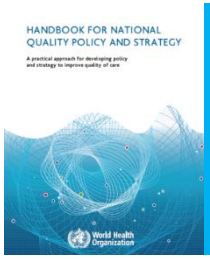


Quality as a relative notion and hence a Cyclic Construct





→ comprehensive “five-lenses” framework

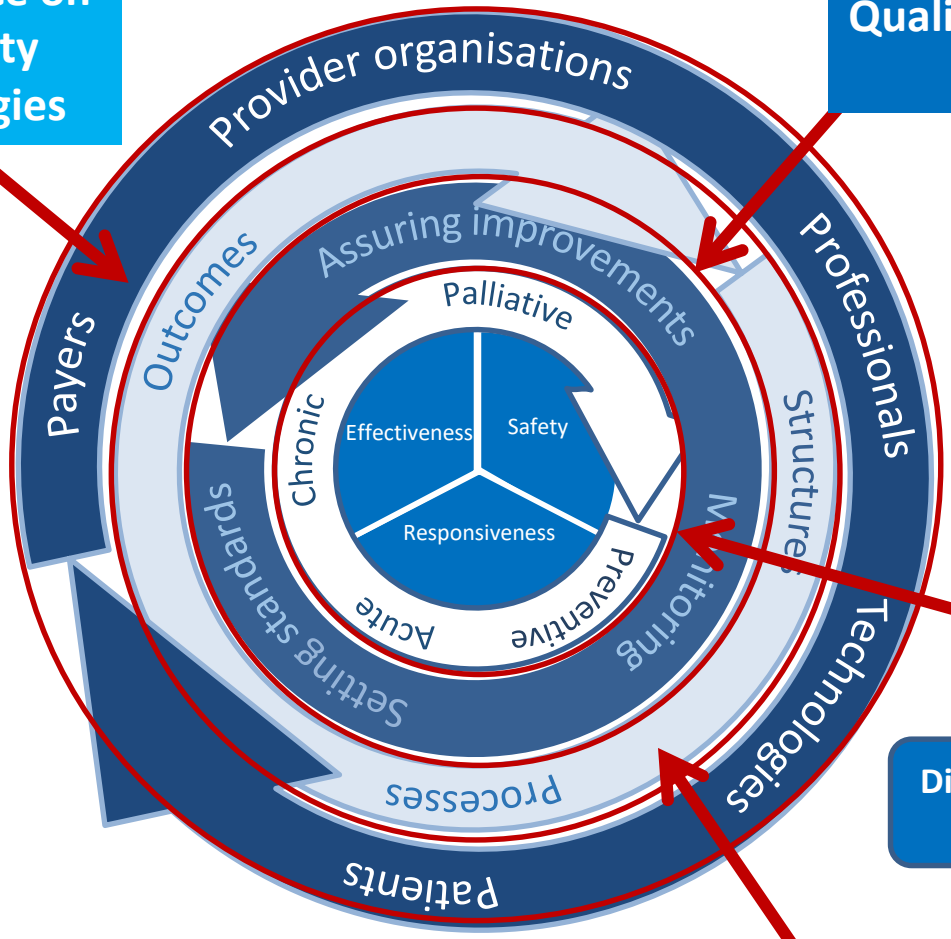


WHO (2008) guidance on quality strategies

Targets of strategies

Quality improvement cycle

Activities of strategies



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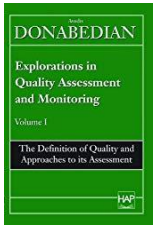
Dimensions of Quality

Areas of care



Donabedian’s triad

Part II of the book: strategy by strategy

Chapter structure
(1) What are the characteristics of the strategy?
(2) What is being done in European countries?
(3) What do we know about the strategy's (cost-) effectiveness?
(4) How can the strategy be implemented?
(5) Conclusions: lessons for policy-makers

Part II of the book: strategy by strategy

Chapter structure	*Settings standards for structures and inputs*	*Steering and monitoring quality of processes*	*Leveraging processes and outcomes of care to assure improvements*
(1) What are the characteristics of the strategy?	• Regulation of **health professionals** • Regulation of **health technologies**: Health Technology Assessment • Regulation of **healthcare facilities** • External institutional strategies: **accreditation, certification, supervision**	• **Clinical Guidelines** • **Audit & Feedback** • **Patient Safety** Strategies • **Clinical Pathways**	• **Public Reporting** • **Financial Incentives**
(2) What is being done in European countries?			
(3) What do we know about the strategy's (cost-) effectiveness?			
(4) How can the strategy be implemented?			
(5) Conclusions: lessons for policy-makers			

Setting standards for structures and inputs

	Characteristics	Implementation in Europe
Regulating the Input: Professionals	A wide range of standards for professionals, including regulating entry requirements, continuous professional development…	Most countries have entry requirements and professional development requirements (for physicians and nurses), requirements are strongly influenced by EU regulations.
Regulating the Input: Health Technology Assessment (HTA)	… provides evidence base for decision-making on (cost-) effective and safe technologies.	National legal frameworks for HTA are in place in 26 Member State, mostly using HTA for pharmaceuticals but in 20 countries also for medical devices. Only in 18 countries, HTA agencies have more than 10 full-time staff and only in 4 countries they have more than 100 full time staff.
Regulating the Input: Healthcare facilities	Setting standards (third layer) for the structures of care that will lead to improved effectiveness, safety, and patient-centredness.	Some European wide standards for buildings and construction material apply. Most countries have general building standards. Some countries (e.g. DE, FI, UK) have health care specific standards.
External assessment strategies	Accreditation, certification, and supervision encourage the compliance of healthcare organizations with published standards through monitoring.	Widely implemented in Europe. Most countries have market entry requirements (supervision), coupled with certification and accreditation strategies. There is no overview of certified/accredited institutions in different countries.

Setting standards for structures and inputs

	Characteristics	Implementation in Europe	Effectiveness
Regulating the Input: Professionals	A wide range of standards for professionals, including regulating entry requirements, continuous professional development…	Most countries have entry requirements and professional development requirements (for physicians and nurses), requirements are strongly influenced by EU regulations.	Very limited evidence on effectiveness of different parts of the strategy.
Regulating the Input: Health Technology Assessment (HTA)	… provides evidence base for decision-making on (cost-) effective and safe technologies.	National legal frameworks for HTA are in place in 26 Member State, mostly using HTA for pharmaceuticals but in 20 countries also for medical devices. Only in 18 countries, HTA agencies have more than 10 full-time staff and only in 4 countries they have more than 100 full time staff.	No formal studies assessing effectiveness. Effectiveness depends on rigor of applied HTA methods and process of implementing HTA results.
Regulating the Input: Healthcare facilities	Setting standards (third layer) for the structures of care that will lead to improved effectiveness, safety, and patient-centredness.	Some European wide standards for buildings and construction material apply. Most countries have general building standards. Some countries (e.g. DE, FI, UK) have health care specific standards.	Often inconclusive but some evidence exists that single-bed rooms, effective ventilation systems, good acoustic environment, nature distractions and daylight etc. are effective.
External assessment strategies	Accreditation, certification, and supervision encourage the compliance of healthcare organizations with published standards through monitoring.	Widely implemented in Europe. Most countries have market entry requirements (supervision), coupled with certification and accreditation strategies. There is no overview of certified/accredited institutions in different countries.	Little robust evidence that supports their effectiveness, no evidence on cost-effectiveness.

Box 7.1 *Aspects of quality and performance and potential influences from the built environment*

Patient-centeredness, including

- using variable-acuity rooms and single-bed rooms
- ensuring sufficient space to accommodate family members
- enabling access to health care information
- having clearly marked signs to navigate the hospital

Safety, including

- applying the design and improving the availability of assistive devices to avert patient falls
- using ventilation and filtration systems to control and prevent the spread of infections
- using surfaces that can be easily decontaminated
- facilitating hand washing with the availability of sinks and alcohol hand rubs
- preventing patient and provider injury
- addressing the sensitivities associated with the interdependencies of care, including work spaces and work processes

Effectiveness, including

- use of lighting to enable visual performance
- use of natural lighting
- controlling the effects of noise

Efficiency, including

- standardizing room layout, location of supplies and medical equipment
- minimizing potential safety threats and improving patient satisfaction by minimizing patient transfers with variable-acuity rooms

Timeliness, by

- ensuring rapid response to patient needs
- eliminating inefficiencies in the processes of care delivery
- facilitating the clinical work of nurses

Equity, by

- ensuring the size, layout, and functions of the structure meet the diverse care needs of patients

Source: Henriksen et al., 2007, as cited in Reiling, Hughes & Murphy, 2008

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Chapter 7 (healthcare facilities): Potential contribution of facility design to healthcare quality

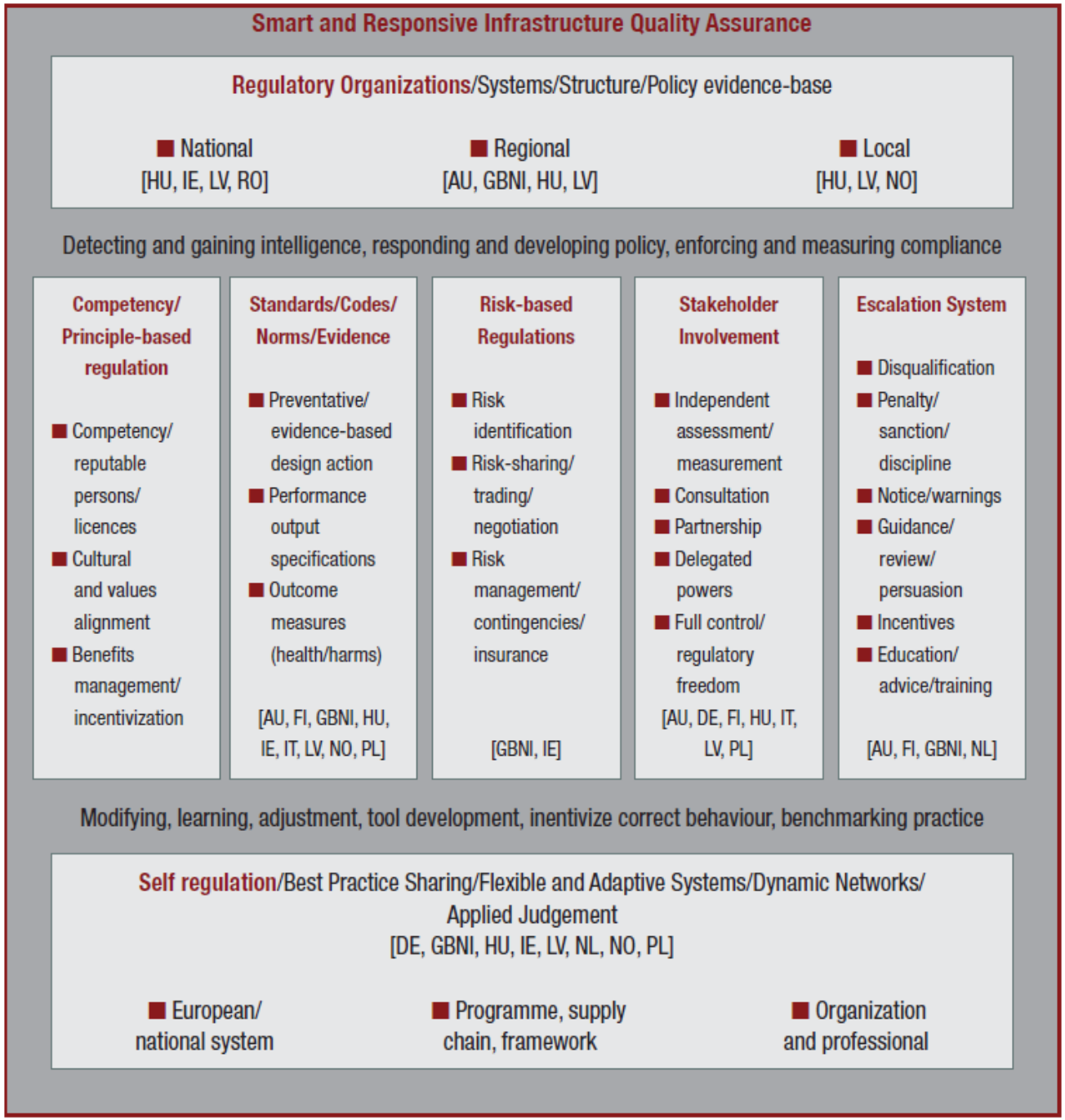
(1) What are the characteristics of the strategy?

(2) What is being done in European countries?

(3) What do we know about the strategy's (cost-) effectiveness?

(4) How can the strategy be implemented?

(5) Conclusions: lessons for policy-makers



Chapter 7 (healthcare facilities): What is being done in Europe?

(1) What are the characteristics of the strategy?

(2) What is being done in European countries?

(3) What do we know about the strategy's (cost-) effectiveness?

(4) How can the strategy be implemented?

(5) Conclusions: lessons for policy-makers

Healthcare Outcomes \ Design Strategies or Environmental Interventions	Single-bed rooms	Access to daylight	Appropriate lighting	Views of nature	Family zone in patient rooms	Carpeting	Noise-reducing finishes	Ceiling lifts	Nursing floor layout	Decentralized supplies	Acuity-adaptable rooms
Reduced hospital-acquired infections	**										
Reduced medical errors	*		*				*				*
Reduced patient falls	*		*		*	*			*		*
Reduced pain		*	*	**			*				
Improved patient sleep	**	*	*				*				
Reduced patient stress	*	*	*	**	*		**				
Reduced depression		**	**	*	*						
Reduced length of stay		*	*	*							*
Improved patient privacy and confidentiality	**				*		*				
Improved communication with patients and family members	**				*		*				
Improved social support	*				*	*					
Increased patient satisfaction	**	*	*	*	*	*	*				
Decreased staff injuries								**			*
Decreased staff stress	*	*	*	*			*				
Increased staff effectiveness	*		*				*		*	*	*
Increased staff satisfaction	*	*	*	*			*				

Source: Ulrich et al., 2008

Chapter 7 (healthcare facilities): Effectiveness of design strategies on quality

(1) What are the characteristics of the strategy?

(2) What is being done in European countries?

(3) What do we know about the strategy's (cost-) effectiveness?

(4) How can the strategy be implemented?

(5) Conclusions: lessons for policy-makers

Chapter 7 (healthcare facilities)

7.5 Conclusions for policy-makers

Policy-makers and healthcare organizations are under pressure to improve the quality of care, and so addressing the quality of the physical infrastructure of healthcare systems must be a significant concern. Healthcare buildings must be integrated and so where quality strategies could once be applied separately to the individual elements of healthcare infrastructure, each with its own processes for planning, commissioning, procurement and maintenance, it is now apparent that healthcare infrastructure should be subject to a more overarching quality management strategy that takes account of the total effect of investment in integrated healthcare infrastructure. This would require that countries have accessible agencies that facilitate the different functions pertinent in each stage, bring together and share resources and facilitate the wider capture and dissemination of evidence between private and public sector institutions and wider stakeholders. Where such expertise is not available at national, regional or local level, policy-makers should consider how best to develop this faculty.

The evidence on the effectiveness and cost-effectiveness of different design elements in the context of quality is expansive but largely inconclusive. Fostering the creation of a robust evidence base that informs and is informed by new projects seems necessary. The digital transformation currently under way in healthcare provision in most settings can be a contributing factor – as well as a new design attribute – in achieving this goal.

Steering and monitoring quality of processes

	Characteristics	Implementation in Europe
Clinical guidelines	… provide standards that support clinical decision-making in order to reduce unwarranted variation of health care processes, mostly in order to improve effectiveness and safety.	Many countries have clinical guidelines. Leaders are BE, DE, FR, NL and UK. Other countries with well established programmes are DK, FI, IT, NO and SE.
Audit and Feedback	… reviews professional performance based on explicit criteria of standards of care, with the aim to improve healthcare processes, thus leading to better effectiveness and safety.	The UK and the Netherlands are the countries in Europe that have the longest history of audit and feedback, but other countries have become increasingly active since the late 1990s, with prominent programs existing in FI, DE, IE, IT, NL and UK.
Patient Safety strategies	A broad range of initiatives and interventions that foster safety of care at the system, organization and clinical level, using a range of different strategies.	In 2014, 26 EU countries had patient safety strategies or programmes, and patient safety standards were mandatory in 20 countries. 27 countries had adverse event reporting and learning systems, mostly at national and provider levels. However, only four countries had targeted patient safety education and training of health workers.
Clinical Pathways (CPWs)	… focus on standardizing healthcare processes to align clinical practice with guideline recommendations in order to provide high quality care within an institution (mostly hospitals).	The use of CPWs has been growing in Europe since the 1990's, beginning in the UK. Clinical pathways are currently being used in most EU and other European countries. The European Pathways Association has more than 50 national members. Increasing use of pathways was found in BE, DE, NL and UK.

Steering and monitoring quality of processes

	Characteristics	Implementation in Europe	Effectiveness
Clinical guidelines	… provide standards that support clinical decision-making in order to reduce unwarranted variation of health care processes, mostly in order to improve effectiveness and safety.	Many countries have clinical guidelines. Leaders are BE, DE, FR, NL and UK. Other countries with well established programmes are DK, FI, IT, NO and SE.	Studies show mixed results regarding the effect of guidelines on outcomes, but a clear link with implementation modalities.
Audit and Feedback	… reviews professional performance based on explicit criteria of standards of care, with the aim to improve healthcare processes, thus leading to better effectiveness and safety.	The UK and the Netherlands are the countries in Europe that have the longest history of audit and feedback, but other countries have become increasingly active since the late 1990s, with prominent programs existing in FI, DE, IE, IT, NL and UK.	Numerous robust studies on the effects of audit and feedback show a small to moderate effect on professional compliance with desired clinical practice. Effect on patient outcomes less clear, although several studies indicate positive results.
Patient Safety strategies	A broad range of initiatives and interventions that foster safety of care at the system, organization and clinical level, using a range of different strategies.	In 2014, 26 EU countries had patient safety strategies or programmes, and patient safety standards were mandatory in 20 countries. 27 countries had adverse event reporting and learning systems, mostly at national and provider levels. However, only four countries had targeted patient safety education and training of health workers.	There is limited evidence about effectiveness but evidence about the costs of healthcare-associated infections (HAI), venous thromboembolism (VTE), pressure ulcers, medication errors and wrong or delayed diagnosis. Interventions that target these interventions are likely to be cost-effective.
Clinical Pathways (CPWs)	… focus on standardizing healthcare processes to align clinical practice with guideline recommendations in order to provide high quality care within an institution (mostly hospitals).	The use of CPWs has been growing in Europe since the 1990's, beginning in the UK. Clinical pathways are currently being used in most EU and other European countries. The European Pathways Association has more than 50 national members. Increasing use of pathways was found in BE, DE, NL and UK.	Available research found significantly improved clinical documentation and reduced hospital complications, while reductions in hospital mortality and readmissions were not significant. Most available studies found reductions in costs of hospital stays.

Leveraging processes and outcomes of care to assure improvements

	Characteristics	Implementation in Europe
Public reporting	… is characterized by the reporting of quality-related information to the general public about non-anonymous, identifiable professionals and providers, using systematically gathered comparative data.	At least 10 countries in Europe publicly report quality at provider level. Relatively elaborated public reporting initiatives have been implemented in DE, DK, NL and UK.
Pay for Quality (P4Q)	… consists of a financial incentive being paid to a provider or professional for achieving a quality-related target within a specific time-frame.	Since the late 1990s. Fourteen primary care P4Q programmes and thirteen hospital P4Q programmes were identified in a total of 16 European countries. P4Q schemes in primary care incentivise mostly process and structural quality with respect to prevention and chronic care. P4Q schemes in hospital care incentivise more often improvements in health outcomes and patient safety.

Leveraging processes and outcomes of care to assure improvements

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Pay for Quality (P4Q)	… consists of a financial incentive being paid to a provider or professional for achieving a quality-related target within a specific time-frame.	Since the late 1990s. Fourteen primary care P4Q programmes and thirteen hospital P4Q programmes were identified in a total of 16 European countries. P4Q schemes in primary care incentivise mostly process and structural quality with respect to prevention and chronic care. P4Q schemes in hospital care incentivise more often improvements in health outcomes and patient safety.	Studies suggest small positive effects on process-of-care (POC) indicators in primary care but not in hospital care. Evidence on health outcomes and patient safety indicators is inconclusive. Cost-effectiveness is unlikely because of lacking effectiveness.

Conclusions

- Many countries in Europe have implemented several of those strategies
- Several of the strategies are effective (primarily regarding process indicators), the size of these effects is generally modest and data on relative effectiveness and cost-effectiveness are often inconclusive or unavailable
- Political activities related to the quality strategies are increasing, albeit with unsurprising variability across countries
- But: quality strategies are often not coordinated or placed within a coherent policy or overall strategic framework
- From a policy-maker's perspective, the goal becomes understanding the potential for best practice, the possibility for synergies between strategies and the meaningfulness of investing in different elements given existing practices and identified areas where action is needed

→ Importance of defining national priorities, developing a local definition of quality, identifying relevant stakeholders, analysing the situation to identify care areas in need of improvement, assessing governance and organizational structure, and selecting quality improvement interventions