Joint Commission International

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'House of Quality': A Blueprint For Quality

Kathryn K. Leonhardt, MD, MPH
Joint Commission International Principal Consultant

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Improving the safety and quality of health care is the mission of Joint Commission International (JCI).

Despite advancements made in health care over the past decades, JCI continues to observe significant gaps in quality and safety. Organizations have adopted quality concepts from other industries, yet the results fall short. Designing a quality program for any health care setting is like building a house: there are many facets involved that must be considered. This paper provides a blueprint for building a 'house of quality' including:

- **Purpose: WHY are we building?**
- **Structure and mechanisms: HOW do we build?**
- **Expansion and Additions: WHAT do we need to prepare for the future?**

Incorporating the lessons learned from 25 years of accrediting international health care organizations, current research in quality and safety, as well as insights from the COVID-19 pandemic, JCI offers this blueprint for the future of health care quality.

WHY ARE WE BUILDING?

The first step in building any structure is knowing its purpose.

The intent or goal of the 'house' is to achieve quality results. Quality is a concept used in many industries to describe the attributes or characteristics of a product or service. Despite years of research and attention, there is not a single, common definition for health care quality. JCI references the definition that was published in 2001 by the Institute of Medicine:

> *"The degree to which health care services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge."* [1]

Quality is further defined by its multidimensional attributes. Six domains frequently used to describe quality include: safety; timeliness (which includes accessibility and affordability); efficiency; effectiveness; equity and person-centered. [2] These, and other, attributes are used as a framework to define and measure quality of care.
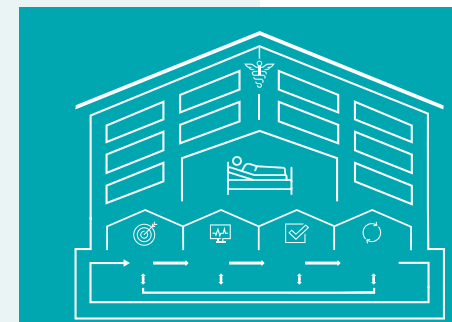
Key concepts that are derived from these definitions:

Customer

Quality has been defined as meeting or exceeding the customer expectations. However, in health care, there are often multiple customers; therefore, the definition of quality depends on the perspective of the stakeholder involved. From the patient perspective, quality is defined by what is important to them: their clinical results (safe and effective) as well as their experience while receiving care (person-centered). From the provider or payor perspective, the performance of the system – such as efficiency – is also critical. For a community, the goal is a healthy population which can only be achieved when care is accessible and equitable. Therefore, the goal of high-quality care often requires a balance to meet the needs of the various customers.

Systems of care

Health care is a complex industry that utilizes extensive resources (equipment, staff, technology) to deliver care through a network of tasks and activities. Though the direct care of patients often occurs behind closed doors, "this interaction is carried out within a broader historical, organizational, social and political context – where the diagnosis and treatment of system failures as well as social factors can be as important as clinical interactions with individual patients."[3] A total systems approach strategically manages quality across the entire enterprise, considering internal as well as external factors when striving for improvement.

A moving target

Health care is a field of continuous learning and advancement, where change and innovation are the norm. Therefore, achieving quality care is not a fixed or static goal. Health care providers must keep up with and incorporate the most current evidence-based medicine to provide quality outcomes. Organizations must apply this same approach to their non-clinical areas, assuring up-to-date administrative systems, equipment and processes that support the provision of quality care.

Safety

Though included as one of the six dimensions of quality, patient safety has emerged as a central, and separate, aim. The discipline of patient safety has evolved to focus on preventable, or avoidable, harm. The World Health Organization describes patient safety as the "cultures, processes, procedures, behaviours, technologies, and environments in health care that consistently and sustainably lower risks, reduce the occurrence of avoidable harm, make error less likely and reduce its impact when it does occur."[4] Like the broader field of quality, safety terminology and definitions are not standardized across the globe which challenge the development of a common approach to improvement.

There are many quality frameworks that describe how to achieve quality health care. Over the past decades, health care has adopted the theories and methods used by quality experts from other industries, such as manufacturing, aviation and engineering. Adapting these concepts to accommodate the unique characteristics of health care, some common strategies have emerged. JCI has incorporated these learnings into their **Quality Management & Patient Safety** framework *(see page 6)*. This model utilizes the analogy of building a **'house of quality'** to define the necessary structures and processes for a health care organization to achieve its desired outcomes. The five components (or floors of the house) include: **quality management; performance improvement; patient safety; data management;** and **external drivers of quality**. A description of each of these areas follows.

QUALITY MANAGEMENT

Quality management refers to a strategic management approach of quality across all aspects of an organization, clinical and non-clinical. The infrastructure or "building blocks"[5] of a health care organization that produces high-quality outcomes are: organizational structure and culture; leadership and governance; workforce capabilities and capacity; health information management; equipment and medications; and financing. It is leadership's role to plan for and align each building block with the organization's goals. The quality department, an essential component of this management system, is led by professional(s) who have the knowledge and competencies to support the quality efforts across the entire 'house'. With strong scaffolding, a health care organization can produce quality, safe care.

PERFORMANCE IMPROVEMENT

Performance improvement is considered the 'engine room' of the 'house of quality'. Also known as *quality improvement*, it is *"an approach to the continuous study and improvement of the processes of providing health care services to meet the needs of patients and others."* [6] Health care has adopted a set of evidence-based tools and methods to reduce the gap between what is actual and what is possible.[7] This field of study, referred to as the science of improvement, has grown exponentially over the past decades. Though quality improvement usually refers to clinical processes, the methods can be applied to all systems in health care organizations including non-clinical, administrative areas. Various models of improvement are used across the globe including: FOCUS-PDSA; the Institute for Healthcare Improvement (IHI) Model for Improvement; Lean-Six Sigma; The Joint Commission Robust Process Improvement (RPI). Regardless of the method that is chosen by an organization, each of these follow a similar sequence to resolve performance gaps: Identify the problem; Assess the process; Select a solution; Sustain the gains. In summary, the science of improvement uses a standardized approach to help organizations implement changes to their systems that will lead to better quality and safe outcomes.

We use the analogy of building a 'house of quality' to define the necessary structures and processes for a health care organization to achieve its desired outcomes.

DATA MANAGEMENT

Data is the 'fuel' necessary to run the improvement 'engine' in the 'house of quality'. Using data brings credibility to decision-making, instead of selections based on opinion or 'that's the way it has always been done around here'. Raw data, however, does not provide enough information to make decisions. To translate data into information, statistical formulae and functions are applied. Data management skills required for an effective quality program include: selecting performance measures; data collection (including sampling and validation); analysis; and interpretation. Analysis may include descriptive and inferential statistics. An important role of the quality department is the ability to convey data in a way that is easy to understand. Data visualization, using graphs and charts, help explain the message to customers, both internal and external, of the organization. Data-based decision making is a core principle of health care quality.

PATIENT SAFETY

The patient is the primary customer around which the 'house of quality' is built to serve. Because of the complexity of health care, special attention and processes are necessary to reduce risks to avoid harm to the patient. The field of patient safety includes strategies and tools to create a safety culture; partner with patients and their families; apply reactive and proactive risk assessment analyses; utilize human factors engineering when designing systems.

EXTERNAL DRIVERS OF QUALITY

Many external influences stimulate health care organizations to continuously strive for improvements in their quality of care including: government regulations, social values, knowledge and innovation, payment models, reward and recognition programs and accreditation. JCI defines accreditation as: *"Determination by an accrediting body that an eligible program, institution, or organization, such as a health care organization, complies with a required set of standards, indicating that a level of quality, performance, or similar attribute has been met."* [8] Accreditation is usually a voluntary process conducted by a government or non-government agency that is granted official authorization. Standards are evidence-based expectations of performance. They provide guidance for an organization to build structures and processes that lead to quality outcomes. A large body of research has confirmed that accredited health care organizations achieve a higher level of success across multiple domains of quality.
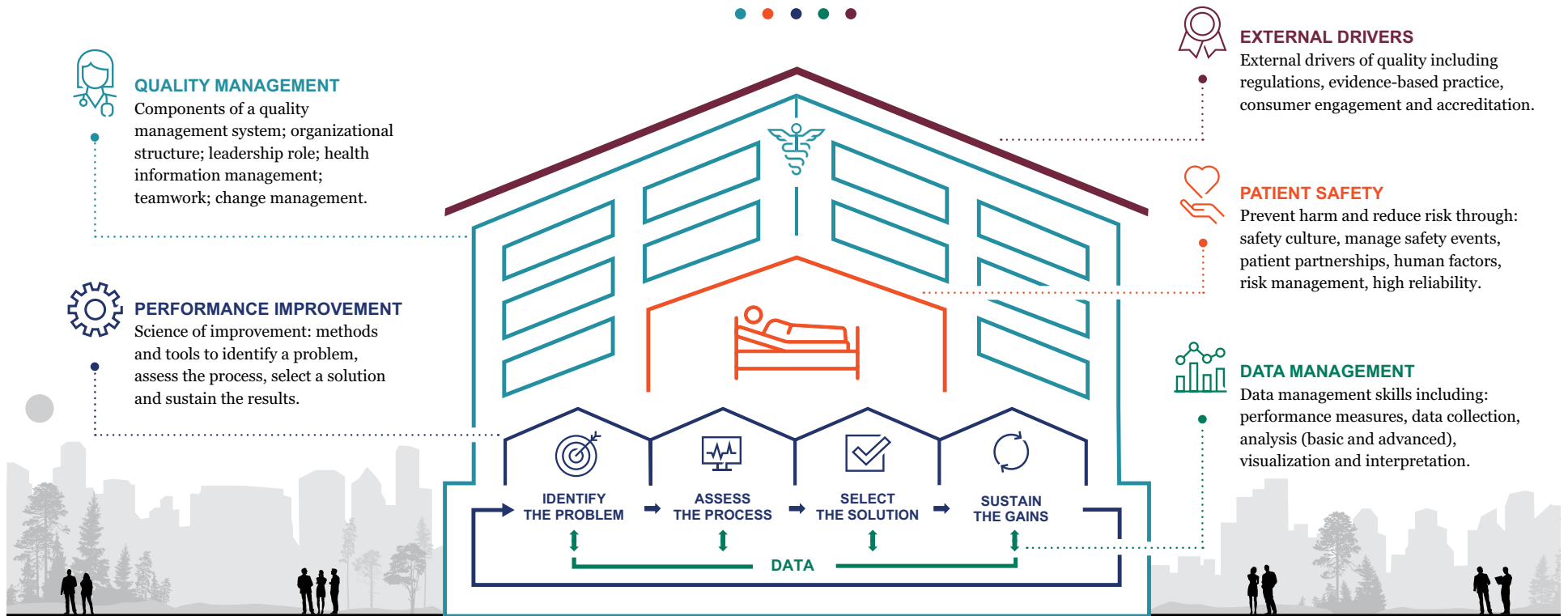
The five components (or floors of the house) include:

– *quality management*

– *performance improvement*

– *patient safety*

– *data management*

– *external drivers of quality*

JCI Quality Management & Patient Safety: House of Quality

A strong quality program includes the **structures** – leadership and culture, teams and technology – and the **processes** – the methods and tools of improvement – to achieve the desired **outcomes** of high-quality, safe care. JCI uses the analogy of building a 'house of quality' to describe the necessary infrastructure for a health care quality program that is aligned with the JCI standards. The five (5) components (or floors of the building) include: quality management; performance improvement; data management; patient safety; and external drivers of quality.

QUALITY MANAGEMENT
Components of a quality management system; organizational structure; leadership role; health information management; teamwork; change management.

PERFORMANCE IMPROVEMENT
Science of improvement: methods and tools to identify a problem, assess the process, select a solution and sustain the results.

EXTERNAL DRIVERS
External drivers of quality including regulations, evidence-based practice, consumer engagement and accreditation.

PATIENT SAFETY
Prevent harm and reduce risk through: safety culture, manage safety events, patient partnerships, human factors, risk management, high reliability.

DATA MANAGEMENT
Data management skills including: performance measures, data collection, analysis (basic and advanced), visualization and interpretation.

IDENTIFY THE PROBLEM → ASSESS THE PROCESS → SELECT THE SOLUTION → SUSTAIN THE GAINS

DATA

Plan. Improve. Perform.

The COVID-19 pandemic exposed some of the strengths – and weaknesses – of health care systems globally. As organizations continue to struggle to meet the needs of their communities, three key lessons related to quality have been identified.

QUALITY IMPROVEMENT WORKS!

Organizations around the globe have applied improvement tools and methods to help manage their challenges in various aspects of the pandemic. Eighty-two per cent of respondents to a survey in the United Kingdome said that quality improvement had been important during COVID-19.[9] Published examples range from the use of improvement methods for managing limited supplies to implementing telehealth clinics. Though adjustments may be necessary to accommodate changing environments and priorities, the science of improvement supports organizations in times of crisis.

SAFETY FOR ALL.

The pandemic has drawn attention to the hazards and risks inherent in the health care industry for both patients and the staff. Risks to patients identified during the pandemic include unintended exposure to COVID-19 while hospitalized, missed tests, or delayed care.[10] Health care disparities gaps became even more transparent, acknowledged as significant patient safety risks across the globe.[11] A wide range of safety and security risks for health care workers (HCW) have also been made visible. A World Health Organization report identified that 14% (1 in 7) of COVID-19 cases are amongst HCWs, and as high as 35% in some countries.[12] They are also challenged with the physical toll from long hours of work while wearing uncomfortable equipment; the emotional and psychological impact of managing critically ill or dying patients; intellectual tasks of filling new roles and responsibilities. Violence against HCW has increased, as they have been stigmatized, ostracized and even attacked.[13] Patient and HCW safety are intertwined and interdependent. By expanding our concept of safety, and applying a systems approach, the definition of preventable harm should include: "physical, psychological, emotional, moral, economic, and societal harm to patients and the workforce, as well as harm caused by inequities and lack of care for patients, families, and the workforce."[14]
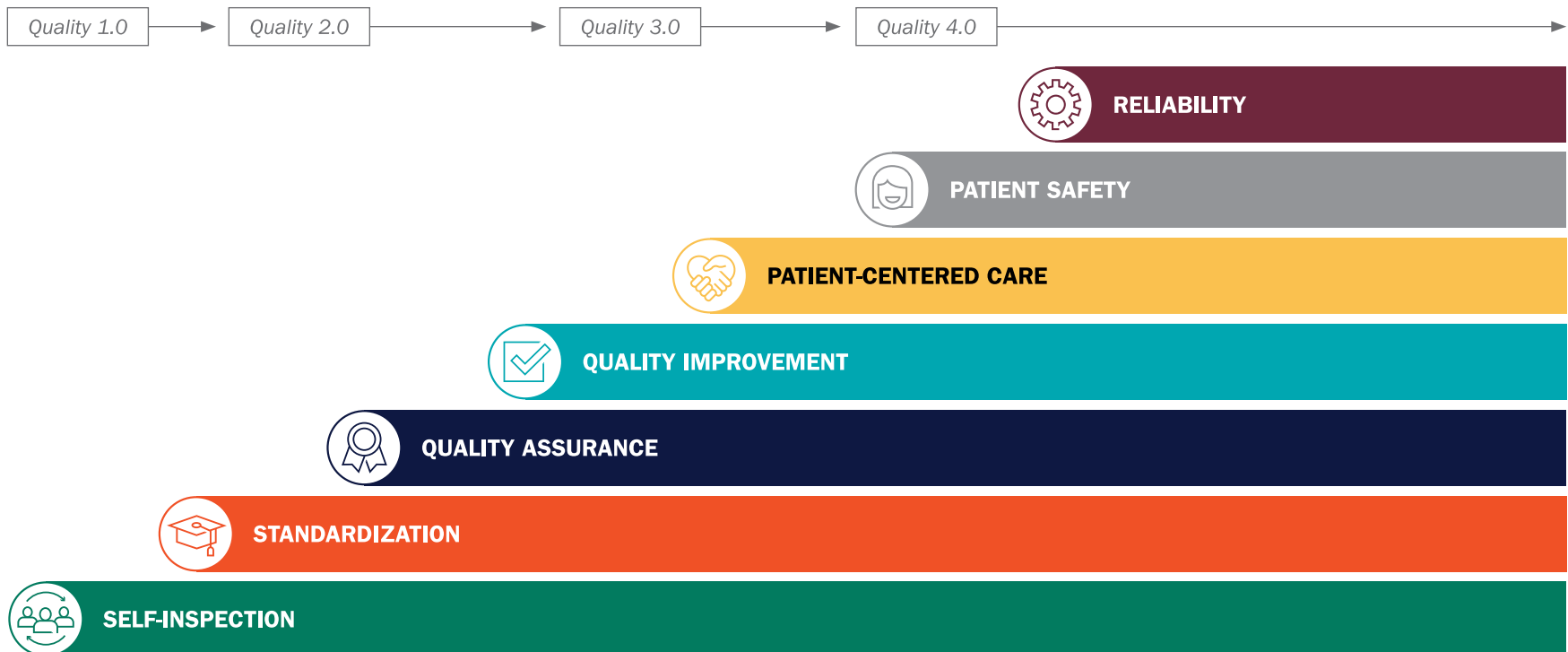
ACCREDITATION WORKS!

As the world continues to learn from this pandemic, key organizational strengths that bolster the ability of a health care organization to respond are being identified. Many of these effective organizational attributes are embedded in JCI Standards including: supply chain management, emergency preparedness programs, leadership requirements for communication and collaboration, and evidence-informed decision-making. The accreditation process is more than just 'passing a test'; the standards provide a formula for sustained success. The COVID-19 pandemic has revealed that the strategies and tactics required for accreditation support organizations to effectively manage through a crisis, as well as in 'normal times'.[15] Accreditation is an important strategy for providing quality, safe care.

Even before the pandemic, innovation has been a part of health care. Recently the pace of change has accelerated due to an interconnected global world, consumer engagement, technology advancements, and most recently the COVID-19 pandemic. The discipline of quality continuously evolves to meet the changing needs and expectations of customers. Various terms have been used to define the different phases and approaches used to achieve quality. Health care has adopted and adapted quality strategies and methods from other industries while developing its own body of research. With each generation, previous methods are not replaced; new concepts and tools are incorporated into the body of knowledge. *Quality 4.0* is a term that describes the current approach to quality management, that leverages the technologies and advanced digital tools available today.[16] These technologies empower humans to build systems that are smarter, resilient and reliable. This innovative approach is consistent with the principles of reliability – the next generation of health care quality.

Quality 1.0 → Quality 2.0 → Quality 3.0 → Quality 4.0 →

RELIABILITY

PATIENT SAFETY

PATIENT-CENTERED CARE

QUALITY IMPROVEMENT

QUALITY ASSURANCE

STANDARDIZATION

SELF-INSPECTION

Though innovation has always been a part of health care, the pace of change has accelerated due to an interconnected global world, consumer engagement, technology advancements, and most recently the COVID-19 pandemic. The discipline of quality has also evolved as customer needs and expectations have changed. Health care quality professionals need additional knowledge and competencies for this 'new normal.' In addition to those defined in previous generations of quality, three skills crucial for health care quality of the future include:

DATA SKILLS

Data sciences and the use of statistics have always been a vital part of quality. Technological advances have increased the amount of data accessible from multiple sources (clinical and nonclinical, including consumer data) that can be analyzed with advanced computing tools. A variety of enabling technologies for data analytics can be used to support quality and safety efforts. For example, artificial intelligence and machine learning can recognize patterns in data, which can be used to identify process failures, predict outcomes and build recommendations for care. [17]

PEOPLE SKILLS

Though the digital transformation is driving rapid changes in health care, Quality 4.0 is more than just technology. Quality professionals need strong *people skills*, including proficiency in leadership, communication, and emotional intelligence. *Change management*, a structured method to support people and organizations through any type of change, is an essential tool for quality improvement.[18] The majority of quality improvement projects fail not because they do not have good solutions, but because they did not manage the human side of the project: changing human behavior. To support the acceptance, implementation and sustainability of any new equipment or task, the 'art of change' is as important as the technical training.[19]

RELIABILITY

Despite decades of attention to quality, health care organizations continue to struggle with consistently producing the desired outcomes for the communities they serve. The COVID-19 pandemic highlighted the need for reliable systems – at the individual, organizational and national level – that can function under normal conditions as well as in the face of adversity. Health care has learned from other high-risk industries, such as aviation and nuclear power, that have demonstrated the value of reliability and resilience to achieve and maintain safety despite complex work environments.[20] These high reliability organizations (HROs) incorporate a multidisciplinary approach to quality, where safety is prioritized. Evidence is emerging that health care organizations applying HRO principles were better able to navigate through the pandemic.[21/22] The Joint Commission endorses a framework of reliability for health care built on three components: leadership, safety culture and robust process improvement.[23] The future of quality in health care will require this new approach, where leaders and staff are preoccupied with risk, learning from and adjusting quickly when staff speak up about their concerns, and all are committed to the goal of zero harm.

Cultivating an effective quality program is like building a house. It requires intentional planning with an integrated approach that takes into consideration people, processes, and technology. At Joint Commission International, our mission is to advance health care quality and patient safety. We envision a future, where every health care provider has the tools to consistently provide quality of care with zero patient harm across the health system. Our approach includes a scalable blueprint to build this "House of Quality."

The COVID-19 pandemic is an (unfortunate) milestone in the journey of continuous improvement, providing an opportunity to reengineer our approach to health care quality. The health care community needs to adjust and innovate: set the vision where ALL are safe, ALL the time; apply the tools we know to be effective, such as quality improvement and accreditation; and leverage technologies to address deficiencies in our systems, including those that have been made more apparent by the pandemic. Following the JCI 'house of quality' blueprint will empower health care providers to build resilient, reliable systems.

REFERENCES

1 Joint Commission International Accreditation (JCIA) Standards for Hospitals. 7th Edition. 2020. Published by Joint Commission Resources. Oak Brook, Illinois 60523

2 National Academies of Sciences, Engineering, and Medicine 2018. Crossing the Global Quality Chasm: Improving Health Care Worldwide. Washington, DC: The National Academies Press. https://doi.org/10.17226/

3 Peter Hockey, Martin Marshall. Doctors and quality improvement. J R Soc Med 2009; 102: 173-176. DOI 10.1258/jrsm.2009.090065

4 Global patient safety action plan 2021–2030: towards eliminating avoidable harm in health care. Geneva: World Health Organization; 2021. License: CC BY-NC-SA 3.0 IGO.

5 Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva: World Health Organization; 2007.

6 JCIA Standards for Hospitals, 7th Ed. SAME AS Reference 1

7 The Health Foundation 2011. Evidence Scan: Improvement Science. London England.

8 JCIA Standards for Hospitals, 7th Ed. Same as 1

9 Hill M, Scott J, Cann H. The role of improvement during the response to COVID-19; insights from the Q community. The Health Foundation. March 2021

10 Taylor, M., Kepner, S., Gardner, L. A., & Jones, R. . (2020). Patient Safety Concerns in COVID-19–Related Events: A Study of 343 Event Reports From 71 Hospitals in Pennsylvania . Patient Safety, 2(2), 16–27. https://doi.org/10.33940/data/2020.6.3

11 Addressing health care disparities by improving quality and safety. The Joint Commission Sentinel Event Alert. Issue 64, November 10, 2021

12 Keep health workers safe to keep patients safe: WHO. September 2020. World Health Organization. Accessed November 1, 2021 at https://www.who.int/news/item/17-09-2020-keep-health-workers-safe-to-keep-patients-safe-who

13 Howard Larkin. Navigating Attacks Against Health Care Workers in the COVID-19 Era.JAMA.May 11, 2021. Vol 325, No. 18

14 Safer Together: A National Action Plan to Advance Patient Safety. Content last reviewed June 2021. Agency for Healthcare Research and Quality, Rockville, MD. https://www.ahrq.gov/patient-safety/reports/safer-together.html

15 Gokmen Kavak D. et al. The importance of quality and accreditation in health care services in the process of struggle against Covid-19. Turk J Med Sci. (2020) 50: 1760-1770

16 American Society for Quality. Quality 4.0. Accessed on October 26, 2021 at https://asq.org/quality-resources/quality-4-0

17 Avigdor Zonnenshain, Ron S. Kenett (2020) Quality 4.0—the challenging future of quality engineering, Quality Engineering, 32:4, 614-626, DOI:10.1080/08982112.2019.1706744

18 Kathryn Leonhardt. The Joint Commission Book Big of Performance Improvement. (Illinois: Joint Commission Resources, 2020)

19 Greg Parston, Julie McQueen, Hannah Patel, Oliver P Kewown, Ginaluca Fontana, Hanan Al Kuwari, Ara Darzi. The Science and Art of Delivery: Accelerating the Diffision of Health Care Innovation. HEALTH AFFAIRS 34, NO. 12 (2015): 2160–2166. doi: 10.1377/hlthaff.2015.0406

20 Jaime Cantu, Janice Tolk, Steve Fritts, Amin Gharehyakheh. Interventions and measurements of highly reliable/resilient organization implementations: A literature review. Applied Ergonomics 90 (2021). https://doi.org/10.1016/j.apergo.2020.103241

21 Robert Phillips, Roberta Schwartz, Dirk Sostman, Marc Boom. Development and Expression of a High-Reliability Organization. NEJM Catalyst Innovations in Care Delivery. Vol 2 No. 12. December 2021 at https://catalyst.nejm.org/doi/abs/10.1056/CAT.21.0314

22 Veterans Health Administration (VHA) Corona Virus Disease 2019 (COVID-19) Response Report-Annex A. May 10, 20-21 Accessed on November 10, 2021 at https://www.va.gov/health/docs/VHA-COVID-19-Response-2021.pdf

23 Mark Chassin, Jerod Loeb. High-Reliability Health Care: Getting There from Here. The Milbank Quarterly, Vol. 91, No. 3, 2013 (pp. 459–490)

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