

**Imperial College
London**

**Institute of
Global Health Innovation**



The Global State of Patient Safety

Kelsey Flott, Gianluca Fontana & Ara Darzi

NIHR Imperial Patient Safety Translational Research Centre
Institute of Global Health Innovation, Imperial College London

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Foreword

Every health professional wants to provide the best possible care for their patients. But for too long the prevailing view has been that in delivering that care some patient harms are inevitable, and nothing can be done to prevent them.

That view is unacceptable. Patient safety is not a luxury. It is not something only advanced health systems can provide. It is the cornerstone of quality care everywhere.

Over the past two decades, research has revealed the enormous burden of harm caused by unsafe care. It has led to a growing acknowledgment of the importance of patient safety, culminating in its enshrinement as a global priority at the World Health Assembly in May 2019.

Unsafe care is now recognised as one of the leading causes of death. An estimated one in ten patients is harmed while receiving hospital care in high income countries and the challenge is even greater in low and middle income countries.

The worldwide focus on increasing the quantity of services, and the financial mechanisms to deliver them, needs to be complemented by continued attention to safety. But safety is not an alternative to the provision of health care. Safe care is every patient's right – regardless of wealth or geography.

The establishment of WHO World Patient Safety Day is an important step towards the goal of safer care. It builds on the momentum created by the

Global Ministerial Summits for Patient Safety, the establishment of the Global Patient Safety Network and the launch of the Global Patient Safety Collaborative, of which Imperial College London is a committed partner.

But many challenges remain. In this report we set out the barriers we face, record the progress made and discuss the policies adopted by countries around the globe.

Safe care is an essential goal for health systems everywhere. It requires co-ordinated action, the empowerment of patients and staff and the creativity to develop the interventions we need. It must never be regarded as secondary to the delivery of health care. It is central to everything we do.



Professor the Lord Darzi of Denham
OM KBE PC FRS



Executive summary

The evidence around unsafe care is clear: it is within the top 10 leading causes of death in the world, accounting for more lives lost than either lung cancer, diabetes or road traffic accidents.¹ In low and middle income countries (LMICs), unsafe care takes the lives of 2.6 million people annually.² The result is trillions of dollars spent globally, as well as vast social consequences for patients and staff involved.³ The magnitude of the problem and scale of consequence erodes the foundations of health systems to achieve their full potential as public institutions.

Reducing the burden of harm and instilling better practice requires both systems thinking and committed local ownership. Comparisons of health systems across the world can help visualise best practice, opportunities for learning and potential for diffusion of innovations. Most importantly, depicting the global state of patient safety showcases exemplar safety systems and facilitates exploration of their characteristics and enablers.

Enacting a mission for safer care globally means moving beyond the epidemiology of harm and towards the initiation of human-centric, evidence-based interventions. It requires leveraging the political momentum built through Global Ministerial Summits for Patient Safety. Moreover, it hinges on truly concerted effort across care settings, industries and geographies.

The increased profile of patient safety as a core element of universal health coverage and the advancements in the development and availability of new interventions make this a crucial time for the future of patient safety. There is a unique opportunity to significantly reduce harm and improve the lives of millions of patients and their families. The moment calls for ambitious visions and bold action, which we hope this report will stimulate.

1



Global burden of unsafe care

Patient safety is an established cornerstone of healthcare quality.^{4,5} As the discipline around safety has evolved and attracted political attention, patient safety has become recognised with international importance.² As of May 2019, patient safety has been enshrined as a global health priority via a World Health Assembly Resolution.⁶ The trajectory towards global importance has taken decades, but the case for safer care has been consistently strong.

Once considered too difficult to catalogue or quantify, there are now robust figures demonstrating the current state of patient safety globally. The movement for safer care has propelled momentum not only for developing incident reporting systems to monitor error, but also compelled health systems leaders to capture more nuanced safety indicators. These metrics and measures help us develop a global picture of safety from which to learn and improve.

Safety is a multifactorial concept, driven by a complicated array of technical, human and system factors. Observing key facts and deriving meaning from them requires intelligence from a diversity of sources including clinical records, economic analyses and broader social impact studies.

1.1 The clinical burden of unsafe care

First do no harm; the most well recognised maxim around safety highlights the importance of understanding the burden of harm across clinical settings.

The stark global reality is that unsafe care is one of the **top 10** leading causes of death in the world and up to **83%** of harm is avoidable.^{2,3} Ultimately, unsafe healthcare accounts for more lives lost than either **lung cancer** (1.7 million), **diabetes** (1.6 million) or **road injuries** (1.4 million).¹ In the United States, it is estimated that **every adult** will experience a diagnostic error at least once during their lifetime.³ Healthcare is thought to be a safe space, intended to cure, heal and support recovery. However, the risk of harm is far more pervasive than many may assume. In fact, it is estimated that **1 in 4 patients** are harmed whilst receiving primary and ambulatory care.⁷ A **25% risk** of harm means that focusing on safety is no longer a luxury reserved for well-resourced systems, but a global priority, a response to a problem reaching epidemic proportions.

More specifically, in 2013, it was estimated that over **420 million** hospitalisations each year around the world resulted in nearly **43 million adverse events**. The consequences of this at the time were **23 million disability-adjusted life years (DALYs)** lost each year, a number that is likely to have risen in line with the increase in hospitalisation rates.⁸ The most prevalent reason for loss of DALYs was premature death; about **80% of DALYs** lost due to adverse events were associated with premature death.⁸ The most common types of harm relate to medications, venous thromboembolism, bloodstream infections associated with catheters and diabetic ulcers.^{7,9} Injuries are also common with over **16 million per year** in high-income settings alone.⁸

The burden is even more striking in low- and middle-income countries (LMICs). When looking at the broader picture of healthcare quality, it is estimated that between **5.7 and 8.4 million deaths** occur each year from poor quality of care in LMICs.² In fact, poor quality care accounts for **10-15% of the total deaths** in LMICs.² When narrowing in on safety specifically, **2.6 million patients** die annually due to unsafe care in LMICs.² Nearly **75%** of all global DALYs lost due to adverse events occur in hospitals in LMICs.⁸ These levels of unsafe care are of major concern to LMIC health systems, often those that are the least equipped to invest in improvements. These

figures are even further exacerbated in countries and areas suffering from “extreme adversity,” or the protracted strife associated with war, famine, displaced persons and chronic political instability.¹⁰ With 2 billion of the world’s population living in active conflict zones, the importance of quality healthcare in extreme adversity has been elevated to the highest of international discourse.

One of the most critical services in any health system, that sits separately to acute and primary care, is maternity and neonatal care. These services are many people’s only interaction with the health service and their remit holds responsibility for some of the most critical hours of life. Harm in maternity can have dire and life-long consequences, making it an area of particular urgency. The numbers augment that urgency: every day **830 women die** from preventable causes related to pregnancy and childbirth.¹¹ The World Health Organization (WHO) reports that, “Of the more than 130 million births occurring each year ... **2.6 million [result] in stillbirth**, and another **2.7 million in a newborn death** within the first 28 days of birth. The majority of these deaths occur in low-resource settings and most could be prevented”.¹² While not all of these tragedies are the direct result of unsafe care, their preventable nature raises concerns about the quality of maternity services globally, with safety a principal component of quality. While the problem is particularly dramatic in LMICs, which account for **99%** of all maternal deaths, safety concerns are rampant across high-income systems as well. In the UK **9 in every 100,000** mothers still die in pregnancy-related cases, a ratio incongruent to the available services in the UK and higher than the UN’s Sustainable Development Goal of **7 in every 100,000**.¹³ The concern is acutely felt by those working in maternity services: one King’s Fund study of nearly **600 frontline maternity staff** in the UK demonstrated a palpable concern for safety and a demand for better approaches to learning from incidents and creating safe skill mixes amongst teams.¹⁴

The state of patient safety globally cannot be captured in mortality, morbidity and clinical statistics alone. The consequences are ubiquitous and manifest in larger economic and social concerns.



1.2 The economic burden of unsafe care

Given the gravity of the clinical burden associated with unsafe care, high costs are unsurprising. The magnitude of these costs are nevertheless staggering: in the US alone, the economic cost of unsafe care has been estimated at **\$1 trillion**, putting the global figure in the **multi-trillions**.³ Furthermore, medication errors alone across the world account for **\$42 billion** annually.¹⁵

The economic case for safety is two-fold: first, the impact of harm has costly implications for remediate healthcare and productivity loss; second, the initiatives dedicated to rectifying unsafe practice can be resource intensive and require detailed scrutiny to ensure their effectiveness.

Although **15% of all acute care activity** is caused by harm occurring in hospitals, the problem is not isolated to any one setting.⁷ The seminal report on the economics of patient safety outside the hospital setting, aptly titled, *Flying Blind*, explores the direct and indirect costs of harm in primary and ambulatory care. Direct costs associated with the tests, treatments and care required following harm in the primary and ambulatory settings were estimated to be around **2.5% of total health expenditure**. The reality is that harm in these settings often results in hospitalisations, accounting for over **6% of hospital bed days** and more than **7 million admissions** in Organisation for Economic Co-operation and Development (OECD) countries annually. (This is in addition to the 15% of acute care activity caused by harm occurring in hospitals alone.)⁷ Estimates suggest that in developed countries the cost of harm in primary and ambulatory care can approach **3% of GDP**.⁷

Grasping the economic burden of unsafe care is often easiest in counterfactuals: The annual cost of common adverse events in England is equivalent to hiring **2,000 GPs** or **3,500 hospital nurses**.³ In the US, where investments have been made to improve safety, it is estimated that **\$28 billion** has been saved in five years.³ In NHS maternity services, claims relating to medical negligence amount to **£2.1 billion** while £1.9 billion was spent on delivering babies in maternity care. Overall, the OECD reports that “The costs of harm dwarf the costs of preventing it”.³

Exacerbating the problem is the fact that system-level responses to unsafe care are often not evidence-based and can include very high costs. Improving patient safety requires a mechanism

for assessing the economic effectiveness of safety initiatives. For instance, evidence suggests that the direct cost of the National Reporting and Learning System (NRLS) from parliamentary funding over the first 10 years was in excess of **£250 million** in today’s prices. **That’s approximately £1.5 million for every safety alert or guidance issued** in England and Wales.¹⁸

The OECD has produced evidence which can be applied on an international level regarding the “best buys” in patient safety. Their work demonstrates the overall importance of investing in safety improvements to ameliorate the overall economic burden of harm, but it goes further to suggest which interventions are most cost-effective. Experts surveyed in the OECD study prioritised both system-level and organisational-level improvements as best buys, including, *“Professional education and training, clinical governance systems, safety standards, person, and patient engagement strategies. Developing a culture conducive to safety was seen as critical”*.³

The breakdown of best buys in patient safety demonstrates the global importance of education and training, clinical governance and safety standards. It depicts the universal gap in training and compels a diversified approach to safety prevention in different systems. The economic case for safety begins to shed light on the pervasive nature of harm and provokes explorations of the larger impact it has on society.

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1.3 The broader impact of unsafe care

The clinical and economic burden of unsafe care is only the tip of the iceberg. The personal impact is traumatic and enduring; experiencing harm as a patient or as a member of staff has consequences in terms of psychological damage, fear, degradation of trust and loss of confidence. While cataloguing morbidity, mortality and economic consequences of unsafe care provide the statistical justification for investment in safety, it is likely to only scratch the surface of observing the impact of harm.

From a patient perspective, the personal experience of harm can be catastrophic in terms of trauma, both physical and psychological. As one study about patient perceptions of safety reports, “safety is not just a property of systems, but personal and contingent and is realized in the interaction between doctor and patient”.¹⁹ While it cannot be quantified on a global level, patient harm results in loss of work, compromised personal livelihood and irrefutable loss of trust in the health system, the latter of which is a critical system-level concern.⁷

Safety incidents have been the catalyst for increased patient involvement in producing safer care, a trend which has proliferated the case for safer care across high-level policy audiences. However, the vast majority of those harmed go unheard and the consequences to their quality of life, their family, their productivity and their trust in the health service go uncaptured in any index or database.

The problem is not isolated to patients. In one Danish study, involvement in a patient safety incident resulting in moderate harm, severe harm or death systematically related to higher psychological burdens to staff.²⁰ Whereas in one American study of general practitioners, **84% of staff** reported having an emotional response to being involved in a safety incident.²¹ Healthcare staff involved in unsafe care or operating in continuously unsafe environments experience extreme levels of fear and burnout. **Burnout**, which is estimated to impact upwards of **50% of clinical staff**, whether a product of unsafe environments or otherwise, is associated with higher levels of harm and overall poor safety culture.²² Furthermore, anecdotal evidence from many professional organisations representing clinical staff around the world report staff leaving the medical profession following incidents.²³

1.4 Reducing the burden

Together these figures begin to depict the global state of patient safety and urge a concerted action towards safer care. Overall, the rates of harm and unnecessary complications are not consistent with recent advances. They capture the epidemiology of safety not only in terms of harm – but also its consequences – and how those consequences can erode the foundations of a health system.

Improving safety is therefore a priority in both high- and low-income settings and relies on both the technical tools to improve, as well as investment in leadership and culture. Although the burden of safety varies from country to country, there are clear trends that exist on a global level. The result is that, while specific interventions will require cultural and contextual adaptation, the general recommendations for improvement are universal. A framework from perhaps the most challenging environment for safety, extreme adversity, sets out the following actions, which are rooted in economic evidence. The recommendations include the following ¹⁰:

- Ensure access and basic infrastructure
- Shape the system environment
- Reduce avoidable harm
- Improve front line clinical care
- Engage and empower patients, families and communities

Each of these broad categories of improvements will have actions relevant to local contexts, allowing patient safety initiatives to be generated in a way that works for individual systems’ priorities.

In order to drive improvements and translate knowledge across borders, it is necessary to leverage a new paradigm for safety: learning from best practice, otherwise known as Safety II.²⁴ Principles from the Safety II philosophy allow recognition of the stark, and often tragic, facts surrounding patient safety, while also looking toward evidence-based best practice for improvement opportunities.²⁵ Adopting these principles on a global level requires careful examination of what makes an effective patient safety system and invites inquiry into positive examples from countries across the world.

SPOTLIGHT: STRATEGIES FOR IMPROVEMENT

Improving the global state of safety requires working at local and system levels to understand the contextual drivers of harm in this vital service and sharing examples of how they can be remedied. Cross-national examples of deploying standardised tools, investing across agencies and diagnosing cultural trends can drive forward safer care.

EVIDENCE-BASED TOOLS:

Tools like the **WHO Safe Surgery Checklist** and **Safe Birth Checklist** are frugal examples of how safety in care can be systematically measured and improved.^{12, 26} One Brazilian study explains how the use of such tools helped normalise the process of measuring avoidable harm, integrating a collection of safety indicators into routine practice and shifting the culture around staff interpretation of what types of harm are avoidable.²⁷

DIAGNOSING CULTURE:

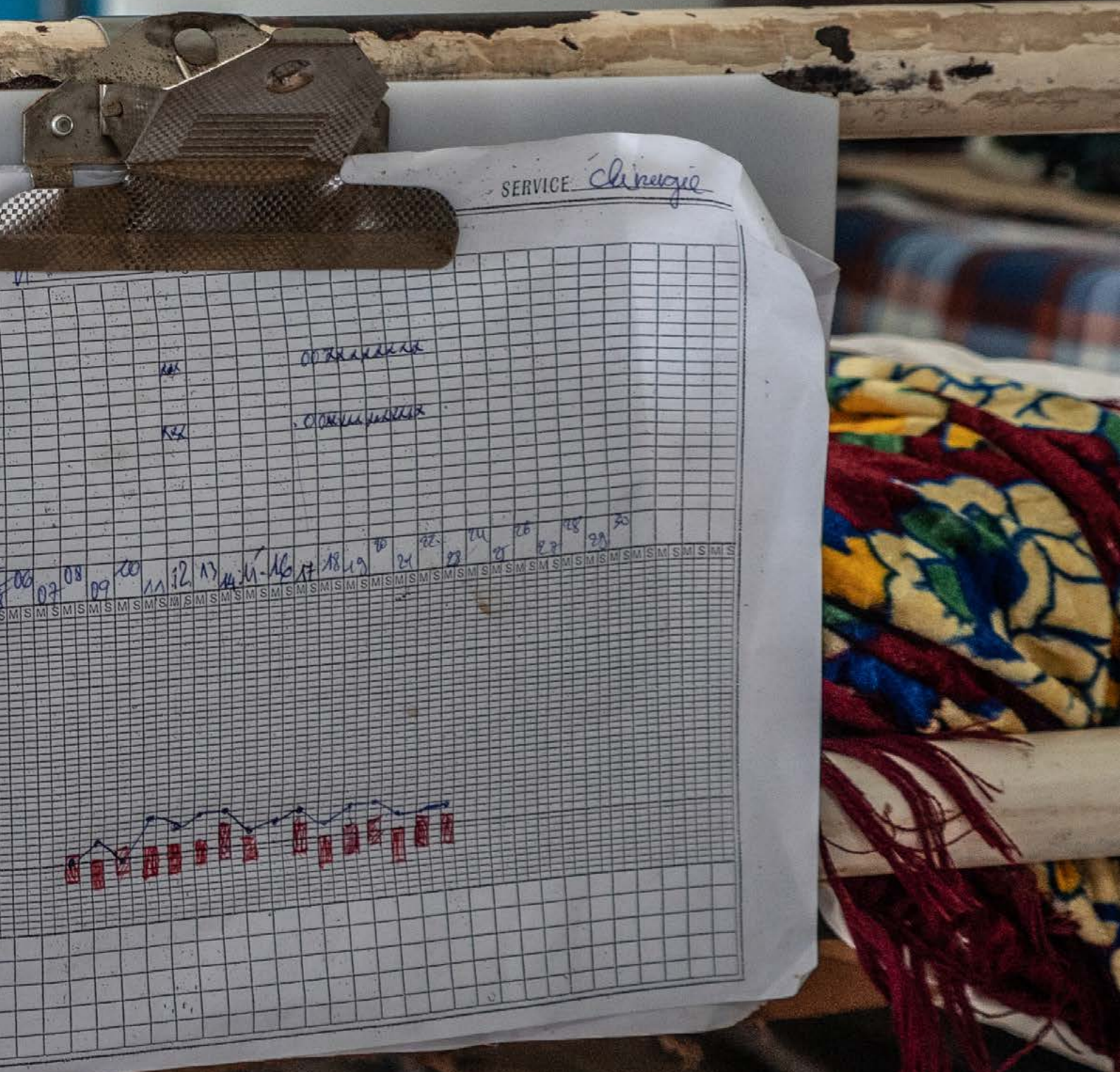
The Leading Health Systems Network conducted a study of large provider organisations representing seven different countries to compare **11 patient safety indicators (PSI)** and associated safety culture scores.¹⁶ While comparing indicators was heavily influenced by risk factors, conditions and system-level factors, the tool to measure culture, the **Safety Attitudes Questionnaire**, was consistent across settings. Across systems, teamwork climate averaged 4.3/5, but working conditions only averaged 3.8.¹⁶ More specifically, there was a single question which revealed a general hesitation to communicate or speak up about incidents across all participating organisations. Although only five organisations took part in this portion of the work, results were useful diagnostic tools at the local level.²⁸

MULTIDIMENSIONAL INVESTMENT:

In the UK, a multi-agency emphasis has been placed on improving safety in specific services, like maternity care, with a concerted effort from government, providers, academics and patients. The UK pioneered holistic investment in maternal care, dedicating £365 million over five years to perinatal maternal mental health services.²⁹ In order to ensure the uptake of available tools, a multi-faceted and longitudinal national strategy was also rolled out.³⁰ This included a **National Maternity Collaborative** improvement programme and the commissioning of over 400 independent investigations into maternity safety to understand and learn from errors in maternity.^{28, 29, 30, 31, 32}



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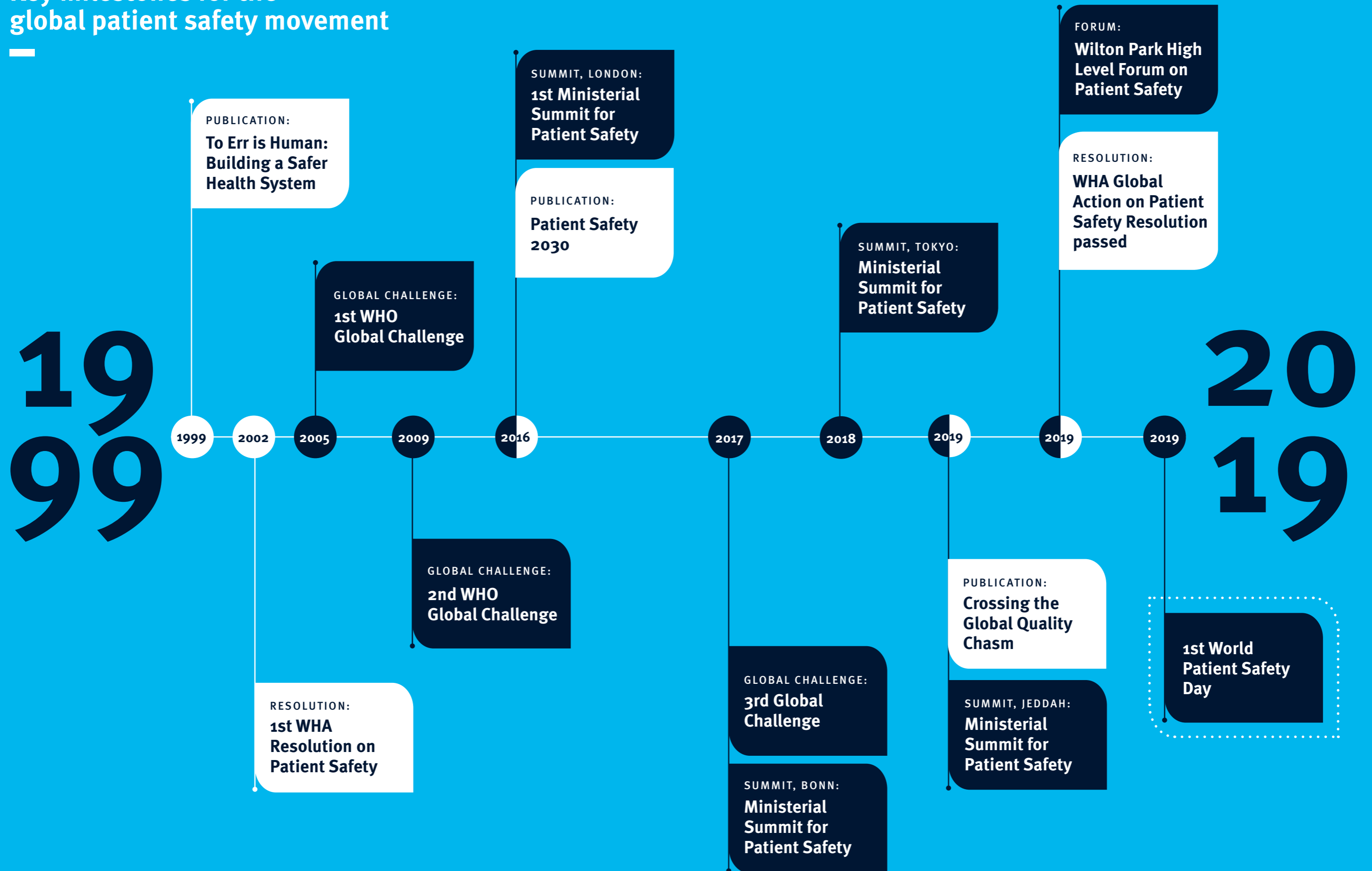
How are countries around the world doing?

The global movement towards safer care has galvanised significant interest and developed momentum in health systems traditionally not accustomed to focusing on aspects of quality outside of clinical effectiveness. Concurrently, the audience for safety has also increased in profile. In 2016, the Global Ministerial Patient Safety Summit was launched with the goal of stimulating interest amongst policy and government leaders.³³ Subsequent summits expanded the conversation to over 300 high-level leaders from 45 countries, of which many were LMICs, attracting participation from leaders with diverse cultural backgrounds.^{34, 35} The Global Ministerial Patient Safety Summits have produced protocols for prioritising safety as well as declarations of commitment for action, including the Tokyo and Jeddah Declarations on Safety.^{36, 37}

These summits helped bring patient safety to the forefront of the world's largest healthcare dialogues, and in 2018 and 2019, patient safety was given centre stage at the World Health Assembly, culminating in the passage of an official international resolution to prioritise patient safety.³⁸ The resolution applied to all countries, with a particular focus on areas of extreme adversity, authoritatively debunking the notion that patient safety is only a high-income country priority.

The global attention to patient safety creates a policy window for action. Capitalising on the momentum in order to drive safer policies and practice requires a clear understanding of the state of healthcare safety systems across the world, both in terms of their qualities and their challenges.

Key milestones for the global patient safety movement



2.1 The importance of measurement and comparisons

Improving patient safety is not a competitive mission for a single system to master, but a collaborative effort within which all systems should partake. Part of this collaboration requires comparing safety metrics across countries. International comparisons in healthcare quality are notoriously difficult; too often they require either unrealistic controls or unhelpful caveats.³⁹ However, when approached in a clear and nuanced way, comparisons can provoke curiosity and support a culture of continual improvement and knowledge transfer.

Moreover, national comparisons can catalyse change by providing the currency needed to mobilise national-level investment in safety. Historically, in other fields, national-level measurements like the corruption index and press freedom index have enabled countries to observe their own position in the global arena and drive change where needed. These types of constructive comparisons are necessary for systems to hold themselves accountable, to strive for improvement and to generate awareness of promising innovations for improvements. It is therefore important to extend this to patient safety and explore safety measures with an international lens.

2.2 International variation in safety and quality

A frequently used approach to measuring safety on a national and international level involves the analysis of adverse event reporting. Although this is not collected in a standard way across all countries, the Global Burden of Disease Study in 2016 exposes the rates of adverse medical treatment across **195 countries**.⁴⁰

Indicators from this study have been used to develop more general indications of quality in subsequent work. In particular, a study conducted by Margaret Kruk and colleagues indicates that there is considerable variation in the prevalence of patient harm across countries.⁴⁰ This work, *Mortality due to low-quality health systems in the universal health coverage era*, uses a range of quality indicators, including adverse events reports to catalogue mortality as a result of poor-quality care.⁴⁰ Findings from this study suggest that in comparison to high-performing countries in terms of health and safety, there is variation across LMICs.

South Asia and Western Sub-Saharan Africa had the highest mortality due to poor-quality care with **1.9 million** and **1.2 million deaths** respectively.⁴⁰ Perhaps more relevant to safety, Central Europe and Latin America had the most deaths due to direct use of poor-quality care with **78% and 69% of deaths amenable to healthcare** respectively.⁴⁰ Overall, Kruk reports that, “the total LMIC poor-quality mortality was **82 deaths per 100,000 population**”.⁴⁰ The map opposite depicts the variation in mortality due to poor healthcare across LMICs, using high-income countries as a reference point.

Mortality due to poor-quality care across LMICs was 82 deaths per 100,000 population.⁴⁰

Mortality due to poor-quality healthcare per 100,000 people by country

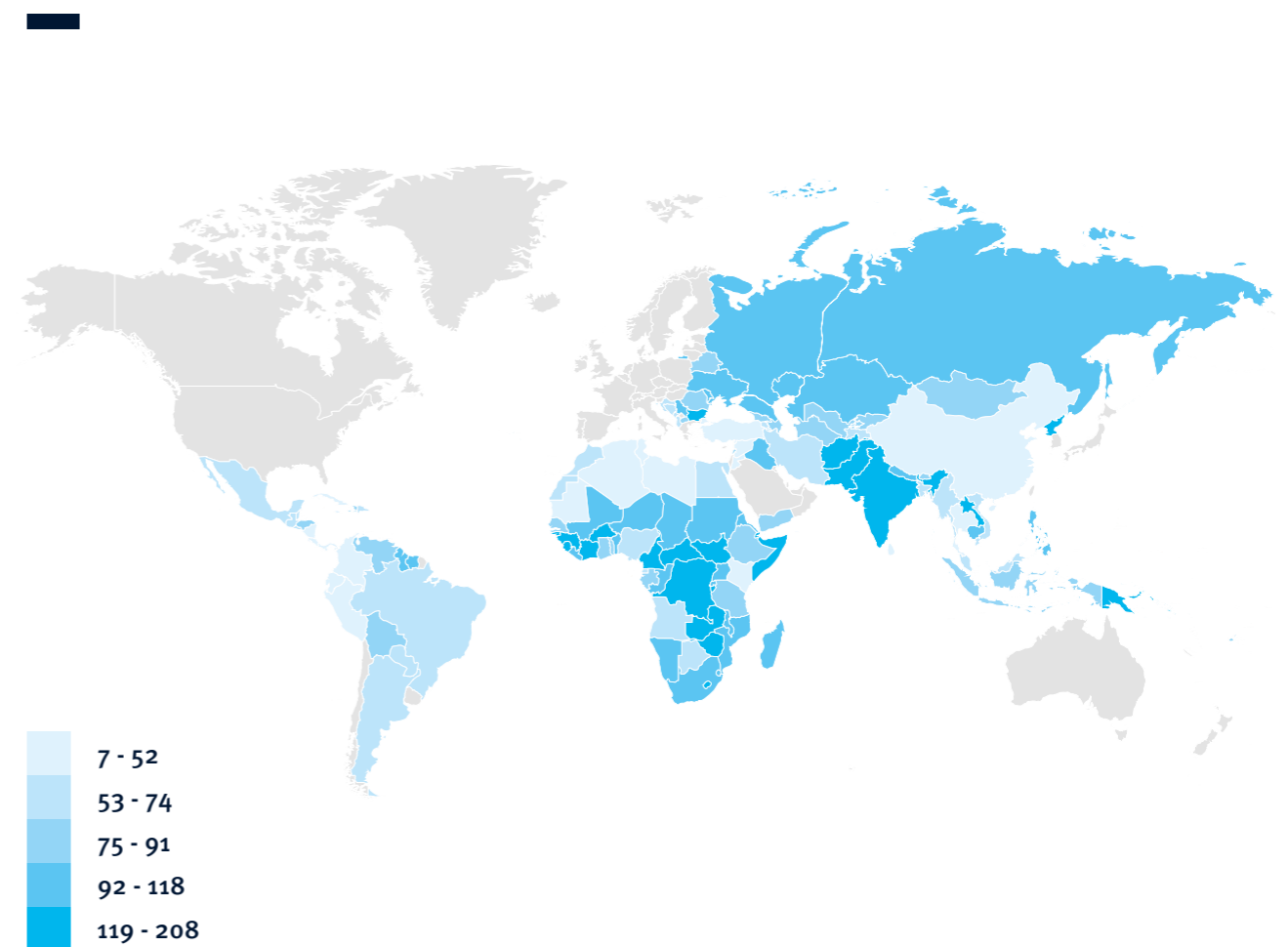


Figure 1. Mortality due to poor-quality health care by country. Reproduced from Kruk et al., 2018.⁴⁰

Deaths due to use of poor-quality services

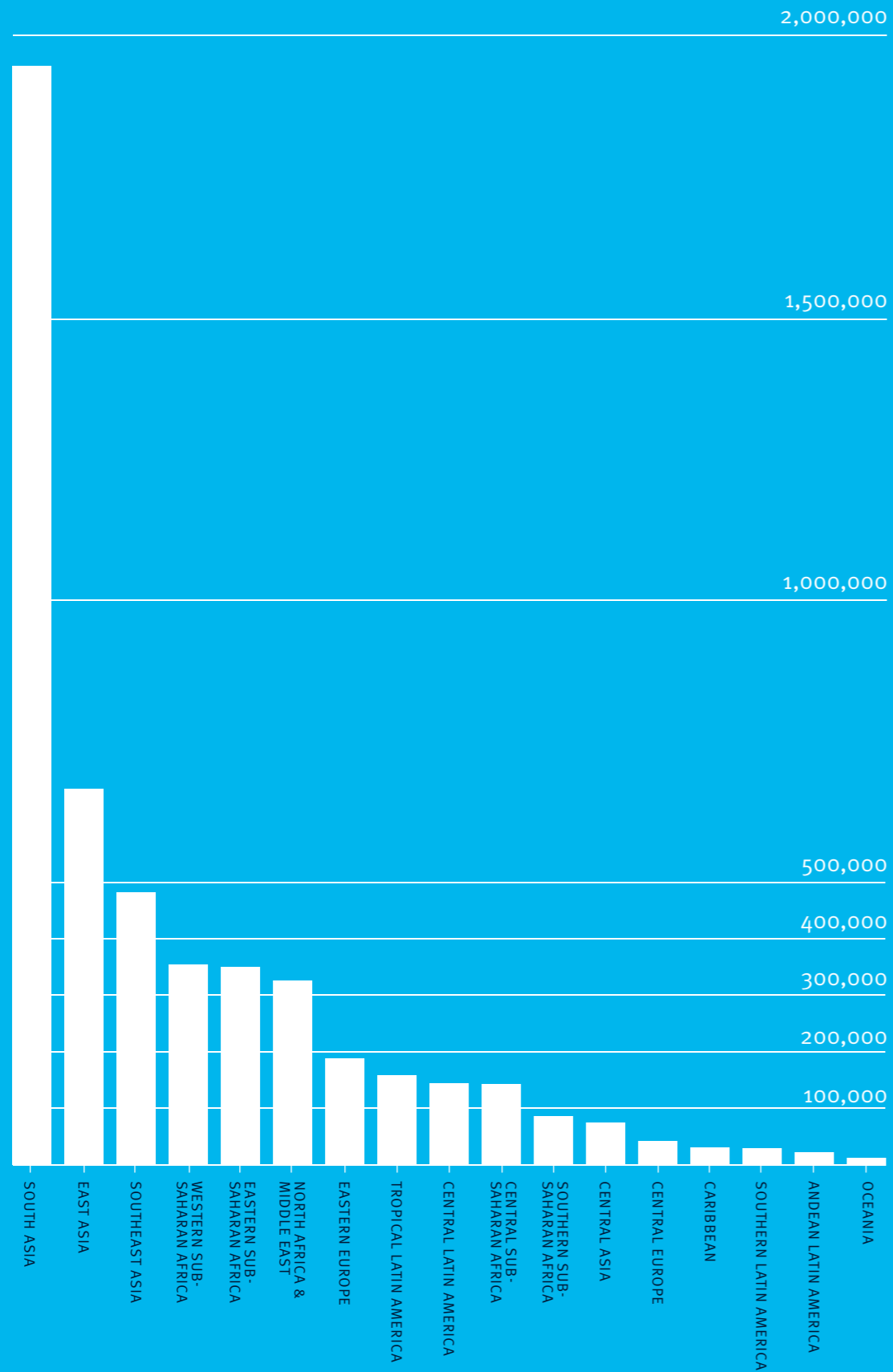
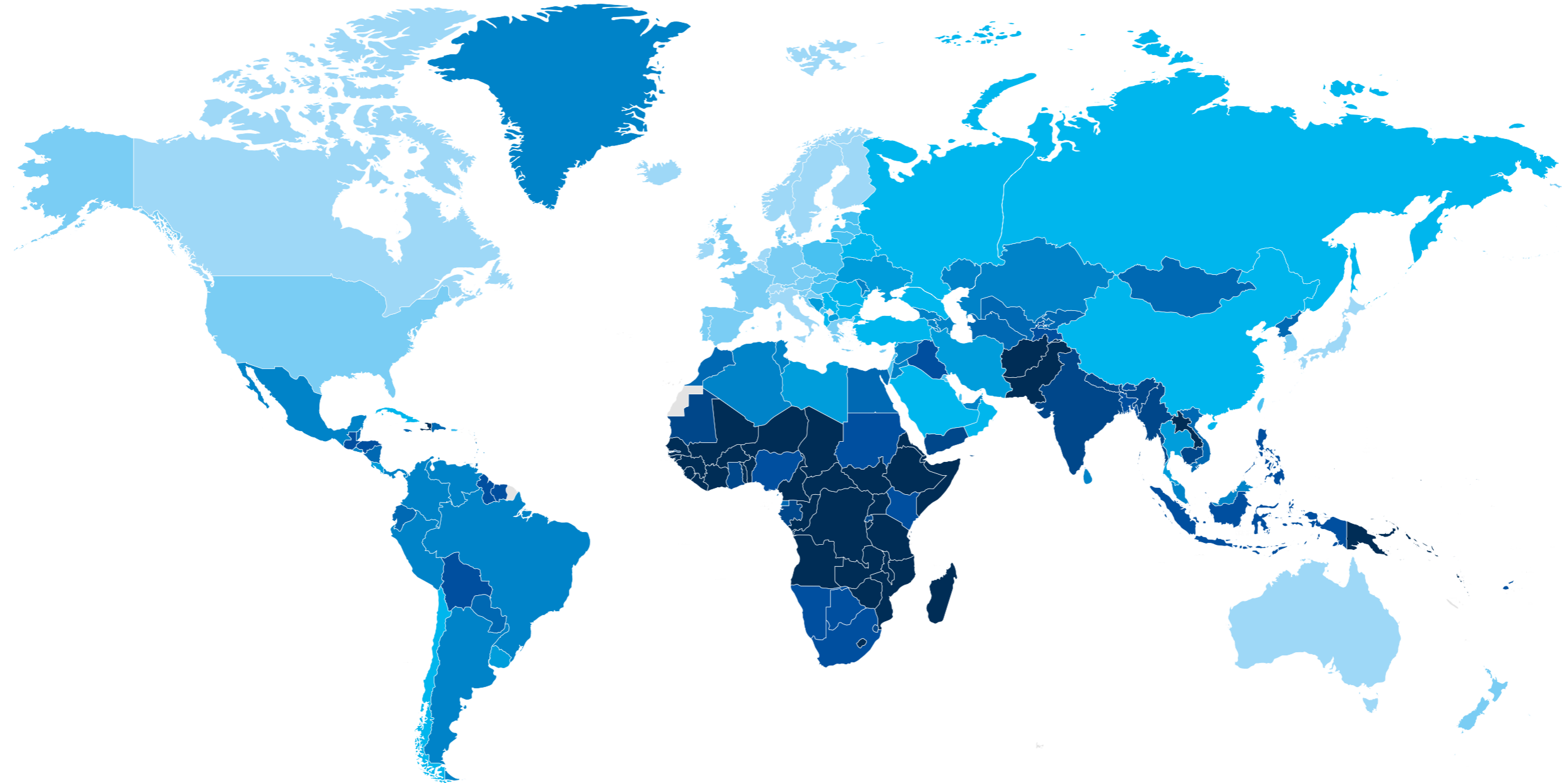


Figure 2. Deaths due to use of poor-quality services by region. Reproduced from Kruk et al., 2018. ⁴⁶



Rates of death due to adverse medical treatment



Safety, however, is one specific aspect of quality and it is useful to visualise it in isolation. A study by Rafael Lozano and colleagues created a Healthcare Access and Quality (HAQ) index using the results of the Global Burden of Disease 2016 study. This index includes scores for all 195 countries across **32 causes of death** that should not occur with sufficient access to quality healthcare, as well as a composite HAQ.⁴¹

When looking at just one indicator within the HAQ, **mortality due to adverse medical treatment**, it is possible to observe international variation in this critical aspect of safety. **Five** countries represent the pinnacle of global safety, scoring **100** in this category and indicating their relative low rate of adverse medical treatment compared to other countries:

- FINLAND
- NETHERLANDS
- NEW ZEALAND
- NORWAY
- SINGAPORE

However, **102 or 52%** of countries scored **below 50**, meaning that many countries are considerably below the gold standard of safety.

Many of the countries scoring below 50 were in Africa, where scores ranged from **10 to 77**. These comparisons corroborate earlier findings about the global burden of safety and demonstrate an undeniable correlation between a country's level of development and its safety score metrics.⁴¹

HAQ Index deciles

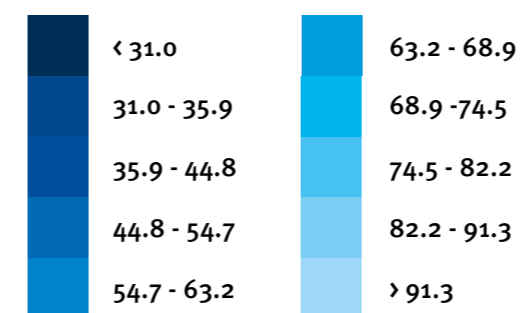


Figure 3. Rates of death due to adverse medical treatment. Reproduced from GBD et al., 2016 with direct support from Prof Rafael Lozano.⁴¹

2.3 Opportunities for learning

Understanding problems as depicted in the previous maps is a necessary first step and identifying learning opportunities from good practice is the next step. Over time, the field of patient safety has evolved in focus from quantified harm to observed best practice. As discussed above, this augmentation of what is measured and attended to in the field of safety has been formally marked as the departure from Safety I to Safety II.²⁵ Internationally, the paradigm of Safety II is beneficial, as it promotes safety comparisons to include more opportunities for learning in addition to traditional comparisons of harm. Exploring best practice globally and the vehicles for effective patient safety systems will serve as a knowledge transfer process across borders.

The maps expose a concerning global state of patient safety, especially in LMICs, but there are established institutional drivers of safety, which are instrumental to building safe systems.³ Amongst other things, these drivers are also features of the **top safety systems** as indicated in Figure 4.⁴²

- LEADERSHIP, POLICIES AND STRATEGIES:**
 The appointment of a responsible officer or agency for patient safety at a national level; a written, agreed and transparent national plan or strategy for patient safety
- GUIDANCE AND TOOLS:**
 The establishment of formal protocols and guidelines to assess the safety of healthcare providers, help staff to deliver safe care day to day and appropriately support staff involved in incidents
- CAPACITY BUILDING AND TECHNICAL SUPPORT:**
 Prominence of patient safety and associated evidence in training curricula for healthcare staff as well as the technical equipment to provide safer care

- COLLABORATION AND PARTNERSHIPS:**
 Healthcare provider organisations are aligned to each other as well as academic and non-governmental institutions to strengthen safety; all patient safety stakeholders are made aware of the tenets of positive safety culture and supported to cultivate them
- MEASUREMENT:**
 A mechanism to capture and record safety information, including a register or log of incidents or safety-relevant events kept at the national level, or an otherwise meaningful indicator set from which to make safety decisions
- RESEARCH AND EVIDENCE:**
 A clear set of prioritised research questions in order to generate the evidence needed to deliver valid and reliable interventions for safer care

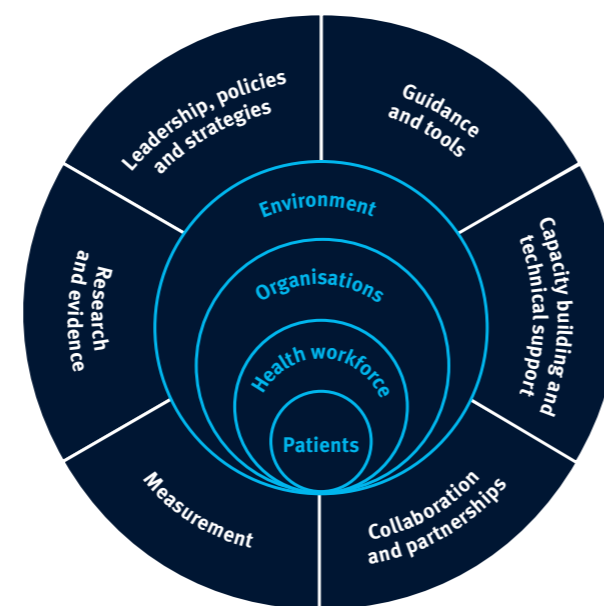


Figure 4. Drivers of Safety Systems. Reproduced from “WHO Patient Safety Journey and Key Priority Areas”.⁴²

SPOTLIGHT: INSTITUTIONAL DRIVERS IN PRACTICE

Delivering safe care is a continual effort, marked by constant initiatives to respond to threats, meet demands and push the boundaries of innovation. No system has entirely mastered safety, nor will any health system ever complete their journey towards safe care, as it is constantly evolving. However, there are many examples of outstanding practice and creative innovation in relation to all of these institutional drivers.

LEADERSHIP, POLICIES AND STRATEGIES:
 Many thriving safety systems maintain clear regulatory procedures that ensure safety. The Dutch system has a procedure for this, with a well-resourced healthcare inspectorate responsible for safety.⁴³ Furthermore, systems are beginning to publish national strategies for safety. Canada has clearly stated theirs, with a mission pertinent to the priorities of safer care, “*To inspire and advance a culture committed to sustained improvement for safer healthcare*”.⁴⁴

GUIDANCE AND TOOLS:
 Technical tools like the **Safe Surgery Checklist** and guidance for understanding how to produce safe care settings like the **WHO Patient Safety Curriculum** can provide standardised protocols for generating safety.^{26, 45} Issuing tools comes with accountability for using them properly. Hospitals in the Finnish system have gone beyond simply issuing guidance, and have established a patient ombudsman to support patients through any safety incident or concern.⁴⁶

CAPACITY BUILDING AND TECHNICAL SUPPORT:
 As shown in the economic evidence, training for safety is seen to be the most effective and efficient tool to generate safer care. Japan has pushed the

boundaries of medical education with an arts and design course aiming to teach students how to influence the holistic environment of safety.⁴⁷

COLLABORATION AND PARTNERSHIPS:
 Implementing safe culture through multi-disciplinary partnership is in relative infancy compared to other safety interventions; however, success stories such as the Norwegian “**In Safe Hands 24/7**” programme demonstrate the role that concerted effort for safety culture can have.

MEASUREMENT:
 Incident reporting systems are mainstays of many developed and developing health systems. The Health Quality and Safety Commission in New Zealand have evolved their reporting system so that it works off the principles of a learning system and chronicles learning from incidents as well as adverse events.⁴⁸ Furthermore, baseline safety culture surveys for measuring the more relational aspects of care have been rolled out across LMICs such as Guatemala.^{49, 50}

RESEARCH AND EVIDENCE:
 The UK has three nationally-funded research centres dedicated to generating evidence in patient safety and trialling emerging interventions for safer care.⁵¹

3



Future outlook

The multidisciplinary nature of patient safety means that metrics associated with it are not only diverse, but collected by different organisations, over different time periods, for different purposes. This complexity can confuse and obscure the understanding of patient safety; however, when presented together, such dynamic data can support a rich and nuanced articulation of the state of patient safety globally. Although alarming in places, it serves as a call to action to leverage the momentum around patient safety at policy levels and work together to develop new, evidence-based interventions for safety. More importantly, it compels a global exchange of ideas.

3.1 Healthcare means safe care

The burden associated with harm is compromising progress to the third Sustainable Development Goal of achieving access to quality health services. Safer care is therefore an important juncture on the journey towards universal health coverage. It will require a concerted effort bolstered by international measurement, dialogue and a willingness to let promising innovations flourish across borders. Platforms like the WHO's World Patient Safety Day on **17th September**, as well as **Global Ministerial Summits on Patient Safety** provide an ideal stage for achievements to be globally showcased and guarantee an accountability mechanism to hold governments responsible, year on year, for continually improving safety.

3.2 Threats and opportunities from innovation

Given the priority and commitment to patient safety, there is a distinct policy window to institute plans for improvement, and as a result, it is an aspect of quality likely to witness substantial improvement across standard indicators of harm. As global collaboration around safety solidifies, it is important to remember that patient safety is not a static concept; it will be fluid and responsive to the evolving pressures on health systems.⁵²

Technology has the potential to be a disruptive force in healthcare. Digital and data-driven interventions hold enormous promise but will also give rise to new risks of harm to patients. These developments call for significant investment in patient safety research and in the development of new approaches to evaluate and monitor safety.

Artificial intelligence algorithms, which are already starting to be used in clinical practice, will require robust scrutiny, but health systems do not have the right tools yet.

Cybersecurity threats are already on the rise in the health sector and need to be recognised as patient safety, rather than technical, issues. In the UK, for example, the WannaCry cyber-attack instantly prevented **dozens** of organisations from accessing critical patient information and was estimated to cost **£92 million**.⁵³

Furthermore, it will become critical that digital health innovations are not only validated on their ability to secure information, but also their ability to maintain human-centred practice. In one study, doctors in an

emergency setting spent **44%** of their time entering data and clicking up to **4,000 times in 10 hours**.⁵⁴

At the same time, the future does not only hold threats. Innovation can be a force for good in patient safety and as regulatory standards for safety evolve, it will be important to ensure that they don't stifle the potential of new, effective interventions to enter into practice and diffuse across health systems.

3.3 Ambitious capacity building

Despite the fact that technology is rising in importance, healthcare will remain a people business and the elimination of harm will depend more on staff and patients than on apps and algorithms. Every health system should foster awareness of the risk of harm, the development of specialist capacity and leadership to drive improvement at the top of their patient safety priority list.

An OECD study identified professional education and training as the patient safety intervention that can deliver the best value for money across both high-income and low- and middle-income countries.³ The WHO has led global efforts in this area, particularly through the development of its Multi-professional Patient Safety Curriculum Guide.

Bold new action is needed in this area: millions of health professionals, and potentially patients, need to be trained in the next few years if significant harm reduction is to be achieved. Advancements in learning technology allow for the delivery of high-quality training at a scale that was unimaginable until a few years ago. The launch of a global training initiative in patient safety, targeting every health professional in the world, would be transformative and is entirely realistic.

SPOTLIGHT: GLOBAL PATIENT SAFETY COLLABORATIVE (GPSC)

One formalisation of the partnership between international organisations, academic institutions and emerging leaders in LMICs is the recently established Global Patient Safety Collaborative (GPSC). This programme will initially focus on three strategic objectives:

- Strengthen leadership in patient safety to ensure evidence-based policy processes and effective interventions contribute to improved safety and quality of care at ground level
- Develop knowledge base, expertise and skills in patient safety through interprofessional education and multidisciplinary teamwork
- Promote and conduct targeted research in patient safety and build research capacity.

It will bring together **four LMIC health systems** to share best practices and collaborate for improvement. It will continue WHO's efforts to produce and update a global patient safety syllabus, empower patient safety leaders with the necessary skills and technical tools and support policy implementation for better practice at national and local levels.

Bridging the training gap (WHO Curriculum for Patient Safety): The WHO recognised the education gap around patient safety and that many systems were operating without the most up-to-date evidence for best practice in safety. Many interventions to reduce harm and integrate measurement for improvement are cost-effective, but there was a paucity of publicly available information about what these interventions were or how to implement them. The 2011 WHO Multi-professional Patient Safety Curriculum Guide supports professional teaching for patient safety so that clinicians enter the workforce ready to act safely and identify threats to their patients.⁴⁵

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