Chapter 4  

Building quality into the foundations of health systems
Chapter 4

Building quality into the foundations of health systems

4.1 INTRODUCTION

Poor-quality services – even if made available at an affordable cost – are an impediment to achieving effective universal health coverage. This is because communities will not use services that they mistrust and that are of little benefit to them. Mechanisms to assure, monitor and continually improve quality must be built into the foundations of health care systems.

This chapter considers five such foundations critical to any health service: health care workers; health care facilities; medicines, devices and other technologies; information systems; and financing. Mere availability of resources is not enough. Conscious and continuous effort is needed to ensure that they are used in ways that are effective, safe and individually tailored to patients’ needs. Governance, as well as the tools, techniques and political economy of reform, is explored in the next chapter.

A comprehensive system of care allows people to access a continuum of care across their life course, comprising health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation, emotional and spiritual support, and palliative care. Three important considerations should underlie the design of any health care system: services should be built to meet local needs; accessible and high-quality primary care should be the bedrock for all other services; and individuals and communities should be engaged in the design, delivery, assessment, and improvement of each and every service (68). The principles of quality improvement must infuse all activities from the front line to the system level.

4.2 FOUNDATIONS FOR HIGH-QUALITY CARE

4.2.1 Health care workers that are motivated and supported to provide quality care

Skilled doctors, nurses and other health care professionals are essential for delivering high-quality health care to individuals, families and communities. There is currently an estimated global shortfall of 2.5 million doctors, 9 million nurses and midwives, and 6 million allied health professionals. As a result, basic care is often absent or poorly delivered (69). The problem is most severe in poorer countries (Figure 4.1). Even in developed economies, health workers are too often concentrated in cities, with the consequence that quality of care is often poorer in rural and remote areas. Even within cities, certain locations – for example slums – have a particular deficiency of health workers.

Community health workers can help alleviate workforce shortages. They are individuals who have been trained to deliver specific health care services, or to undertake surveillance and treatment for communicable or noncommunicable diseases. They usually come from the communities that they serve, thus providing a potential bridge to community engagement efforts. Community health workers can overcome cultural and linguistic barriers, whilst expanding access to care and providing new forms of employment. Evidence shows that community health workers are capable of delivering safe and effective care for childhood illnesses, reducing the spread of communicable and noncommunicable diseases, promoting nutrition, and providing family planning services, at low cost (70). In low-resource settings, community health workers have reduced maternal, neonatal and child mortality (71). More than 50 years’ experience with programmes shows that these positions should be paid, not voluntary; have specific responsibilities that are not too wide ranging; receive training, continuing education and ongoing supervision; be integrated into primary health care teams; and be part of data feedback loops (72).
The availability of staff does not in itself assure good care. Health workers can spend little time with patients, lack the ability to make correct diagnoses, or prescribe inappropriate treatment (73). Rural clinicians in southern China spent an average of only 1.6 minutes consulting with patients and asked only 18% of essential questions. A fully correct diagnosis was provided in only one in four consultations (44).

Beyond simple headcounts of the health workforce, other critical aspects include:

- **accessibility**, or how easily people can see or speak to a health professional with the right skills, whether in person or via video and telephone links;
- **acceptability**, or whether people feel they have been treated with respect and have had their views taken into account when it comes to decisions related to their health;
- **quality**, or the knowledge, skills and attitudes of health professionals according to accepted norms, and as perceived by users;
- **skills mix and teamwork**, or whether the group of health professionals (and, in some settings, lay workers) together have the knowledge and skills to manage local mortality and morbidity patterns;
- **enabling environments**, or the physical, legal, financial, organizational, political and cultural conditions that support high-quality care.
Chapter 4

Building quality into the foundations of health systems

The first step in building a high-quality workforce with the right skills mix should be a comprehensive national workforce strategy addressing gaps in numbers, distribution and retention, both in the short term and the longer term. Health professional workforce strategies must not deprive other health systems by attracting qualified staff away from their home countries’ health systems. Workforce policies can take years to bear fruit. The most effective and sustainable solution to rural shortages lies in training students who are themselves from rural communities, including establishing clinical schools in remote areas.

Modernizing curricula for pre-service training of health care workers to ensure that they acquire core medical and nursing competencies is an obvious starting point and yet remains a challenge in many countries (Box 4.1). Another priority is continuous professional development to ensure that health professionals maintain and improve their knowledge and skills – spanning a wide range of competencies – throughout their working lives. Increasingly, health systems are making continuous professional development – and even recertification – mandatory. Even where continuous professional development is not in place, policy-makers can work with professional associations to encourage its use and evaluate its impact. Finally, integrating the principles of quality and quality improvement into pre-service and in-service education and training curricula and programmes is vital in building a competent workforce that is capable of delivering high-quality health services.

Box 4.1 Case study: training and retaining health care workers in underserved areas of the Philippines

Two medical schools in the Philippines have a primary focus on recruiting, training and employing students in underserved areas of the country. Ateneo de Zamboanga University School of Medicine and University of the Philippines Manila School of Health Sciences are part of the Training for Health Equity Network (THENet). This international network of medical schools stipulates that the needs of underserved communities should be integrated with all phases and aspects of medical education, from the physical location of the school to the health issues guiding the curriculum. Also, there should be reliance on community-based practitioners for teaching and mentorship.

Ateneo de Zamboanga University School of Medicine opened in 1994 in Zamboanga City, on the southwest tip of the southernmost of the Philippine islands, bringing hope of greater access to health care to a population of 3.2 million people. The nearest existing medical school was 400 kilometres away. At the time, 80% of the region’s 100 municipalities had no doctor. The region was plagued by high rates of infant mortality and communicable disease. In 2011, a review of the cumulative 164 graduates found that 85% were practising in the region, with half in rural and remote areas; overall, 90% remained practising in the Philippines versus 32% of graduates nationally. Between 1994 and 2008, the infant mortality rate in Zamboanga declined by approximately 90%, far exceeding the national average decline of 50%. The school continues to recruit students from the region and follows a curriculum that is deeply integrated with local community health needs.

Source: World Health Organization (76); Cristobal and Worley (77).
4.2.2 **Accessible and well-equipped health care facilities**

Substantial variation persists in service availability and readiness. Within and across countries, the density of hospitals and clinics is very different. Basic health care may be many hours away from poorer, rural communities. In sub-Saharan Africa, basic equipment such as a thermometer and stethoscope is available in slightly over half of facilities in Ethiopia, yet in Burkina Faso it is found in almost all facilities (Figure 4.2). The availability and readiness of services to operate is a necessary condition to deliver quality care. However, as discussed throughout this document, it is not sufficient to deliver quality services (78).

![Variations in availability of basic equipment across health care facilities in sub-Saharan Africa](image)

Source: Primary Health Care Performance Initiative (79).

The quality of health care facilities is judged first on whether the basics are present, such as clean water, reliable electricity, good sanitation and safe waste disposal. In a 2014 survey, less than one quarter of facilities in Nigeria had reliable water, sanitation and electricity. Indeed, WHO estimates indicate that 40% of health care facilities in low- and middle-income countries lack improved water and nearly 20% lack sanitation. These basic foundations are urgently required for quality of care. However, adequate infrastructure does not necessarily equate to high-quality care. Minimum standards need to be set and enforced, and continuous improvement encouraged. Accreditation, inspection and other forms of external assessment and certification are widely used to evaluate health care facilities against explicit standards. The strength of the evidence supporting one-off external assessments is however limited (80, 81). Accordingly, health care systems are increasingly moving to more continuous and formative evaluations of providers’ performance, including measurement of patient outcomes and experiences (15).

4.2.3 **Medicines, devices and technologies that are safe in design and use**

Reliable access to safe and effective medicines, devices and technologies, including blood transfusion, is a basic requirement for effective health care services. Actively restricting unsafe or ineffective products is critical to patient safety. Access to, and minimum quality standards for, medicines and other technologies have improved but substantial gaps remain in basic provision. Extensive and serious problems with counterfeit products complicate the issue.
Standards of regulation vary greatly. For example, in some countries, antibiotics can be bought without a prescription, fuelling unnecessary use and increasing the threat of antimicrobial resistance (82). Even where medicine use is properly regulated, errors affect about one in 10 prescriptions issued, mostly dose-related errors (83). According to one report, only 30–40% of patients in countries with developing or transitional economies are treated with medicines according to clinical guidelines (84). The patients’ role in making medicines and devices effective and safe is also critical. Health systems do not usually pay sufficient attention to informing and supporting patients in their use of medicines. The third WHO Global Patient Safety Challenge – Medication Without Harm – was launched at the second Global Ministerial Summit on Patient Safety, Bonn, Germany, in March 2017 with the aim of reducing severe, avoidable medication-related harm by 50% globally in the next five years.

Medical equipment requires maintenance, user training, backup support and, eventually, decommissioning. Donating equipment – important in some low-income countries – raises particular concerns. Unless spare parts, consumables and staff training are available, such equipment can be unusable or unsafe. Three out of 10 countries lack a national authority that regulates what medical technologies can be used, and how (85). Blood transfusions are a special case. Many low-income countries are not able to screen blood for HIV, hepatitis B, hepatitis C and syphilis. Transfusion recipients are then at unacceptable risk of acquiring transmissible infections.

National policies on medicines and devices help to ensure products of assured quality, in adequate quantities and at affordable prices. Standardized processes for health technology assessment are discussed in the next chapter. Enforceable regulatory systems that address design and development, sale, use and disposal can be powerful in assuring quality and safety in this area. Guidelines and checklists can encourage appropriate use at the bedside. They should be accompanied by surveillance systems that monitor correct use, and that can detect accidents and adverse reactions. Voluntary non-remunerated blood donation improves the supply and safety of blood. Safety would be transformed if all health systems adopted this method of donation (86).

The risks of transfusion are reduced by external quality assessment of the collection, preparation and administration of blood products.

### 4.2.4 Information systems that continuously monitor and drive better care

Developing timely, accurate quality measures of health care services, of users’ experiences and of outcomes achieved remains challenging, given how little governments and donors spend on health information systems. Most OECD health systems invest only 2–4% of total health expenditure in information systems. In most low- and middle-income countries, the figure is less than 1% (87). As a result, data on outcomes and quality are often not captured at all, or are collected in ways that cannot be analysed or benchmarked because of a lack of standardized terminology. Even when data are collected, the translation of these data into information that is actionable for quality improvement remains a fundamental challenge.

Yet, good performance information matters to improving quality of care. The European Health Care Outcomes, Performance and Efficiency (EuroHOPE) project found that survival after a heart attack varied as much as twofold within a single national health system (88). To enable hospitals and clinics to offer the same level of excellent care, richer comparative data on variation in quality and outcomes need to be collected, interpreted
and used to spread best practices and support poor performers. As well as EuroHOPE, the European Collaboration for Healthcare Optimization (89) and the OECD Health Care Quality Indicators Project (35) exemplify a trend to develop such data quality schemes globally (Box 4.2).

**Box 4.2 Case study: OECD Health Care Quality Indicators Project**

The OECD Health Care Quality Indicators Project began in 2001 with the aim of developing international comparisons of health care quality and, thereby, identifying and sharing best practices to monitor, assure and improve quality. Experts engaged in the project are drawn from OECD and non-OECD countries, international organizations including WHO, the European Commission, and research institutes.

Around 50 indicators are reported (covering primary care, hospital care, mental health services, patient safety and patient experiences) from around 40 countries. Comparable health care quality indicators are published alongside other OECD health statistics on expenditure, resources and utilization to facilitate their interpretation.

Alongside the regular data collection, there is continuous research and development to improve the validity, utility and comparability of health care quality indicators. Another goal of the project is to strengthen national information infrastructures to produce more complex and reliable indicators in an increasing number of countries, including non-OECD countries.

Source: OECD (35).

Too often, data are left to moulder in poorly organized, paper-based systems, or are trapped in digital silos incompatible with each other. Timely and appropriate use of and action on information is vitally important. The Health Data Collaborative, a global initiative led by WHO, the World Bank and the United States Agency for International Development (USAID), is addressing this challenge. By working with international agencies and individual countries, the Health Data Collaborative seeks to harmonize how health systems data are collected and reported globally, and aims to enable better tracking of health system performance and progress towards the health-related targets of the SDGs (90). Similarly, the Primary Health Care Performance Initiative (79) aims at sharing internationally comparable results on the performance of primary health care systems globally and enabling performance improvement through sharing of results and best practices for performance improvement.

Basic information on all births and deaths needs to be reliably registered. Effective civil registration is the spine of a health system’s information infrastructure. Registers monitoring the needs, interventions and outcomes for patient groups (such as those with HIV, cancer or mental illness) can be built from this.

Civil registration allocates a unique person identifier to an individual. This allows data from various providers over time to be linked and enables the performance of health care services to be tracked. If legislation to protect privacy prevents anonymous data linkage of elements of an individual’s health experience in different places and at different times, there will be no way of evaluating an entire pathway of care (Box 4.3).
Effective information governance remains weak in many health systems. The use of personal health data to monitor and improve health service performance serves an important public purpose, but must always be done in ways that protect privacy. National legislation is needed that protects patient privacy whilst enabling data use and good communication with the public about data use, as well as, at global level, standards to enhance data quality and comparability (91).

Moving from paper-based records to a unique electronic health record, usable in multiple health care settings, will help monitor the performance of health care services. Supporting clinicians, managers and policy-makers in interpreting service data and using them for quality improvement will be also vital.

Special action is needed to improve patient safety. Encouraging transparency when things go wrong, by building a blame-free and learning culture, is a prerequisite. This can be supported if analyses focus on understanding the root causes of adverse events by exploring the multiple causal and contributory factors that provoke errors, some of which result in major harm to patients. Agreeing on an internationally standardized terminology will also enhance the ability to classify, compare and prevent adverse events across different health systems.

Finally, in 2017 ministers of health from OECD countries agreed that their health systems would be benchmarked using a new wave of patient-reported indicators of performance (30). More sophisticated health information systems survey patients directly, to monitor and compare their views on the quality of care received and monitor their health outcomes (93). This strategy is an important development that will support a paradigm shift from measurement systems that are focused on health care providers to truly people-centred systems in which measurement is focused on experiences and outcomes viewed from the perspective of patients (94).
4.2.5 Financing mechanisms that enable and encourage quality care

The way funds are collected, pooled and used to pay for health care services can, unsurprisingly, have large effects on the quality and outcomes of care. First, there is solid evidence that funds should be collected and pooled in advance of needing care, through mandatory insurance schemes (with subsidized contributions for those unable to afford insurance). The alternative – paying out of pocket at the moment of need – means that people go without care when they need it and end up sicker as a result, or catastrophically impoverished (65).

How funding then flows from insurance agencies to the front line, to purchase or reimburse services, is equally critical. There are several possible mechanisms, such as fee for service, capitation, or annual block budgets (transferred to hospitals or clinics, based on previous or predicted spending). Each has strengths and weaknesses, in the extent to which it rewards activity over outcomes, or incentivizes preventive over reactive care. There are no “silver bullets”, and in practice a blend of mechanisms is usually employed. What is important, from the perspective of quality of care, is that the blend is intelligently designed, aligns as closely as possible with local needs, incentivizes coordination of care for individuals with complex needs, invests adequately in primary care and prevention, rewards quality care, and penalizes care that does not meet sufficient standards. Accordingly, health systems are increasingly designing mechanisms that pay for bundles or pathways of care, and experimenting with quality-based payments.

One family of such innovations, applied in high- as well as in low-income settings, is pay for performance (P4P), or results-based financing. Carefully designed, often time-limited, programmes pay health care providers to deliver specific, high-priority interventions.Nearly two thirds of OECD countries have at least one P4P scheme in place, predominantly in primary care. Systematic reviews tentatively suggest a positive impact of P4P and results-based financing programmes on quality in OECD countries (93). Results for results-based financing in lower-income settings are mixed, with fairly modest results so far for quality improvement, particularly for non-targeted conditions. Overall, payment innovations can also be used to deliver sustained collateral benefits – such as improved protocols of care, improved collaboration across providers, and improved information systems – on health care needs, activities, outcomes and costs.

4.3 QUALITY OF CARE AS THE FOUNDATION OF PEOPLE-CENTRED HEALTH CARE

As governments plan to deliver universal health coverage, there are three key design principles that should be considered. First, services should be built in a way that meets local health care needs. Although seemingly obvious, many health systems lack a population–health focus. Instead, available health service networks are the product of historical legacy, or are the result of political lobbying or of transient donor funding. Local communities may be innocent bystanders in the design of care that is ultimately destined for them. Many low- and middle-income countries have dealt with a high burden of communicable disease and this has meant that their systems have needed strong public health functions in areas such as surveillance, laboratories and routine immunization. They may also have received substantial donor funds in the form of programme grants to control or eliminate particular diseases. Increasingly, though, the growing burden of noncommunicable disease in these same countries necessitates services capable of supporting people over time with personalized, proactive care to manage their condition, prevent complications and enhance quality of life (Box 4.4).
A recent study analysed 22 initiatives to strengthen primary health care in 10 counties in China and at national and subnational levels in 12 countries. Eight tenets of high-performing primary health care systems were derived: ensuring primary health care as first point of contact for most health care needs; functioning multidisciplinary care teams; vertical integration of services; horizontal integration of services; advanced information and communication technology; integrated clinical pathways and functioning dual referral systems; measurement standards and feedback; and certification.

The second key principle of design is to build high-quality primary care services. First contacts with health care, and a person’s regular point of entry into the health system, must be continuous and comprehensive (Box 4.5). No physical or mental health issue should be excluded from the oversight and coordination functions of primary care. If individuals and families in a geographically (or otherwise defined) community are formally registered with a named primary care provider, this enables creation of community health profiles, as well as surveillance of needs and delivery of preventive care. Registration also creates a structure for proactive care amongst people with chronic conditions. Primary care is also fundamental to health system resilience, and is pivotal in surveillance of communicable diseases or other hazards, and in the delivery of front-line care in the case of outbreaks.

Third, engagement with patients, families and communities needs to be designed into health systems, rather than bolted on as an afterthought. A review of randomized controlled studies of integrated care programmes for the frail elderly, for example, showed that the most benefit was derived from those in which the elderly person was directly involved in care planning.

If patient groups are encouraged to engage in collective action, people benefit hugely from the support of others with similar health problems. The WHO Patients for Patient Safety programme illustrates this well. The programme has empowered a global network of patient advocates that aims to foster collaborations between patients, families, communities, health care providers and policy-makers to make health care safer through the insights and experiences of patients themselves.
More broadly, collaboration with nongovernmental organizations, grass-roots community groups and patient representative organizations also offers huge potential gains. Civil society organizations focused on health issues are increasingly well established in many low- and middle-income countries (Box 4.6). These groups do far more than just offer advice and support – they also help people assert their rights to high-quality care.

A review of literature by Laverack (101) illustrates the multiple avenues through which community engagement strengthens health systems. These include strengthening social networks, developing local skills such as leadership, resource mobilization, or simply asking the question “Why?”

Box 4.5 Case study: primary care in Costa Rica

In Costa Rica, an innovative primary care sector forms a solid base for the rest of the health care system. Community clinics, or integrated health care basic teams (equipos básicos de atención integral de salud, EBAIS) are the functional units of primary care delivery. Each EBAIS serves around 1000 households. Each consists of at least one medical doctor, one nurse and one health care assistant. Other personnel, such as social workers, dentists, laboratory technicians, pharmacists and nutritionists, may also support the clinic.

To complement EBAIS, centres for integrated health care (centros de atención integral en salud, CAIS) have recently been developed. They offer an extended model of primary care, including maternity services, intermediate care beds (to avoid hospital admission or expedite early discharge), minor surgery, rehabilitation, specialty clinics (such as pain management), and diagnostics such as radiography.

A detailed primary care performance framework evaluates local health authorities across 30 indicators in the domains of access, continuity, effectiveness, efficiency, patient satisfaction and organizational competence. For each indicator, a national target is set and dashboards of local results are published, allowing providers to compare their performance against national, regional and local benchmarks.

National data show that 80% of primary care presentations are resolved at that level, without referral to secondary care. Referral guidelines exist, and hospital referrals are turned back if appropriate steps have not been completed in primary care. Hospital doctors also train colleagues working in EBAIS to strengthen primary care management.

Source: OECD (21).

More broadly, collaboration with nongovernmental organizations, grass-roots community groups and patient representative organizations also offers huge potential gains. Civil society organizations focused on health issues are increasingly well established in many low- and middle-income countries (Box 4.6). These groups do far more than just offer advice and support – they also help people assert their rights to high-quality care. A review of literature by Laverack (101) illustrates the multiple avenues through which community engagement strengthens health systems. These include strengthening social networks, developing local skills such as leadership, resource mobilization, or simply asking the question “Why?”

Box 4.6 Case study: using Citizen Voice and Action to empower communities in Uganda

Empowering communities through training and education is an important step in enabling them to engage with health care providers. The Citizen Voice and Action project model (20), for example, allows citizens to learn about the number of health workers, vaccines, equipment and materials that should be present at their local health centre. Residents then work with health workers and local government to measure the facility's compliance with government standards.

...
They can also use a community scorecard to rate the facility according to criteria that they themselves generate, and convene meetings with civil society, government and service providers where all stakeholders can review the evidence and commit to an action plan to improve services.

The Citizen Voice and Action model was successfully implemented in Uganda in 2004 in response to perceived weak health care delivery at the primary care level. The main objective of the intervention was to strengthen the provider’s accountability to citizen clients by introducing a process, using trained community-based organizations as facilitators, which the communities could manage and sustain on their own. One year after implementation, health facilities in treatment villages (as compared to comparison villages) saw a 12-minute reduction in average waiting time and a 13% reduction in absenteeism. Health facilities in treatment villages also showed a 33% decrease in under 5 mortality; a 58% increase in the use of skilled birth attendants; and a 19% increase in number of patients seeking prenatal care. The improvements were maintained four years after the project started.

4.4 THE VISION: HEALTH SYSTEMS COMMITTED TO PEOPLE-CENTRED CARE

The expectant mother with high blood pressure, or the elderly man with diabetes, arthritis and hearing loss, both require a range of services to be delivered effectively – not just within the formal health system, but in the community to which they will return to live and work. The young man with schizophrenia needs carefully coordinated care to manage his mental health problems, but also to deal with the array of chronic physical health problems that reduce life expectancy by up to 25 years in people with severe mental illness. Complex health care requires systems able to deliver an entire pathway of care (health promotion, disease prevention, diagnosis, treatment, disease management, rehabilitation and palliative care services) consistently, effectively, safely and in ways that are valued by patients and their families.

Effective governance of health systems comprises several tasks, including maintaining strategic oversight of goals and priorities; generating the information and analysis required to track whether goals are being met; designing rules, policies and processes to steer the system in the desired direction; and creating and nurturing collaborations within and beyond the health system.

Enshrining the right to health care, according to need, in national legislation is a valuable step in making progress towards universal health coverage. Experience shows that de jure commitments often fail to translate, de facto, into access to good-quality care. Setting up a national agency responsible for quality monitoring and improvement is also an important step. Ideally, it should be independent of health care insurers and providers, with the regulatory powers to collect, analyse and publish quality and outcome data. Its role can also encompass sharing lessons learned from high performers and supporting poorly performing services in addressing performance gaps.
People-centred care means that health systems must ensure:

- **continuity** from illness prevention to palliation, between services (e.g. intensive care and radiology) and between levels of care (primary to specialist), throughout the life course;
- **coordination** across different care settings, in ways that meet the particular needs of the individuals and their carers;
- **comprehensiveness** that broadens the portfolio of care – from health promotion through to palliative care – that individuals and communities can use.

When health systems struggle to provide people-centred care it is often because services still place too much emphasis on treating individual diseases, rather than preventing illness or promoting better health and well-being. The system prioritizes specialist care for its investment and concentration of resources. Primary care can be designed so that it is the mediator between a community’s needs and the range of provision in a health system. It can then fulfil the enhanced coordination role that person-centred care requires (Figure 4.3). An important way of keeping people-centred care on track, and ensuring the right balance of primary and secondary care services, is to publish regular reports analysing performance of the health system as a whole.

**Figure 4.3** Primary care as a hub of coordination

Networking within the community served and with outside partners

*Source:* World Health Organization (102).
4.5 CONCLUSION

Quality can be built into the foundations of health care systems, no matter how far along the road a health system is in reaching universal health coverage. A quality-oriented approach to health care workers, health care facilities, medicines, devices and other technologies, information systems, and financing is vital at all stages of development. Building up the foundations of quality health systems needs to be at the forefront of thinking, planning and policy-making. But more action is urgently required to create quality health systems. Health systems must exchange a top-down hierarchy for pathways and networks based upon cooperation and collaboration, with primary care as the bedrock and people at the centre. This transformation of relations needs to be coupled with new mechanisms to hold governments and health system leaders to account and build citizens’ trust. Box 4.7 outlines key actions that can be taken to ensure that quality is built into the foundations of health care systems.

The following chapter provides greater detail about what types of interventions can be brought together and implemented at macro, meso and micro levels to improve quality of care.
Box 4.7  **Key actions: building quality into the foundations of health systems**

To ensure that quality is built into the foundations of systems to achieve universal health care coverage, governments, policy-makers, health system leaders, patients, and clinicians should work together to:

1. **Ensure a high-quality health care workforce, by:**
   - developing a national strategy to address gaps in numbers, distribution and retention of health professionals, both in the short term and the longer term;
   - modernizing training curricula for health care workers and integrating the principles of quality and quality improvement methods into training curricula;
   - encouraging programmes of continuous professional development and evaluating their impact.

2. **Ensure excellence across all health care facilities, by:**
   - ensuring service readiness and availability as a necessary but not sufficient condition for quality of care;
   - encouraging continuous and formative evaluations of facilities’ quality of care;
   - collecting and analysing richer data on variations in quality and outcomes across facilities, turning insights into action to spread best practices and support poor performers.

3. **Ensure safe and effective use of medicines, devices and other technologies, by:**
   - developing national policies on medicines and devices focusing on assured quality, adequate supply and affordable prices, supported by standardized health technology assessment;
   - developing guidelines, checklists and surveillance systems to support the correct use of medical technology, and monitor errors, accidents and adverse reactions;
   - adopting voluntary non-remunerated blood donation and introducing external quality assessment of the processes for collecting, preparing and administering blood products.

4. **Ensure effective use of health information systems, by:**
   - building reliable births and death registration systems and, from this, developing a national system of unique patient identifiers to support quality monitoring across pathways of care;
   - moving away from paper-based records to a unique electronic health record that can be used across multiple health care settings;
   - developing national legislation that protects individual privacy whilst enabling the use of personal health data for research and quality improvement;

...
• supporting clinicians, managers and policy-makers in collecting and analysing service data for quality improvement, and communicating effectively with the public about how these data are used;
• encouraging transparency when things go wrong, by building a learning culture that focuses on understanding root causes rather than assigning individual blame;
• at global level, agreeing on standards to enhance data quality and comparability, particularly standardized terminology to classify, analyse and prevent adverse events;
• including measurement of patient outcomes and experiences as a standard element in facilities’ quality assessment.

5. Develop financing mechanisms that support continuous quality improvement, by:
• reducing reliance on out-of-pocket funding, and shifting to prepaid and pooled funds for the majority of health system financing through mandatory insurance schemes, with subsidies for those unable to afford contribution;
• linking financing for health care providers to local health care needs, incentivizing coordination of care for individuals with complex needs, and investing adequately in primary care;
• fully exploiting the potential of payment schemes to deliver sustained collateral benefits such as improved protocols of care, improved collaboration across providers, and improved information systems on health care needs, activities, costs and outcomes.