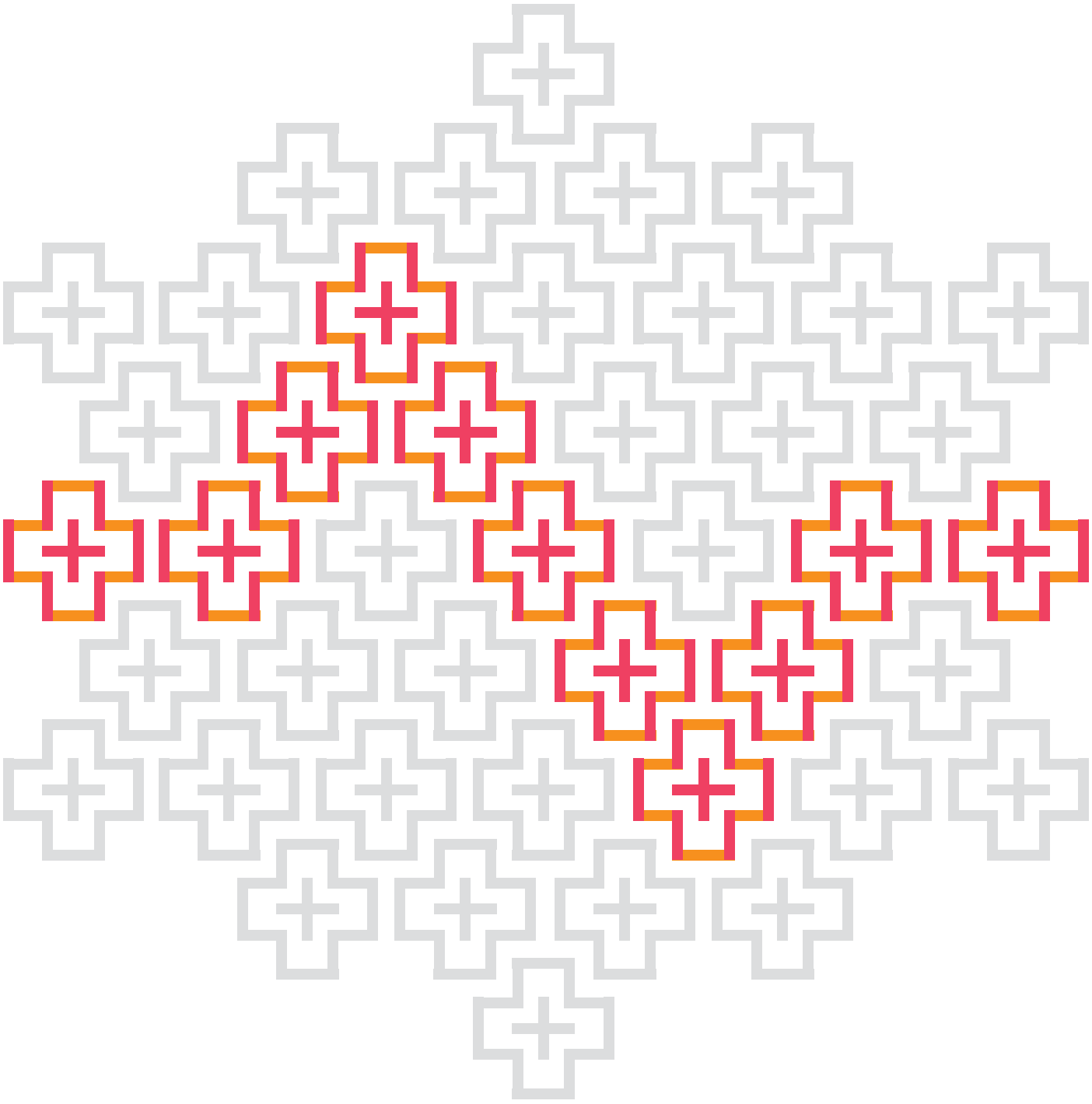
# Health Matters

## The future of health



pwc

2019

Edition 1

# Foreword

Welcome to the first edition of PwC's new health focused publication, *Health Matters*.

At PwC, we always appreciate the privilege to work with this vital sector to deliver better health outcomes to all with more affordable costs. Through *Health Matters* we hope to highlight the opportunities and address the current challenges facing healthcare, aged care, the disability sector and mental health. PwC is a powerful multiplier of connections and innovation, we bring technology and passionate people together so that insights become impact, opportunities become outcomes and society benefits. We call this, The Together Effect.

In this first edition on 'The future of health' we consider the opportunities to make our health system sustainable and future fit. From the future of Australia's health system to planning for the health workforce of the future. We investigate Australia's out-of pocket-cost healthcare problem as well as what healthcare can learn from other high reliability industries such as aviation and resources.

Your feedback is greatly appreciated, so please don't hesitate to contact me with any comments or suggestions for future editions.

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# The future of health in Australia

## The time to act is now

by Sarah Butler, Jonathan Daddia and Tamanah Azizi

**Australia has a great health system, but still has room for improvement - increased affordability; better universal access; reduced variability in health outcomes given social determinants; a shift of focus from treatment to prevention; and continuously enhanced quality of care.**

Australia has one of the best health systems in the world, however, its position on Bloomberg's 2019 Healthiest Country Index has slipped.[1]

Our health system faces similar pressures to others globally including rising costs driven by increasing incidence of chronic diseases, an aging population, inequitable access to services, and gaps in workforce and infrastructure. In addition, changing customer expectations are driving a need for more personalised, digital, seamless and integrated care experiences.

While these trends are all well known, providers, payers and broader industry players are at varying levels of maturity in terms of adapting to the change - impacting the ability for system-wide reform.

## Increasingly unaffordable

Whilst Australia has a world-leading health system it is unfortunately becoming increasingly unaffordable. While 86 per cent of all Medicare services are bulk-billed[2], and 10 per cent of our GDP is spent on healthcare (which is around the OECD average[3]), hidden within these statistics is the fact that many Australians pay out-of-pocket for Medicare services, and Australia is at the highest end of the OECD average for what individuals pay for their healthcare. Similarly the Grattan Institute's report on private health insurance (PHI) paints a bleak picture, with premiums rising while people drop their cover - about 100,000 fewer Australians have private hospital cover today than a year ago.[4]

## Gaps in health outcomes

There is a gap in health outcomes across socio-economic groups as well as between Australia's Indigenous and non-Indigenous population. Research shows that lower socio-economic groups have higher instances of obesity and other chronic illnesses such as type 2 diabetes.[5] **Western Sydney (NSW) is recognised as a hotspot for diabetes** with twice the incidence of the northern and eastern suburbs.[6] Indigenous Australians have a life expectancy 10 years less than non-indigenous Australians driven in part by lack of access to healthcare[7].

## Focus is on the symptom, not the cause

Whilst consumers are increasingly focused on wellness and prevention, Australia's health system is still geared towards treating illness, better suited to last century's acute care needs than this century's chronic disease incidence. Research shows that investment in prevention programs yields better health and cost-effectiveness outcomes than focusing solely on treatment. The challenge remains on how to increase funding for prevention for the future while still paying for today's treatment needs.

## Investing in quality through innovation and research

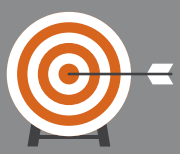
Whilst the Medical Research Future Fund in 2015 is a step in the right direction, there is room to increase investment in new healthcare innovations which will drive consistent delivery and quality outcomes. Australia could position itself as a world-leader in innovative medicines and diagnostics which not only deliver benefits in improved health consumer and patient experience, but also economic growth through investment and trade.

# Shifting approaches to improve health outcomes and sustainability

**Delivering patient-centric integrated care models combined with an increased focus on empowerment, wellness and collaboration is paramount for long-term sustainability and better health outcomes for all.**

Challenges in Australia's current health system can be reframed into opportunities for the future. In 2017, we identified seven focus areas for leaders to reform the health system[8] all of which are still relevant today.

**1**



### Consumer empowerment

Identify and deliver on what consumers value most, putting the "patient at the centre". Use patient reported outcomes to measure success and provide greater transparency to support better decisions.

**2**

### Keeping people healthy

Shift focus from treatment of illness to wellness and prevention (including social determinants of health). Increase health literacy and encourage Australians to take greater responsibility for their health.

**3**

### Right care, place and time

Implement new models of 'integrated care'. Increase quality and eliminate waste. Rethink business models, eg. products to solutions, experience.

**4**

### Digital and analytics

Leverage technology and integrated data to deliver more convenient, affordable and personalised prevention and quality care. Build cyber security capabilities to manage increased risks as we digitise the health system.

5

## Workforce of the future

Build new capabilities for the future, eg. digital and analytics, multi-disciplinary teams, leadership and change management. Consider how AI and robotics can complement human capital.

6

## Outcomes – based funding

Shift from volume to value to enable prevention, new care models and eliminate cost-shifting. Explore new models to drive innovation, eg. social benefits bonds, PPPs. Integrate behavioural incentives into insurance.

7

## Collaboration

Public and private organisations, Commonwealth and State, new entrants and established players, even competitors can benefit by partnering to deliver consumer-centred health services.

Extending on these, we have identified key practical actions and opportunities we believe should be taken over the next 12 to 18 months to accelerate Australia's journey towards reimagining the future of health.

**1 Consumer empowerment and engagement**
- Increase access to information to empower health consumers and improve transparency
- Design and implement initiatives to build consumer trust

**2 Keeping people healthy**
- Increase health literacy
- Leverage changing community sentiments through collective action initiatives

**3 Right care, place and time**
- Connect more remote communities to health services through virtual care
- Define standards to enable a connected health ecosystem
- Improve accessibility and affordability of services closer to home
- Conduct an education campaign to encourage care closer to home

**4 Innovation, digital and analytics**
- Move toward Open Health, sharing information to support innovation
- Cybersecurity - data protection, data privacy, data security, and consents

**5 Workforce of the future**
- Develop a strategic workforce plan
- Design alternative education pathways and partnerships

**6 Outcomes-based funding**
- Define a framework for an outcomes-based funding model
- Identify alternative funding mechanisms/sources

**7 Collaboration**
- Identify opportunities to collaborate within Health
- Identify opportunities to collaborate with other industries

# Focus area 1: Consumer empowerment and engagement

### Action 1: Increase access to information to empower health consumers and improve transparency

Empowered health consumers, who take greater ownership of their journey, achieve better health outcomes.[9] Consumers are demanding more transparency and better quality of service by actively comparing experiences and seeking peer reviews. Governments should work towards increasing access to real-time, accurate health information and services so that consumers are able to make informed decisions. However, this must be balanced by the secure transfer of data (which addresses valid privacy concerns) while also engaging constructively with clinicians.

### Action 2: Design and implement initiatives to build consumer trust

Consumer trust is more vital to brand survival than it's ever been and the health industry is no exception. Research shows consumer trust in Australia's PHI industry is deteriorating.[10] Given the criticality of the PHI industry to Australia's health ecosystem and Australia's wider economy, rebuilding consumer trust will be vital in ensuring sustainability.

# Focus area 2:
# Keeping people healthy

### Action 3: Increase health literacy

Targeted health literacy campaigns are an effective way to drive desired behaviours and improve health outcomes. Populations should be segmented into risk categories (eg. age and health status dimensions) so to identify the two to three behaviours that would do most to improve the health of consumers in that cohort - for example, increasing physical activity or improving nutrition. These segment-specific insights, overlayed by behavioural economics, will then provide the focus for health promotion and prevention efforts.

### Action 4: Leverage changing community sentiment through collective action initiatives

Leverage the changing community sentiment towards illness prevention by focusing on initiatives that harness collective actions, ranging from national policy settings to local community linkages and action. This collective action moves the responsibility for prevention, and health more broadly, away from the traditional expectations that these sit with government. Rather it engages individuals, carers/families, academia, the private sector and related industries to all take ownership and play a part. One initial area for investigation with a collective approach could be to revisit a set of National Prevention/Wellbeing Goals to set up a mechanism for measurement and monitoring prevention and public health investments.

# Focus area 3:
# Right care, place and time

### Action 5: Connect remote communities to health services through virtual care

Australian Institute of Health and Welfare (AIHW) analysis[11] of ABS 2016 data showed that, on average, people in rural and remote communities were more likely not to see a GP due to physical access. Technology can address barriers often faced by rural and remote communities such as infrastructure, distance and cost. Provision of consultations, referrals, scripts and test results by email, phone, FaceTime or Skype as well as the enhanced use of MyHealthRecord will connect rural, regions and remote areas to GP services. This approach will especially benefit Indigenous communities which are often hardest hit by lack of access to health services.

### Action 6: Define standards to enable a connected health ecosystem

To better connect the health ecosystem and to deliver more personalised prevention and quality care we need to improve digital exchange across electronic health records and health information technologies. Governments should collaborate with the health and health software industries to define standards for information exchange and system interoperability. By leveraging robust and interoperable data sets Government and health service providers can make informed decisions which better support a patient's journey, enabling better patient and clinician experience while also strategically planning for the health needs of the future.

### Action 7: Improve accessibility and affordability of services closer to home

A report from the Australian Productivity Commission showed there were 3 million avoidable hospital presentations in the last financial year, where patients failed to see a local GP due to poor access.[12] Research conducted by the AIHW found more than a million Australians put off seeing a doctor due to out-of-pocket expenses.[13] Delays in GP visits increase the chance of more serious complications requiring costly hospital treatment. Improving the accessibility and affordability of services closer to home will be important in increasing the takeup of community health services and reducing the burden on public hospitals.

### Action 8: Conduct a campaign to encourage care closer to home

Encouraging people to seek care closer to home by a team of allied health professionals ensures individuals are better supported for long-term health needs, such as mental health, rehab, aged care and special needs - increasing the individual's quality of life as well as reducing the overall cost of care. An example is aged care where there is a clear 'win-win' to shift care out of the hospital. This could be supported by funding an Innovation Accelerator for pilot programs for seniors' care at a local level. The aim would be to help keep people in their preferred environment for longer, with a smooth transition through home, residential living, aged care, hospitals and palliative care, supported by integrating funding to make this seamless for the individual and commercially sustainable for providers.

# Focus area 4:
# Innovation, digital and analytics

### Action 9: Move toward Open Health, sharing information to support innovation

Over the next decade the emergence and adoption of new technologies in health such as robotics and artificial intelligence (AI) will rapidly change early detection, examination, diagnosis and prescription of personalised treatment plans founded in evidence based health.[14] Improving care requires the alignment of broad base data analysis with appropriate and timely decisions, and predictive analytics can support clinical decision making and actions as well as prioritise tasks.

Similar to 'Open Banking', the Australian government should move towards implementation of the operating model and regulatory framework for 'Open Health'. Open sharing of health information should drive innovation. Furthermore, increased access to health data and analytics can be used to inform policy and regulatory decisions on public health, shape investment in programs, preventative campaigns and reduce health costs through establishing predictable recovery pathways for chronic diseases (eg. care pathways that are both cost and clinically effective).

### Action 10: Cybersecurity - data protection, privacy, security and consents

Electronic health records and internet connected medical devices will play a key role in transforming the health system - but each connected bit of information and device is a potential gateway for cybercriminals. As a greater amount of personal health information is shared between organisations, data privacy, security and consents will become critical. In the digital health age managing patient data through robust and sophisticated cybersecurity capabilities will be paramount to building patient trust and managing risk.[15]


# Focus area 5:
# Workforce of the future

### Action 11: Develop a strategic workforce plan

The health workforce of the future will require upskilling in new technologies, addressing potential resourcing gaps, and collaborative mindsets and ways of working. Developing a strategic workforce plan will optimise employment models (including the use of contingent labour/agency staff) to ensure healthcare organisations have the right skills, in the right place, at the right time to meet demand. These plans will need to also consider the importance of key enablers such as leadership, culture, governance and integrated planning to compliment the more tangible workforce challenges.

### Action 12: Design alternative education pathways and partnerships

Healthcare and social assistance workforce demand is expected to increase by 14.9% over the next four years. These trends present critical challenges, predominantly for the nursing workforce, with an expected undersupply of 123,000 nurses by 2030[16]. Healthcare workers and educational providers need to collaborate to design alternative educational pathways and partnerships in order to ease supply chain constraints. Investing in growing training pathways from secondary schools straight into careers in health will help to improve attractiveness and fast-track candidates into the workforce. Organisations should also strive to reflect the community through a diverse and complementary workforce.

# Focus area 6: Outcomes-based funding

### Action 13: Define a framework for an outcomes-based funding model

Guiding principles and a framework for an outcomes-based funding model needs to be defined, with broad consultation from all health industry stakeholders. The current funding model for health and aged care across states and territories is based on division of responsibilities and interjurisdictional agreements, ie. an input-based funding model that struggles to address prevention, chronic disease and broader wellness. Pooling funding could support moving from volume to value, enable new care models and take-up of digital, eliminate cost shifting and better support prevention campaigns, with an appropriate debate on the role of out-of-pocket/consumer payments.

### Action 14: Identify alternative funding mechanisms/sources

The health and life insurance markets are an example of where alternative funding mechanisms can be applied, monetising incentives for early intervention and healthier behaviours. Converging the life and health insurance markets, with cohesion in regulatory frameworks, could accelerate the creation of new products for consumers across the lifecycle (including for younger segments) that provide a wider range of coverage and incentives for prevention and behavioural change, as well as support for proactive health and chronic disease management. Through this, there are opportunities to provide better transparency and value for money for the consumer, and support better sustainability and affordability across the public-private health system.

# Focus area 7: Collaboration

### Action 15: Identify opportunities to collaborate within health

A collaborative approach across private and public healthcare providers and government is needed to drive better health outcomes and ensure sustainability. The recent PHI reforms provide a good example of how this can be successfully conducted: multiple stakeholders (including insurers, private hospitals, the AMA and medtech) worked together to design and implement reform where focus was on the industry as a whole, and not just through a 'win-lose' lens for individual players. Whilst all acknowledge much more work is needed, the principle of collaboration and the need for compromise should be apparent.

### Action 16: Identify opportunities to collaborate with other industries

Collaboration with other industries will be key as health becomes more holistic and integrated end-to-end care for the consumer. The increasing role of technology in healthcare will make collaboration vital as sectors work together to make advances in areas such as medical technologies, AI-enhanced surgeries, and data analytics, supported by the right infrastructure, such as 5G. Collaboration with the banking sector will be important for the growing healthcare payments market which is estimated at AUD180 billion.[17] Likewise, retail and consumer industries increasingly have opportunities to support better nutrition and fitness. Finally any organisation can play a role in promoting health and wellbeing for their employees, in particular supporting better mental health.

# Stakeholder actions

**Through all these actions, we have the opportunity to deliver better health outcomes to all at more sustainable and affordable costs, ultimately investing in our nation's greatest asset: its people.**

## Federal Government

- Set the vision, strategy and standards for the future of health in Australia
- Drive continued momentum in health reform in areas like primary care, prevention, private health insurance and aged care
- Revise the health funding model to ensure sustainability

## Private health insurers

- Implement incentives to improve health literacy and incentivise wellbeing
- Implement initiatives to rebuild consumer trust in private health insurance
- Develop a pooled information repository to develop new care pathways and to better segment and identify patient cohorts that would benefit from new models of care

## Healthcare providers

- Develop new models of care through continued innovation and bringing the best of evidence-based models to Australia
- Invest in better patient and clinician experience including embracing investments like MyHealthRecord/registries, electronic medical records and decision support tools
- Engage in working groups with government and other healthcare providers to establish standards and invest in digital and analytics

## State Government

- Design and support the implementation of patient-centric models of care with better productivity and value
- Produce a workforce strategy to optimise and grow front-line capabilities
- Increase collaboration between healthcare providers, insurers, unions and life sciences through working groups

## Consumers

- Invest time to understand your health and make better choices to improve your health and lifestyle
- Embrace the benefits of e-health by signing up for MyHealthRecord

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# Who pays?

## Australia's out-of-pocket healthcare problem

by Stuart Babbage and Dr. Dana Hutchins

**The recent Australian election brought forth a vigorous discussion about the affordability of healthcare for individuals, particularly in the form of out-of-pocket costs, or the amount patients directly pay for services obtained both in and out of hospitals. Post-election, there has been extensive discussion suggesting the exorbitant out-of-pocket expenses faced by some individuals represent a significant failure of our healthcare system.**

This conversation requires consideration of broader questions including:

**1**
How big is the out-of-pocket cost 'problem'?

**2**
Can we, and should we, remove out-of-pocket costs?

**3**
What can government do to tackle out-of-pocket costs?

We believe there are demonstrable problems, and there are some meaningful actions that can and should be taken to reduce out-of-pocket costs. Without action, those who most need care may increasingly be those who don't seek or receive it.

# How big is the out-of-pocket cost 'problem'?

Medicare, when launched in 1984, was described by the government as 'a major social reform' that would 'embody a health insurance system that is simple, fair and affordable'.[18] Despite the continued availability of Medicare, there is evidence that Australia's healthcare is becoming less affordable:

- Australians pay for about 17 per cent of total health expenditure directly through out-of-pocket expenses.[19] This adds up to $29.8 billion, or about $1,235 per person.[20]
- Compared to our international peers, Australia has the third highest reliance on individual healthcare contributions, behind only Switzerland and Belgium.[21]

Whilst the impact of this healthcare cost differs across families and individuals, there are three particular areas where out-of-pocket costs manifest as a real issue:

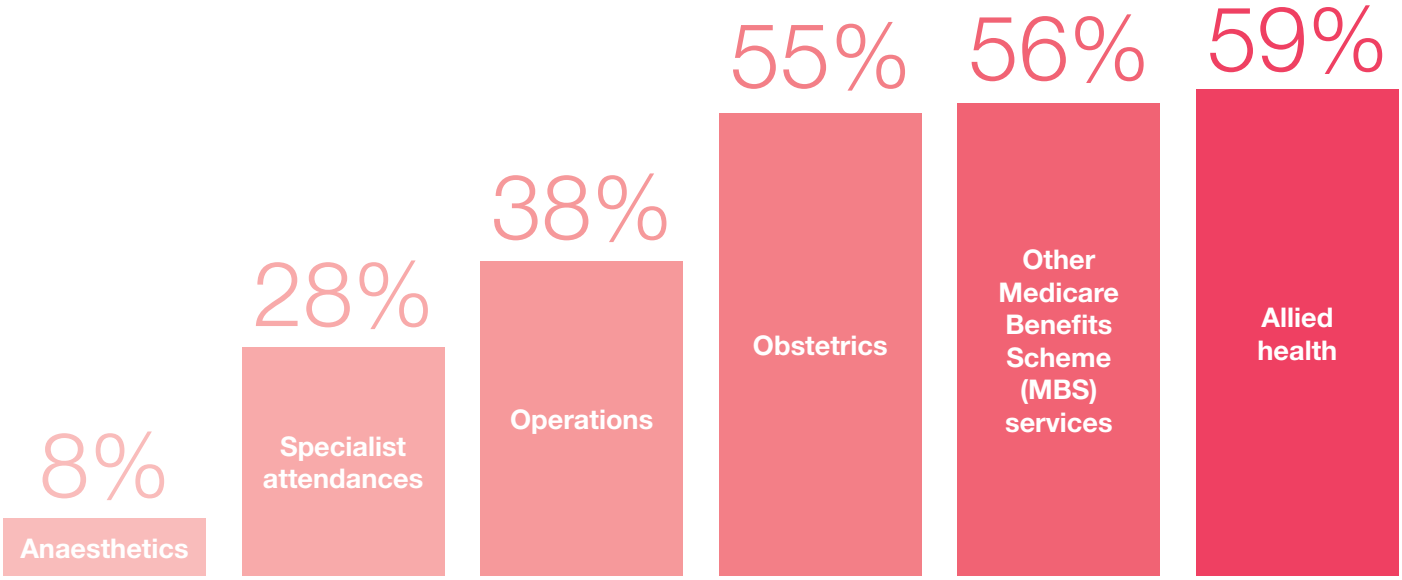
1. For non-hospitalised services it can be significant, and unavoidable.
2. Safety net arrangements fall short of providing help to many.
3. Despite private health insurance (PHI), out-of-pocket costs for private hospital treatment are often significant.

## Out-of-pocket costs affect you differently based upon where you live and the treatment you need

Out of hospital, both public and private patients are often confronted with significant out-of-pocket expenses. This includes individual contributions for GP care, specialist visits, pathology, radiology, pharmacy, aids and appliances, dental and allied health services, and associated costs to access healthcare such as travel and accommodation. Of the services that Medicare covers, 79 per cent are bulk-billed.[22]

While bulk-billing is high as a total volume, bulk-billing for specialist services is much lower and the size of the gap widely varies based on where a patient lives. The median payment made by patients with out-of-pocket costs for specialist services in 2016-17 was $64, and the 10 per cent of patients with the highest costs spent $137 or more per service. Patients in some local areas spent three times as much as patients in other areas. For example, the median amount patients in Mid North (South Australia) spent was $36 per service, compared to $97 in Leichhardt (New South Wales). This geographical variation is magnified for obstetrics, for which the median out-of-pocket cost per service was $227 in Northern Sydney Primary Health Network - ten times more than the median cost per service of $21 in Gippsland Primary Health Network.[23]

**Bulk-billing rates vary by service**




Source: Figures for July 2018-March 2019, Quarterly Medicare statistics

PHI members find limited financial reprieve from many out-of-pocket payments, despite the thousands of dollars per annum they have contributed to their membership,[24] because health insurers are forbidden from covering Medicare services delivered out of hospital. Similarly, many patients are unable to avoid out-of-pocket contributions to the non-hospital services and goods that Medicare and the Pharmaceutical Benefits Scheme (PBS) do not cover, such as the majority of dental services, most allied health services, aids and appliances, and non-PBS pharmaceuticals.

## Safety care nets fall short

The Medicare and PBS safety nets attempt to address high out-of-pocket costs by providing higher benefits to people who require more medical services. Unfortunately they are confusing and fail to cover many expenses. Key issues include:

- The existence of separate Medicare and PBS safety nets means that people with medical and pharmaceutical needs may be helped with only parts of their costs or fall short of both safety nets.
- Dental expenses are excluded from the safety nets.
- There are two tiers for the safety nets – concession card holders and everyone else. Many lower- and middle-income households fail to meet the concession card holder threshold.
- Safety nets work on an annual basis, meaning patients with the same diagnosis and costs can end up with different out-of-pocket costs depending upon what time of year they are diagnosed and treated.

## Out-of-pocket costs for private hospital treatment are often significant

Individual contributions to hospital services occur when patients receive treatment in private hospitals, and in 2017-18, 40 per cent of the 11.3 million hospitalisations occurred in private hospitals.[25] The reasons people attend private hospital are varied, but one driver is no doubt the long waiting lists for elective surgery in public hospitals. Others include choice of surgeon, and a perception that they may receive a different quality of outcome or patient experience.

The average out-of-pocket payment for a hospital episode for people with PHI was $316 in the March 2019 quarter, with the majority of these episodes occurring at private hospitals. This included out-of-pocket payments for medical services, in addition to excess or co-payment amounts relating to hospital accommodation.[26] Individuals with complex or chronic conditions often experience multiple hospital episodes, and when combined with spending on other forms of healthcare, the total cost can increase quickly.

As the leading cause of death in Australia, cancer provides a good illustration of the out-of-pocket expenses that some people are forced to pay to obtain the healthcare services deemed appropriate. In a recent analysis of healthcare costs for cancer patients, we found that the average direct out-of-pocket costs for a person diagnosed with a common cancer (ie breast, prostate, colorectal, melanoma, lung) over five years is **$12,000**, with more than **$7,400 of cost incurred in the first year.**

For most Australians, this is a major hit on the family budget. For others, this cost is prohibitive. The figures are worse for the 40 per cent of cancer diagnoses that involve rare cancers: for these, direct out-of-pocket costs over five years average **$60,000**, of which **$36,000 is incurred in the first year**. All of these figures ignore the additional indirect out-of-pocket costs such as travel to appointments, accommodation, childcare costs for dependents, meals and nutritional adjustments, home modifications and aides, and support services (eg. counselling).

Source: PwC analysis.

# Can we, and should we, remove out-of-pocket costs?

**Not necessarily.** While the current approach, or lack of cohesive approach, to out-of-pocket expenses in Australia is clearly not working, this does not suggest they should be removed entirely.

## The constitution says doctors can charge what they want

As a starting point, this would require constitutional change because doctors in Australia have the constitutional right to charge what they want, as laid out in Section 51(xxiiiA) of the Australian Constitution. Simply put, this clause says that doctors can directly charge a patient whatever they like if they believe that available rebates are insufficient.

## Individual co-payments to healthcare can be a useful policy tool

Strategically designed individual contributions to healthcare can support efficient allocation of scarce resources for healthcare. When faced with no co-payments, individual demand for health services is unchecked and is likely to result in resource wastage unless there are other barriers to access (such as long wait-lists). Further, there is clear evidence that co-payments reduce the use of healthcare, including prescription medicine, visits to GPs and specialists, and outpatient care.[27]

However, co-payments are only useful if they send effective purchasing signals to people about the best choice among healthcare alternatives. They need to be designed to reduce the demand for unnecessary care and not limit the demand for worthwhile care. Our present approach to co-payments fails in this regard, and co-payments often prevent people from accessing preventative health services that reduce downstream healthcare costs.

A recent study of **1,400 people with asthma** found that half of adults and one-third of children in the study either decreased or skipped doses of asthma medicine to make them last longer. The **$40 prescription cost** is enough to deter the recommended care for many people. This matters because asthma is a long-term disease that needs to be kept under control with preventative medicine, rather than short-term reactions to acute episodes.

Source: Laba, T. et al, (2019). 'Cost-Related Underuse of Medicines for Asthma—Opportunities for Improving Adherence', Journal of Allergy and Clinical Immunology: In practice.

# What can government do to tackle out-of-pocket costs?

We believe the government should do more to help Australians obtain the healthcare they need without incurring significant out-of-pocket costs, and we suggest four possible approaches.

1 **Close the information gap**

2 **Shift costs away from individuals**

3 **Pilot diagnosis-specific care bundles**

4 **Redefine the medical safety nets**

# 1. Close the information gap

A lack of information and transparency is one of the main issues underlying our extreme out-of-pocket expenses. Patients need to navigate through a maze of health services and providers and make purchasing decisions with limited information on the full range of options available, related payments, waiting periods, quality of care and likely outcomes. This decision making occurs at a time when patients are most vulnerable and may find it difficult to make decisions about care that differs from a doctor's recommendation, despite the costs involved. Getting a second opinion is expensive and not accessible to everyone.

More readily available information on providers' costs and outcomes will give the consumer a larger role in the healthcare market and move the market closer towards competition, where the relationship between suppliers and consumers determine the price of goods and services.

Lack of information is also an issue for GPs, who often do not know the costs their patients will face from the specialists they refer them to. With more information, GPs would be able to provide greater support to patients in navigating their care journey, including help determining which services they really need and understanding the choices available to them and their related costs and outcomes.

For those with the most complex conditions and the most vulnerable, there may be a need for Medicare-subsidised healthcare navigators to assist patients in using the available information to make decisions on care and how decisions relate to out-of-pocket expenses and outcomes. Initiatives such as healthcare homes, which coordinate care for patients with chronic and complex conditions, and other practice incentives are just the start of exploring what might be required.

### We can learn from our international peers

Healthcare price transparency is a goal of many international governments. Sweden, for example, has led the charge in healthcare transparency. Since 2006, the Swedish government has published annual performance comparisons and rankings of healthcare services, including 350 indicators considering prevention, patient satisfaction, waiting times, trust access, surgical treatment and drug treatment.[28] The depth and breadth of transparent public reporting in Sweden exceeds that achieved by its OECD peers.[29]

More recently, the United States mandated in 2018 that all hospitals must establish, make public via the internet, and regularly update a list of their standard charges.[30] While this information alone does not capture the variability of the 'product' being purchased and differences between hospital charges and the cost to individuals that arise with the existence of health insurers, the transparency is a first step towards supporting a competitive market with consumer-driven healthcare.

Federal Health Minister Greg Hunt has similarly promised Australians a new government website to provide patients with more information on out-of-pocket costs. However, data on costs alone is not enough. For any medical need, a patient should have access to enough information to compare the cost and outcomes of the services of multiple providers to make an informed purchasing decision.

# 2. Shift costs away from individuals

The government could address the inequitable distribution of co-payments by shifting costs across payers and away from direct individual payments. While this may not reduce the underlying contribution of individuals, who ultimately pay for Medicare, the PBS and PHI through taxes and member fees, it would distribute the costs more broadly across society. This could happen via changes to what Medicare and the PBS cover and/or changes to what private health insurers are allowed to cover.

Building on the ongoing work of the MBS Review Taskforce, we need a rigorous re-evaluation of what outpatient services (or public hospital services) are less likely to be available via bulk-billed services, but are critical to patient journeys. Allied health services, for example, are critical for individuals with chronic illness, yet most of these are not covered by Medicare.

Of those that are covered by Medicare, 38 per cent incur an individual contribution. Thought needs to go into the impact of extending Medicare subsidies for certain services, the related demand for services and healthcare outcomes, and the cost to the government. If we can increase the use of lower cost services that ultimately prevent costly acute care episodes, while also reducing the cost to individual patients, this could potentially reduce overall healthcare expenditure.

Consideration should also be given to allowing PHI funds to both cover and negotiate service arrangements for outpatient services - this could reduce costs for insured patients, prevent unnecessary hospitalisations, minimise waiting times for public patients, and help reinforce part of the value proposition of PHI.

## 3. Pilot diagnosis-specific care bundles

We need to stop thinking about a diagnosis as a sum of myriad individual needs and focus on a patient's end-to-end journey. Instead of expecting a patient to source many different services for a given diagnosis (for example, the initial GP visit, specialist consultation, surgery, and aids and allied health services to support recovery), we need to develop innovative funding models that cover the full spectrum of required needs. These models would support patients, service providers and funders to think about the package of care required to meet patients' needs, covering both inpatient and outpatient services with incentives for efficient and effective care. Moving away from fee-for-service payments and combining all costs of treatment into a single total, ideally linked to patient outcomes, would go a long way towards mitigating the problem of individual co-payments, while also encouraging efficient use of healthcare resources.

Successful application of this approach would be complicated by the separate payment streams in Australia, where the Australian Government is broadly responsible for Medicare services and states and territories are responsible for the management and administration of public hospitals and many preventative and community health services. A diagnosis-specific funding package would require cooperation between both levels of government, as well as third party health insurers, to provide funding for services incurred across the spectrum of available health services. It would also require providers to assume some financial risk for an episode of care, but it would give them some control over the risks in the interest of the patient. Primary health networks and hospital systems would be a good starting point from which to trial this approach.

**The introduction of the RADIUS** – an alternative pathway to the emergency department for patients with complex medical problems and multiple co-morbidities in the Sutherland Shire (New South Wales) – presents an opportunity to explore a bundled funding arrangement for these patients. In conjunction with the hospital's outreach services, outpatient clinics and GPs, the Sutherland Hospital is currently trialling an alternate emergency model of care as a means to increase the integration of care across providers. Whilst the model of care is currently being funded through the existing activity-based funding mechanism, the local health district is analysing an **alternative value based bundled payment** in parallel as a 'shadow' funding mechanism.

Under this funding model, the Sutherland Hospital would receive a fixed payment, covering a patient's full cycle of care, which would be shared amongst the healthcare providers involved. The amount of payment would be linked to the achievement of pre-specified patient-centred outcomes, including patient reported experience measures (PREMS) and patient reported outcome measures (PROMS) as well as **reduced re-admissions, less frequent inpatient hospitalisations and fewer emergency department presentations.**

Source: PwC analysis.

## 4. Redefine the medical safety nets

While the Medicare and PBS safety care nets are designed to assist people with out-of-pocket costs associated with medical services and pharmaceutical costs, they are confusing and fragmented. The reason for separate safety nets is unclear and consideration should be put towards combining the two measures into a single framework, ideally one that also includes dental services.

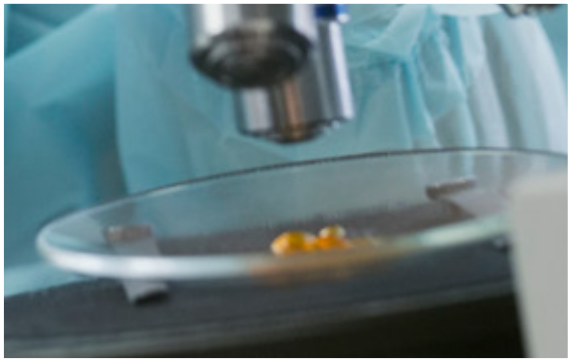
Further, the rationale for a calendar year as the underlying basis for the safety net is weak; it favours support for individuals with high care cost over a short period of time and fails to support individuals with chronic illness who need moderate levels of care over long periods of time. Building on the concept of diagnosis-specific care journeys raised above, consideration should go towards including diagnosis-specific care components within the safety nets that are not limited by a defined period of time.

Last, there may be benefit in introducing a sliding scale of thresholds and benefits for safety nets to avoid the two-tier problem that disadvantages households who just miss out on access to healthcare concession cards.

# Now is the time to act

The out-of-pocket problem is multi-faceted and cannot be fixed with a single remedy. If we want to stop the problem from becoming a crisis and protect the integrity of our health system, a number of actions need to be taken. No single approach will do, a package of changes is essential if we are to make a real difference to the healthcare costs faced by many Australians.




3

# Planning for the healthcare workforce of the future

## Balancing technology, culture and supply

by Dr. Ben Hamer and Caitlin Guilfoyle

**Like many industries, healthcare in Australia is in the midst of significant transformation. Rapid digitisation, increasing and changing demand for services, evolving community and government expectations and major investments in health infrastructure are driving well-documented changes across the healthcare system.**

The impact of these changes on the existing healthcare workforce is significant. The healthcare sector is the biggest growing sector in Australia in terms of workforce (at 14 per cent followed by education and training at 11.2 per cent).[31]

Workforce demand in the health sector, according to the federal government's labour forecasts, will increase by 14.9 per cent over the next five years.[32] However, it is also forecasted that the healthcare industry will experience major workforce shortages over the coming years due to an ageing healthcare workforce and current retention challenges, especially in regional areas.

Healthcare organisations need to manage the transition of current employees to potentially new and different ways of working. They also need to consider the requirements of a future workforce capable of delivering health outcomes in a healthcare landscape very different to that of today.

The healthcare workforce of the future will require its professionals to work increasingly in multi-disciplinary teams, while our healthcare systems will have to balance the benefits of technology and artificial intelligence (AI) alongside the ever-present need for the 'human touch'.

## Trends affecting the healthcare workforce

### A 'human-centred' model of care

As complex care needs increase, consumers will increasingly expect greater coordination between practitioners across tertiary, primary and community settings. Preventative and patient-centric approaches to care – approaches more appropriate for chronic diseases – will change how the sector works. Patients no longer 'receive' treatment for their illness but co-design a wellbeing or complex care plan tailored to their unique circumstances.

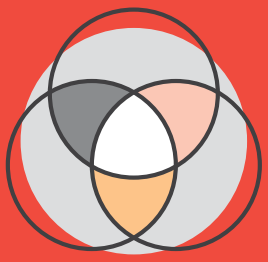
Human-centred models of care that reach across the various silos of wellbeing and healthcare will need health professionals with more patient/customer-oriented skills. Collaborative ways of working – building and leveraging relationships and sharing problem-solving capabilities – will be critical for a coordinated care approach. These models represent significant capability and mindset shifts for health practitioners, for which extensive whole-of-sector cultural change is needed.

### Digitisation and technological transformation

In hospitals, automation, robotics and AI are transforming support functions, improving customer experiences, increasing productivity and providing new levels of accuracy and evidence for patient diagnosis and treatment.

There is an ongoing need to build and maintain the 'digital IQ' of healthcare workers required for basic forms of technology, such as those in clinical systems and business intelligence platforms. However, the use of new technologies will require significant upskilling across all roles as tasks become automated or augmented by tools equipped with AI.

As a first step, healthcare organisations need to be clear about the resources, capabilities and mindsets they will need to continue to deliver services in the future. They will need to identify and articulate those services and products that are to be scaled up or down, automated, augmented or ceased completely and those to be retained and developed across the sector. Such articulation is critical; it will enable identification of workforce risks and opportunities and development of workforce interventions to address them.



### Changing demographics and chronic conditions

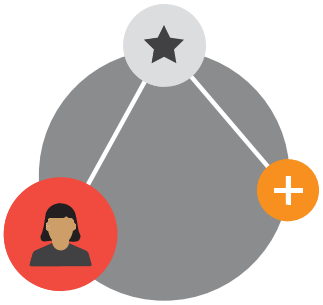
The increasing prevalence of chronic diseases, such as diabetes and coronary heart disease, is evolving our country's health profile and increasing demand for a particular model of services.

Preventative health programs are increasingly being developed and implemented to keep 'well' people out of hospitals.

While shortages are predicted for all health disciplines, the greatest deficit is expected to occur for nurses, projected to fall short by approximately 120,000 in 2030.[33] The nursing workforce shortage is significant, and compounded by demand from adjacent sectors such as disability and aged care, it will increase competition for talent.

# Workforce strategies and considerations

**A number of workforce strategies are required in the coming years to manage these future challenges and opportunities. Three in particular are not only foundational but at this stage have the highest potential to benefit preparations for a ready and capable health workforce in the future.**



## Collaborative mindsets and ways of working

**There will always be a place for the settings of care we see today, such as hospitals, primary care and aged care. However, the future will see the boundaries between these care settings become less clear, as they need to collaborate together around things like chronic disease management.**

### Change of focus

All occupational groups will need to increase their focus on the management of patients outside the traditional healthcare setting, including remote monitoring, case management and preventative care.

Such a shift will require healthcare workers to consider, coordinate and review care differently. Importantly, this will require a behavioural transformation that supports an outcome-focused, collaborative and coordinated approach to patients and their health journeys. It will be a requirement of all healthcare workers, not the single domains of GPs and hospitals, to use the data and networks available to coordinate, collaborate and cooperate.

### Collaborative education and partnerships

While this shift needs to occur within the healthcare setting, it also needs to translate into how new entrants to the workforce are prepared for their roles.

Curriculums delivered by educational providers will need to be co-designed with the health sector to ensure that the required capabilities and understanding of integrated models of care are prioritised, a focus that differs from the discrete traditional subjects or specialties typically taught in isolation. Such curriculums should focus on defining and introducing 'on-the-job' behaviours and mindsets that support collaboration and encourage health professionals to consider holistic responses to cases. Examples include cross-industry training that enables new entrants to understand system interdependencies, influences and opportunities. Such training is important in encouraging the future health workforce to innovate and solve complex problems in new ways.

Reinforcing these mindsets also requires new operating models based on strong ongoing partnerships between healthcare organisations, education providers and research institutions that push the boundaries of traditional healthcare - not just to leverage technology in healthcare, but to challenge and reshape the health ecosystem.

### Collective leadership

A shift to collective leadership is also required. Collective leadership prioritises high-performing leadership teams over individuals and self-interest. Such a leadership style requires leaders who thrive in a changing environment, can make sound judgements about multiple competing perspectives and act mindfully with a deep sense of their own context and resilience.

Significant and ongoing culture change is at the heart of this new world. Leaders will need to collaborate with the workforce to identify elements of the culture that need to change and get feedback from people across all levels of the organisation. They will need to connect with a cross-section of the workforce who have insight into what people care about most. The focus then becomes adopting the few critical behaviours identified as mattering the most, demonstrating commitment by modelling these behaviours and committing to the change as a continual, collaborative effort.

The changes that are required should not be underestimated. Some employees will be energised, but some may resist.

# New skills to leverage technology

**After years of investment into core, clinical systems, we've reached the tipping point where healthcare systems have enough of the right type of data to really inform clinical and administrative decisions, matched by technology which allows for better diagnostics and automation.**

## Life-long training aligned to need

The effective use of new technology will be crucial to ensure optimal and efficient delivery of services and will require the health workforce to continuously learn, update and adapt skills to new operating environments.

Planning for the requisite health workforce skill set should be done with an awareness of the talent pipeline and the skills taught at schools and universities, and an eye to the future requirements posed by technological innovations. Programming, data analytics and human behaviour may need to be integrated into medical curriculums alongside anatomy and neurology.

The anticipated changes to workforce roles present an opportunity to redeploy, upskill or reskill employees. The sector will need to articulate and continue to evolve requisite skills and capabilities, using recruitment and retention strategies anchored to future needs.

Planning for the impact of technology, and therefore the required workforce, on health service delivery needs to be done now. The organisational arms for training and development need to work closely with those for technology and operations to assess new skill requirements and to ensure sufficient time is built in to train the workforce appropriately. Failure to strategically consider and develop the critical skills required for the future will adversely compromise the capacity of healthcare organisations to deliver services safely.

## Retaining the human touch alongside AI

The introduction of technology such as robotics, AI and genomics will challenge the traditional roles of the healthcare workforce, including doctors.[34] Digital and technological solutions will automate some work, dispense with some traditional roles and augment human effort.

For example major disease areas that currently use AI diagnostic tools include cancer, neurology and cardiology. AI helps to unlock the vast amounts of available but unstructured health data to enable more accurate diagnoses at an exponentially faster rate than a human being. As such the greatest impact of technological innovations on jobs in healthcare in the immediate future will likely be in medical diagnosis.[35]

However, as technical tasks become automated and the human workforce work more and more alongside virtual assistants, the 'human' and personal aspects of care will become ever more important. This shift requires that the workforce will need to operate at the top levels of their qualification and use their skills in an optimal way. AI and robotics technology will free up clinicians for other types of work that enable them to spend more meaningful time with their patients.

Leaders will need to be much clearer about their reskilling strategy and what that really means for their workforce. Which soft skills are required alongside digital skills? The nurturing of human qualities in the workforce, particularly leadership, creativity, empathy and curiosity, are essential to making the most of new technologies. Although functional skills related to automation and AI are often essential, they will not work without more 'high-touch' managerial and people-oriented capabilities.

# Supply challenges and shortages

**An ageing workforce will see a high volume of retirements over the next 5-10 years with significant impacts on general practice, psychiatry and anaesthetics in addition to the acute shortage forecasted for nurses. These shortages are expected to occur mostly in rural and remote areas exacerbated by ongoing recruitment and retention challenges.**

## New talent pipelines

The healthcare sector needs to develop proactive and creative solutions to attract, develop and retain the skills, capabilities and talent needed to deliver services with a strong focus on diversity and inclusion, reflecting the community and it's needs. Consideration of multiple talent pipelines will be critical, including leveraging immigration options to increase the supply of identified critical skills. Importantly, immigration and corresponding workforce policies will need to be coherent with international sourcing strategies to supply key talent, and industrial barriers and challenges will need to be worked through strategically.

Optimising current employment models and promoting greater cross-sector and cross-government collaboration to attract and retain critical skills may be key to addressing supply concerns.

A critical aspect will be to develop a compelling employee value proposition tailored to key segments of the workforce (eg. the proposition for a nurse will be quite different to that of a physician) to attract, develop and retain talent, while delivering a unified and engaging purpose-driven vision for the future.

## Flexibility and agility

Flexible resourcing may also offer opportunities to explore alternative models of practice and partnerships enabling a shift to more agile structures and ways of working and enabling healthcare organisations to have the right skills in the right place at the right time to meet demand. This will make it possible for organisations to find the right mix while maintaining focus on workforce affordability.

Importantly, this strategy will need to be underpinned by contemporary workforce policies and practices that support the shift in model of care delivery including a consideration of how it will affect existing employment arrangements and operational practices within and across organisations.

# Start from where you are...

**To prepare your healthcare workforce as you look to the future, you will need to consider all aspects such as culture, technology and ways of working. However, one critical step that healthcare organisations need to undertake now is strategic workforce planning to assess the sector's capabilities, supply challenges and shortages.**

Strategic workforce planning enables organisations to evaluate the impact of global, national and local trends, and develop the essential initiatives to prepare their workforce for the future (eg. upskilling in new technologies or procedures; addressing potential resource gaps in critical roles or regional areas).

By understanding and setting future workforce requirements in the health sector, including the skills required to use and optimise technologies, a strategic workforce planning process can support and sustain a coordinated, collaborative and patient-centric approach to delivering care.

A strategic workforce planning approach can help healthcare organisations navigate through the complexity of their current and future operating environment to ensure a capable, appropriately sized and sustainable workforce. It aligns organisational and workforce strategies with macro trends, forecasts workforce supply and demand in line with service projections, and adopts an evidence-based approach to support targeted workforce interventions.

These steps should be supported by a series of stakeholder consultations to ensure an endorsed and pragmatic roadmap that when implemented will transform your workforce.

**Action plan**

## Step 1

**Strategic and external analysis**

Conduct a strategic analysis of your landscape to assess internal and external influences on your workforce in the future.

## Step 2

**Supply and demand analysis**

Use a modelling tool to analyse your workforce supply and demand for both now and in the future.

## Step 3

**Gap and risk analysis**

Develop an understanding of the most critical workforce risks and needs by comparing forecasted supply and demand to identify surpluses and shortages.

## Step 4

**Strategy development**

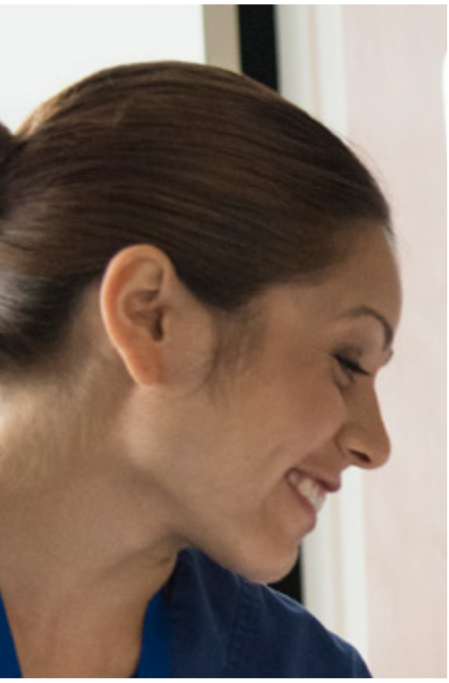
Bring together all analyses, insights and directions revealed from workforce analysis, stakeholder engagement, and demand modelling to develop strategies which mitigate the risks identified in step 3.

## Step 5

**Implementation**

Develop an applied and pragmatic implementation roadmap prioritising the proposed workforce strategies.

Rapid and diverse changes in the healthcare sector are in train, with more expected in the future. To ensure that it continues to be responsive to community needs, and the workforce continues to be capable of delivering positive patient and community outcomes, the sector needs to develop early and proactive strategies to transition to effect positive cultural change. Proactive planning and preparation today with an eye to tomorrow is critical; the health of the country's future generations depend on it.



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# In pursuit of zero harm in healthcare

## What healthcare can learn from other high reliability industries

by Nicola Lynch and Amanda Acton

**Our healthcare professionals do an amazing job considering the incredible demands placed on them. We require them to be caring, compassionate and resilient. And in addition to being expert problem solvers we expect them to support and comfort us when we are at our most vulnerable. They carry out their roles in an environment characterised by high complexity, high variation, high pressure and very low margin for error. But while we have one of the best hospital systems in the world, hospital errors continue to occur at unacceptable rates here and across the globe.**

Healthcare is considered to be a 'safety-critical' industry. In this sense it can be compared to other industries such as aviation, nuclear power and even resources where risks are prevalent; and the consequences of errors can be catastrophic. These industries depend on their exemplary safety records to meet not just regulatory requirements but also the social licence to continue to operate. They achieve this by establishing internal structures, controls and procedures that reliably achieve optimal safety outcomes categorising them as high reliability organisations, or HROs.

**In essence, high reliability can be described as the means by which desirable outcomes are consistently achieved. Some of the key attributes of HROs include:**

**1**

They seek to understand both the direct and indirect causes of error across the whole system and they proactively capture and evaluate near misses.

**2**

They aim to streamline, evaluate and continuously revise their policies and operating procedures and controls to reflect emerging risk. They stratify and have clarity on key controls and compliance obligations and ensure these are well understood and applied by staff consistently.

**3**

They capture data across the whole 'system' and use these key data sources in real-time to proactively identify and target emerging risks and indicators of error to better understand the root causes of incidents retrospectively. This proactive approach aims to prevent an error or incident before it occurs.

**4**

They have robust audit and compliance functions that are agile and responsive to emerging risks and issues as well as core compliance obligations.

**5**

They have a culture of vigilance and speaking up that is committed to continuously learning from, and improving processes in, a measured and monitored way that demonstrates sustainable improvement over time.

For over a decade, the healthcare industry has been conducting research into HROs and the lessons it can draw on. Despite a number of studies and pilots, progress in the healthcare setting appears to be limited. This is particularly evident when we consider the statistics.

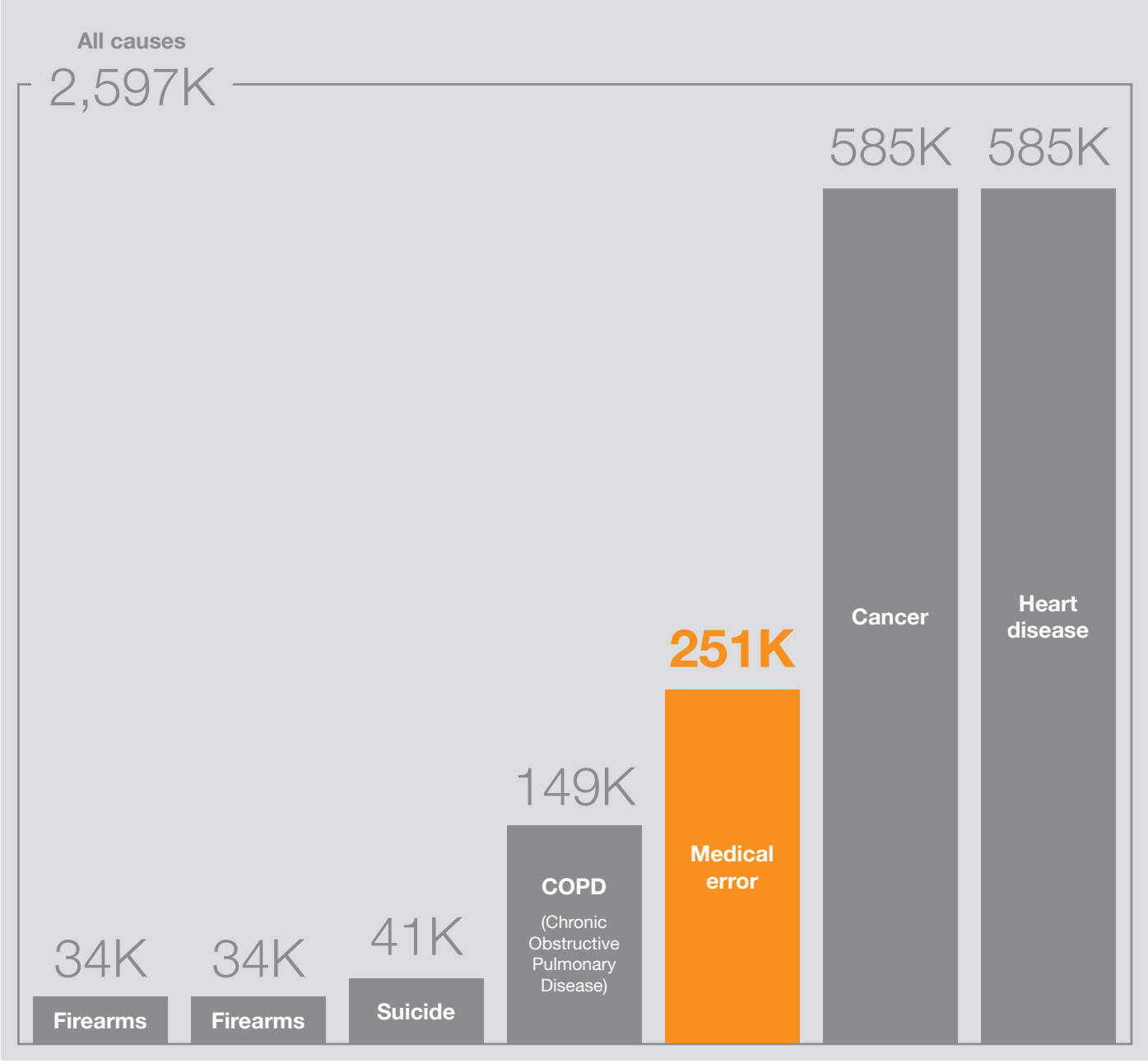
A recent study by Johns Hopkins[36] reported more than 250,000 people in the United States die every year because of **medical errors**, making it the third leading cause of **death** after heart disease and cancer.

The World Health Organisation states there is a **one in 10** chance of being harmed in hospital and 50% of these incidents and adverse events are preventable.[37]

The Grattan Institute's *Safer Care Saves Money* reports **one in every nine** patients who go into hospital in Australia suffers a complication – about 900,000 patients each year. If they stay in overnight, the figure rises to **one in four** – about 725,000 patients each year.

These hospital-acquired complications cost the Australian economy more than $4 billion a year.[38]

**Figure 1: Most common causes of death in the US in 2018**

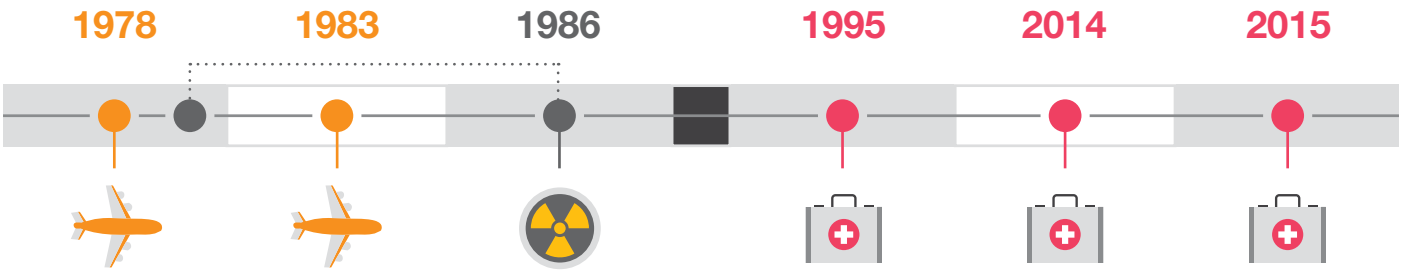



Source: Johns Hopkins

# Why business as usual is not an option

The Australian healthcare system is recognised as one of the best in the OECD. However, as with any other advanced healthcare system, there are still a large number of preventable errors, complications and deaths every year. According to the 2018 Grattan *Safer Care Saves Money* report if the safety performance of all hospitals were lifted to the level achieved by the top 10 per cent of hospitals, it would make a realistic reduction in complication rates to the value of AUD1.5 billion a year and would lead to an additional 250,000 patients leaving hospitals complication-free.[39]

We believe that if we are to transform our health providers into HROs we need to be more strategic and challenge current thinking. To this end PwC has reviewed numerous cases and papers on safety in healthcare and other industries to try to identify any additional attributes and principles that define high reliability in a healthcare setting. Through this review, there were many examples where stark differences were evident in how the healthcare sector identifies and responds to incidents when compared with other industries.



**1978**

**United Airlines Flight 173**
**Industry:** Aviation

**Number who died:** 10

Changed the way flight crews communicate for all airlines (industry wide learning and change) after officers showed too much deference to the captain and his decisions in an emergency

**Evidence of HRO response?**

✓ HRO

**1983**

**Air Canada Flight 797**
**Industry:** Aviation

**Number who died:** 23

The direct and indirect causes of an on-board fire prompted changes to global aviation regulations including installation of smoke detectors, exit path strip lights and improved fire safety protocols

**Evidence of HRO response?**

✓ HRO

**1986**

**1979 Three Mile Island**

**1986 Chernobyl**

Public and industry increased demand for safety after the highly publicised risks associated with safety critical industries, especially incidents related to nuclear power generation

**1995**

**Bristol Cardiac Case**
**Industry:** Healthcare

**Number who died:** at least 34 in five years

A whistleblower who tried to remedy failings exposed deaths of babies and children because of paediatric cardiac surgery staff shortages, and a lack of leadership, accountability and teamwork. He was unable to find another job in the UK and relocated to Australia.

**Evidence of HRO response?**

✗ HRO

**2014**

**Bawa-Garba Trial**
**Industry:** Healthcare

**Number who died:** 1

Six-year old boy died from organ failure resulting from pneumonia following a series of errors. The trial of Dr Bawa-Garba failed to take into account the system wide failures around resourcing, IT and escalation but rather assigned full blame to the individual.

**Evidence of HRO response?**

✗ HRO

**2015**

**Bacchus Marsh Tragedy**
**Industry:** Healthcare

**Number who died:** 11

Potentially avoidable newborn and stillborn deaths at the hospital due to misuse and misinterpretation of fetal heart rate monitors, catastrophic clinical and governance oversight and monitoring failings on site, and at the departmental level.

**Evidence of HRO response?**

✗ HRO

One of the consistent themes we identified was the unnecessarily high level of process complexity, variation, 'layering' and duplication that was specific to the healthcare industry. The average health practitioner has far more 'mental work demand' placed on them than workers in other safety-critical industries. As humans we can only remember so many things and so there is a tipping point at which more results in less: less risk management, less compliance and less impact on patient safety.

In the workplaces we reviewed we found there were, on average, many thousands of compliance obligations, policies, procedures and forms.

Rather than examine the system as a whole more often than not the response to a new incident was to add further controls and compliance procedures, resulting in layering and ever-greater complexity. Frontline staff were continually bombarded with new interventions for short-term fixes and new activities they were expected to learn and implement. The end result was usually the opposite of what was intended; we found that too many activities made processes lengthy, layered and overly complex. This ultimately impacted the degree to which staff could remember and apply the most critical controls consistently and effectively.

When we looked at other safety-critical industries, it was clear that people working in HROs benefited from much more streamlined, simplified and effective systems of control. They are more equipped on the frontline with an awareness of the key risks to safety in their roles and the key controls that they must perform each shift and each day to mitigate against this risk.

The concept of high reliability is not the result of a set of processes or an 'outcome'. As defined earlier it is the means by which desirable outcomes are consistently achieved.

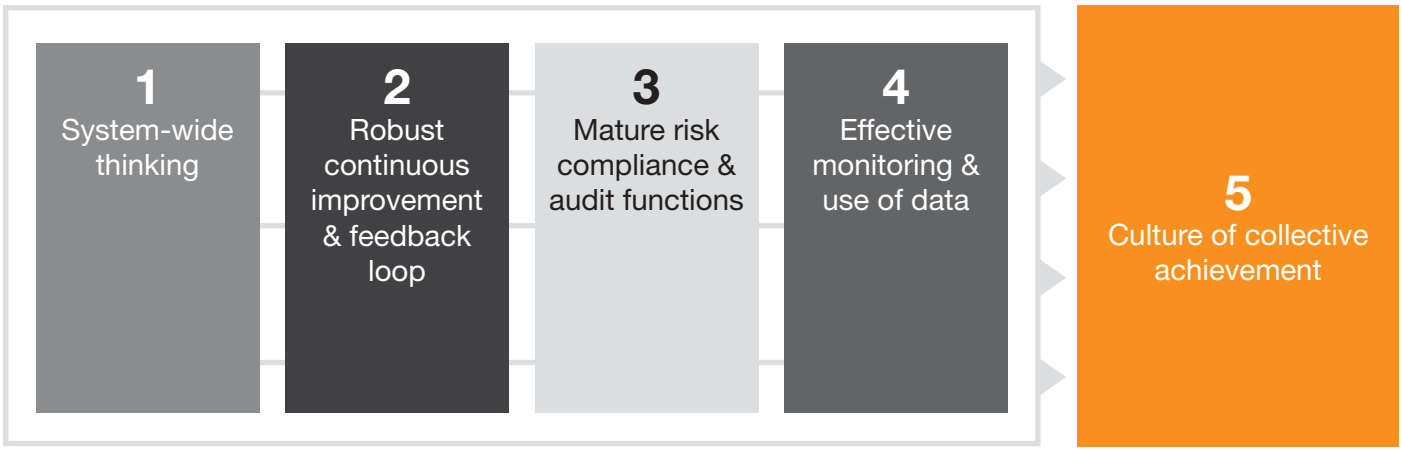
**Every system is perfectly designed to get the results it gets.**

– Paul Batalden, Dartmouth Institute for Health Policy and Clinical Practice

# Adopting a HRO model for healthcare

We used these insights to develop a high reliability framework that could be applied to healthcare. It incorporates the principles of system-based thinking, continuous improvement based on impartial feedback, the implementation of mature risk and compliance functions and effective use of data to evolve a culture of collective achievement across the entire organisation (see Figure 2).

**Figure 2: Five guiding principles of the high reliability framework**



1

## System-wide thinking

System-wide thinking requires the organisation to understand which risks are a priority, including direct and indirect sources of error and to consider the full system of control when implementing significant process changes. Importantly, changes tend to be implemented at an industry level rather than a single organisation (think of pre-flight briefings in aviation).

2

## Robust continuous improvement & feedback loop

HROs embed continuous learning into their feedback and audit tools to understand the root causes of error and risk. Feedback is actively encouraged and, rather than fostering a culture of blame, this information is used to understand and address potential risks or causes of error.

3

## Mature risk compliance & audit functions

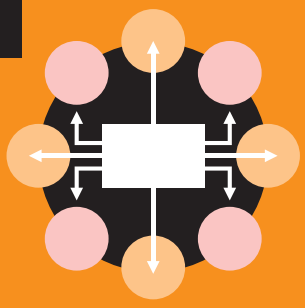
Organisations with a mature risk compliance and audit function are both reactive and proactive, they are agile enough to be responsive to change and emerging risk while also aligning to strategy and providing comfort and insight on core compliance and control activities.

4

## Effective monitoring & use of data

HROs collect data across the 'system', and use this data to proactively identify emerging risks and issues and to seek to address these before they occur. They collect data to assess compliance levels as well as to provide insight into emerging trends (eg. greater value placed on near-miss reporting and human factors such as staff and patient engagement and behavioural risk trends) even using artificial intelligence and pattern recognition software to anticipate emerging risks and errors.

5



## Culture of collective achievement

What evolves from this multi-faceted approach to high reliability is a culture of collective achievement where:

- staff are engaged and understand clinical control activities and results;
- new ideas and change are embraced to enhance compliance and reduce risk;
- self-reporting is encouraged without fear of blame or sanction, and pro-safety behaviours are rewarded; and,
- management take action on issues in a timely and visible manner, so that staff see demonstrable measures are taken and change is made as a result of reporting.

**The difference in approaches between HROs and healthcare is perhaps best demonstrated through a comparison of case studies from different industries. There is no shortage of examples to choose from, but here are two that clearly illustrate the point.**

# Aviation

## Air Canada Flight 797 (1983)

An electrical fire on an international passenger flight triggered an emergency landing and caused an explosion that killed 23 people.

Fires in general, regardless of cause, were identified as a risk on aircraft. As a direct result industry regulation now requires the presence of additional fire safety equipment, a safety demonstration to passengers prior to take-off and aircraft design to allow for evacuation within 90 seconds to ensure that if a fire occurs controls are in place to prevent fatalities.

### Prevention

All other sources of fire aboard aircrafts were banned. Evacuation procedures were developed.

- ✓ Proactive, mitigates against future risk

### Learning

The entire system involved in the accident and its consequences rather than just the causes of the fire, were analysed.

- ✓ System-wide thinking considered direct and indirect causes
- ✓ Re-evaluation of current procedures
- ✓ Effective root cause identified

### Growth

Industry-wide fire safety regulations and evacuation procedures explained in all pre-flight safety briefings.

- ✓ Lessons transferred throughout industry
- ✓ Intervention included as standard practice, sustained change

# Healthcare

## Trial of Dr Bawa-Garba (2014)

Jack Adcock, aged six, died from organ failure resulting from pneumonia following a series of errors.

The resulting manslaughter trial of Dr Hadiza Bawa-Garba failed to take into account that on the day of the incident Dr Bawa-Garba was performing the role of four doctors, managing six wards over four floors, and an IT failure prevented the flagging of unusual test results.

Despite these extenuating circumstances she was held responsible for the mistakes of others including a failure to take into account information that was not communicated to her during a shift that was severely understaffed.

### Prevention

Dr Bawa-Garba was charged with manslaughter and suspended from practicing for 12 months.

- × Reactive, only considered immediate circumstances

### Learning

Initial responses to the incident focused on assigning blame rather than making changes to improve policy and procedures to prevent future instances.

- × Non-system approach, only obvious cause addressed
- × Delayed evaluation of current procedures
- × Ineffective root cause analysis, limited learning

### Growth

Following evidence given in support of Dr Bawa-Garba hospital policies and procedures were eventually reviewed.

- × Lessons implemented with limited scope
- × No change to industry standard practice

# What action can you take right now?

It's complex and multifaceted but by going through this checklist you could identify some key areas that should be your priority focuses in your planning

## System-based thinking

1. When incidents and near misses occur do you consider the direct and indirect sources of error across the whole system? Do you consider what controls failed and why? Do you critically assess whether a new intervention should be implemented and whether activities and controls can also be removed?
2. Do you seek to reduce unwarranted variation in the system (eg. streamline control activities and standardise processes, forms, checklists etc)?
3. Where emerging risks, incidents or near misses occur that result in changes to processes and controls, do you apply this change consistently and effectively across the system (the organisation, the health service, the health system)?

## Effective use of data

4. Are you using system-wide data in addition to clinical KPI results in a proactive way to identify risks including: clinical audit results; timely staff engagement and patient feedback results; HR data such as overtime, sick leave and agency usage etc?
5. Do you leverage data to identify recurring incidents and predict emerging risks and trends across the system and proactively review?
6. Do you leverage digital technology for audit and compliance activities to provide timely, accessible results to harness information and respond instantly?

## Robust continuous improvement and feedback systems

7. Do you track, audit and monitor the new controls and interventions for effectiveness?
8. Do you capture your near misses and do you value and action this insight through sharing of lessons learned?
9. Do you have robust and effective continuous improvement plans as well as remediation action plans?

## Mature risk and compliance functions

10. How confident is your Board that they have an integrated and complete assurance plan across the 'three lines of defence' (eg. clinical risk/audit and clinical internal audit)?
11. Do you have a robust and effective clinical governance framework with clearly defined accountabilities and responsibilities?
12. Have you stratified and prioritised your key risks and controls by major clinical process areas and are your staff communicated to and trained on this? Do you seek to reduce variation, duplication and layering in processes and controls?
13. Does your clinical audit plan align to the major clinical process areas and reinforce staff awareness of key and critical control activities at the frontline?
14. Is your clinical audit plan agile enough to respond to emerging risks and strategic enough to get a balance between compliance, improvement and strategy?
15. Are you ‘everyday’ accreditation ready? Do you look beyond accreditation, seeing it as the minimum foundational requirement and not the end goal?

## Culture and collective achievement

16. Do your staff feel comfortable speaking up for patient safety and are they respected and supported when they do?
17. Are your patients and consumers encouraged and educated on being active participants in the safety of their care and speaking up?
18. Is patient safety and quality paramount in your strategy and has this cascaded in a meaningful way from the board to the ward? Is it operationalised in such a way that all staff can articulate what this means for them, and how they bring it to life every day with their patients and residents and with each other?
19. Have you considered setting ambitious safety targets to track and report, providing greater transparency? Do you hold each other to account and celebrate success together as a team?
20. Do you encourage and reward proactive and positive patient safety behaviours and do you share the stories within your organisation?

# What can we do to target zero preventable harm in healthcare?

Hospital errors continue to happen and many are preventable. When we humanise the statistics and consider the devastating impact of preventable error on the families of the patients and on health practitioners, we are compelled to be relentless in our pursuit of zero preventable harm in healthcare.

We believe that the HRO approach exemplified by other high-risk, high-consequence industries such as aviation, nuclear power generation and resources can be applied to healthcare. However, due to the nuances of how healthcare is structured, its inherent risks, its delivery model and its culture, the focus areas we think the health sector should prioritise include addressing:

- the complexity and unwarranted variations in processes
- the lack of availability and use of timely system-wide data sources

Through implementing the high reliability framework healthcare providers can make a cultural change; one that rewards speaking up and avoids blame, monitors compliance while proactively anticipating possible risks and takes a system-wide view of risk management.

The benefits of greater reliability for patients are obvious: a better in-hospital experience, faster discharge and crucially, a reduction in the number of preventable illnesses, complications or deaths.

As consumers become increasingly better informed and discerning in their choice of care provider we see that organisations capable of implementing such an approach will be rewarded, not just through becoming an employer of choice for healthcare professionals, but also as a provider of choice for patients and their families.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# References


**The future of health in Australia**

1. Miller, L. J. and Lu, W., These Are the World's Healthiest Nations, Bloomberg, viewed June 2019
2. Australian Government Department of Health, Annual Medicare Statistics, viewed June 2019
3. Parliament of Australia, Health in Australia: a quick guide, viewed June 2019
4. Duckett, S., Private health cover is in a death spiral, Grattan Institute, 29 April 2019
5. Australian Institute of Health and Welfare, A picture of overweight and obesity in Australia, 2017
6. PwC analysis, ABS National Health Survey 2017-18
7. Australian Institute of Health and Welfare, Life Expectancy, viewed June 2019
8. PwC Australia, Reimagining Healthcare in Australia, 2017
9. NPS MedicineWise and Consumers Health Forum of Australia, Engaging consumers in their health data journey, March 2018
10. Roy Morgan, Health insurance industry distrusted by Australians, 28 March 2018
11. Australian Institute of Health and Welfare, Rural and Remote Health, 2017
12. Australian Government Productivity Commission, Health services across Australia, 2018
13. Australian Institute of Health and Welfare, Australia's health 2018, 2018
14. PwC Australia, Adopting AI in healthcare: why change?, February 2019
15. PwC China, Top Health Industry Issues: Securing the internet of things, 2019
16. PwC Australia, Practical Innovation: Closing the social infrastructure gap in health and aging, February 2018
17. Australian Institute of Health and Welfare, Health Expenditure Australia 2016-17, 2018

**Who pays? Australia's out-of-pocket healthcare problem**

18. Medicare background brief, Australian Parliamentary Library.
19. Australian Institute of Health and Welfare, Australia's Health 2018, 2018
20. This includes co-payments for subsidised services, full payment for non-subsidised goods and services, and contributions to health insurance funds. Australian Institute of Health and Welfare, Health expenditure Australia 2016-17, 2018
21. This considers Australia in comparison to the 17 wealthiest OECD countries. Duckett, S. (2018). 'Expanding the breadth of Medicare: learning from Australia', Health Economics, Policy and Law, Vol. 13, pp. 344–368.
22. Source: Figures for July 2018-March 2019, Quarterly Medicare Statistics.
23. Australian Institute of Health and Welfare, Patients' out-of-pocket spending on Medicare services, 2016–17, 2018
24. PrivateHealth.gov.au (2019)
25. Australian Institute of Health and Welfare, Admitted patient care 2017-18, 2019
26. Australian Prudential Regulation Authority. Quarterly Private Health Insurance Statistics, 2019
27. Kiil, A. and Houlberg, K. 'How does copayment for health care services affect demand, health and redistribution? A systematic review of the empirical evidence from 1990 to 2011', The European Journal of Health Economics, 15(8), 2013
28. The Commonwealth Fund (n.d), The Swedish Health Care System.
29. OECD. Caring for quality in health: Lessons learnt from 15 reviews of health care quality, 2017
30. Centers for Medicare & Medicaid Services. Fiscal Year (FY) 2019 Medicare Hospital Inpatient Prospective Payment System (IPPS) and Long-Term Acute Care Hospital (LTCH) Prospective Payment System Final Rule (CMS-1694-F), 2018

**Planning for the healthcare workforce of the future**

31. Australian Institute of Health and Welfare, Australia's health 2018, 2018
32. Australian Government Labour Market Information Portal, Health Care and Social Assistance, viewed July 2019
33. PwC Australia, Practical Innovation: Closing the social infrastructure gap in health and aging, February 2018
34. PwC Australia, Adopting AI in healthcare: why change?, February 2019
35. PwC Global, From Virtual to Reality: Six imperatives for becoming an AI-ready healthcare business, 2019

**In pursuit of zero harm in healthcare**

36. Johns Hopkins Medicine, Study Suggests Medical Errors Now Third Leading Cause of Death in the U.S., 3 May 2016
37. World Health Organisation, 10 facts on patient safety, March 2018
38. Grattan Institute, All complications should count, 2018
39. Grattan Institute, Safer Care Saves Money, August 2018

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The time to act is now


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What healthcare can learn from other high reliability industries


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