

Project Report

MEDICAL LEADERS FOR CURRENT AND FUTURE HEALTH CARE

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Abbreviations

AAPL: American Association for Physician Leadership

AFRACMA: Associate Fellow of the Royal Australasian College of Medical Administrators

AI: Artificial intelligence

CSPL: Canadian Society of Physician Leaders

FMLM: Faculty of Medical Leadership and Management

FRACMA: Fellow of the Royal Australasian College of Physicians

FTP: Fellowship Training Program

ICT: Information and Communication Technology

IT: Information Technology

OECD: Organisation for Economic Co-operation and Development

RACMA: Royal Australasian College of Medical Administrators

UK: United Kingdom

US: United States

Glossary of terms

The following term definitions refer to the ways in which the below terms have been utilised throughout the project report.

5+9 model (Braithwaite et al., 2018)

Five healthcare trends

Sustainability: A sustainable health system, as defined by Braithwaite et al. (2018)¹, is *one that adapts and endures across time, constantly adjusting to changing pressures*.

Demographics: As defined by the online Cambridge Dictionary (2023), demographic or demography refers to *the study of populations and the different groups that make them up*².

Genomics: According to the World Health Organization (2020), *genomics is the study of the total or part of the genetic or epigenetic sequence information of organisms, and attempts to understand the structure and function of these sequences and of downstream biological products*³.

Artificial intelligence: As defined by the online Cambridge Dictionary (2023), artificial intelligence refers to *the use of computer programs that have some of the qualities of the human mind, such as the ability to understand language, recognize pictures, and learn from experience*⁴.

Models of care: The NSW Agency for Clinical Innovation (2013) defines a model of care as *the way health services are delivered, outlining best practice care and services for a person, population group or patient cohort as they progress through the stages of a condition, injury or event*⁵.

Nine improvement strategies

Integrated care: Goodwin, Stein, and Amelung (2021) define integrated care as *an approach to improve the quality and cost-effectiveness of care by ensuring that services are well coordinated around people's needs*⁶.

Value-for-money services: According to NSW Health (2023), value-based health care means *continually striving to deliver care that improves: health outcomes that matter to patients, experiences of receiving care, experiences of providing care, effectiveness and efficiency of care*⁷.

Patient-based care: The World Health Organization (2023) defines people-centred care as a process by which *individuals, families and communities are served by and are able to participate in trusted health systems that respond to their needs in humane and holistic ways*⁸.

Universal coverage: According to the World Health Organization (2023), *universal health coverage (UHC) means that all people have access to the full range of quality health services they need, when and where they need them, without financial hardship*⁹.

Information technology: Encompasses clinical technology and information and communications technology (ICT) integrated into care systems to facilitate diagnosis, management, and treatment of health conditions, to enhance communication between healthcare professionals and consumers, improve access to healthcare services and education, and enhance patient involvement in care.

Healthy, health-literate populations: Health literacy is defined by the Australian Institute of Health and Welfare (2022) as related to *how people access, understand and use health information in ways that benefit their health*¹⁰.

Preventative care: The Department of Health and Aged Care (2021) refer to preventative health as *improving the health and wellbeing of all Australians at all stages of life, through a systems-based approach to prevention that addresses the wider determinants of health, reduces health inequities and decreases the overall burden of disease*¹¹.

High-quality, safe, standard based care: The Australian Commission on Safety and Quality in Health Care (2023) defines clinical care standards as related to *the care people should expect to be offered or receive, regardless of where they are treated in Australia*¹².

Workforce development: According to the Flinders Health and Medical Research Institute, workforce development is *a multi-faceted, systemic approach to building the capacity and sustainability of the workforce, offers a comprehensive way of thinking about and responding to the complex interplay of issues that affect the workforce, and moves the focus from individual workers to organisations and systems*¹³.

Other terms

Equity: The World Health Organization (2023) defines health equity as *the absence of unfair, avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically, or geographically or by other dimensions of inequality (e.g. sex, gender, ethnicity, disability, or sexual orientation)*¹⁴.

Equality: According to VicHealth, health equality means *treating everyone the same regardless of their needs*¹⁵.

Safety-II: A newer approach to health and safety that, according to Braithwaite, Wears, and Hollnagel (2015), involves a *concerted effort to focus on the successes of healthcare systems to enable things to go right more often*¹⁶.

Fragmentation: Fragmentation in health care is defined by Frandsen and Joynt (2015) as *involving multiple providers and organizations with no single entity effectively coordinating different aspects of care*¹⁷.

Resilience: Hollnagel (2017) defines health system resilience as *the intrinsic ability of a system to adjust its functioning prior to, during, or following changes and disturbances, so that it can sustain required operations under both expected and unexpected conditions*¹⁸.

Quadruple Aim: A framework for optimising health system performance, proposed by Bodenheimer and Sinsky (2014), encompassing four aims: *enhancing patient experience, improving population health, reducing costs, and improving the work life of health care providers*¹⁹.

Executive summary

This report has been researched and written by the Australian Institute of Health Innovation (AIHI) as an advisor and consultant to the Royal Australasian College of Medical Administrators (RACMA). RACMA commissioned the team at AIHI to provide a research-based report on how health care and services will be provided in the future, and the implications of this for medical leaders. The goal of this work includes informing future College activities, and to demonstrate to government and other stakeholders the place of RACMA specialty training and education.

The project was conducted between November 2022 and May 2023. The specific aims of this report, which captures the findings from our work, are:

1. To explore how health care and services will be provided in the future by identifying trends influencing Australia's healthcare system and their effect on care and services.
2. To explore the implications of future health systems for medical leaders, including the attributes and characteristics required for future care and services.

INTRODUCTION

Medical leadership is crucial for managing the healthcare system, and the ongoing and increasingly dynamic complexities of healthcare delivery. Large scale trends on the future of healthcare to 2030 have been identified in the literature, and strategies to create better health care have been formulated. A previously published model of five trends in healthcare and nine activity areas to drive system improvement identified by Braithwaite and a cohort of 148 international colleagues across 152 countries, the 5+9 model, is presented below and informed the research undertaken for this project.



The five trends, it is predicted, will impact health systems over this decade. The nine areas to drive system improvement are ubiquitous, with all health systems working toward them in varying degrees, with different emphases depending on the system. Medical leaders are critical for managing change and driving system improvement whilst managing current challenges, operations and expectations. Medical leaders must be prepared to design, foster and deliver the strategies that will enable system improvement in light of the constant changes – and sometimes, disruptions and upheaval – in healthcare.

METHODS

Literature searches were conducted to identify the role of medical leadership in delivering sustainable, integrated, patient-centred care, exploiting emerging technologies and innovative models of care, contributing to governance and policies, and sustaining organisational wellbeing and cultural safety in line with the 5+9 model. Key findings from literature searches were discussed with RACMA members across five roundtables and reference group meetings. Participants provided important insights on the 5+9 model, and the emerging findings from the literature we presented them.

These iterative consultations across the life of the project built a store of knowledge about the views of a cross-section of the RACMA community. These insights were summarised and triangulated with the information digested from the literature searches to provide comprehensive guidance on the role of medical leaders, in contributing to systems improvement.

RESULTS

The future of healthcare was most commonly discussed in the literature and by participants in the context of emerging technologies and new models of care, including virtual care modalities and integrated care systems. Sustainability in care provision was discussed across a diverse range of areas including COVID-19 and climate change, changing demographics related primarily to migration patterns and ageing populations, ongoing resource constraints, and workforce shortages caused by, and resulting in, stress and burnout.

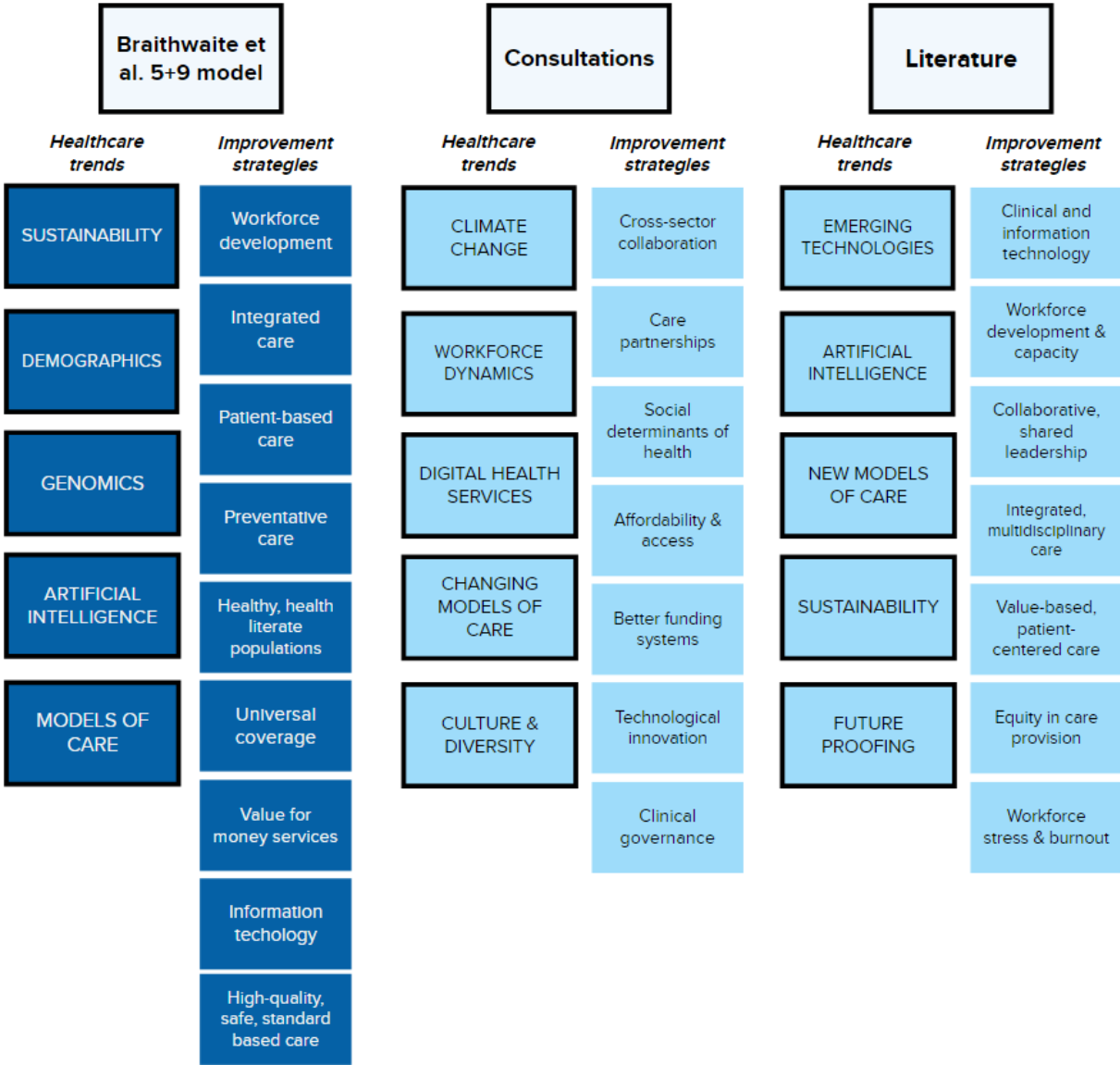
Technology and workforce development were the most highly cited strategies to drive health system improvement. Participants discussed the importance of understanding and leveraging digital health solutions and artificial intelligence to continually improve care systems, and foster cross-sector collaboration and shared leadership. Addressing workforce burnout emerged as key to developing capacity and fostering sustainable health systems. Value-based and patient-centred care were commonly cited in the literature and discussed by participants, who advocated for a greater focus on social determinants of health, care partnerships, and models of care that enable equitable access.

Medical leadership was typically discussed in the literature and by participants with reference to a set of core competencies, skills, and behaviours that are displayed by effective medical leaders. The literature focused on competencies and skills that underpinned leadership training programs, whether national or single-site, and the methods of learning (e.g., experiential) used to foster and maximise these competencies and skills. Of core importance was the role of medical leaders in building positive workplace cultures, through inclusive and compassionate behaviours, transparent communication, and collaboration within and across teams. The importance of consumer engagement and advocacy was also emphasised, and related particularly to addressing the needs

of marginalised groups and managing public expectations. The competencies underlying medical leadership development in RACMA’s Fellowship Training Program Curriculum were well supported in the contemporary literature for fostering patient safety, equitable care provision, financial responsibility, and public confidence in the care system.

The results also found that, to improve health care and services into the future, medical leaders will need to continually innovate and adapt amidst uncertainty, and demonstrate resilience during times of crisis. Team-based, collaborative leadership will be key to driving quality improvement, enabled by proficient stakeholder communication. Expertise and skills related to digital health service innovations, clinical governance and value-based care were described as increasingly important for medical leaders to navigate the healthcare landscape of the future.

Primary areas of importance that emerged from the consultations and the literature, as related to the Braithwaite et al. model for the future of healthcare, are displayed in the figure below.



DISCUSSION

To manage increasing complexities of health systems, medical leaders need to be adaptable, promote inclusive workplace cultures, and equip their teams and those who look to them for support and guidance with the capacity to cope and improve. To do so, they must mentor, motivate, and support their medical and other clinical colleagues and emerging clinical leaders. New models of care that are sustainable will need greater collaborative leadership, inclusivity and collaboration, consumer engagement and advocacy, and continual innovation in digital health service delivery. Medical leaders will need to demonstrate resilience through disruptive times, be willing to share decision making, and learn from their successes to inform how they approach future challenges. Promoting staff wellbeing, engaging with the public, and taking direct action to advance equity will also be core to the role of medical leaders in fostering sustainable, resilient health systems for the future.

Medical leaders must have a deeper understanding of innovation amidst complexity and the skills to engage with the community and health workforce and build capacity for governing, managing, resourcing and continuously developing, evaluating and improving new models of care and services.

Introduction

Medical leadership in healthcare: Setting the scene

Medical leadership, sometimes framed or referred to with adjacent terms such as medical management, clinical leadership, or physician executive, is a profession that integrates medical knowledge, leadership skills, and healthcare management expertise^{20,21}. Medical leadership involves trained doctors occupying prominent roles in healthcare settings, taking responsibility for policy, planning and operations, and playing a multiplicity of roles including but not limited to motivating, inspiring, resourcing, directing, coordinating, guiding and developing others. This can include leadership in and of a wide range of settings: clinical teams and services, healthcare service networks, Ministries of Health and other major Institutions, professional bodies, and healthcare organisations including districts, primary care networks, and public and private hospitals²². Medical leadership in various guises has become a prominent feature in contemporary health systems across different continents and countries, and over the last four decades has been seen as increasingly important in the light of the growing complexity of healthcare systems²⁰. Australia has been at the forefront in having specialist qualifications and training a cohort of medical leaders for over 50 years, through the Royal Australasian College of Medical Administrators (RACMA). A brief history of medical leadership has been summarised in Appendix 1.

Benefits of medical leadership

Medical leadership has been shown to improve the performance of health services as well as patient outcomes. A 2016 systematic review of medical leadership in US public and non-profit general hospitals found that of 19 articles, 16 reported positive effects of clinician (and specifically medical) leadership on organisational outcomes²¹. In this review, greater medical representation in governance was found to be associated with higher bed occupancy, profitability, and in better financial management of resources²¹. Further, the involvement of physician executives in strategic decision-making in US hospitals has been associated with better decision quality, understanding, and commitment²³.

In other US work, a higher percentage of doctors on boards was associated with higher service quality ratings, which was not evidenced for other clinical leaders (e.g., nurses, allied health professionals)^{24,25}. Higher process of care scores and lower risk-adjusted mortality rates for heart attack, heart failure, and pneumonia were evidenced for hospitals that had a medical leader on board committees than for hospitals that did not²⁶. An Australian systematic review in 2017 concluded that, whilst there was a substantial body of evidence supporting the importance of medical leaders for organisational performance, further robust and empirical research was needed on this topic²⁷.

There are several explanations offered for cases where studies have demonstrated benefits of medical leadership on organisational performance. The first is that medical leaders are 'interface professionals' who bridge medicine and management, corporate and clinical interests, and silos of care²⁸. While medical leaders may not be directly involved in the diagnosis and treatment of patients, medical leaders can nevertheless apply diagnostic acumen to organisational problems^{29,30}. Medical experts have an acquired knowledge about clinical operations across multiple settings, which separates medical leaders from non-clinical leaders^{31,32}.

Another explanation is around financial performance. Involving doctors in leading roles can add deep understanding of clinical care, thereby facilitating effective strategies around financial deployment in ways that support the delivery of quality care. By enhancing doctors' commitment, organisations may be more successful in adopting widespread cost-effective clinical practices in day-to-day operations³³.

Yet another explanation is the social influence and credibility which medical leaders can bring³⁴. Many medical leaders have acquired or are seen as acting with integrity, and are often perceived as having greater influence and power than other clinicians^{35,36}. Medical leadership has been considered important for enhancing organisational credibility and reputation, garnering support from doctors and other clinicians, and attracting skilled staff^{21,37}. Indeed, clinicians were historically perceived as having an opinion-forming influence on non-clinical management, and pushing back against the corporatisation of healthcare^{29,38}. The approach of non-clinical management toward issues such as standardisation, regulation, and greater accountability in healthcare often conflicted with the culture, approaches and standpoints of medical professionals³⁶. Despite tensions between medical and managerialist approaches, doctors have always been considered integral to the decision-making of healthcare organisations, shaping system requirements, and delivering or influencing the delivery of high quality care^{22,39}.

Training in medical leadership

A growing interest in medical leadership to manage the increasing complexities of healthcare led to the formalisation of training and education for medical practitioners in leadership and management in some jurisdictions^{20,35}. It was recognised, in these health systems, that specific study and experience in leadership and management skills was needed to enable medical leaders to effectively contribute to optimal organisational and patient outcomes^{35,40,41}.

In the US, dating from 1975, the American Association for Physician Leadership (AAPL)¹ has provided leadership development opportunities and membership for physicians, including training as a Certified Physician Executive (CPE). CPE training focuses on developing core competencies including strategic planning, team building, change management, finance and accounting, engagement, accountability, and systems thinking⁴². For early career physicians interested in leading, the AAPL offers leadership 'fundamentals' education in communication, influence, quality, and negotiation, as well as mentorship opportunities and membership to the AAPL community⁴³.

In Canada, from 1998, the Canadian Society of Physician Leaders (CSPL)² has offered leadership support and development opportunities for physicians, including training as a Canadian Certified Physician Executive (CCPE). CCPE training is based on the tenets of the LEADS in a Caring Environment Capabilities Framework: leads self, engage others, achieve results, develop coalitions, and systems transformation⁴⁴. Physician leadership education through the CSPL is also informed by the CanMEDS 2015 Physician Competency Framework developed by the Royal College of Physicians and Surgeons of Canada, which emphasises the leader role of physicians⁴⁵. According

¹ Previously known as the American College of Physician Executives (ACPE).

² Previously known as the Canadian Society for Physician Executives (CSPE).

to CanMEDS 2015 framework, physicians have roles as professionals, communicators, collaborators, scholars, health advocates, and medical experts⁴⁵.

In the UK, the British Association of Medical Managers (BAMM) trained doctors in management from 1991 until its closure in 2009. From 2011, the Faculty of Medical Leadership and Management (FMLM) has provided leadership education, support, and membership across various medical career stages, including medical students, trainees, consultants, and senior medical leaders⁴⁶. The FMLM uses standards which are a set of competency-based attributes that enable effective medical leadership performance, namely, understand the self, lead the team, contribute to the organisation, and influence the system⁴⁷, as the basis for training and to achieve Fellowship of the FMLM. The FMLM offers a range of supports for individuals, such as mentoring schemes and leadership 'toolkits', as well as for teams, and organisations⁴⁶.

Royal Australasian College of Medical Administrators

Since 1968, RACMA has delivered programs to medical practitioners who are training for or occupying Specialist Leadership or Administration positions⁴⁸. The RACMA Fellowship Training Program (FTP) is unique as providing the only program to qualify as a Specialist Medical Administrator internationally through accreditation by the Australian Medical Council and is recognised by the Medical Board of Australia and the Medical Council of New Zealand.

RACMA's FTP involves university-based postgraduate health management education, supervision, experiential learning, a national program of workshops, assessment of written work and examination by the College⁴⁹. The Program is governed in direction and scope by the RACMA Medical Leadership and Management Curriculum³¹ which outlines the knowledge, skills and attributes required of a RACMA Fellow, and is organised into four learning domains: health systems science, medical management practice, personal and professional leadership, and research training⁵⁰.

Competency framework

RACMA's FTP is based on an adapted version of the CanMEDS 2015 Physician Competency Framework originally developed by the Royal College of Physicians and Surgeons of Canada⁴⁵. According to this adapted Framework, the seven roles of a medical leader are: medical expert, communicator, collaborator, health advocate, manager, scholar and professional (Figure 1).

Scope of Practice

RACMA's education and training equips medical leaders with the knowledge, skills, attributes, and behaviours to perform key responsibilities across health systems governance, health law, health economics and health care financing, human resource management, strategy and change management, and to effectively communicate and collaborate across diverse stakeholder groups. A RACMA Fellowship can lead to a range of senior positions including Chief Medical Officer, Director of Medical Services, chief executives of hospitals and universities, senior public servant roles, and consultants to governments, private sector health services, and industries involved in developing health technology innovation.

RACMA's formal Scope of Practice was released in 2023 to describe the activities of medical leaders within the health system⁵¹. Whereas the CanMEDS 2015 Framework provides a platform for

RACMA’s knowledge and skill development offerings, the Scope of Practice outlines the wide range of activities undertaken by Specialist Medical Administrators. It details eight core dimensions of practice for a medical leader: 1) strategic planning and implementation; 2) integration; 3) workforce; 4) governance for quality and safety; 5) advocacy and stakeholder engagement; 6) digital health and clinical informatics; 7) medico-legal; 8) research and innovation. The full Scope of Practice is presented in Appendix 2.

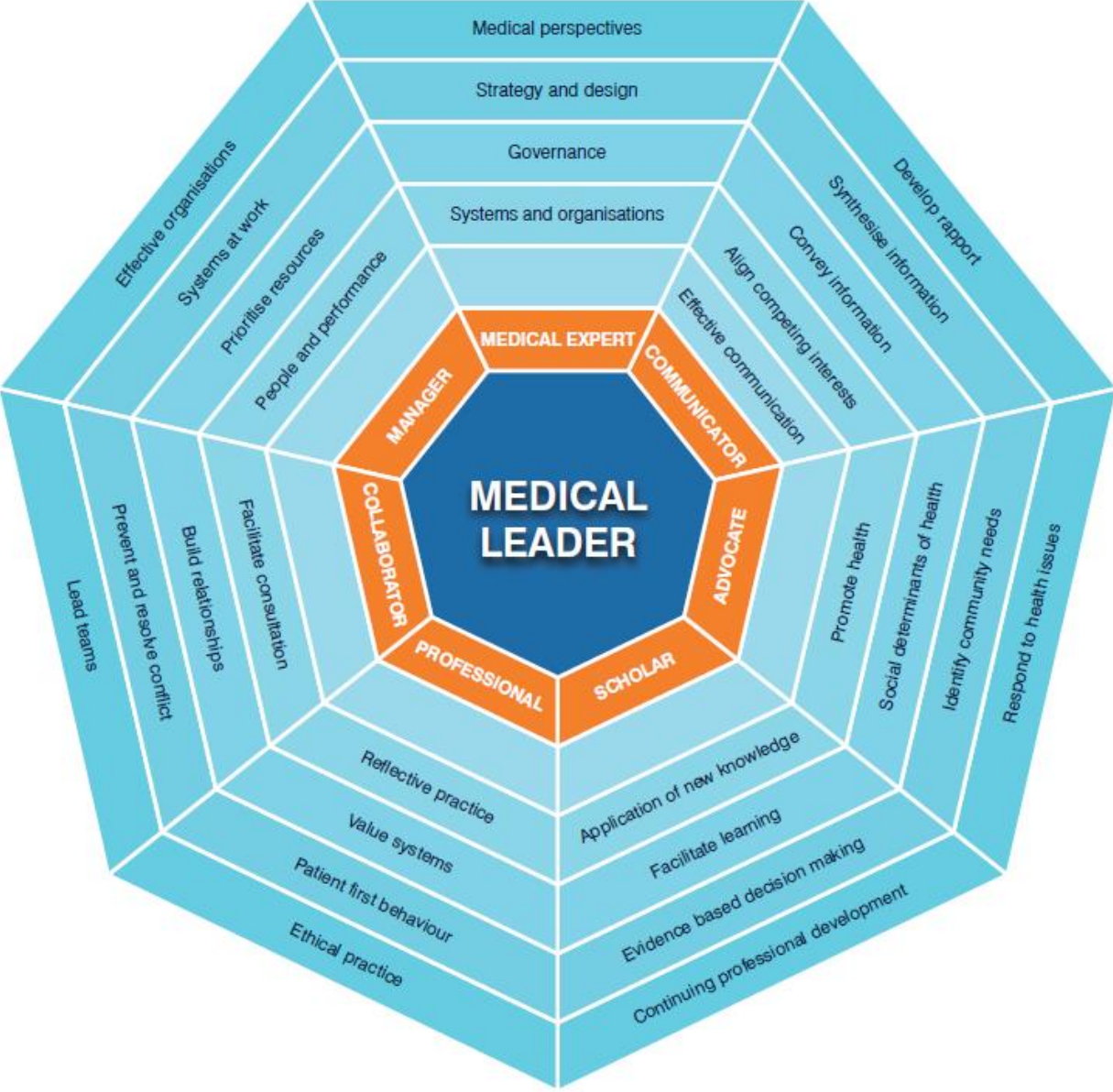


Figure 1. RACMA Curriculum Framework

The future of health systems

Work led by Braithwaite and colleagues identified **five large-scale trends** running across health systems, and these have been accepted by global policymakers, scholars and experts influencing health systems of the future¹: These are: creating sustainability in the provision of care, managing changing demographics and disease patterns, adopting and integrating genomics into care,

assessing and embracing emerging technologies and implementing new innovative models of care (Figure 2).



Figure 2. Braithwaite et al. 5+9 model for best practice future healthcare

This work also summarised **nine strategies** (also shown in Figure 2) that have been identified as key solutions to actualising system improvement through to 2030: integration of healthcare services, offering value for money services, instituting genuine patient-centred care, ensuring universal coverage, harnessing modern information technology, embracing healthy ageing, focusing on preventative care, instituting effective standards and policy, and continuously developing, educating and training the workforce such that it is fit for purpose.

The 5+9 model suggests that exploiting these five trends and implementing the nine strategies by 2030 would result in an improved health system, with better health care for patients and better workplaces for staff. So the question needs now to be asked, as we do not have a system with these characteristics: why has system-wide progress been so difficult to attain?

Challenges to progress

Models of healthcare delivery need re-invention; they are often criticised for being unduly fragmented and hierarchical in nature⁵², and slow to adopt best practice research into practice at the pace at which it is emerging⁵³. Concerns about Australia's healthcare system include the need for more integrated and coordinated care delivery, to improve the quality and continuity of patient care. In ways different from, but echoing some features of US healthcare, funding for health and social care in Australia is highly fragmented⁵⁴, and although efforts have been made to integrate care services for complex health conditions⁵⁵, a significant transformation of care is needed.

Conflict between clinician goals for patient care and managerial logic has presented significant issues for health system performance and patient outcomes⁵⁶. The prevalence of top-down

approaches to system improvement can be detached from the needs of local leaders, and result in unsustainable, or at best, modest improvement^{57,58}. While change from the top is predominant, there are powerful front-line clinicians, especially doctors, who can influence or reject managerial decisions, and influence other clinicians to resist these decisions⁵⁹. The dichotomy of “work-as-imagined” by policy makers and managers and “work-as-done” by the clinicians at the coalface can be better aligned by medical leaders^{60,61}.

What skills and attributes are needed to equip medical leaders for the challenges and opportunities of the future and in what ways can medical leaders oversee, and inspire, motivate, and incentivise others, to create better care and the conditions in which better services can be delivered? Health systems are inherently complex and uncertain, and are continually changing in often unpredictable ways⁶². Research on medical leadership capacities within the context of emerging healthcare challenges is not well understood⁶³. In a future of new care paradigms, disruptive technologies, older and sicker patients, and limited resources, how can medical leaders contribute to the provision of sustainable, quality care that is accessible, affordable, and equitable? By using the Braithwaite et al. model as a blueprint for change toward 2030, the role of medical leaders into the future can be better understood.

Aims of this report

Having established the background to the report, and briefly discussed medical leadership, medical leadership education, and the way health care might transform to 2030, we now report on the aims of the study and our research in line with the aims.

Aims:

1. To explore how health care and services will be provided in the future by identifying trends influencing Australia’s healthcare system and their effect on care and services.
2. To explore the implications of future health systems for medical leaders, including the attributes and characteristics required for future care and services.

Our review critically synthesises information on the importance of medical leadership in healthcare and describes trends and contemporary issues regarding the growing scope of medical leaders’ roles in driving future system improvement. Understanding their role in system improvement across these areas can help to inform and refine medical leadership scopes of practice.

Methodology

Design

Two broad-based searches of the scientific peer-reviewed literature were conducted to inform the twin research questions of this project. The first search was designed to capture contemporary research underpinning and extending the key trends predicted for the healthcare system in Australia and the strategies to drive system improvement, as proposed in the Braithwaite et al. 5+9 model for future healthcare⁶⁴. The second literature search was designed to capture research on medical leadership, its role in health system improvement, and the attributes required by medical leaders into

the future. Searches of the scientific literature were supplemented by grey literature searches to capture information external to that contained in the scientific databases.

To complement the literature searches, five consultations in the form of reference groups and roundtables were held with RACMA candidates and RACMA Fellows and Associate Fellows to elicit their perspectives, experiences, and attitudes toward Australia’s current healthcare system. We also canvassed their views on predicted future trends, strategies to drive system improvement, the role of medical leadership in shaping the health system of the future, and medical leadership education. Feedback from these meetings fed into research team discussions about literature search strategies, analyses, and interpretations. Figure 3 displays the methods utilised to fulfil the aims of the current project.

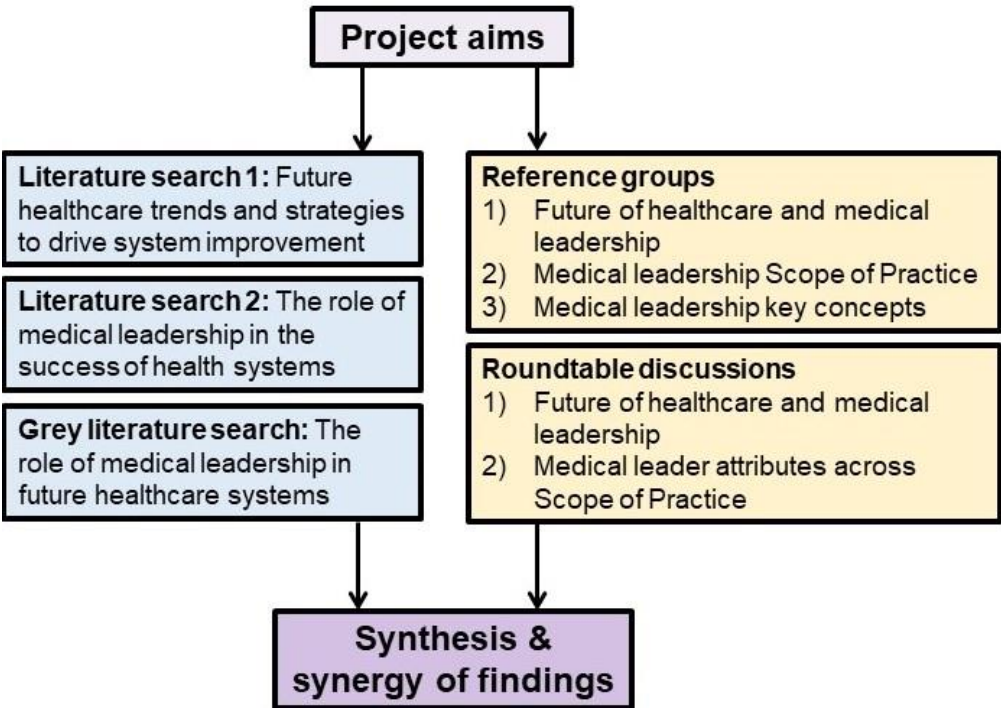


Figure 3. Research methods utilised to fulfill the aims of the current project

Literature searches, selection, and analysis

For each literature search, three electronic databases were searched: MEDLINE and Embase due to their focus on medical and health services research, and Business Source Premier to capture texts related to business and management.

A set of criteria for the inclusion and exclusion of articles was developed by the research team for each literature search, to ensure that articles selected remained aligned with the agreed research questions. These criteria are displayed in Tables 1 and 2. Further details about the literature search strategy, article selection, and data mapping and analysis can be found in Appendix 3.

Table 1. Inclusion and exclusion criteria for literature search 1 (future of healthcare)

CRITERIA	INCLUSION	EXCLUSION
Health system comparability	Articles reporting on comparable health systems or contexts (i.e., OECD);	Articles that do not focus on comparable health systems or contexts;
Future focus	Articles reporting on the future of healthcare, or transformations within healthcare, capturing one or more of the 5 trends or 9 strategies proposed in the Braithwaite et al. model of future healthcare;	Articles that focus on past or current healthcare trends, interventions, reforms, or medical conditions without specific information or commentary on the trends and strategies proposed for the future of healthcare;
Large-scale trends	Articles that focus on the meso or macro level of health systems, ranging from the local or state level through to the national or global level.	Articles that focus solely on the micro level of the health system, looking only at single teams, clinics, departments, hospitals, or facilities.

Table 2. Inclusion and exclusion criteria for literature search 2 (medical leadership)

CRITERIA	INCLUSION	EXCLUSION
Literature search 1 criteria, and:		
Medical leadership competencies	Articles that focus on competencies, roles, or requirements of medical professionals in leadership or managerial roles;	Articles that reference medical leadership as an outcome or as a minor component of an intervention or program of research (e.g., medical leaders as participants);
Medical leadership future focus	Articles that focus on medical leadership of future healthcare systems, or in the context of innovation or transformations within healthcare.	Articles that focus solely on the micro level of the health system, looking only at single teams, clinics, departments, hospitals, or facilities.

Results

Feedback from Consultations

The future of healthcare

RACMA members, in each roundtable and reference group ($n = \sim 150$), were introduced to the Braithwaite et al. 5+9 model for best practice future healthcare, presenting the five key global healthcare trends to 2030 and nine areas of change to drive health system improvement (Figure 2). They were asked to comment on healthcare trends in relation to their own experiences within medical leadership and management, and to expand, from their perspective, on the Braithwaite et al. model.

Key question explored: *Have you noticed any healthcare trends other than the five proposed?*

RACMA member feedback was reflective of the trends within the Braithwaite et al. model:

- Topics of discussion around the sustainability and demographics trends included **climate change, globalisation** and **immigration**, and the importance of creating equity and providing care to **marginalised groups**.
- Topics of discussion around genomics and artificial intelligence (AI) included the broad array of **emerging technologies** that have led to virtual care models (e.g., telehealth). In delivering new models of care, the importance of **cultural definitions** of health was highlighted in addition to **diversity and inclusion** considerations.
- **Workforce development**, including leadership, was discussed as a strategy that cut across all areas of change contributing to system improvement. In relation to integrated care, **team-based work** and **cross-sector collaboration** between healthcare professionals was discussed.
- Patient-centred care was conceptualised as **care partnerships** with patients, requiring a **holistic approach** to care that prioritises general wellbeing. A population-based perspective of **social determinants of health** was emphasised as important in holistic care provision and preventative care.
- The need to consider **equity** in care delivery was discussed and its importance in providing universal coverage and value-based care, as well as funding considerations and the ways in which **reward systems** are aligned with value-based care (i.e., focus on quality rather than quantity of care).
- Standards-and-policy-based care was discussed in conjunction with the need for appropriate **governance** around quality improvement initiatives.

The role of medical leaders

Key question explored: *What is the role of medical leadership in the success of health systems?*

The role of medical leadership in driving system change was discussed in the context of the Braithwaite et al. 5+9 model of future healthcare.

- Greater **collaboration** among medical professionals including ongoing face-to-face communication between medical administrators and clinicians was highlighted as important for preventing siloed practices within specialties and for supporting high-quality patient care. **Team-based leadership** and senior clinician input in decision-making were discussed as strategies to deal with fast moving healthcare, increasing risk, and difficulty balancing workforce challenges and the capabilities of health organisations.
- Delivering continuous **improvement** and **innovation** was a key theme related to the role of medical leaders, including redesigning clinical services, designing equitable healthcare services, and developing and implementing virtual models of care. A related theme was the need to be innovative when **responding to crises** (e.g., pandemics) and uncertainty, and understanding the principles of change in a complex adaptive system.
- Advocating for marginalised groups and promoting **equity** in care delivery was reported as another role of medical leaders, described to be particularly important and concerning since COVID-19 (e.g., disproportionately impacted access to health and social care).
- **Technology and informatics skills** were highlighted as key competencies, including ensuring that technology meets medico-legal principles and standards.

- **Public engagement** and image were considered to be important for medical leaders with respect to politics, economics, and healthcare reform, as well as managing consumer expectations about healthcare and workforce changes which can all be influenced by social media and non-clinical health, social, and wellness providers.
- Creating workplace cultures that foster **trust** and positive social influence was important for future medical leaders to support the provision of high-quality, safe, and standards-based healthcare, particularly since the emergence of COVID-19. This includes workforce nurturing through kindness and **compassion**, for example by demonstrating respect and being inclusive in behaviour and communication. Another example of compassion is where leaders address complaints in a compassionate manner, and reflect thoughtfully for all individuals involved.

Triangulating feedback with the Braithwaite et al. 5+9 model

The research team analysed the alignment between the Braithwaite et al. model and the feedback from RACMA member consultations on how they perceived the **future of healthcare**. RACMA member feedback was grouped into themes and compared to the Braithwaite et al. model to identify points of alignment and any additional sub-themes that could help guide literature analysis.

In the RACMA consultations, integrated care, patient-centred care, and preventative care were mostly discussed together, and related sub-themes of importance were cross-sector collaboration, care partnerships, and social determinants of health. RACMA members considered universal coverage to be closely related to healthier populations and better health literacy, and a related sub-theme that emerged was advancing equity, primarily through greater affordability and access. Information technology was often discussed with reference to quality assurance and standards, and additional sub-themes included assessing new technologies for ethical compliance, and ensuring appropriate clinical governance structures. Value-based care and reward systems were discussed with close reference to standards and policy, and an additional sub-theme was better funding systems that incentivise value of care rather than volume of care.

Synthesising feedback on medical leadership

RACMA member feedback was synthesised and grouped into themes by the authors. Key themes were derived about the roles, responsibilities, and skills of medical leaders considered important in shaping the health system of the future, which were distilled into seven broad areas:

1. Fostering trust, compassion, and kindness;
2. Consumer engagement and advocacy, particularly for marginalised groups;
3. Team-based, collaborative leadership, and involving stakeholders across sectors;
4. Innovation amidst complex and uncertain environments;
5. Planning in response to pandemic- and climate change-induced events;
6. Detailed knowledge of, and involvement in, governance and policy;
7. Technology and informatics skills to assess and implement digital health.

These broad areas were discussed with reference to various health system trends and strategies for improvement, but appeared to be robust in that they applied to the future of medical leadership across all trends and strategies specified in the Braithwaite et al. model.

Literature search results

Literature search 1: Future healthcare systems

A total of 97 articles were identified as meeting the inclusion criteria of this search (Table 1). Most of the articles were literature reviews, followed by discussion pieces and reports, and empirical research studies were the least common. Most articles were published in North America (63%), followed by Europe (27%), Australia (8%), and Asia (2%). Given the interrelatedness of the healthcare trends and strategies for system improvement (as identified in the Braithwaite et al. 5+9 model), many articles reported on more than one trend and more than one strategy. All articles found in literature search 1 are presented in Appendix 4.

Healthcare trends

The most common healthcare trend reported in the literature was **emerging technologies**. Articles reporting on this healthcare trend commonly focused on virtual care models⁶⁵ and **AI** and machine learning⁶⁶. Specific techniques and tools used related to clinical decision making⁶⁷, virtual reality⁶⁸, remote patient self-management⁶⁹ and novel data storage platforms⁷⁰. Increasing applications of technology were reported for a variety of health conditions such as diabetes⁷¹, mental illness⁷², neurological disease⁶⁸, and rheumatic disease⁷³.

New **models of care** was the second most frequently reported healthcare trend. Articles reporting on this healthcare trend discussed **virtual models** or clinics for remote patient monitoring⁷⁴, integrated care delivery frameworks within and across sectors⁷⁵, and recommendations for the use of telemedicine to manage a range of health conditions⁷⁶. New models of care for **genomics** were also discussed, encompassing workforce training in genetic counselling⁷⁷, in the pharmacy industry⁷⁸, and in the utilisation of technology for precision medicine⁷⁹.

Healthcare **sustainability** was discussed across a diverse range of areas and with reference to the United Nation's Sustainable Development Goals⁸⁰ and the World Health Organisation (WHO) targets⁸¹. Articles focused sustainability challenges in the context of **climate change** and extreme weather events⁸², equity in care delivery between and across populations⁸³, future healthcare for youth⁸⁴, and resourcing and funding needs⁸⁵.

Global **demographical dynamics** related largely to ageing populations and associated changes in disease burden⁸⁶. Changing **migration** patterns⁸⁷, the emergence of diverse racial groups⁸⁸, and considerations for equity in care delivery⁸⁹ were discussed in the context of globalisation and changing demographics⁹⁰.

Strategies for system improvement

Clinical and information technology was referenced most frequently in the literature as a strategy to drive health system improvement. These technologies encompassed virtual care modalities⁹¹, consumer-facing digital tools⁹², AI-driven decision support⁹³, and linked data⁹⁴. Technology usage was discussed closely with **patient-centred care**; digital health devices allow patients to become more involved in their care⁶⁷, enable patient-centred healthcare models driven by data⁹⁵, and revitalise patient-clinician relationships⁹⁶.

The second most referenced strategy for system improvement was **workforce development**. The majority of articles focused on building workforce capacity to deal with current and future healthcare trends, such as the genomics revolution⁷⁸, and to drive health system improvement strategies such as integrated care⁹⁷. Articles suggested improving multidisciplinary learning⁹⁷, interpersonal skills development⁷⁹, medico-legal training to help address systemic health inequities⁹⁸, supporting access to educational opportunities for trainee doctors⁹⁹, expanding training requirements for pharmacists⁷⁸, improving methods of educational assessment¹⁰⁰, and embracing workforce diversity¹⁰¹. A key theme was workforce shortages and strategies to address this including virtual learning and mentorship¹⁰², greater flexibility in employment arrangements¹⁰³, and maintaining competitive salaries for healthcare workers¹⁰⁴.

Integrated care was another highly referenced strategy for shaping system improvement. Integrated care models were proposed to foster cross-sector collaboration⁸⁵, promote community-based care over hospital-based care¹⁰⁵, and leverage multidisciplinary networks of experts to provide the right care to patients at the right time¹⁰⁶. Integrated care was also proposed as a means to improve **value-based care** by reducing duplication of services¹⁰⁷ and enabling lower cost services for patients⁷⁹. Several payment models were proposed that incentivise value over volume¹⁰⁸.

Integrated care was highlighted as key to promoting **equity and universal coverage**. Care coordination across sectors can improve identification and referral⁸⁵ and access to specialty services¹⁰⁶ for patients. Leveraging technology (e.g., telephone, video) in integrated care models can improve access to care for isolated and underserved populations⁷⁴. Several articles reported on systemic inequalities in healthcare provision that were worsened by COVID-19¹⁰⁹, such as for incarcerated populations¹¹⁰ and people of colour⁹⁸.

The importance of **regulation and standard-based care** was discussed primarily in the context of emerging technologies, including the need for responsible and trusted policy and governance frameworks¹¹¹. Funding provision and policies to better enable care integration were proposed¹¹², as well as policies and programs that support quality improvement¹¹³ and vulnerable populations such as the elderly¹¹⁴.

Preventative care was discussed as a strategy to manage increased health system burden in response to the challenges of climate change⁸² and COVID-19⁷¹, and articles advocated for use of digital tools to promote self-care and remote monitoring¹¹⁵. For **healthy population ageing**, integrated care models¹¹⁶ and consumer-facing education programs were advocated for chronic conditions¹¹⁷. Articles highlighted the need to address issues of equity for marginalised groups, such as Aboriginal and Torres Strait Islander Australians, to enable population health promotion efforts¹¹⁸.

it has been suggested that clinicians with an interest in leadership and management need to be supported to lead local transformation work⁹⁹.

Medical leadership competencies for the future

Medical leadership was typically discussed with reference to a set of **core competencies** that represent effective medical leaders. Core competencies were identified that underpin nationally accredited leadership training programs from professional organisations (e.g., AAPL, CSPL, FMLM, RACMA) and single-institution or local leadership training programs, as well as competencies that were discussed in relation to healthcare system improvement more broadly rather than in the context of medical leadership training. Selected medical leadership training models and frameworks are displayed in Appendix 6.

Self-development and self-awareness

Building self-awareness was considered the first developmental stage of leadership across a range of models, and was described as ‘activating’ the ability to demonstrate and apply knowledge into practice¹²⁶. Self-assessment (through personality and capability tests) was considered important at entry-level career stages, along with assessing and building emotional intelligence skills like empathy and creativity¹²⁷⁻¹²⁹. Understanding personal strengths, weaknesses, and strategies for progression or improvement was considered key to managing future challenges and remaining relevant and effective^{119,130}.

The AAPL emphasises self-management in terms of time management, focus of attention, and emotions; the CSPL emphasises self-development and character demonstration; the FMLM emphasises personal resilience, energy, and enthusiasm. In the CanMEDS 2015 Physician Competency Framework, self-regulation is considered as key to professionalism, in that it promotes career progression, quality in monitoring and assuring safety, and the ability to serve others. RACMA’s adapted CanMEDS 2015 Framework highlights self-awareness and self-regulation as important across many roles of a medical leader, including being a health advocate, scholar, manager, and communicator.

Consumer and community focus

Focusing on consumer and community needs incorporates shifts in thinking about care models and placing the patient at the centre of their care journey, empowering patients and families to participate in care and decision-making, focusing on society’s most vulnerable populations, and defending fairness and justice in care provision^{131,132}. Engaging with the public to build understanding and trust around healthcare transformations, and facilitating an ongoing dialogue with consumers is important in promoting scientific understanding and evidence^{133,134}.

Health advocacy is a core competency in the CanMEDS 2015 Framework utilised by RACMA, which articulates that key goals of medical administrators are to respond to the health needs of patients, populations, and communities that they serve, and identify the determinants of health for these populations. Additionally, RACMA’s Scope of Practice highlights that one of the core roles of medical leaders is advocacy and stakeholder engagement (Appendix 2). The AAPL promotes directing efforts toward individuals and communities to support the transition from volume-based to value-based care. The CSPL highlights the role of physician leaders in advocating for prevention and identifying determinants of health.

Triangulation of the Braithwaite et al. model, consultations and literature

The research team assembled all findings from five RACMA consultations and two literature reviews and organised the data in preparation for writing the Discussion section of this report. During this process, consultation feedback and literature were triangulated to compare findings across datasets, adding credibility to the construction of a rich, holistic and precise representation of the data in alignment with the aims of this report.

The future of healthcare

Primary areas of importance that emerged from the consultations and the literature, as related to the Braithwaite et al. model for the future of healthcare, are displayed in Figure 6. This information is also displayed in a table found in Appendix 7.

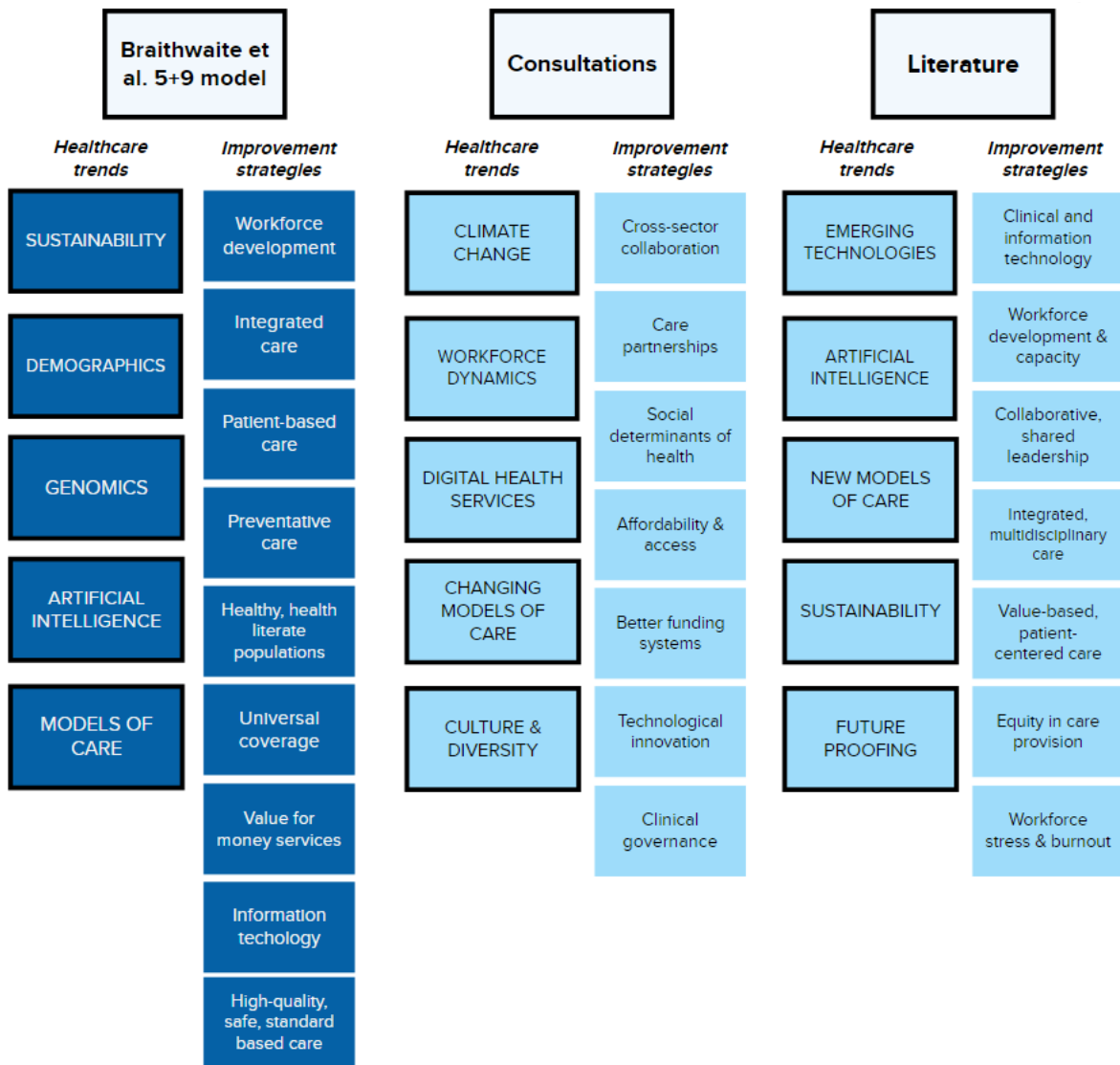


Figure 6. The 5+9 model and the primary themes that emerged from the consultations and literature in relation to the model

Medical leadership

Primary areas of importance that emerged from the consultations and the literature, as related to the Braithwaite et al. model for the future of healthcare, are displayed in Table 3.

Table 3. Overarching areas of importance for future medical leaders

Overarching areas of importance for future medical leaders	
<i>Broad areas identified in consultations</i>	<i>Broad areas identified in the literature</i>
<ul style="list-style-type: none">•Fostering trust, compassion, and kindness•Consumer engagement & advocacy, particularly for marginalised groups•Team-based, collaborative leadership, and involving stakeholders across sectors•Innovation amidst complex and uncertain environments•Planning in response to pandemic- and climate change-induced events•Detailed knowledge of and involvement in governance & policy•Technology and informatics skills, relating to the assessment and implementation of digital health services	<ul style="list-style-type: none">•Fostering emerging medical leaders through experiential and applied learning•Continuing self-development, self-awareness and growth•Focusing on consumer and community needs and engaging with the public•Proficiency in cross-boundary communication and collaboration•Digital health service knowledge, skills, and implementation•Innovation and adaptability to transform systems•Future proofing healthcare systems for upcoming challenges

Discussion

The purpose of this project was to identify and review the existing international evidence on the future of healthcare systems and to assess the role of medical leadership in driving future system improvement. Literature searches were conducted, and results were triangulated with feedback from RACMA members who were at various stages of their careers, to provide a comprehensive interpretation of the current and future role of medical leaders in Australia's healthcare system.

In what follows, firstly we comment on the growing complexity of health systems evidenced in the literature, and the need for adaptation and innovation in medical leadership. Secondly, we discuss the changing healthcare landscape, in terms of specific trends predicted in the next decade, as informed by the literature. Thirdly, we discuss the role of medical leaders in driving health system improvement across a range of strategies that have been deemed to be important to actualising system change.

As reflected in the literature, the complexity of healthcare is accelerating, and the importance of medical leadership is growing in parallel. Medical leaders will have increasingly challenging and varying roles and responsibilities within the changing healthcare landscape.

RACMA's FTP reflects the needs of the specialist medical manager in the complex, diverse and challenging nature of the Australian and New Zealand health systems, and is thus contributing to the medical landscape as it evolves. The competencies underlying medical leadership development in RACMA's FTP Curriculum and Scope of Practice were well supported in the contemporary literature for fostering patient safety, equitable care provision, financial responsibility, and public confidence in the care system.

Most of the literature on medical leadership focuses on the care provided within hospitals, or 'institutionalised' healthcare, and thus is reflective of only a subset of the roles occupied by RACMA Fellows (e.g., Chief Medical Officer, Director of Medical Services). As emphasised in RACMA's recently released Scope of Practice (Appendix 1), Specialist Medical Administrators in Australia and New Zealand work across a wide range of settings. Literature on medical leadership across settings, such as government, public policy, and information technology, was limited. Furthermore, much of the literature draws implications for 'healthcare leaders', rather than referring specifically to medical leadership.

However, what we have ascertained from reviewing the literature is that the competencies that a medical leader acquires, and *how* they apply these competencies within their role scope, are two separate but interrelated aspects of leading. The ways in which core competencies are demonstrated, strengthened, and refined are highly contextual, dependent not merely on role responsibilities and requirements, but the dynamic and often unpredictable healthcare environment^{62,147}.

Problems facing leaders are often not readily definable, and solutions are rarely straightforward. Health settings are complex adaptive systems, characterised by an array of diverse people and roles, interacting individuals navigating technologies, artefacts, networks, silos, and structures⁶². Ultimately, medical leaders will need to continuously apprehend what is important in moving health care forward, and to make decisions that achieve the operational and strategic needs of health services while delivering safe patient care and valued outcomes. The role of medical leaders is a formidable one, and one which is most effectively understood as being deeply enmeshed in a complex and ever-changing healthcare system – and requiring considerable depth of situational understanding, self-awareness, compassion and kindness, and skills in negotiating and making trade-offs where necessary.

A changing healthcare landscape

In the Braithwaite et al. 5+9 model, five overarching healthcare trends were identified in 2018 by policymakers, scholars, and experts from 152 countries, looking at their respective health systems and their projected successes to 2030. The trends identified were sustainable health systems, changing global demographics, new models of care, emerging technologies, and the genomics revolution. Since 2018, COVID-19 has had a massive effect on populations around the world; health systems became overburdened and economies were unable to thrive¹⁴⁸. The threat of climate change has increased, evident in mass flooding events and bushfires in Australia⁸². Of the five healthcare trends predicted in 2018, the literature demonstrated that COVID-19 and climate change have most influenced and threatened health system sustainability since then, and new models of care have emerged, enabled by technology^{82,149,150}.

The **sustainability** of health systems across many countries is now challenged primarily by workforce shortages and scarcity of financial resources, amidst public expectations for high quality care. Since COVID-19, workforce wellbeing has also been recognised as critical for health system sustainability. Healthcare workers have faced increasing workloads due to service surges since COVID-19, and due to the growing complex and chronic needs of ageing populations that require time, resources and support¹⁵¹. Excessive workloads, and the associated stress and burnout they bring, have been cited as the primary contributor to high staff turnover in health and social care organisations¹⁴². High levels of stress are linked to medical and nursing errors and patient dissatisfaction, threatening healthcare quality and patient safety^{29,87}. In order to be sustainable, health systems must be able to adapt to these pressures and enhance their workforce within a financially viable model^{62,64}.

Changing population dynamics are altering service demand across the world⁶⁴. Higher life expectancies and expanding ageing societies have resulted in a greater number of older adults experiencing a range of conditions including mental illness, physical deterioration and frailty, vision loss, advanced cancer, and other chronic conditions^{86,90,114}. Healthcare utilisation among ageing populations will not only increase, but will change, as future older populations will differ in terms of lifestyle, digital health literacy, and social networks¹⁵². High migration has created racially, culturally, and linguistically diverse populations, increasing the need to address social determinants of health and to identify and reduce barriers to healthcare^{83,153}.

New models of care are rapidly emerging to meet these increasing service demands and changing population needs. Integrated, team-based care models that aim to coordinate services around patient need have been widely proposed for holistic care provision that considers health and social care needs across health systems and sectors^{106,150}. Healthcare services are being restructured to incentivise value rather than volume of care¹⁵⁴, to reduce the gap between urban and rural care access (e.g., hub-and-spoke models)¹⁵⁰, and to shift the focus from acute care to primary- and community-based care¹⁰⁵. The expansion of telehealth services during COVID-19 has given rise to virtual care and hybrid care models that have improved access to care for many populations, but were associated with access barriers for populations of lower socioeconomic status and lower health and digital literacy^{68,155,156}.

Technological advancements have been formally recognised as critical for strengthening health system capacity toward meeting the United Nations' Sustainable Development Goals and commitments to universal health coverage¹⁵⁷. The expansion of virtual care services since COVID-19 has contributed to progress in achieving equity in care provision for rural populations, and mobile applications and web-based programs enable individuals to become more involved in their care (e.g., by reporting symptoms to providers)^{74,92,158}. AI has enabled the automation of routine processes as well as faster, and more patient-centred, decision making^{93,159}. Governing, integrating, and diffusing technological innovations are challenges that reshape system procedures and accountability mechanisms in the pursuit of quality health outcomes^{160,161}.

Genomics medicine is a rapidly developing field that is driving personalised patient care. New complex medical technologies, and reductions in their cost, are enabling innovative approaches to disease prevention and treatment that prioritises patient-informed decision making^{64,77}. Genomics testing has fostered innovative service delivery models as the need for genetic counsellors grows

across fields of medicine^{77,79}. The greater need for collaboration between medical specialties, education for those unfamiliar with genomic technology, defining data ownership and navigating patient communication, are issues that will need to be addressed¹⁶².

Building cultures of capacity

Healthcare systems and the services they provide are enabled by healthcare workers and their development, alongside the technology and tools they utilise to do their work. Without a fit for purpose workforce, and an effective human resources strategy driven by balanced and committed leaders, care and service provision will not be sustainable.

In a well-cited systematic review, Braithwaite and colleagues looked at the association between positive organisational cultures (non-toxic, productive, enabling cultures), and organisational and clinical outcomes. They found that having a positive organisational culture was squarely associated with better organisational and clinical outcomes¹⁶³.

Empirical literature has shown us that the healthcare workforce is challenged by fast-paced, stressful, and uncertain environments, and leadership plays a large role in strengthening their capacity^{137,145,164}. High levels of stress, exhaustion, and burnout among healthcare staff brought about by pressure, excessive workloads and pandemic and other burdens need to be addressed through systemic change rather than ad-hoc wellbeing initiatives that offer basic support¹³⁹.

There is abundant research on the importance of ‘transformational leaders’ in healthcare, to set an innovative vision and inspire others to achieve that vision^{126,165}. *Medical leaders* in particular are viewed as the key to transforming high quality clinical care. Many medical leaders ‘live and breathe’ enhancements to patient care, make sense of the complex environments and enact organisational strategies from a clinical perspective (i.e., “sense-making”)¹⁶⁶. Through their in-depth understanding of the way that clinical staff, and particularly doctors, work within organisations, medical leaders can influence the way that others make sense of and interpret their shared environments (i.e., “sense-giving”)¹⁶⁶. Through sense-making and sense-giving, with both their fellow non-clinician executives as well as their fellow clinicians, medical leaders can support improvements to the culture and performance of organisations.

The role of medical leaders in developing a fit for purpose workforce is multifaceted, but two issues stand out upon reviewing the literature on medical leadership in healthcare systems:

- 1) Medical leaders *need to be equipped* with the high-level skills required for their role, and nurtured through high quality professional learning and development;
- 2) Medical leaders *need to equip* their teams and those who look to them for support and guidance with the capacity to cope and improve; to do so they must mentor, coach, and motivate their medical and other clinical colleagues.

Adaptable and inclusive leadership

To succeed in a changing healthcare environment, medical leaders must also be adaptable, able to adjust to internal and external circumstances, pressures, or events. Recent empirical research has shown that when teams are encouraged to demonstrate agility, and are conferred or acquire sufficient agency to contribute to decisions, they are motivated to continuously improve

processes^{137,167}. Formalising avenues for team involvement in organisational processes, such as through creating platforms for regular reflection and feedback, can sustain shared accountability toward organisational change or improvement processes¹³⁷. Empirical research has shown that leaders who promote innovation and demonstrate openness to clinician input create environments best suited for implementation^{168,169}.

Research has also highlighted the importance of creating psychologically safe and inclusive environments, particularly when staff are beginning new roles, or assuming a range of new responsibilities¹³⁷. A recent systematic review found that leaders foster psychological safety through encouraging continuous quality improvement, actively listening and providing feedback, being a positive role model, and recognising their own impact on perceptions of psychological safety¹⁷⁰. Setting aside time for regular meetings or workshops that encourage feedback sharing is also an opportunity for leaders to demonstrate their own accountability, be transparent about outcomes, show honesty and vulnerability, and commit to change or areas of improvement where indicated¹¹⁹. Creating such platforms can help staff to understand medical leaders' roles in the organisation, to associate them with a supportive figure, and to build a trusting relationship³⁵.

Several discussion pieces in the literature discussed the importance of compassion in leadership. Elevating the voice of staff helps them feel valued, cared for, and respected, and allows leaders to better understand the cognitions and motivations that underlie engagement in work, so that conditions can be created that foster optimal outcomes for staff wellbeing^{119,142}. By embracing diverse experiences and perspectives, and communicating in a clear and transparent manner, leaders can foster an inclusive and collaborative workplace culture that drives team cohesion and trust¹⁷¹. There is some research demonstrating that compassionate cultures are related to improved patient outcomes¹⁶³, but empirical research on compassion in leadership, and particularly in medical leadership, is needed to further understand how it can be developed.

Fostering emerging leaders

As the most senior licensed clinician in terms of training, knowledge and expertise, doctors are often expected to act as leaders within their clinical role, even though basic medical education leaves many doctors feeling unprepared for leadership³⁴. Many doctors have attributes essential to healthcare leadership, including skills in the use of evidence to inform decisions, and being accomplished at organising, and coordinating the delivery of high-quality care^{28,123}. Nevertheless, the transition from doctor to medical leader is a challenging one, as mindsets shift from independent treatment-focused thinking to interdependent systems thinking^{127,129}. An important role of medical leaders is to identify other doctors who have latent leadership potential and develop either a formal or informal mentoring or coaching relationship with them^{31,127}.

Empirical research has examined the interface between clinical training and leadership training to identify the best methods to develop medical leaders. Experiential, practice-based learning has been shown as most effective in developing medical leadership skills, providing opportunities to apply clinical knowledge to organisational decisions, address challenges, and receive feedback^{126,172}. Field reports of leadership development programs have shown that mentors enhance the performance and learning of their mentees by prompting them to reflect on their strengths and weaknesses and improve practices, using techniques such as motivation, effective questioning, and constructive feedback^{128,129}. Mentoring within medicine has traditionally been conducted informally, individually,

or in small craft groups, but the increasingly expanding role scope of medical leaders warrants the formalisation of mentoring as a leadership development tool for capacity building¹²⁷.

Medical leaders are well placed to facilitate the involvement of their medical colleagues in strategic decision-making and make sure the voices of their clinician colleagues are being heard. Often this involves having medical leaders on boards to formally represent the voices of doctors, but it is also about medical leaders being approachable, willing to listen, and being inclusive of others' opinions^{28,129,170}. Inclusive leadership also involves identifying and investigating behaviours that impede an inclusive culture, including racism, bullying, or harassment, unprofessional behaviours and unwarranted or hurtful power plays and politics. It is challenging to overcome these, and to create optimal environments for colleagues to flourish¹⁷³. However, by 'walking the talk' and acknowledging the value that diversity brings to patient care and communities being served, medical leaders can be a role model for others, and promote equality and inclusion as core values for future leaders^{173,174}.

Leading new models of care

Integrated care

Integrated care is a complex innovation in health and care service delivery that is inherently people-centred, joins up disparate parts of healthcare, and can improve care quality and cost effectiveness⁶. Integrated care is a necessary response to the fragmented activities of care delivery that occur "in small disconnected applications, yet they interfere with each other"¹⁷⁵. Countries around the world have identified the integration of healthcare services as necessary to stop patients from falling through the cracks, manage chronic disease burden and deal with excess waste in healthcare systems⁶⁴. From many examples: in Canada, interventions that connect primary care providers and nephrologists to support kidney disease management are being trialled⁷⁵, and demonstration trials in the US are developing emergency department pathways to palliative care⁹⁰. In Australia, Western Sydney Diabetes connects community health services, general practice, specialists, hospitals, and allied care to create comprehensive, integrated diabetes services for communities in diabetes 'hot spots'¹⁷⁶.

Achieving more integrated care is difficult because healthcare systems are comprised of different sectors, distinctive tribes, discontinuous group behaviours, silos, and different system levels¹⁷⁵. Over a decade ago, the National Health Service (NHS) commission on management and leadership concluded that for integrated care to be successful, the 'superhero' leader needs to be replaced with multiple influential actors who 'share' leadership¹⁷⁷. This is also known by other terms, e.g., distributed, joint, mutually-beneficial, or collaborative leadership. The ability to cooperate across a wide range of bodies inside and outside the NHS, for example, and effectively influence others across boundaries, are leadership skills deemed different from those of the past. This is no less the case in Australasia. Instead, shared leadership requires the skills to work collaboratively across disciplines and organisations. According to this conceptualisation, leadership is not about personal competencies or styles, but is centrally about "us" rather than "me" in organisational practices and interventions¹⁷⁸.

At its core, integrated care aims to fulfil the Quadruple Aim of improving population health, the experience of receiving care, the experience of providing care, and reducing the costs of care¹⁹. To

fulfill these aims, research has pointed to the importance of leaders embracing quality improvement as a primary part of their work¹⁷⁵. Forms of distributed leadership, such as multidisciplinary ‘communities of practice’, can promote collaboration to improve care quality and safety and can also improve service outcomes¹⁷⁹⁻¹⁸¹. The effectiveness of ‘leadership networks’ demonstrates that quality improvements typically result from the accumulation of many small and subtle changes in care from frontline teams and leaders, rather than rigid impositions from higher in the hierarchy^{151,182}.

Medical leaders need to understand the benefits and methods of embedding continuous quality improvement within organisational culture. This can be achieved through ‘networked’ or distributed leadership arrangements as described above, instilling a culture of shared responsibility and developing a collective mindset about organisational goals^{137,183}. Research on high-impact leadership behaviours towards achieving the aims of integrated care has highlighted the importance of person-centredness, front-line engagement, relentless focus, transparency, and boundarylessness (Table 4).

Governance and policy must align with the objectives of quality improvement, so that performance is incentivised toward improvement processes and goals¹⁸⁴. It has been suggested that given the social standing and credibility of medical professionals, they have greater ability to influence the decisions of local and national policy makers^{22,185}. Medical leaders can aim to leverage their influence and advocate for the necessary funding and resourcing to achieve the strategic goals of quality improvement initiatives. There is a relative lack of research examining the influence and involvement of medical leaders on policy decisions, which should be a focus for future research.

Table 4. Behaviour of leaders in healthcare organisations

Person-centredness	Frequent interaction with patients and families in daily routines (e.g., participation in rounds, discussing results in terms of patients)
Front-line engagement	Establish an understanding of the work at the front lines of care—being visible and building trust (e.g., asking questions, sharing concerns, engaging in problem solving)
Relentless focus	Creating focus and urgency on high-priority efforts by framing the vision and strategy
Transparency	Forcing transparency in, e.g., results, progress, aims, and defects as a catalyst to create understanding for change and thus functions
Boundarilessness	Establish a culture open for change and innovation (e.g., deliver health services across the continuum and person centered)

Source: Swensen et al. (2013) in Amelung et al. Leadership in integrated care

Interdisciplinary collaborative leadership

Although there has been limited empirical research into cultural subsystems, it has been widely suggested that sharing leadership can present a threat to professionals who strive to ‘protect’ their own profession¹⁸⁶. Perceptions of clinical autonomy or ‘territorialism’ can hinder information and knowledge exchange, inhibiting the principles of integrated care¹⁸⁷. Medical professionals in particular have a complex set of localised and informal ‘rules’ embedded in their culture which has led to a strong focus on preserving the status of the profession^{62,123}. Medical leaders run the risk of reinforcing siloed practices if they do not move beyond their own profession or specialty and prepare to lead with others¹¹⁹.

It has been proposed that integrated care can only be achieved through ‘boundary spanning’ to gain input from others^{137,175}. Medical leaders must be more able to stimulate and facilitate ongoing dialogue with leaders across organisational boundaries, cooperate with government, universities, community, voluntary, and social care sectors, negotiate to reach consensus on decisions and resolve conflict¹⁸⁸. Leaders must be able to embrace rather than resist uncertainty, by leveraging their networks of expertise and proceeding by trial and error when solving complex problems^{62,166}.

Value-based healthcare

Differences in funding models and payment mechanisms present a major barrier to integrating care across disciplines and sectors. Countries such as the US, the UK, and Germany, have been increasingly experimenting with value-based payment schemes that incentivise providers to address factors of main concern to patients¹⁸⁹. In Australia, implementation is still in its early stages, with funding models (e.g., pay-for-performance) having been trialled with little success¹⁹⁰.

Identifying the right payment mix to finance integrated health and social care has proven to be challenging, and some research has shown that value-based models initially increase costs as unmet patient needs are uncovered¹⁹¹. Payment and reward systems that encourage care coordination can be difficult to design and implement, particularly if these changes disrupt routine care processes¹⁹². Findings from Europe have shown that instilling a value-based healthcare culture among providers can support its implementation¹⁹³, and Australia recommends strong executive and clinical leadership to facilitate changes within and across providers¹⁹⁰.

Empirical research from Sweden on value-based healthcare initiatives has shown that implementation requires leadership with power of decision^{169,194}. Both management and leadership skills were needed to demonstrate perseverance and continually generate new approaches to value-based systems of working¹⁹⁴. Knowledge of IT system support and quality measurement and evaluation were critical to implementation, along with the ability to deal with organisational complexity¹⁶⁹. Medical leaders can effectively garner widespread support from clinicians in embracing value-based care^{169,194,195}, and the development of learning communities could help to promote shared understanding of care pathways and the factors that impact health outcomes¹⁹⁰.

Value-based care is an area for medical leaders to develop new professional competencies to advocate for, design, and implement value-based care models. A strong understanding of finance, and business acumen, will be needed to design and implement systems to reward providers for better health outcomes, and to collaborate with finance leaders where necessary²⁸. To advocate for the resources needed to implement and evaluate value-based care, medical leaders must understand why and how it will benefit individuals and communities.

Technology- and data-driven care

Emerging forms of clinical and information technology have revolutionised and permanently changed the healthcare landscape. Digital health has transformed record keeping, data and information sharing, and patient-centred monitoring through increased use of ICT¹⁶¹. AI and machine learning enable real-time or next-to-real-time support for decision making, and are being applied as clinical, operational, and financial healthcare solutions⁶⁶. Virtual care models incorporating sensor-based technology and virtual reality are becoming more common, and will drive personalised and patient-centred care^{68,160,196}.

Digital health service adoption and implementation must be conducted by those who understand medical practice, and the clinical reasoning that comes with patient care. Medical leaders will play an important role in assessing and implementing digital health innovations, as well as the governance structures around digital health¹⁹⁷. In addition, decision making will become increasingly data based. The ability to identify and understand variations in care, develop guidelines and care pathways to improve care, and transparently communicate risks and opportunities to teams, will depend on the extent to which digital health is embraced, analysed, and understood^{115,175}.

Recent research has conceptualised leadership attributes in the context of digital health services as behaviours, roles, and qualities that facilitate social change (Figure 7)¹⁹⁸. Attributes of leadership behaviour include being visionary and innovative, and standing behind the implementation of digital health services. Leaders need to provide a supportive culture for staff, adopting collaborator, communicator, and informer roles, which involve addressing and managing concerns around the process of change, and communicating clear goals about IT adoption^{199,200}. In this way, leadership around digital service implementation can be considered a largely social process, where medical leaders drive change in the thoughts, feelings and behaviours of individuals and teams around them¹⁹⁸.

Skills and competence in using IT are key to enabling the leadership attributes needed for digital health service delivery. Clinical leaders who possess technical health IT skills are more likely to incorporate IT into process and quality improvement in the long-term, develop partnerships with IT professionals, and drive better organisational and clinical outcomes²⁰⁰. Education and training on informatics skills and effective interpretation of data can build the confidence necessary to articulate and communicate a vision for integrating digital health services into everyday processes²⁰⁰. Leaders must be proactive, adopting a decision-maker role to establish governance structures and appoint frontline clinical champions²⁰⁰.

An often-neglected challenge surrounding digital health services is considering the accessibility of these services to consumers. Benefitting from these services requires access to appropriate technology and internet connection, as well as possessing the necessary digital and health literacy to use them¹⁵³. Recent literature has highlighted the 'digital divide' among consumers arising from socioeconomic inequities that prevent access to digital health services, disparities which were made strongly evident during COVID-19^{83,156}. For example, access to telehealth solutions for stroke care (including tele-stroke and tele-rehabilitation services) is limited among Aboriginal and Torres Strait Islander Australians, an issue that is slowly being addressed in new virtual models of care¹¹⁸. Recent research has also identified telehealth access challenges for Māori people, the indigenous people of New Zealand, including lack of access to telehealth software and resources and communication and literacy barriers, contributing to health inequities in New Zealand²⁰¹.

These disparities have emphasised the need for strong advocacy for excluded populations, and clinical leaders, through their ability to influence social change, can advocate on behalf of clinicians for greater equity in care provision²⁰². Medical leaders play an important role in developing and implementing strategies to identify disparities in access to care, including advocacy for policy that accounts for and supports vulnerable populations, which begins with having a broad understanding of societal needs²⁰³. Medical leaders can also develop community partnerships that facilitate access

to culturally and linguistically tailored resources for marginalised groups, and utilise ‘social prescribing’ to improve social connections for people with access challenges^{118,153,156,204}.

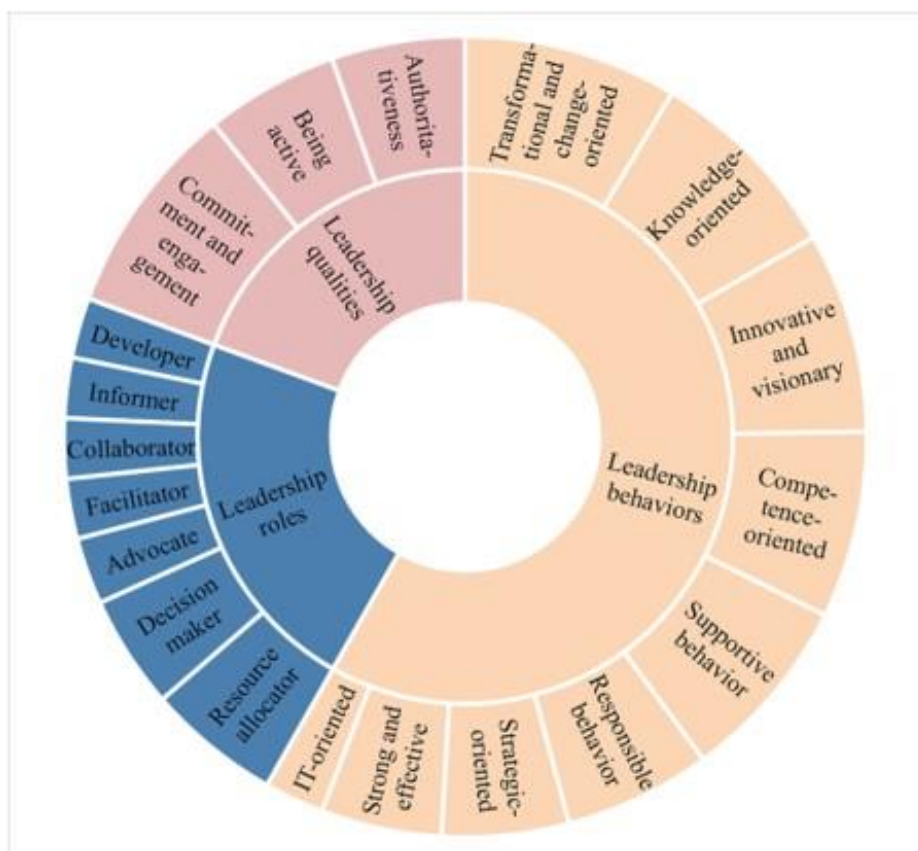


Figure 7. Attributes of leadership in the context of digital health services (Laukka et al., 2022)

Genomic testing

Genomic testing is an example of a new ‘disruptive’ technology that requires clinical leadership for its benefits to be fully realised^{164,168}. Empirical research has demonstrated that senior clinical leadership is important for “pushing ahead on all sorts of fronts”, communicating the value of genomics, promoting open-mindedness around new complex technologies, and risk-taking in funding investments, particularly in these early stages of genomics integration¹⁶⁸. Advocacy from senior clinical leaders about genomics applications for patient care prompts the engagement and learning of others through social influence, and incentivise a wide range of clinicians to become involved in genomics practice by setting organisational priorities that include genomics¹⁶⁴.

Empirical research has also shown that ‘bottom-up’ clinical leadership is crucial, which can threaten the traditional hierarchical leadership model in medicine¹⁶⁸. Clinicians must have a sense of ownership of genomics in order for it to succeed, and early career medical practitioners across clinical genetics, neurology, immunology, and other specialties will be important for catalysing momentum in this space. Due to the unique ethical issues around genomics testing and communicating results to patients, both formal and informal leadership need to be distributed across specialty areas to connect clinicians with one another, optimise knowledge sharing, and ensure appropriate considerations are made^{164,205}. Cross-disciplinary leadership is needed to create thoughtful governance structures and guidelines around genomics testing²⁰⁶.

Rules and governance

Care paradigms and models need governance structures that define the roles and responsibilities of stakeholders to support health system goals and navigate patients through the system¹⁷⁵. Governance structures include healthcare policy (macro level), healthcare provision (meso-level), and direct patient care (micro-level), and it is the complex role of leaders to ensure patients and communities receive the right care according to legal and ethical standards¹⁷⁵.

Governance and accountability processes need to be adaptive and responsive to the changing healthcare landscape. Clinical governance in Australia, the UK, and New Zealand is defined as “a systematic and integrated approach to ensuring services are accountable for delivering quality health care”²⁰⁷. The primary aims of clinical governance are improving care quality and safety, ensuring accountability, and monitoring performance, and commonly are formalised through the creation of multidisciplinary clinical boards²⁰⁸. There is a relative paucity of literature on the specific role of medical leaders in clinical governance, but there is literature that highlights the importance of involving multiple professional and clinical groups in the oversight of patient safety and clinical risk^{208,209}. Another observation in the literature was the emphasis on oversight for increased risk in specific population groups, such as Aboriginal and Torres Strait Islander Australians¹¹⁸, and other marginalised groups facing long-standing systemic inequalities¹⁰⁹.

Digital health ethics and governance

In the recent literature, governance was mostly discussed with reference to digital health, including AI, and its implications for the oversight of care processes. Some of the challenges reviewed were associated with the ambiguity between sensitive and non-sensitive health-related data, the lack of safeguards (e.g., informed consent) around digital health tools, unclear ‘ownership’ of data, and consumer understanding of managing their own health^{160,210}.

Regulatory frameworks have attempted to mitigate risk, such as the General Data Protection Regulation in the EU, but it is unclear how these issues will play out in practice and account for global variability in digital health platforms^{89,160}. There is a need to define roles and responsibilities around accessing, interpreting, and making decisions upon health data, decisions which must involve all stakeholders affected by digital interventions as well as those who resource them^{87,160,196}.

In Australia, AI ethics and assessment is front of mind for clinicians, managers, and decision-makers, and researchers alike, particularly since the “public arrival of large language models (LLMs) such as the generative pre-trained transformers (GPTs) in ChatGPT”²¹¹. Although clinical colleges and organisations have developed frameworks to help manage legal, ethical, and regulatory issues, there is no national framework to govern the use of AI in the healthcare workforce²¹¹. The Australian government’s Artificial Intelligence Ethics Framework is a voluntary framework for the application of ethical principles to the development, implementation, and testing of AI, and has been used by companies across Australia²¹². While some research explored key considerations and practical implications for the development, use and evaluation of AI²¹³ (Appendix 8), there is a paucity of research on the role of medical leaders in this process, a very important research gap to be filled in future efforts.

Developing objectives and indicators to monitor and evaluate the effectiveness of digital health services in the context of health system goals highlights the higher standards of accountability that

clinicians and leaders will need to prepare for^{161,209,214}. Research emphasises the importance of frontline clinicians having a ‘seat at the table’ to ensure realistic approaches to digital health implementation that are acceptable to those delivering the service^{199,215}. Equally important is that interventions are acceptable and valuable to those receiving care. Systematic measurement of patient-reported outcomes and experiences can provide these insights and identify service gaps, and patient involvement in governance structures can promote better care quality and patient experience^{216,217}.

‘Soft governance’ approaches have been proposed which focus on partnerships and trust-building over top-down regulation and punitive action^{218,219}. These approaches emphasise ‘soft skills’, such as relationship building, emotional intelligence, and communication, to understand the needs of others, and identify skillsets that can propagate organisational goals^{220,221}. Defining a basic set of shared values and a common sense of purpose is a good starting point for leaders in developing guidelines and policies that support better and more integrated care provision^{137,141}. Empirical research is needed to measure the impact of new governance structures that emerge in the era of integrated, value-based, and data-driven care.

‘Soft’ medical leadership in English primary care

A qualitative study explored the extent to which managers and leaders in English NHS primary care (primary care groups and primary care trusts) exercise governance similarly to the concept of ‘soft governance’ as defined by scholar David Courpasson. Some key findings from this exploration were that encouraging GPs to adopt self-imposed targets resulted in greater transparency in documenting clinical decisions when compared to imposing individual rewards and penalties, which contributed to peer pressure and comparison.

Source: Sheaf et al., 2003

Leading through times of uncertainty

Future proofing health systems

A strong focus of the literature over the last three years was on highlighting lessons learned from COVID-19 and future proofing healthcare delivery^{73,222,223}. Much of this research discussed the need for innovative models of care that can improve service access, and the workforce development that would be required to meet this need^{77,103}.

Recent empirical research investigated the actions and processes of medical and organisational leaders in developing a new model of care in response to COVID-19¹⁴⁵. Distributed leadership, where decision-making is shared across clinical and professional groups, enables thoughtful planning and response. Challenges have been encountered when different clinical teams were focused on *their own* departments, contributing to less effective communication, and hindering progress toward the overall goals of model development¹⁴⁵. Other research proposes a framework for ‘leadership in chaos’, where leaders can rapidly create order and promote resilient system performance in time critical crisis situations (Figure 8)²²⁴.

COVID-19 also magnified the importance of strong operations planning. Leaders must reflect on the nature of disruptions that have occurred within their contexts, and anticipate those that could

potentially occur in future¹⁰⁴. Workforce recruitment and training must be geared to prepare for potential staff shortages, particularly in settings where critical operations need extensive support¹⁰⁴. One article advocated for an iterative approach to operations planning, involving clinical teamwork to make rapid decisions followed by continuous review and refinement¹⁴⁴.

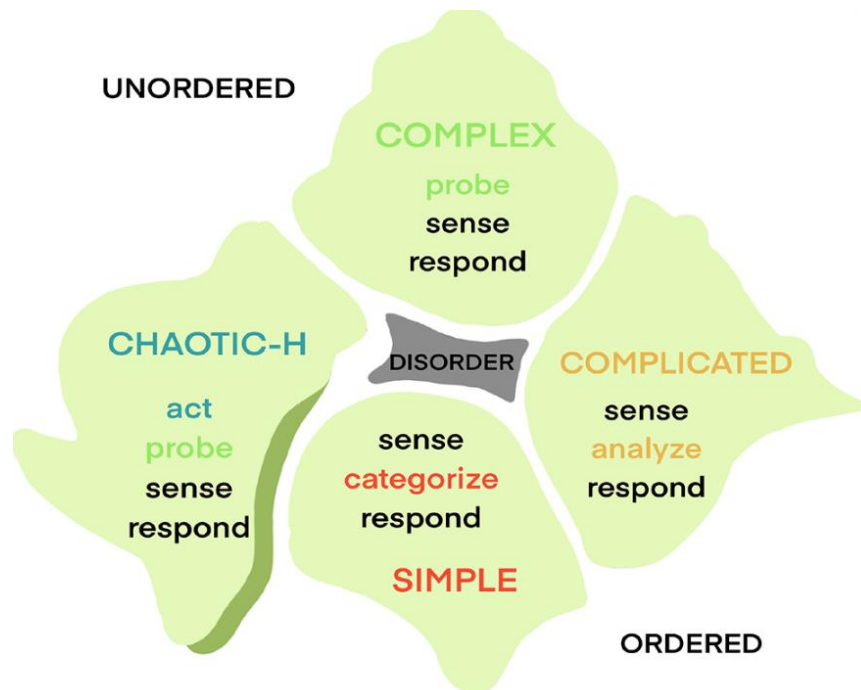


Figure 8. Adapted CYNEFIN sense-making framework proposing an act-probe-sense-respond approach for healthcare leaders and their teams to imminently manage chaos and complexity (Lane et al., 2021)

The literature also highlighted that building resilience in healthcare systems is critical to mitigate climate risks^{149,225}. Greater frequency and intensity of extreme weather events, such as bushfires and floods, put pressure on the health and social care systems, giving rise to new diseases and exacerbating existing illnesses^{82,149}. To strengthen the resilience of health and social services, the United Nations Sendai Framework for Disaster Risk Reduction 2015-2030 specifies four priorities²²⁶:

1. Understanding disaster risk;
2. Strengthening disaster risk governance to manage disaster risk;
3. Investing in disaster reduction for resilience, and;
4. Enhancing disaster preparedness for effective response, and to "Build Back Better" in recovery, rehabilitation and reconstruction.

These priorities represent an opportunity for structural changes to healthcare that prioritise preventative care for non-communicable diseases and mental health, and that reduce the carbon footprint of healthcare through identifying and reducing wasteful care, transport, water, and energy consumption⁸². These principles should be widely incorporated into organisational policies and governance structures, and medical leaders need to understand how to advocate for these changes both within and outside their working environment²⁰³.

Within institutional healthcare, medical leaders play a key role in the strategic planning and implementation of care delivery that accounts for changing patterns of illness expected as a result

of both COVID-19 and climate change. This planning needs to consider not only responses to acute events but also address long-term changes that can build health system resilience. On behalf of all clinicians and the communities they serve, medical leaders can advocate for the transition to renewable energy across healthcare facilities, and other actions toward decarbonising healthcare¹⁴⁹. It has been argued that part of medical professionals' 'social contract' is to reduce wasteful spending, and leaders in the medical profession need to catalyse policies that accelerate waste reduction and improve public health²⁰³.

Learning from everyday success: Safety-II

Despite its complexity, the healthcare system is resilient to a large extent, succeeding more than failing, and we must learn from what goes right rather than focusing exclusively on 'finding and fixing' errors¹⁶. This approach has come to be called Safety-II, where the focus is on enabling things to go right more often, and appreciating the resilience of everyday health system performance. Medical leaders can promote resilience by learning from performance variability to identify when care is delivered well, and understanding what, how, and why things go right amidst difficulty and complexity²²⁷.

Key to the paradigm of Safety-II is to facilitate the flexibility and adaptability of teams, and actively foster cultures of capacity (as discussed in an earlier section of this report). Of particular importance for leaders is to foster psychological safety within teams. For medical leaders who work closely with doctors, who can often feel stigma in admitting their own limitations, compassion and empathy can empower and inspire trainees²²⁸. Promoting staff mental health and wellbeing by striving to understand their challenges and working *with them* to deliver high quality care and outcomes can help to promote staff and workplace resilience¹⁴¹. Importantly, 'over-managing' can restrict the adaptive capacities of teams; instructions should be limited to "minimum specifications" that allow degrees of flexibility and adaptability²²⁹.

Research has shown that equity is often lost during and after times of crisis, and should be a core focus of building health system resilience²³⁰. Indeed, the reviewed literature demonstrated that systemic inequalities in healthcare provision were worsened by COVID^{98,109,110}. For example, COVID-19 disproportionately impacted rural, remote, and indigenous communities⁸⁵ and people of colour and low socio-economic status⁹⁸. Research from New Zealand found that the 2020 COVID-19 lockdown disproportionately impacted health services access for Māori people compared to non-Māori people^{201,231}. Strong medical leadership is needed to advocate for marginalised groups to ensure that they are identified, and that their needs are understood and addressed. Keeping a strong focus on equity during times of crisis is included as a key component of leadership and governance in a recent review of health system resilience (see Appendix 9).

Consumer engagement and advocacy

In times of uncertainty, there appears to be a greater need for leaders to engage with consumers and manage public expectations. Although there was a lack of recent empirical research found focusing on the role of leadership in consumer engagement, various grey literature sources and reports pointed to its critical importance.

During times of changing need and care, consumers need to be provided with access to the information they seek, and have a platform to engage with leaders on the issues that are important

to them¹³⁴. Consumers must be able to trust messages coming from health leaders, whether these messages are about individual care or about healthcare system changes¹⁴⁸. The growing impact of personalised care on public expectations could present challenges within under-resourced public health systems, and opportunities to consult with consumers to build a shared understanding should be fostered^{123,216}. While there is little empirical research on the role of medical leaders in public engagement strategies, there is research on the importance of considering contextual and cultural definitions of health when working with consumers²³².

Medical leaders can seek to address and manage expectations through disseminating, through various communication channels, evidence-based information about healthcare. This is important because patient expectations can affect their healthcare outcomes, and when expectations are unrealistic, they must be managed in an appropriate way^{233,234}. Public health messaging into the future will also need to empower individuals to manage their own health^{115,158}. 'Fake news in the media' can threaten informed decision-making, and leaders in particular play a key role in promoting evidence-based understanding and have "an obligation to defend the truth"¹³³.

Health literacy is key to health optimisation; it has a strong impact on perceptions of illness and healthcare-seeking behaviour. Medical leaders should advocate for dedicated resources to support the development and delivery of tools and training around health literacy¹⁰⁷. Recent research has shown that health literacy can impact the cost of healthcare²³⁵, such that lower health literacy comes with a cost. It also needs to be understood that the resourcing required in one environment could differ markedly to that required in another, depending on the level of disadvantage associated with that specific locale. Medical leaders can be system advocates for individual consumers and communities, taking into consideration context-specific needs.

Education and training for the future

Rapidly emerging healthcare trends and areas of change present immense opportunities for medical leaders to create positive change in health systems. The role of leaders and managers in healthcare is evolving and expanding to meet changing priorities and challenges at the health system level, organisational level, and individual level^{28,63}. The skills and knowledge imparted in training programs must build strength and capacity to meet expanding role scopes.

The principles of system complexity

Health systems are growing in complexity, and will "inevitably flex and adapt in the face of constant change and shifting pressures"⁵². Medical leadership education should encourage deeper understanding of complex adaptive systems, their interacting components (e.g., stakeholders, funders, patients), and variability of behaviours that can emerge from these interactions⁶². Leveraging complexity thinking allows for local insights into change and improvement, promoting solutions that work for specific contexts⁶¹.

Rather than having comprehensive knowledge of all the strategies to drive health system improvement, leaders can benefit from a 'toolkit of competencies' to allow them to innovate amidst the varied situations of complexity they find themselves in. The system is going to change in often unpredictable ways, and medical leaders must be flexible and understand how to adapt the core competencies across their changing role requirements. Braithwaite (2018) outlines complexity-

oriented enablers for managers and improvement teams to help them “adopt a new mental model” for navigating health systems (Table 5).

Table 5. Complexity-oriented enablers and insights (Braithwaite, 2018)

Enabler (what to do)	Insight (why to do it)
Model the system’s properties	Systems diagrams and models, computer based or hand drawn, can illuminate the dynamics of the system
Use multimethod research and improvement techniques	Randomised controlled trials or single method data gathering approaches rarely expose sufficient dimensions of complex problems
Appreciate less is more in interventions	Resist aiming to control the system through improvement strategies, projects, and change initiatives: spend more time learning about the effects of interventions than obsessing about intricate designs
Leverage complexity thinking	Immerse local teams in complexity science and systems thinking
Focus less on the individual and more on the system	It’s much harder to change individuals—seek instead to nudge or perturb the system
Develop and apply feedback to people involved at every opportunity	Change and improvement is a set of feedback loops, not an event or a linear process
Look for things going right as well as those going wrong	This promotes a more balanced view of the system

Source: Braithwaite (2018)

Enhanced skill-sets

To enable medical leaders to embrace the evolving healthcare landscape, enhanced skill-sets in the following areas are of particular importance.

Digital health, including AI, have markedly changed the healthcare landscape, presenting opportunities for medical leaders to shape healthcare delivery in this area. Digital health services need careful and ongoing evaluation and management, including their impact on clinicians and staff, routine services, and most importantly, patients. Digital health is multifaceted and includes clinical informatics, digital health governance, performance measurement and analysis, patient experience and outcomes, and enabling equitable access. Its use and introduction has important implications for the introduction of new technology and clinical governance.

Clinical governance requirements and considerations have broadened, requiring in-depth knowledge and understanding of accountability within healthcare systems. Medical leaders are central to upholding clinical governance principles as they relate to implementation and evaluation of digital health, new technology and models of care, risk management, workforce, clinical practice, and consumer partnerships.

Value-based care knowledge and skills will be increasingly required as the focus for designing and managing of health systems shifts from volume to value-based care. Enhanced skills to inform value-based care include funding models design, health economics, quality evaluation, and advocacy for value-based care.

Research and innovation in public health and health services is needed to prepare healthcare systems, as well as greater evidence-informed policies and decisions²³⁶. Enhanced skills in the

design, implementation, and evaluation of clinical research programs that utilise multimethod research and improvement techniques in collaboration with medical colleges, universities, and other agencies⁶¹ are valuable for medical leaders to inform development and monitoring of patient centred models of care.

As discussed in an earlier section of this report, rather than focus exclusively on ‘finding and fixing’ errors, medical leaders should be trained to additionally focus on what goes well, and enable the protective factors that contribute to **health system resilience**. Developing resilient capacities across different healthcare contexts is a potential future focus for medical leadership training²³⁷.

Conclusion

The future of healthcare holds opportunities and challenges, both of which medical leaders must navigate. Whilst there are core competencies that medical leaders should acquire, their roles are deeply enmeshed in a complex and ever-changing healthcare system. Medical leadership competencies will need to be geared toward learning how to deal with the ambiguity of an uncertain future, and continuously apprehend what is important in moving health care forward.

To enable adaptation to increasing health system complexity, medical leaders should strive to facilitate cultures of inclusivity and compassion and equip their teams with the capacity to cope and improve. The opportunities and challenges of new care paradigms will be best navigated with collaborative leadership that breaks down professional silos, transparent communication, advocacy for consumers and vulnerable communities, and proactive, innovative approaches to quality improvement.

Education and training opportunities must reflect the diversity of roles occupied by medical leaders now and into the future. RACMA has contributed to the medical landscape as it has evolved, and is well positioned to advocate for the unique role of Specialist Medical Administrators into the future. Based on a solid foundation of literature, and wide consultation with RACMA members, this document outlines key areas of importance that can feed into the next generation of thinking about medical leadership.

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