

Universal Coverage, Divergent Designs: A Comparative Review of Health Economics Models of NHS UK and Medicare Australia

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Abstract: *Universal healthcare systems are under mounting pressure from demographic change, technological advancement, and fiscal constraints. This narrative review compares two high-performing health economic models—the United Kingdom’s National Health Service (NHS) and Australia’s Medicare, each grounded in distinct philosophical and structural foundations. This review analyses their respective funding architectures, cost-effectiveness, and sustainability challenges. The NHS operates a taxation-funded, vertically integrated system with a £185.8 billion budget, while Medicare Australia combines a 2% levy with widespread private insurance, covering 46% of the population for inpatient care. Despite similar demographic pressures, Australia ranks higher (1st vs. 3rd) in the 2024 Commonwealth Fund assessment. The NHS benefits from monopsonistic cost control but faces capacity constraints; Medicare’s hybrid design offers flexibility yet raises equity concerns. Both systems have pursued major reforms since 2015, including the NHS’s Integrated Care Systems and Australia’s expanded bulk-billing incentives. The COVID-19 pandemic accelerated digital health adoption, with telehealth consultations surging to over 30% of total usage at their peak. Long-term sustainability in both systems hinges on addressing aging populations, chronic workforce shortages, and the need to redesign service delivery beyond financial solutions.*

Keywords: *Health Economics, NHS, Medicare Australia, Universal Healthcare, Health System, Sustainability*

1. Introduction

Global universal health-care systems are now confronted by the combined pressures of ageing populations, rapid technological change, and shifting public expectations. Addressing these pressures requires a thorough reassessment of both the business models and the underlying operational structures of these systems. The National Health Service (NHS) of the United Kingdom and Medicare Australia exemplify two distinct yet both effective models of universal health coverage, each grounded in different public-service philosophies, levels of private-sector engagement, and federation designs.

Since its inception in 1948, the NHS has championed a model of comprehensive care funded exclusively through taxation, with no out-of-pocket fees at the point of service. This design has served as a prototype for the steady expansion of financed healthcare systems worldwide [1]. Medicare Australia, introduced in 1984, operates a universal health insurance scheme that permits substantial participation by private providers while guaranteeing that all citizens or eligible residents receive an essential basket of care [2]. The contrasting configurations of these two systems therefore furnish empirical evidence of divergent, yet viable, routes to the enduring provision of universal health coverage. Analysing healthcare business models necessitates moving beyond straightforward cost assessment; it also requires careful examination of revenue sources, reimbursement frameworks, care delivery architectures, governance arrangements, and inter-stakeholder dynamics [3]. Across recent global assessments, the UK and Australia consistently rank among the top tiers of high-income system performance, with Australia rated first and the UK third in the 2024 Commonwealth Fund evaluation of ten such economies. Yet, both countries now confront sustainability challenges that jeopardise their future effectiveness [4]. These challenges are masked by their present rankings.

Since 2015, both nations have enacted far-reaching reforms driven by ageing populations, the rapid advancement of medical technology, and deliberate policy agendas. The NHS Long Term Plan, published

in 2019, reoriented the English system by embedding Integrated Care Systems that diminish the primacy of market-driven competition and promote coordinated primary, secondary and community services [5]. Concurrently, Medicare Australia has introduced reforms that expand bulk billing, reinforce the role of primary care, and allocate \$5.7 billion in the 2023-24 budget specifically to enhance care accessibility and reduce out-of-pocket expenses [6]. The COVID-19 pandemic constituted a decisive system-wide stress test, fast-tracking the adoption of digital health tools while exposing pre-existing limitations in workforce staffing, infrastructural robustness, and fiscal resilience [7]. This large-scale, time-limited perturbation serves as a natural experiment, revealing the limits of business model agility and the capacity for reform when faced with sustained and unpredictable external demand.

2. Methodology

This narrative review used a comprehensive search strategy covering peer-reviewed articles, government policies, and health system reports from 2018 to 2025. It aimed to include both academic and policy literature from databases and grey literature sources. Systematic searches were conducted in PubMed, EMBASE, BMJ, Health Affairs, Health Policy, Health Economics, Social Science & Medicine, and other specialised journals. Additional sources included Cochrane Library, Web of Science, and Google Scholar. Search terms combined MeSH and free-text keywords in four areas: (1) health systems ("universal healthcare", "medicare", etc.); (2) geography ("UK", "Australia"); (3) business models ("funding mechanism", "sustainability"); and (4) outcomes ("patient outcomes", "primary care", "health policy"). Boolean operators (AND, OR) were used to combine search terms within and between concept groups. Search limits included publication dates (2018-2025), language (English), and study types (systematic reviews, original research, policy reports, government documents). Hand-searching of reference lists from key articles and forward citation tracking ensured additional relevant sources were identified.

Grey Literature and Official Sources: Primary sources included official publications from NHS England, the Australian Department of Health and Aged Care, the Organisation for Economic Co-operation and Development (OECD), and the Commonwealth Fund. Government websites, parliamentary reports, health think tank publications (such as the Nuffield Trust, King's Fund, and Grattan Institute), and professional association surveys were systematically reviewed for policy documents and operational data. The analysis framework applied comparative health system methodology, examining four core dimensions: organisational structure and governance, funding mechanisms and financial performance, service delivery models and patient outcomes, and sustainability challenges and reform strategies. Data synthesis prioritised recent empirical evidence, official statistics, and peer-reviewed analyses, with particular emphasis on post-2015 developments and the impacts of COVID-19. Professional surveys from the Royal College of General Practitioners, Royal Australian College of General Practitioners and the Australian Medical Association provided insight into provider perspectives and practice economics. International comparative data, primarily derived from OECD Health Statistics and Commonwealth Fund Mirror, were obtained to ensure robust benchmarking against other universal healthcare systems.

3. Discussion

3.1 Broad Business Model Comparison

The National Health Service and Medicare Australia exemplify contrasting architectures of universal health coverage, anchored in rival philosophical conceptions of state, market, and social accountability in care delivery. The NHS, rooted in Beveridge-inspired principles, provides healthcare as an integrated public service, where the state directly owns and operates hospitals, clinics, and public health agencies [8], while contracting salaried and sessional general practitioners. This vertically integrated system encompasses general practice, outpatient and inpatient care, emergency medical services, mental health, and preventive services, all under the sole jurisdiction of a national health authority. Such a design fosters tight clinical and budgetary coherence, aligning incentives to ensure universal access without direct cost-sharing at the point of service. In contrast, Medicare Australia exemplifies a universal health insurance model rooted in Bismarckian principles, whereby the state acts as the sole funder of defined, evidence-based services and medicines [9], while accrediting a diverse network of public and private hospitals, laboratories, and medical professionals. The system, underwritten by a national Medicare levy and general taxation, intermittently incentivises private-sector involvement, permitting consumers to choose

among competing providers, private hospitals, and ancillary insurance for enhanced amenities, faster elective surgery, and ancillary services. As illustrated in Figure 1, the above-noted divergence, namely, that the NHS delivers care as an administrative public service and Medicare purchases healthcare services from predominantly private providers using public funding mechanisms, induces significant consequences for system design, accountability, adaptive governance, and the articulation of interests among providers, insurers, and patients.

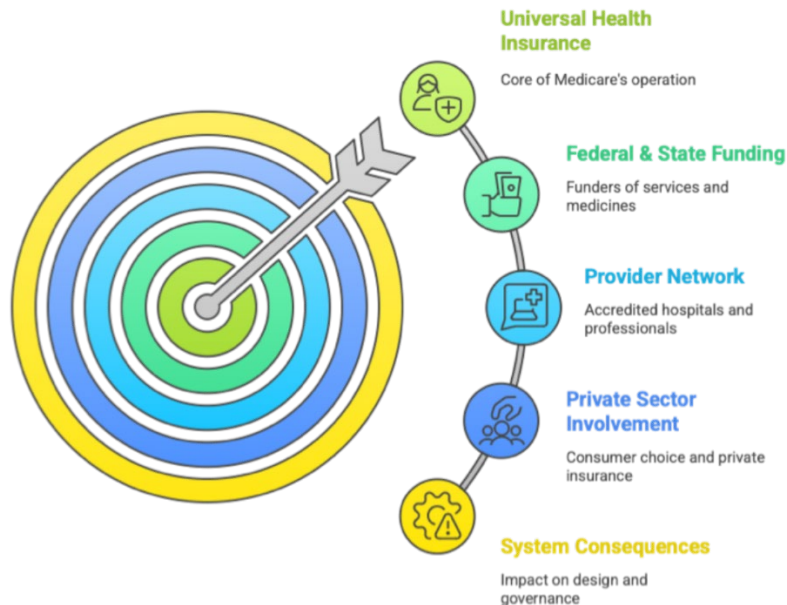


Figure 1 Medicare Australia Health Insurance Model

The National Health Service (NHS) now operates on a population-centred service model anchored in 42 Integrated Care Systems that were formally launched in 2022, superseding the competitive dynamics that the 2012 Health and Social Care Act had sought to institutionalise [10]. Within each system, NHS bodies, local authorities, the voluntary sector, and social care providers collaborate to deliver coordinated care to a specific population, thereby integrating acute, primary, and social services. Governance frameworks express a statutory duty to achieve collective population outcomes, thereby curtailing the economic drive once aimed at the marginal cost/benefit optimisation of individual provider units. Medicare Australia, by contrast, operates within a federal architecture that distinguishes between Commonwealth fiscal support and the service delivery mandates conferred on states and territories [11]. The model sustains a conscious hybrid of public and private realms through three principal channels: the 2% Medicare levy ensures universal health insurance, private hospital insurance covers 46% of the population for inpatient care, and fee-for-service remuneration for general practitioners, of which three-quarters are in the private sector, guarantees nationwide access to primary medical services. This configuration preserves the principle of universal coverage while introducing quasi-market signals across elective services.

The philosophical divergences outlined above are embedded in the governance architectures of the two health systems. The NHS employs a centrally directed strategic framework articulated by NHS England, complemented by devolved operational authority vested in Integrated Care Systems. This arrangement establishes clear accountability lines while allowing for local adaptation [12]. The Australian Medicare framework, in contrast, employs a multi-tiered governance model in which Commonwealth-level policy, state-managed hospital systems, and private sector service providers must be continuously coordinated—an arrangement that yields both opportunities for incremental innovation and the persistent challenge of complex inter-level synchronisation. Recent trajectories in business model development signal a convergent transition toward integrated, population-health-oriented frameworks; yet, the foundational structural characteristics remain distinct. The NHS, having largely abandoned internal market incentives, now prioritises coordinated collaborative care; Medicare Australia, for its part, has bolstered inter-system congruence by refining the roles of Primary Health Networks and by augmenting bulk-billing incentives, thereby lowering economic barriers to timely service access [13].

3.2 Funding Mechanisms

Healthcare financing highlights the primary structural difference between the NHS and Medicare Australia, with significant implications for resource allocation efficiency, access equity, and the sustainability of long-term service delivery. The NHS is sustained by a wholly tax-based architecture, from which 98.8 per cent of its £185.8 billion budget for 2024-2025 is raised through general taxation and National Insurance contributions, with patient out-of-pocket liabilities confined, at most, to prescriptions, dental, and optical care [14]. Such a framework ensures that patient financial exposure is almost eliminated while permitting the state to centralise purchasing authority, thereby maximising its bargaining strength with providers and pharmaceutical manufacturers. In contrast, Medicare Australia employs a plural financing strategy that combines universal insurance with targeted incentives for private participation. The primary revenue stream is the Medicare levy, which imposes a 2% charge on individual income that exceeds AUD\$27,614 in the 2024-2025 financial year. This is augmented by general revenue and by the Medicare Levy Surcharge, which ranges from 1 to 1.5 per cent for individuals and families whose taxable income exceeds specified thresholds and who forgo private hospital cover [15]. As a supplement to the public scheme, private hospital insurance is held by 46 per cent of the population for inpatient care and by 55 per cent for general treatment, with the government underwriting premiums through a rebate system that is calibrated at a maximum of 30 per cent, thus sustaining a dual-but-interlinked financing ecology. The economic incentive structures created by these funding mechanisms generate markedly different behaviours among providers and patients. NHS funding through population-based allocations to Integrated Care Systems encourages comprehensive care coordination and preventive service investment, as organisations benefit financially from reducing overall population health needs rather than maximising service volume [16]. The shift from activity-based payments toward capitation models represents a fundamental business model transformation prioritising outcomes over outputs.

Medicare funding through fee-for-service payments creates volume incentives for general practitioner providers while bulk billing arrangements (where providers accept the Medicare rebate as full payment) ensure access for vulnerable populations [17]. The recent temporary tripling of bulk billing incentives from AUD\$6.85 to \$20.65 for populations receiving government pension support (and to the entire population from 1 Nov 2025) in metropolitan areas represents the most significant Medicare investment in 40 years, demonstrating a commitment to maintaining universal access within a market-oriented provider payment framework. Cost control mechanisms differ substantially between systems. The NHS achieves pharmaceutical cost control through single-buyer negotiating power, securing medicines costs among the lowest internationally relative to healthcare spending [18]. Centralised procurement and standardised treatment protocols generate significant scale economies, though capacity constraints can create access rationing through waiting times rather than financial barriers. Medicare Australia controls costs through regulated fee schedules; however, providers can charge fees above the scheduled amount, with patients responsible for any gap payments. The average GP consultation fee of AUD\$78.26 to \$95 (including a \$41.40 Medicare rebate) in 2024 represents growing affordability pressures, as Medicare rebates have not maintained their inflation-adjusted value since 2005-06, when equivalent purchasing power would require \$51.50 [19]. This indexation failure threatens the sustainability of the system and equity of access. Both systems face fundamental financing sustainability challenges requiring policy responses beyond incremental adjustments. NHS projections indicate that funding requirements must grow by 3.6% annually in real terms to 2036-37 to maintain current service levels, potentially requiring healthcare spending to increase by 70% over current levels [20]. Medicare Australia faces similar pressures, with total health expenditure projected to grow from AUD\$166 billion (2015) to AUD\$320 billion (2035) under demographic change scenarios.

3.3 Cost-Effectiveness

Comparative cost-effectiveness analysis reveals that both systems achieve superior health outcomes relative to healthcare spending compared to insurance-based systems, such as those in the United States, though through different efficiency mechanisms. Australia spends 9.9% of GDP on health (15th highest among OECD countries). In comparison, the UK spends approximately 10.9% (the 6th highest), which is substantially below the US figure of 17.8%, while achieving comparable or superior population health outcomes [21]. The 2024 Commonwealth Fund international rankings place Australia first and the UK third overall among ten high-income countries, with both systems demonstrating particular strength in administrative efficiency relative to multi-payer insurance models [22]. However, performance varies significantly across specific domains, revealing different optimisation priorities reflecting business model structures.

NHS cost-effectiveness strengths centre on comprehensive universal access and integrated care delivery. The system eliminates financial barriers to essential healthcare, ensuring that medical need rather than ability to pay determines treatment access [23]. Integrated care pathways reduce duplication and fragmentation costs, while single-payer purchasing power secures favourable pricing for pharmaceuticals, medical devices, and healthcare supplies. The Quality and Outcomes Framework, though recently streamlined, historically demonstrated effectiveness in improving chronic disease management through performance-based payments to general practitioners. Medicare Australia achieves cost-effectiveness through the optimisation of a public-private system and consumer choice mechanisms. The mixed funding model enables the utilisation of private sector capacity without full public funding, effectively expanding healthcare system capacity through participation in private health insurance [24]. Fee-for-service incentives encourage provider productivity and patient access, with bulk billing ensuring equitable access for vulnerable populations while allowing market pricing for those able and willing to pay premium charges.

Both systems face productivity challenges that threaten their future cost-effectiveness. NHS productivity remains below pre-pandemic levels, despite a 19% increase in staffing, with only a 14% increase in patient treatments delivered [25]. This productivity decline reflects the complexity of an aging population, infrastructure constraints, and workforce capacity limitations, rather than a fundamental failure of the business model. NHS England has committed to 2.0% annual productivity improvements through digital transformation and service redesign initiatives. Medicare Australia's productivity challenges centre on the viability of practices and the sustainability of the workforce. In 2024, 81% of GP practice owners expressed concern about practice viability, with 24% intending to sell their practice within 12 months [26]. This threatens the foundation of primary care delivery, as practice closures reduce access and compel patients to seek more expensive secondary care alternatives. The tripling of bulk billing incentives represents recognition that provider financial sustainability has a direct impact on system cost-effectiveness.

Waiting times represent a critical differentiator in terms of cost-effectiveness between systems. NHS elective surgery waiting times average 13.6 weeks (2024) compared to pre-COVID levels of 7.7 weeks, with 7.36 million patients on waiting lists [27]. These delays create hidden costs through delayed return to work, family caregiver burden, and condition deterioration requiring more intensive interventions. Medicare Australia achieves shorter waiting times through increased private sector capacity, albeit at higher per-unit costs and with potential implications for equity of access. Technology adoption and digital transformation present significant cost-effectiveness opportunities for both systems. The NHS digital transformation investment of £3.4 billion (2025-2028) aims to achieve productivity gains through electronic patient records, AI-driven clinical decision support, and administrative automation [28]. Medicare Australia's permanent retention of 211 telehealth items following COVID-19 expansion demonstrates successful cost-effective care delivery model innovation, with 31% of GP services delivered remotely during peak utilisation periods. Figure 2 provides a summary comparing the two healthcare systems.

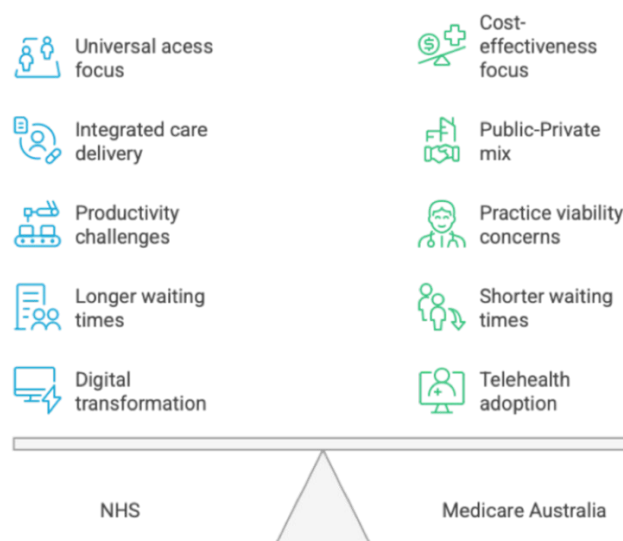


Figure 2 Comparing the NHS and Medicare Australia's Healthcare Systems

3.4 Sustainability

Long-term sustainability represents the paramount challenge facing both healthcare systems, requiring a fundamental adaptation of their business models beyond incremental funding increases, as illustrated in Figure 3. Demographic pressures from population aging create an inexorable demand for growth, with populations over 85 years old requiring seven times greater healthcare spending per capita than younger cohorts [29]. Both systems must simultaneously address workforce sustainability, infrastructure modernisation, and service delivery model transformation while maintaining principles of universal access.

Workforce sustainability challenges threaten the operational viability of both systems. The NHS faces record vacancy rates, with over 100,000 unfilled positions, and 32% of current general practitioners plan to cease practising within five years [30]. Medical students' interest in general practice has declined substantially, with only 44% of current GPs recommending the career to junior colleagues, despite recent improvements from 38% in 2023. The NHS Long Term Workforce Plan (2023) targets the largest recruitment drive in NHS history, requiring sustained political commitment and funding over a 15-year implementation period. Medicare Australia confronts similar workforce pressures with 39,449 GPs serving the primary care workforce (2023), representing 112 full-time equivalent GPs per 100,000 population, down from 115 in 2022 [31]. The GP workforce is aging rapidly, with 49% aged 55 or older (2023) compared to 37% in 2018. Medical students' preference for general practice has declined from 13% (2022) to 10.5% (2023), while interest in practice ownership has halved since 2018. These trends threaten the private practice foundation of Australian primary care delivery.

Financial sustainability requires both systems to achieve productivity improvements while managing demand growth from aging populations and technological advancement. NHS projections indicate that a 3.1% annual funding growth is merely required to maintain current service levels, with optimal care improvement necessitating a 3.6% growth to 2036-37 [32]. This trajectory would necessitate healthcare spending increases to potentially unsustainable proportions of public expenditure, without a fundamental transformation of the service delivery model. Medicare Australia faces parallel financial pressures, with health spending projected to grow from current levels to \$320 billion by 2035 under pure aging scenarios. However, the compression of morbidity and health improvement could reduce growth to 1.87% annually [33]. The sustainability of the mixed public-private model depends critically on maintaining high private health insurance participation rates and ensuring the viability of practices, both of which are under pressure from cost increases that exceed Medicare rebate indexation.

Digital transformation represents both a sustainability opportunity and an imperative for both systems and organisations. The COVID-19 pandemic demonstrated a rapid change capability when necessary, with telehealth adoption increasing from less than 1% to over 30% of consultations in a matter of months, rather than years. NHS digital-first strategies aim to achieve a one-third reduction in face-to-face outpatient consultations through remote monitoring, virtual consultations, and patient self-management technologies [34]. Medicare Australia's permanent telehealth provision through 211 MBS items enables continued access while reducing infrastructure and travel costs.

Climate sustainability adds additional complexity, with the NHS pioneering legally binding net-zero commitments for direct emissions by 2040 and indirect emissions by 2045 [35]. Healthcare systems account for approximately 4-5% of global carbon emissions, necessitating a systematic decarbonization of clinical practices, pharmaceutical supply chains, and patient travel patterns. Telehealth, active transport promotion, and green procurement policies represent co-benefits addressing both financial and environmental sustainability imperatives.

Both systems require a fundamental transformation of the service delivery model, emphasising prevention, community-based care, and integrated health and social care provision. The NHS "three big shifts" strategy (hospital to community, analogue to digital, sickness to prevention) recognises that sustainability requires upstream intervention rather than downstream treatment expansion [36]. Medicare Australia's strengthening measures, through enhanced primary care access and team-based care models, similarly prioritise early intervention and care coordination over the expansion of acute services.

Achieving long-term sustainability will require sustained political commitment, public support for necessary funding increases, workforce development initiatives, and innovative service delivery models. Both systems demonstrate that universal healthcare delivery is achievable and practical; however, continued success requires adaptive capacity that matches the scale and pace of the demographic, technological, and environmental challenges facing healthcare systems globally.

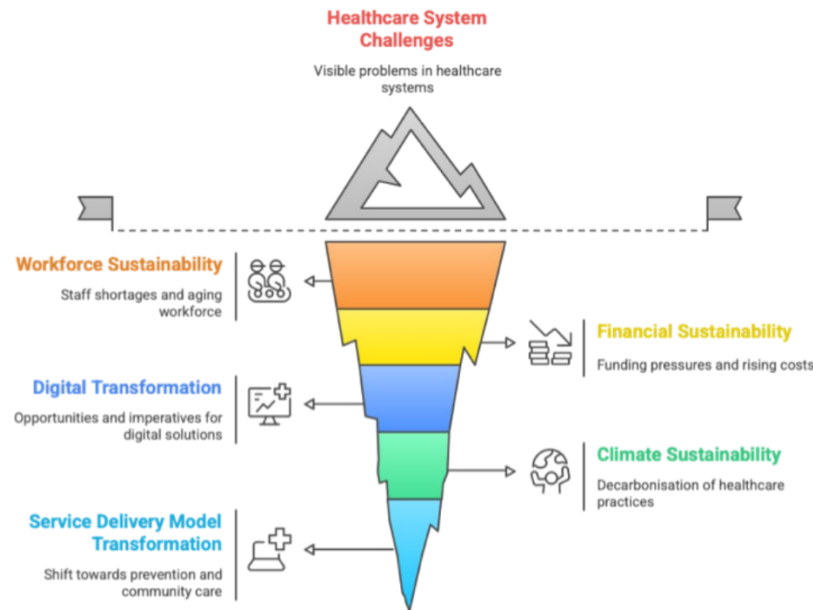


Figure 3 Healthcare systems' sustainability: Unveiling the hidden depths

4. Conclusion

This comparative study concludes that the National Health Service of the United Kingdom and Medicare Australia each embody operationally effective yet empirically distinct universal health-care architectures. The NHS achieves universal reach and expenditure containment primarily through a centrally funded and vertically integrated framework. In contrast, Medicare Australia achieves a comparable coverage frontier by interweaving public and private modalities that confer distinct flexibility and consumer agency. Notwithstanding these organisational divergences, both jurisdictions contend with convergent pressures: advancing demographic ageing, constricted labour pools, escalating technological investment, and the imperative for infrastructure renewal. The exigencies of the recent pandemic elicited both systems' demonstrable flexibility and catalysed the prospect for expedited, evidence-driven reform.

Neither framework achieves an unequivocal advantage across the spectrum of health-system performance. The NHS achieves superior outcomes in access and horizontal continuity of care, yet navigates chronic capacity bottlenecks. In contrast, Medicare maintains strong performance across multiple dimensions but faces persistent inequities and concerns about fiscal sustainability. Long-term success is thus determined less by the foundational architecture than by the calibre of implementation, financing discipline, and anticipatory, adaptive governance. Responsible stewardship of demographic and technological transitions will necessitate deliberate recalibrations toward preventive health, digital health literacy, and integrated, community-driven care. Collectively, the NHS and Medicare Australia demonstrate that universal healthcare objectives can be realised through divergent structural logics, contingent upon sustained political commitment, public financing, and iterative innovation responsive to evolving societal needs.

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