GLOBAL HEALTH LENS

England's National Health Service: A Model for Universal Healthcare

Volume 1, Issue 1 · March 2026 · HSMP 574/674

FROM THE EDITORS

What can the United States learn from a healthcare system that has provided universal coverage to every resident for over 75 years? In this issue, we examine England's National Health Service (NHS): how it is structured, financed, and governed; how public health is organized within it; and how it performs on equity and efficiency. We close with lessons for the United States, including what Oregon's movement toward universal coverage might draw from England's experience.

The NHS employs approximately 1.3 million people and serves over 56 million residents, making it one of the largest single-payer systems ever established (NHS England, 2023a). It has operated continuously since 1948, through recessions, pandemics, and funding crises. This newsletter does not treat the NHS as a perfect model. We examine it honestly — its structural strengths, its persistent inequities, and its real struggles with wait times, workforce shortages, and underfunding. England's experience does not provide a blueprint to copy, but it offers more than 75 years of evidence to learn from.

I. HEALTH SYSTEM STRUCTURE & FINANCING

What Is the NHS and How Is It Organized?

Founded in 1948 by the post-war Labour government, the National Health Service was built on a radical premise: that good healthcare should be free at the point of use, funded through general taxation, and available to every person in England regardless of their ability to pay. Today, NHS England serves as the overarching body responsible for commissioning and overseeing services nationally. Below, 42 Integrated Care Systems (ICSs) (NHS England, 2022) coordinate care across regions, linking NHS trusts, general practitioners (GPs), social care, and local government (NHS England, 2023).

Services are organized across three tiers:

- Primary care — GPs serve as the gateway to the system; most health needs are handled here without requiring a hospital visit
- Secondary care — hospital-based and specialist services, typically accessed through GP referral
- Community and mental health services — delivered locally, often in partnership with councils, covering district nursing, substance misuse support and more (NHS England, 2021).

How Is It Funded?

The NHS is primarily funded through general taxation and National Insurance contributions, pooling risk across the entire population. For 2023-24, NHS England’s resource budget was 168.8 billion pounds (NHS England, 2023). Broader Department of Health and Social Care spending reached 188.5 billion pounds in 2023-24 (The King’s Fund, 2025). Administrative costs remain low, approximately 3% of the total budget, which shows the efficiencies of a single-payer model (Commonwealth Fund, 2024).

What Is Covered?

Private medical insurance (PMI) plays a small role, covering a small share of the population seeking elective procedures or faster access. The NHS covers almost all essential services at no charge, including GP visits, hospital care, maternity services, mental health care, and emergency treatment. Prescription charges apply to some adults; as of 2024, the standard charge is 9.90 pounds per item (NHS Business Services Authority, 2024).

> **Key Structure Takeaway**
>
> The defining structural feature of the NHS is its single-payer, tax-funded model, which ensures universal coverage and administrative simplicity. The GP gatekeeper system and the integration of public health and healthcare under national coordination distinguish England's system from the fragmented, multi-payer U.S. model (Commonwealth Fund, 2024).

II. THE ROLE OF PUBLIC HEALTH IN ENGLAND

Who is Responsible?

Public health in England operates through a layered model that is nationally coordinated but locally delivered. At the national level, the UK Health Security Agency (UKHSA) leads on health protection, managing infectious disease surveillance, emergency preparedness, and environmental health threats (UKHSA, 2023). The Office for Health Disparities and Improvement (OHID), housed within the Department of Health and Social Care, focuses on population health data, health inequalities monitoring, and national prevention strategies (OHID, 2023).

At the local level, 151 upper-tier councils employ Directors of Public Health who hold statutory responsibility for their communities' health and wellbeing. This model deliberately embeds public health practitioners within the communities where people live, work, and raise families, allowing prevention efforts to be tailored to local needs (Local Government Association, 2023).

Notable prevention programs operating within this structure include the NHS Health Check, a free cardiovascular risk screening program offered to all adults aged 40 to 74; national vaccination programs covering flu, COVID-19, and childhood immunization schedules; and smoking cessation services delivered through local stop-smoking support networks (NHS England, 2023; OHID, 2023).

How Is Public Health Funded?

Local authorities receive public health funding primarily through the Public Health Grant, distributed annually by the central government. In 2015-16, the grant stood at £3.4 billion. By 2023-24, it had fallen to approximately £3.5 billion in cash terms, which, when adjusted for inflation, represents a real-terms reduction of approximately 26% over that period (The Health Foundation, 2023). These cuts have forced councils to scale back or eliminate prevention services, including sexual health clinics, health visiting programs, and drug and alcohol treatment services, disproportionately affecting the most deprived communities (The King's Fund, 2023).

How Integrated Is Public Health in the NHS?

England has moved toward greater integration of public health and healthcare, particularly through Integrated Care Systems. ICSs are explicitly tasked with improving population health, not just treating illness, bringing NHS bodies, local councils, and community organizations into shared planning and accountability structures (NHS England, 2022). This structural integration is a meaningful distinction from the United States, where public health departments and healthcare systems have historically operated in separate funding and governance silos.

Two programs illustrate this integration in practice. The NHS Long Term Plan commits ICSs to expanding community mental health services and embedding social prescribing link workers in primary care, connecting patients to non-clinical community support (NHS England, 2019). Additionally, the Better Health campaign coordinates NHS England and OHID in delivering population-wide obesity prevention and physical activity programs at both national and local levels (OHID, 2023).

Public Health Takeaway

The defining feature of England's public health model is the combination of national coordination through UKHSA and OHID with statutory local delivery through councils and Directors of Public Health. This layered structure ensures both consistent national standards and community-level responsiveness. By contrast, the United States lacks a unified public health governance structure, with responsibilities fragmented across federal agencies, 50 state systems, and thousands of local health departments operating with inconsistent funding and authority (Commonwealth Fund, 2024).

III. CRITERIA FOR HEALTH SYSTEM ANALYSIS

This analysis applies two criteria from the framework for health system evaluation: Equity and Efficiency. These were selected because they represent both the NHS's foundational promise and its most debated performance challenges.

Criterion A: EQUITY

The NHS was founded on the principle of universality, ensuring that every resident has access to essential healthcare without point-of-use charges (NHS England, 2023). This foundation creates a level of baseline equity that the U.S. system does not achieve. Yet universal coverage does not translate into uniform outcomes. England continues to experience a persistent North-South health divide, life expectancy declining in the most deprived northern neighbourhoods while increasing in the least deprived areas of London, and inequalities have widened since 2010, particularly for women (Marmot et al., 2020). Significant disparities also appear across deprivation quintiles in infant mortality, chronic disease burden, and mental health access (Marmot et al., 2020). Ethnic minority groups face additional inequities in maternal health outcomes and long-term condition management (The King’s Fund, 2025).

These patterns reflect the influence of social determinants such as housing, employment, education, and environmental exposures that shape health beyond the healthcare system itself. While the NHS brings equitable access to services, structural inequalities continue to drive uneven health trajectories across the regions and populations (Marmot et al., 2020). Equity is essential for evaluating a universal system because access alone does not guarantee fair outcomes. England’s experience shows that even with universal coverage, health inequalities persist without sustained investment in prevention, social policy, and targeted public health strategies (Marmot et al., 2020).

Criterion B: EFFICIENCY

The NHS is widely regarded as one of the most administratively efficient health systems among high-income countries. Administrative spending accounts for roughly 3% of total health expenditures, dramatically lower than the 25-34% seen in the United States (Commonwealth Fund, 2024). The GP gatekeeper model further supports efficiency by reducing unnecessary specialist visits and helping patients receive care in the most appropriate setting (The King's Fund, 2025). England also maintains fewer hospital beds per capita and shorter average lengths of stay than many OECD peers, reflecting streamlined resource use (OECD, 2024). Despite these structural strengths, the NHS faces significant efficiency pressures. As of 2024, the elective care waiting list exceeded 7.6 million people, a record high driven by COVID-19 backlogs, workforce shortages, and sustained underinvestment (NHS England, 2024). Staffing gaps in nursing, primary care, and mental health create bottlenecks that slow patient flow and reduce system capacity (The King's Fund, 2025). These challenges illustrate that efficiency depends not only on administrative design but also on adequate funding, staffing, and infrastructure.

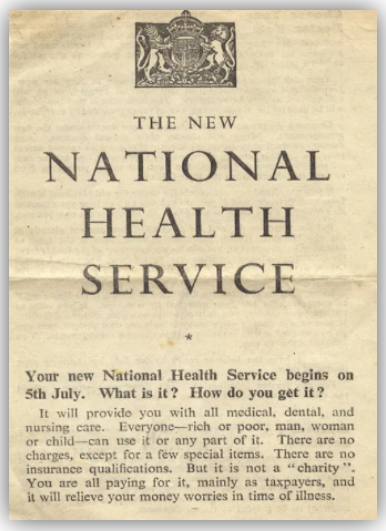
Efficiency is an important key point for evaluating how well a universal system translates public investment into timely, high-quality care. England's low administrative costs demonstrate structural efficiency, while long wait times and workforce shortages highlight where system strain undermines performance (Commonwealth Fund, 2024).

Criterion	England (NHS)	USA / Oregon Context
Coverage	Universal — all residents, no charge at point of use	US ~8% uninsured (KFF, 2024). Oregon: ~ 4.6% uninsured (Oregon Health Authority, 2023)
Equity Metric	Life expectancy gap between most and least deprived areas, widening since 2010 (Marmot et al., 2020)	US: ~15-year life expectancy gap between highest- and lowest-income counties (Chetty et al., 2016). Oregon: Significant disparities by race; Native Hawaiian/Pacific Islander and American Indian/Alaska Native residents have the lowest life expectancy (Oregon Health Authority, 2023).
Admin Cost	~3% of health spending on administration (Commonwealth Fund, 2024)	~25–34% of health spending (US) goes to administration (Commonwealth Fund, 2024).
Wait Times	~7.6M on elective waiting list post-COVID high (NHS England, 2024)	Access gaps driven by cost, not wait queues, 1 in 4 U.S. adults report delaying care due to cost (KFF, 2024).
Workforce	Shortages in nursing, GP, mental health — active	National shortages in primary care, behavioral health, and nursing (KFF, 2024).

Criterion	England (NHS)	USA / Oregon Context
	recruitment internationally (The King's Fund, 2025)	Oregon: Projected shortage of ~6,000 nurses by 2030; rural counties face severe primary care gaps (Oregon Center for Nursing, 2023; Oregon Health Authority, 2023).

IV. HISTORICAL, CULTURAL & POLITICAL CONTEXT

The NHS as National Identity


THE NEW
NATIONAL
HEALTH
SERVICE

Your new National Health Service begins on 5th July. What is it? How do you get it?

It will provide you with all medical, dental, and nursing care. Everyone—rich or poor, man, woman or child—can use it or any part of it. There are no charges, except for a few special items. There are no insurance qualifications. But it is not a "charity". You are all paying for it, mainly as taxpayers, and it will relieve your money worries in time of illness.

The fall of Berlin in May 1945 to Allied forces marked the end of World War II in the European theatre. Although the war in the Pacific theatre would persist through September, Great Britain's weary economic and social climate was collectively ready to turn from a wartime state to an era of reconstruction. In the 1945 British general election, held just one month after the fall of Berlin, Prime Minister Winston Churchill's formidable Conservative Party's wartime leadership was swept away by a landslide Labour Party victory. Led by Clement Attlee, the Labour Party promised sweeping postbellum social reforms, including a nationalized healthcare system (Gorsky, 2008). Three years later, on July 5th, 1948, Prime Minister Attlee's goal of instituting a nationalized healthcare system was realized with the creation of the National Health Service, which aggregated 1,545 municipal hospitals and a further 1,143 smaller voluntary hospitals into one unified health system (Clement, 2023).

From its inception, the NHS was wildly popular throughout England, and it continued to consolidate regional and municipal hospitals throughout the 1950s. In the 60s, NHS expenditures began to rise substantially as England's socioeconomic status improved and healthcare demands shifted from infectious diseases to chronic conditions. However, by the 70s, English society had shifted from the World War II era collectivism toward individualism, and deteriorating labor relations between unions, including hospital unions, and the Labour Party would lead to a new era of Conservative Party governance. From the 70s to the 90s under Prime Minister Thatcher, NHS expenditures would slow to their lowest point since the inception of the institution, and private sector healthcare providers would be encouraged, though the NHS would remain beloved throughout the country into the modern era (Gorsky, 2008).

Such is the idealization of the NHS in England that the 2012 London Summer Olympics opening ceremony featured the NHS, lauded as 'the institution which more than any other unites our nation' (LOCOG, 2012), and in 2023 the NHS hosted the royal family to celebrate 75 years of being one of Great Britain's crowning achievements (Clement, 2023)

Recent Political Pressures

Presently, the NHS faces many political and economic challenges stemming from the aftermath of the austerity following the 2008 financial crisis, which was closely followed by the COVID-19 pandemic and

Brexit, the formal withdrawal of the United Kingdom from the European Union, which took place on January 31, 2020. Brexit contributed to significant medical staffing shortages, including doctors and nurses, in NHS hospitals, by no longer allowing for the free movement of people between England and other European countries that historically supplied England with trained medical personnel (The King's Fund, 2023). At the same time, the COVID-19 pandemic required that medical resources be reallocated to fight the infectious disease. As a result, non-COVID-19-related hospital treatments were postponed, and NHS hospitals saw a 50% reduction in inpatient procedures and 41% reduction in outpatient services during 2020 and 2021. These procedures would need to be compensated for by an already strained healthcare system (Vacek et al., 2023).

V. LESSONS FOR THE USA — AND FOR OREGON

The National Health Service represents one of the most extensively studied universal healthcare systems in the world. Although direct replication is neither feasible nor advisable given differences in political structure, financing, and population demographics, a rigorous examination of its outcome, inefficiencies, and design principles provide an empirical foundation for informing healthcare reform efforts in the United States, including Oregon's current legislative momentum toward universal coverage.

Can Universal Coverage Actually Work?

England demonstrates that universal coverage is administratively and financially feasible in a high-income democracy. Despite the NHS guarantee, however, coverage alone does not eliminate health inequalities. The Marmot Review found that life expectancy gaps between England's most and least deprived areas continued to widen even under universal coverage, underscoring that the social determinants of health including housing, income, and employment must be addressed in parallel (Marmot et al., 2020).

Oregon faces a similar challenge. As of 2023, approximately 6% of Oregonians remain uninsured, with higher rates among Latino residents, rural communities, and low-income working adults who fall into coverage gaps (Oregon Health Authority, 2023). Oregon's universal healthcare proposal, Senate Bill 1089, seeks to establish a framework for universal coverage in the state and includes early commitments to health equity as a guiding principle (Oregon Legislative Assembly, 2024). Any coverage expansion must pair enrollment gains with intentional policy addressing the conditions that drive health disparities in the first place.

What Happens When You Put Primary Care First?

The NHS's GP-centered model keeps costs lower and outcomes stronger than a specialist-first system. The Commonwealth Fund consistently ranks England above the United States on primary care access and care coordination (Commonwealth Fund, 2024). The US dedicates only about 5 to 7% of total health spending to primary care, well below the levels seen in peer nations (National Academies of Sciences, Engineering, and Medicine, 2021). Oregon's Coordinated Care Organizations are already moving in the right direction by emphasizing preventive and community-based care. Strengthening primary care further, including investment in community health workers and expanded rural access, should be a centerpiece of any Oregon universal coverage plan (Oregon Health Authority, 2023).

What If Public Health and Healthcare Worked Together?

England's Integrated Care Systems explicitly charge regional health bodies with improving population health, not just treating illness. Oregon's CCO model mirrors this logic and has demonstrated measurable improvements in preventive care utilization since its introduction. However, public health funding in Oregon remains fragmented at the county level, creating gaps in prevention capacity particularly in rural and frontier counties (Oregon Health Authority, 2023). Aligning public health funding streams with CCO governance structures, as ICSs do in England, would reduce duplication and strengthen prevention across the state.

How Much Money Is Lost to Administrative Complexity?

Single-payer administration eliminates significant billing complexity. A 2020 study published in the New England Journal of Medicine estimated that US healthcare administrative costs consumed approximately 34% of total health spending, compared to roughly 12% in Canada's single-payer system (Himmelstein et al., 2020). In Oregon, the Oregon Health Authority has estimated that administrative complexity costs the state's healthcare system hundreds of millions of dollars annually that could otherwise be directed toward care (Oregon Health Authority, 2022). Moving toward a unified coverage structure in Oregon could redirect a meaningful share of those administrative costs into direct services, workforce investment, and prevention.

What Are the Real Costs of Getting This Wrong?

Adopting lessons from England means honestly acknowledging its limitations. Long elective wait times are a documented equity concern (NHS England, 2024), as those with private insurance bypass the queue while lower-income patients wait. Workforce shortages in nursing, general practice, and mental health represent a structural vulnerability that has worsened in the post-COVID period (The King's Fund, 2023). Oregon faces its own set of barriers to universal coverage. Implementing a state-level single-payer system requires federal waivers under both Medicaid and ERISA, a complex and politically uncertain process (The Lund Report, 2025). Employer opposition to payroll-based funding mechanisms and concerns about provider reimbursement rates present additional fiscal and political challenges (Oregon Health Authority, 2023). Oregon must pair any universal coverage proposal with robust workforce investment, sustainable and equitable funding mechanisms, and a realistic implementation timeline.

Oregon Spotlight

Oregon's Senate Bill 1089, introduced in the 2024 legislative session, proposes establishing a universal healthcare system for Oregon residents. The bill envisions a publicly administered coverage system funded through a combination of employer and employee contributions, redirected federal Medicaid and Medicare funding, and state general revenue. Sponsors include Senator Deb Patterson and Representative Maxine Dexter, both of whom have framed the proposal as a response to persistent coverage gaps and rising healthcare costs in the state. If enacted, the system would aim to cover all Oregon residents regardless of employment status, immigration status, or income, with an implementation timeline extending through 2030 (Oregon Legislative Assembly, 2024).

ABOUT THIS NEWSLETTER

Produced for HSMP 574/674: Health Systems Organization · OHSU–PSU School of Public Health · Asst. Professor Kathleen Conte · Group Members: Areli Delgado Sepulveda, Craig Davis, Ykanel Escamilla-Cheng · Winter 2026

VI. SUMMARY: PUBLIC HEALTH AROUND THE WORLD

Country: England

What does public health look like in England?

England's National Health Service is a complex, comprehensive, publicly funded healthcare system. It is one of four separate sister National Health Services in the United Kingdom: the other three being NHS Scotland, NHS Wales, and HSC Northern Ireland. As of 2025, the NHS has been integrated into the Department of Health and Social Care, which is led by the Secretary of State for Health and Social Care, who reports directly to the Prime Minister of England (NHS England, 2023).

The NHS is primarily funded by national taxes, which are invested into the National Insurance program, which is then distributed via the Public Health Grant. Around 25% of the NHS expenditures are planned at the national level on services such as rare cancer treatments. The rest is passed to the forty-two local Integrated Care Boards across England. Integrated Care Boards function similarly to Coordinated Care Organizations in Oregon and are responsible for coordinating the healthcare services of a large population within a geographical region of England. Neighborhood Health Services are primary care partnerships providing integrated health services at the neighborhood level. They are responsible for coordinating with local General Practitioners, Pharmacists, mental health professionals, and local health centers to provide care to individuals (NHS England, 2021).

The strengths of the NHS are universal access to care for residents, strong primary care systems, and expenses are paid at the state level, not at the individual level, which prevents individuals from experiencing medical bankruptcy and ensures access to healthcare regardless of socioeconomic status. Some of the weaknesses of the NHS are disparities in health outcomes between counties in the North and South of the country, healthcare worker shortages, underfunded prevention programs, and longer waiting times for some healthcare services. The NHS is currently undergoing a radical 10-year restructuring plan to address these weaknesses, recognize communities as a source of health, and focus on preventative care.

What could the USA learn?

The US healthcare system could learn several things from England's National Health Service. First, England's NHS helps reduce health outcome disparities by reducing socioeconomic barriers to healthcare by providing universal coverage for all residents (Marmot et al., 2020). Compared to English residents, many Americans lack basic health insurance coverage or are underinsured (KFF, 2024). Secondly, America's byzantine healthcare system and private health insurance marketplaces result in administrative costs ten times that England's NHS (Himmelstein et al., 2020). This makes healthcare delivery significantly less efficient in the US. Furthermore, in the US, public health and healthcare systems are not organized under one federal department. In England, the Department of Health and Social Care oversees both the NHS and the UK Health Security Agency, which is responsible for England's public health programs (NHS England, 2023a). Under NHS guidance, Integrated Care Systems (ICSs) are regional coordinators responsible for the overall health outcomes of a local population, encouraging a focus on prevention and reducing health disparities through the social determinants of health (NHS England, 2022)

REFERENCES

Chetty, R., Stepner, M., Abraham, S., Lin, S., Scuderi, B., Turner, N., Bergeron, A., & Cutler, D. (2016). The association between income and life expectancy in the United States, 2001–2014. *JAMA, 315*(16), 1750–1766. https://doi.org/10.1001/jama.2016.4226

Clement, M. (2023). *The founding of the NHS: 75 years on.* History of Government Blog. https://history.blog.gov.uk/2023/07/13/the-founding-of-the-nhs-75-years-on/

Commonwealth Fund. (2024a). *Mirror, Mirror 2024: A portrait of the failing U.S. health system.*https://www.commonwealthfund.org/publications/fund-reports/2024/mirror-mirror

Commonwealth Fund. (2024b). *U.S. health system performance.* https://www.commonwealthfund.org

Department of Health and Social Care. (2025). *Fit for the future: 10 year health plan for England — executive summary.*GOV.UK. https://www.gov.uk/government/publications/10-year-health-plan-for-england-fit-for-the-future/fit-for-the-future-10-year-health-plan-for-england-executive-summary

Gorsky, M. (2008). The British National Health Service 1948–2008: A review of the historiography. *Social History of Medicine, 21*(3), 437–460. https://doi.org/10.1093/shm/hkn064

The Health Foundation. (2023). *Public health grant.* https://www.health.org.uk/publications/long-reads/public-health-grant

Himmelstein, D. U., Campbell, T., & Woolhandler, S. (2020). Health care administrative costs in the United States and Canada, 2017. *New England Journal of Medicine, 382*(15), 1461–1468. https://doi.org/10.1056/NEJMsa1916405

Kaiser Family Foundation. (2024). *Health care costs and access survey.* https://www.kff.org

The King's Fund. (2023). *Public health funding.* https://www.kingsfund.org.uk/insight-and-analysis/data-and-charts/public-health-funding

The King's Fund. (2025a). *NHS workforce.* https://www.kingsfund.org.uk/insight-and-analysis/long-reads/nhs-workforce

The King's Fund. (2025b). *The health of women from ethnic minority groups in England.*https://www.kingsfund.org.uk/insight-and-analysis/long-reads/the-health-of-women-from-ethnic-minority-groups-england

Local Government Association. (2023). *Public health and local government.* https://www.local.gov.uk/our-support/public-health

London Organising Committee of the Olympic Games and Paralympic Games. (2012). *Isles of wonder: The opening ceremony of the London 2012 Olympic Games* [Official programme]. LOCOG.

The Lund Report. (2025). *Board edges towards goal of a universal health plan for Oregon.*https://www.thelundreport.org/content/board-edges-towards-goal-universal-health-plan-oregon

Marmot, M., Allen, J., Boyce, T., Goldblatt, P., & Morrison, J. (2020). *Health equity in England: The Marmot Review 10 years on.* Institute of Health Equity. https://www.instituteofhealthequity.org/resources-reports/marmot-review-10-years-on

National Academies of Sciences, Engineering, and Medicine. (2021). *Implementing high-quality primary care: Rebuilding the foundation of health care.* The National Academies Press. https://doi.org/10.17226/25983

NHS Business Services Authority. (2024). *Help with NHS prescription costs.* https://www.nhsbsa.nhs.uk/help-nhs-prescription-costs

NHS England. (2019). *The NHS long term plan.* https://www.longtermplan.nhs.uk

NHS England. (2021). *An introduction to the NHS.* https://www.england.nhs.uk/get-involved/nhs/

NHS England. (2022). *Integrated Care Systems: Design framework.* https://www.england.nhs.uk/wp-content/uploads/2022/06/B1378-ics-design-framework-june-2022.pdf

NHS England. (2023a). *About NHS England.* https://www.england.nhs.uk/about/

NHS England. (2023b). *NHS Health Check programme.* https://www.england.nhs.uk/ourwork/prevention/nhs-health-check/

NHS England. (2023c). *The history of the NHS.* https://www.england.nhs.uk/about/history/

NHS England. (2024). *Consultant-led referral to treatment waiting times data 2024–25.*https://www.england.nhs.uk/statistics/statistical-work-areas/rtt-waiting-times/rtt-data-2024-25/

OECD. (2024). *Health at a glance: Europe 2024.* OECD Publishing. https://doi.org/10.1787/b3704e14-en

Office for Health Disparities and Improvement. (2023). *About OHID.* GOV.UK. https://www.gov.uk/government/organisations/office-for-health-disparities-and-improvement

Oregon Center for Nursing. (2023). *Oregon nursing workforce report.* https://oregoncenterfornursing.org

Oregon Health Authority. (2023). *Oregon health coverage and access report.*https://www.oregon.gov/oha/ERD/Pages/Reports.aspx

Oregon Legislative Assembly. (2024). *Senate Bill 1089.* Oregon Legislative Information System. https://olis.oregonlegislature.gov

UK Health Security Agency. (2023). *About UKHSA.* GOV.UK. https://www.gov.uk/government/organisations/uk-health-security-agency

Vacek, A., Chandran, S., Bauld, L., Lunan, C., Horne, A., Kerr, S., Whitworth, C., & Wojcik, W. (2023). Looking back to look forward: Surviving COVID-19 and the future of the NHS. *Journal of Health Services Research & Policy.*https://doi.org/10.1177/14782715231173667