

# The Costs and Impacts of Different Healthcare Systems in the U.S., Canada, and the U.K.

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## ABSTRACT

In the wake of the COVID-19 Pandemic, there has been a greater call for universal healthcare in the U.S.. This research paper evaluates the healthcare systems of the nationalized healthcare system of the U.K.(NHS), the hybrid of free and private healthcare in Canada, and the strong presence of privately insured healthcare in the U.S. So how does a country's healthcare system affect its population economically and socially? We take a look at the public policies, financial/economic burdens, tax implications on the general populace, and advantages that each population gains from their systemized healthcare system for these three countries.

## Introduction

In the U.S. calls for more nationalized healthcare similar to Canada have been voiced, gaining increasing traction for more equitable healthcare. Universal healthcare has been debated for its advantages and disadvantages in the last few decades. Free healthcare has been adopted by many countries worldwide because the system tends to better care for the general populace as a whole albeit at a high financial cost. Private healthcare may be more expensive but the quality and incentivization could be superior to countries who opt with the universal healthcare system. In this Review Paper, comparisons are made between the U.S.(private healthcare), Canada(partly nationalized), and U.K.(nationalized healthcare) to determine who benefits the most from each country's current healthcare system.

## United States

### Overview

Historically, some of the biggest healthcare legislation that remains today was rooted in the 1930s with the Great Depression. However, more publicized health care began with the introduction of the Social Security Act of 1965(Medicaid & Medicare) establishing a system of welfare benefits that targeted the elderly and the poor. One of the biggest differences between the U.S. and Canada/U.K. is that as of 2020, 54% of the population had employment-based health insurance.

### *Overall health of the population of the U.S.*

According to the Center for Disease Control and Prevention(CDC), 6 out of 10 Americans suffer from a chronic disease with 4 out of 10 Americans having two or more. These diseases include Diabetes, Alzheimer's, Heart Disease, Stroke, Cancer, Chronic Kidney Disease, and Chronic Lung Disease.

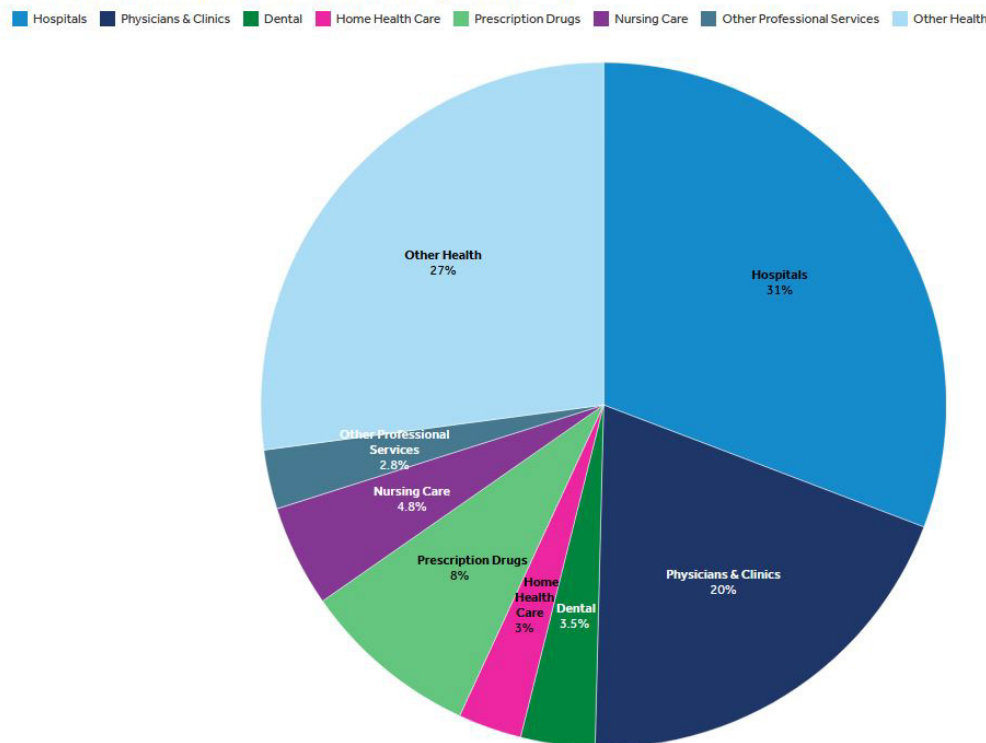
Yet, substance and addiction abuse remain a prevalent problem in American society where estimates are as high as 80% of the U.S. population has alcoholism.

Most well known are the obesity rates in the U.S. which number at 42%. Still, it's not all tenebrous as the U.S. actually ranks 35th on the Bloomberg Global Health Index and also quite high on the Global Health Security Index. Though Americans do consume more calories than their counterparts in other countries, the citizens tend to smoke and drink less. As of 2020, the infant mortality rate of the population was 5.2 out of 1000 live births and has a life expectancy of 78.8 years.

## Health Expenses

The U.S. expenditure on Healthcare was \$4.1 trillion(19.7% of the GDP) while out-of-pocket costs number at about \$1650. As of 2021, 60.1% of Americans have private health insurance occupying 31.7% of U.S. health expenditure.(25.)

Relative contributions to total national health expenditures, 2020



Source: National Health Expenditure (NHE) data from the Centers for Medicare and Medicaid Services

## Future Predictions

National Healthcare spending is expected to grow at an annual rate of 5.4% and is projected to reach \$6.2 trillion by 2028.

The price for medical goods and services is expected to grow to an average 2.5%, with higher growth in health sector wages.

Medicare is expected to have the highest spending growth(7.6%) until 2028 because of having the highest project enrollment growth.

The insured population is expected to decrease from 90.6%from 2018 to 89.4% in 2028. (27.)

## The Introduction of the Affordable Care Act:

The Affordable Care Act expanded Medicaid Eligibility(nearly all adults with incomes up to 138% of the Federal Poverty Level, mandated that Americans purchase or obtain health insurance, and prohibited insurance companies from denying coverage to Americans with pre-existing conditions. The Act also allowed children to remain on their parent's insurance plan until the age of 26. Moreover, the law includes premium tax credits - which lowers the health insurance bill each month - and cost-sharing reductions which reduce out-of-pocket expenses - these include costs for deductibles, copays, and coinsurance, and lowers out-of-pocket maximums which constitute the total amount someone pays for covered health costs.(8.)

All ACA-compliant insurance plans must cover a specific set of health benefits - ambulatory patient services (outpatient services), Emergency services, Hospitalization, Maternity and newborn care, mental health and substance use disorder, including behavioral treatment, prescription drugs, rehabilitative and habilitative care, laboratory and preventative services, and pediatric care.(20.) In addition, the ACA requires most insurance plans to cover at little to no cost a list of preventative services: checkups, patient counseling, immunizations(vaccines), and numerous health screenings. The ACA also provided an option to states to extend Medicaid coverage to a wider range of people but only 37 states and the District of Columbia have legislated that action. (8.)

## Government Sponsored Health Insurance

One of the biggest differences between the U.S. and Canada/U.K. is that as of 2020, 54% of the U.S. population had employment-based health insurance. For everyone else who can't afford to be health insured, they either must apply for Medicare or Medicaid. While both are federal-funded healthcare programs, the important distinction between the two is that Medicare is directed at the income level while Medicaid is directed at the age level. The total number of Medicare enrollees is 64 million(18.4% of the U.S. population) with the average Medicare participant paying about \$5460 out of pocket. Spending was the highest for those who did not have(or could not afford) supplemental coverage with \$7,473 and \$6,621 for those with Medigap(Medicare Part C and D). While the total enrollment spending in Medicare numbers at \$14,151 Americans with Medicare and Medicaid often spend the least amount of money. The age distribution for Medicare is as follows: 13.24% for those 18 to 65, 49.67% for those 65-74 26.44% for those 75-84, 10.67% for those 85+.(27.)

## Advantages of the U.S. Healthcare System:

### Quality Healthcare

If someone has the money to pay for a premium health insurance package, the quality of medical care is some of the highest in the world. In contrast to Canada and the U.K. where a lack of incentivization discourages doctors from entering rigorous specialty and subspecialty training, in the U.S. physicians and surgeons can treat even the rarest health conditions. Due to the high costs of medical care under the direct-fee system, most hospitals can afford equipment that can battle various life-threatening conditions.

In 2010, the United States had the highest rates of preventive screening for cancer beating Canada by significant margins. The Robert Wood Johnson Foundation also found that the U.S. has some of the highest cancer survival rates in the world, especially in colon, rectum, breast, lung, and prostate cancer.(9.)

A study in 2002 found that of the antipsychotic drugs that were administered, 60% prescribed were of the newest generation while in Germany - a country like the U.K. which offers universal health insurance - only 10% of the prescribed drugs were new.(9.)

## Shorter Wait Times

There is little issue with long wait times in the United States. A study by the Commonwealth Fund found that 57% of Canadians wait more than 4 weeks to get an appointment with a specialist while in the U.S. only 23% wait longer than 4 weeks to see a specialist.(10.)

## Different Medicare Options

Based on the lifestyle a person lives they can choose the kind of health insurance they want. Americans can pick and choose which medical insurance plans are the best and will be the most useful for them. Thus, in some cases, saving costs and less money are being spent based on the choices Americans make for cheaper or more efficient insurance plans than in Canada or the U.K.

## Biggest Problems for the Healthcare System:

Compared to Canada or the U.K., many of the biggest problems of U.S. healthcare stem from affordability rather than the care services they receive.

## Medical Costs

Around half of U.S. adults say that they have difficulty affording healthcare costs with about 4 in 10 adults stating they have delayed or gone without medical care in the last year due to cost. Even Medicare does not ensure all health-related costs such as prescription drugs which are subject to change in price(in the U.K. prescription drugs all have a standardized price). Moreover, about 41% of adults report having medical debt due to medical or dental bills to pay for their healthcare costs with disproportionate shares of Black and Hispanic adults, women, low-income and uninsured.

## Uneven Access

Healthcare disparities exist between people of color and other disadvantaged groups. Health insurers may also discourage care to keep costs low. Many health insurance companies also restrict expensive medications, tests, and other services by declining coverage until a series of forms are filled out to justify the service to the insurer. While it may seem like a small hassle the policy discourages care that is deemed appropriate by a physician. For rheumatoid arthritis, for example, coverage can be denied until a cheaper medication is prescribed even if it has little success. A survey done by the American Medical Association(AMA) found that 78% of physicians reported that this led to people abandoning recommended treatments and 92% thought this contributed to care delays.

## Investment in the Wrong Direction

The U.S. overemphasizes technology and specialty care(opposite to Canada and the U.K.). The Healthcare system focuses on disease, specialty care, and technology over preventative care(shots, screening tests, etc...) This may be because doctors practicing in specialties typically have far higher incomes than those in primary care leading to less incentive to focus on solving the root cause of the problem.

## Canada

### Overview

The beginning of Canada's unique Healthcare system can be traced back to 1966 with the introduction of the Medical Care Act. This Act offered universal physician service insurance plans and within a few years, the whole country adopted this policy. Canada's Healthcare system sharply contrasts with the American privatized form of Healthcare institutions. Though the government pays for health insurance unlike the NHS in the U.K. Canada does not normally own hospitals or employ doctors directly, instead doctors practice independently while meeting insurance requirements for reimbursement and are paid by the government for their services(1.). However, not all health-related services are covered by the government, dentistry and cosmetic surgeries for example are not covered by the government and need to be paid with private insurance.

### Overall Health of the Population of Canada

One of the most typical metrics to determine how effective a country's healthcare system is is the Mortality rate. Canada's infant mortality rate measures at 4.2 per 1000 live births, making it thus far better than the U.S.'s According to the NIH, the Commonwealth Fund Report ranked Canada's healthcare system 9th out of 11 high-income countries evaluating each country's healthcare system using five sectors: care process, access, administrative efficiency, equity, and health care outcomes. However, the domains where Canada ranked poorly such as "access" and "equity" were largely driven by high costs of dental care and drugs. The report stated that 30% of Canadian respondents had difficulties paying for drugs and 28% skipped daily dental routine compared with 12% and 11% respectively in the U.K - in the U.K. drug prices are standardized and price fluctuation is uncommon. Still, in 2018 the WHO(World Health Organization) ranked Canada among the top 10 countries for *health-adjusted* life expectancy at 72.3 years - in comparison, to the U.K. with 71.4 years and the U.S. with 69.1 years. (2.)

The Canadian populace however does still suffer from several common health conditions. In 2013, the Canadian Cancer Society stated that nearly 50% of Canadians are expected to be diagnosed with some form of cancer. By what age? The high rates of cancer may be partially attributed to Canadians' high tobacco/alcohol usage with a combination of high-fat diets. Total per capita (aged 15 years and older) consumption of alcohol in 2016 was 10.0L in Canada, higher than the United States (9.3 L) but lower than the U.K.(12.3L). The next most common health conditions: strokes and heart diseases, can be pointed too high consumption of sodium from instant meals and fast food. The Obesity rate however in Canada is 26.8% much lower than in the U.S.(42%) and slightly lower in the U.K.(28%).(22.)

This leads to another one of the primary reasons the Commonwealth Fund Report ranked Canada so low the country has one of the highest rates of reporting two or more chronic diseases by adults aged 18-64. Although Canadians are more likely to have cardiovascular risk than their peers in the U.S. or the U.K. Canadians are more likely to receive treatment and have higher control rates. Additionally, while stroke rates remain high in Canada, the country's total stroke mortality and disability-adjusted life years lost to stroke per 100,000 are among the lowest in the world(lower than the U.K. or the U.S.).

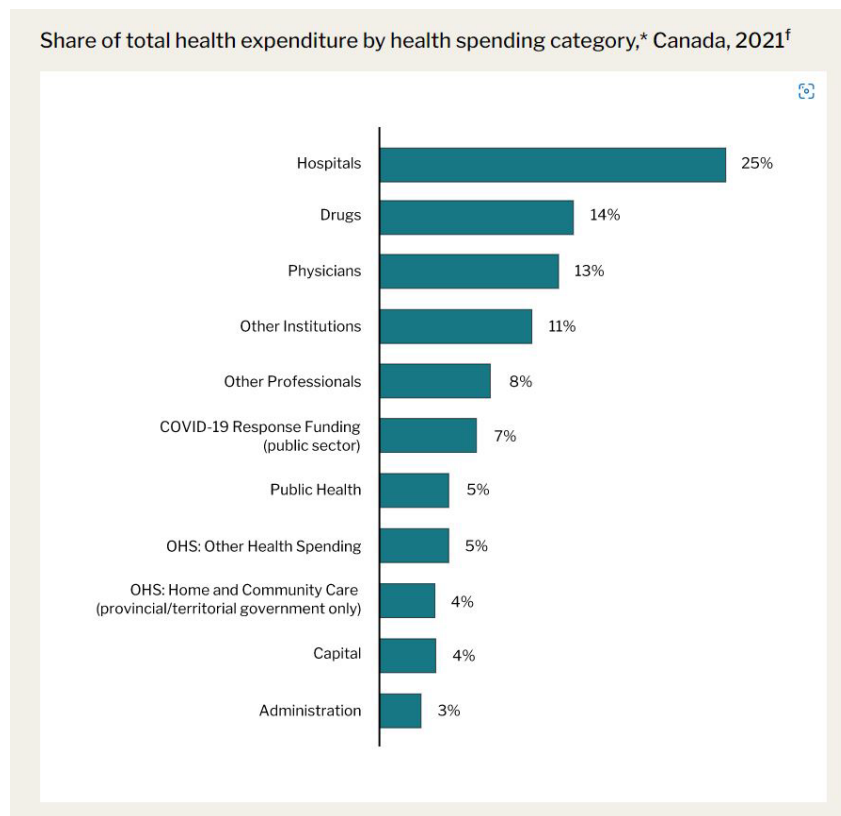
### Healthcare Expenses

As of 2021, total healthcare expenditures in Canada was \$308 billion(12.7% of the GDP) or around \$8,000 per Canadian. The growth rate of Canada's health spending was increasing at a rate of 4% per, but due to the pandemic,

spending in 2020 increased by 12.8%. Hospitals, Drugs, and Physicians account for the largest share of health dollars (more than 50%) while a new spending category titled “COVID-19 Response Funding” occupies a total of 7% of Canada’s health spending. (24.)

In 2014, the average single individual earning roughly \$42,000 will pay approximately \$4,381 (about 9.5% of the individual’s income) to fund public health care insurance through taxpayer dollars, and a family of two adults and two children earning approximately \$118,000 will pay \$11,786. In the case of out-of-pocket expenses, in 2014 Canadians paid an estimated \$1100. (24.)

In 2007, the bankruptcy rates in Canada were 0.3% compared to 0.27% in the U.S. Of that number 13% in the U.S. listed medical debt due to bankruptcy while 15% of Canadian Seniors listed medical reasons as the primary cause of bankruptcy. (4.)



\*Source: National Health Expenditure Database, Canadian Institute for Health Information.\*

## Advantages of the Canadian Healthcare System

### Universal Healthcare

It is a single-player system that provides many free health services. A person is not restricted to specific care providers because of where you live or what you earn. Canada also has a high life expectancy (72.3 in 2018) and a fairly low mortality rate with 4.2 per 1000 live births.

### The Primary Care System

Canada has a very strong primary care system with 15 different healthcare systems in place. There is healthcare dedicated to Veterans and one solely dedicated to providing First Nations care. Better access to primary care has been linked to the promotion of public health. There are 2500 times more primary care visits in the average province than there are orthopedic replacement services provided each day.(1.)

### Private Insurance is Still Available

Two out of three Canadians purchase complementary coverage that's not provided by the basic primary package to provide for services such as dental care, vision, medication, and private rooms in a hospital.

### Benefits for Doctors

While physicians do not earn as much as their United States counterparts, doctors often face better working conditions and take on far less student debt. The average doctor who graduates in the United States will take on an average of \$194,000 of student debt while in Canada is just \$75,000. Moreover, even if a treatment is unsuccessful the cost of fixing it is already covered by the Healthcare system, and people can become insured for life under this system. (21.)

### Travel Costs and Medication

For Canadians living in rural communities if there is no specialist available under Canada's healthcare system, the province will pay for travel costs to go see the closest provider. The medicine provided to Canada often comes from the same factories that produce drugs for other countries around the world albeit at a cheaper cost in the country. The government of Canada regulates Drug Prices which makes the prices of nearly all prescriptions cheaper. For example, 10 ml of Humalog costs just \$32 in Canada while in the U.S. it costs \$250 out-of-pocket. (21.)

### Most Common Problems For the Healthcare System:

#### Lack of Medical Resources

Some of the most common problems of Canada's Healthcare system lie with the lack of Medical Resources. For example, in 2019, Canada ranked 25th out of 26 countries for acute care beds numbering at 2.0 beds per 1,000 citizens. The statistic is lower than the worldwide average of 2.9 beds per 1,000 citizens.

One of the strongest areas for improvement of Canada's healthcare system is communication between primary care doctors and patients. Only 22% of primary care doctors offer email communication. (22.)

However, the policies designed to be in the public best health interests may also be barriers to technological innovation. Canada has a small market and a negative trade balance for medical devices and geographically is adjacent to the U.S. - which represents the largest global medical device market share. Developing Canadian technology is often funded by American markets where technologies can rapidly become commercialized and profitable. The orientation of producing technology designed for American needs could potentially interfere with the sustainability of the public health care system. Because talent, technology, and tax revenues are drawn away from Canada the creation of innovations may not address the most pressing needs of the Canadian health care system.

Furthermore, Canada lacks the medical personnel to support its healthcare system. In 2019, Canada had 2.8 physicians per 1000 people. The lack of physicians could be a reason why the wait times for patients to see a physician can be so long.

#### Long Wait Times:

In 2021, a study by the Fraser Institute found specialist physicians reported a median wait time of 25.6 weeks between referral from a general practitioner and the receipt of treatment. From referral by a general practitioner to consultation with a specialist the waiting time averaged 11.1 weeks and consultation to the point a patient receives treatment stretches to 14.5 weeks. Patients in Canada also experience significant delays in diagnostic technology: 5.2 weeks for computed technology(CT) scan, 10.2 weeks for an MRI scan, and 3.6 weeks for an ultrasound. Wait times have serious consequences as there's an occurrence of increased pain, suffering mental anguish, and poorer medical outcomes for time-sensitive intervention. (3.)

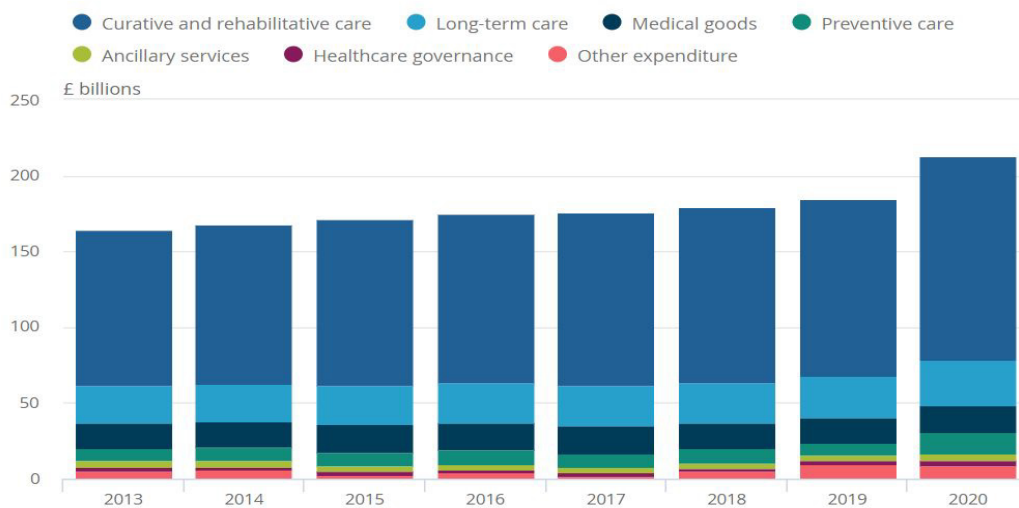
## United Kingdom

The United Kingdom comprises four state entities: England, Scotland, Wales, and Northern Ireland. Out of all the countries, the U.K. has the most expanded form of public health insurance.

### Overview

Total Healthcare Expenditure in 2018 is 217.8 billion dollars or 3,239 euros per person. The Total Healthcare Expenditure occupies 10% of GDP and from 1997 to 2018 healthcare spending doubled, growing by 3.2%. Few people in the U.K. have private health insurance numbering about 12% of the population. Moreover, the National Health Service(NHS) accounts for 130.9 billion British pounds. About 18% of a citizen's income tax goes toward healthcare which is about 4.5% of the person's average income. (26.)

**Government health expenditure by function in real terms, UK, 2013 to 2020**



Source: Office for National Statistics – UK Health Accounts

### Overall Health of the Population

The U.K.'s five leading causes of mortality are heart disease, stroke, cancer, and lung and liver disease. These diagnoses account for more than 150,000 deaths per year with the Department of Health estimating that 30,000 of these are entirely avoidable. The British Heart Foundation says 1 in 3 adults in England and Scotland have high blood



pressure but nearly half of them are not receiving proper treatment for the condition. Stroke is the third leading cause of death in England each year - 150,000 people have a stroke each year in the UK - making it the leading cause of disability. Yet, not all parts of the country meet performance levels of the best; if all patients suffering from a mini-stroke were treated as rapidly as the top 25% of hospitals 540 strokes would be prevented each year saving the NHS 4.5 million euros annually.

The Office for National Statistics reveals the majority of the U.K. population (75.3% for men and 75.7% for women) report being in good or very good health. This may be true since in the U.K. the median life expectancy was 82.3 years for males and 85.8 years for females. Still, 45.7% of men and 50.1% of women reported having a long-standing health problem. 28% of citizens in the U.K. are obese. The four most common chronic conditions for men and women were allergies, high blood pressure, low back disorder, and depression. In addition, 39.7% of men and 43.9% of women had a healthy BMI (Body Mass Index) score. The infant mortality rate in the U.K. numbers at 3.48 in 2020 much lower than Canada and the U.S. numbers 4.38 and 5.44 respectively.

## Advantages of the U.K.'s National Healthcare System:

### Cheap Costs for Prescription Drugs

For Prescription Drugs, in 2016, in England, 89% of prescription drugs were given free of charge. The reason is, that the NHS has generous safety nets and people who are exempt from drug copayments are children age 15 and under, full-time students ages 16 to 18, people age 60 or older, people with low income, pregnant women, and women who have given birth in the past 12 months, and people with cancer and certain other long-term conditions or disabilities. (11.)

### Universal Coverage

The Commonwealth Fund reported that the NHS provides universal coverage for both routine consultations and specialist procedures, with users of the NHS not having to pay out of pocket. The NHS also provides variety of benefits such as maternity services, treatment at the A&E, GP (General Practitioner) consultations, and more. Only a few services must be paid for: Prescription drugs which are all fixed at a low price, dental care, and eyecare. For these additional services, some citizens of the U.K. choose to take private health insurance. (11.)

## Biggest Problems for the Healthcare System

### Long Wait Times:

In 2019, Forbes reported that nearly a quarter of a million British patients have been waiting more than 6 months to receive treatment from the NHS. More than 36,000 people have been in treatment queues for nine or more months. (12.)

Long wait times can be harmful for patients who need to be treated immediately. In January 2019, data shows that almost 25% of cancer patients didn't start treatment on time despite an urgent referral by the primary care doctor.

Cancer Patients fare worse in Britain than they do in the U.S. - 81% of breast cancer patients live at least 5 years after diagnosis compared to 89% in the U.S. and 83% of prostate cancer patients live 5 years after diagnosis compared to 97% in the U.S.

According to the Guardian in March of 2022, the waiting times in England have reached the longest on record. (13.)

The Health Foundation using data from the NHS reported that there were 26 million appointments in September of 2019, 41% were booked the day of, 7% on the next day, 34% within 2 weeks, and 13% within 2 weeks and 1 month(the data, however, cannot determine whether the patient wanted to be seen within the times they booked as some may have wanted later appointments.)(14.)

Elective Care is care that is planned in advance and usually involves special care or surgery. The total number of people who were on the waiting list in November of 2019 was over 4.5 million, growing from the 2.5 million in 2010.

## Lack of Resources

Health Foundation also reported in 2019, that the budget for the NHS has declined over the past 8 years leading to a 21% reduction in their capital funding over this timeframe. The DHSC(Department of Health and Social Care) capital budget is used to fund long-term projects of the NHS like new buildings. However, the budget has declined which lead to 500 million pounds of canceled or postponed capital investment in the year 2019.(15.)

Low Levels of Capital Funding have resulted in the UK not being able to invest in new equipment such as IT or MRI scanners and now has the lowest number of both CT and MRI scanners per capita among comparable countries. The Health Foundation, to bring the numbers up to average, requires additional funding of 1.5 billion pounds of capital funding.

## Little Freedom in Making Healthcare Decisions

Patients can only see a specialist if referred to by a GP(General Practitioner) and there's also little choice in choosing a specialist with limited treatments to offer.

## COVID Response

### U.S.(United States)

As of July 19th, 2022 an estimated 90 million Americans(nearly 30% of the population) have been infected with COVID with the total number of deaths counting at 1.02 million. However, amid the COVID pandemic some of the biggest problems the U.S. faced involved communication. In an increasingly politically divided environment miscommunication would often occur between federal and local levels. The White House largely left governors to make their own decisions and with the CDC(Center for Disease Control) playing a much more diminished role in the pandemic and no central role in place, it has hampered effective COVID responses.

According to Gerald Evans, a professor of medicine at Queen's University in Kingston, Ontario, Canada's single-payer national healthcare system offered some "distinct" advantages allowing people to seek care for COVID-19 without fear of out-of-pocket costs. 66% of the population is considered to be fully vaccinated(having 2 doses) of the COVID vaccine.

### Canada

Canada's population is about 38 million with 4 million COVID cases and a death count of about 43,000. In response to the COVID-19 pandemic, Canada implemented a series of public health measures including mask mandates, quarantine, and travel restrictions. Still, some health sectors such as the long-term care facilities in Canada were hit the hardest, the LTC facilities were unable to meet COVID care needs. Shortages of capacity and resources(in some cases

lack of intensive care unit beds and ventilators) led to non-urgent surgeries being canceled and enormous pressures on the healthcare workforce. Vaccine rates for Canadians number at 82% for receiving 2 doses of the COVID vaccine.

## U.K.(United Kingdom)

The U.K. was one of the first countries to institute a lockdown for the COVID-19 virus. Infection rates number of infections in England was around 4.83% of the population, in Scotland it was 5.17% of the population, in Northern Ireland it was 6.18% of the population and in Wales, it was 5.14% of the population. As of March 2022, about 85% of the population in the U.K. is vaccinated for 12 years and up.

## Conclusion

The U.S. has some programs that offer universal healthcare such as Medicaid and Medicare which lower health costs for the elderly and the poor however out-of-pocket spending for healthcare still remains the highest in those groups. Yet, it's not all grim as the U.S. beats Canada and the U.K. in quality over quantity. Healthcare is of better quality and access to expensive technology such as MRI scanners is much more widely available in the U.S. than in Canada & U.K. Specialists are also more easily accessible in the U.S. where a larger pool of specialist doctors are available. Hence why cancer survival rates are much higher in the U.S. than in other countries. Of course, all these benefits come up at a price(literally) and if patients are unable to afford health insurance then they're largely left to fend for themselves to pay extremely high out-of-pocket costs. This has also meant that 10% of the population is left uninsured whereas in the U.K. and Canada everyone is insured. The greatest beneficiaries in the U.S. are people of higher income levels and those with conditions that require specialists.

There are positives and negatives to all the healthcare systems in the United States, Canada, and the U.K. In Canada, the healthcare system is mostly nationalized with some privatized processes(such as independent doctors and hospitals). Thus, the population operates on a mostly hybrid healthcare system with most opting for private and public insurance. Taxes are higher in Canada however than in the U.S. The greatest beneficiaries would be people of lower income levels who have a reliable source for healthcare.

The U.K. has the most nationalized form of Healthcare providing lower expenses in all aspects of healthcare. This does not mean the NHS of the U.K. provides poor quality care. Both the U.K. and Canada have better outcomes in life expectancy, vaccine rates, and mortality rates than the U.S. Everyone greatly benefit from universal healthcare in the U.K. but with a large number of safety nets(more than in Canada) for all citizens, people of lower income definitely benefit the most. However, both countries suffer from an issue with long wait times and patients are often unable to get a doctor's appointment quickly which may negatively impact the very same people the countries try to target.

Each country has its advantages and disadvantages with its Healthcare Systems. There is no "superior" healthcare system because "Which Healthcare System is Better" is subjective to a individual's wants or needs.

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