



HEALTHCARE SYSTEMS AROUND THE WORLD

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ABSTRACT

Typically it is believed that modern countries of the world are developed in all areas, including healthcare, and that poor health is an affliction of poor, underdeveloped countries. The truth, however, is that inadequate healthcare is prevalent in all countries, and no country has a perfect healthcare system. Improvements in healthcare should be a continual goal of every country. Health is a basic human right, and care that improves the lives of all citizens will improve a country as a whole. This paper summarizes the healthcare systems of 17 countries around the world and makes suggestions for economic and political changes that can increase the availability of quality care at feasible financial costs. There is no set formula for change; each country is evaluated, and suggestions have been made respective to problems inherent in that country. The goal is to create a sustainable healthcare system that will provide quality care to all citizens.

United States of America

Healthcare in the United States is a complex mixture of public and private care. The government runs military and veteran healthcare systems, The Indian Health Service, and several programs for vulnerable populations.¹ Medicaid covers the indigent population, and Medicare covers the elderly and certain disabled low-income populations. The State Children's Health Insurance Program covers poor children who do not meet Medicaid qualifications. There are also government funded healthcare centers for underserved populations in both urban and rural areas. Apart from these government programs, coverage comes from private insurance provided by an employer or purchased by individuals. Local health departments provide public health services. Doctor's offices, walk-in clinics, and urgent care centers provide primary care. Secondary and tertiary care is available at hospitals and outpatient institutions, such as surgery centers. Nursing homes and assisted living communities provide long-term care. Home healthcare is also available.

Healthcare in the United States is extensive, and it is also costly. In 2008, the money spent on healthcare amounted to 16% of the GDP, and the OECD average is only 9%.² This is due in part to the amount of technology developed and used in healthcare.¹ Technology is an important part of healthcare because it can improve treatments and patient outcomes; however, it

is expensive to acquire and maintain. To keep costs down, insurance companies must have strict guidelines for payment of technological treatments, and they must always use prospective payment. Hospitals and primary care facilities should also use strict protocols for expensive tests and procedures. To lower healthcare costs further, the government could implement a price reference system for pharmaceuticals and refuse to pay more than the average cost of a drug in the two neighboring countries, Canada and Mexico.

Although all in the United States spends a great amount on healthcare, there are still areas of care that are lacking. In 2006, the infant mortality rate was 6.7 deaths per 1,000 live births compared to the 2008 OECD average of 4.7.² To combat this problem, maternal and child care should be made mandatory through insurance programs. Expecting mothers, newborns, and children under the age of five should have required healthcare appointments at regular time intervals. They could be seen at doctor's offices or primary care or walk-in clinics. The government should fund new facilities or additions to local health departments in areas that do not have an accessible facility.

Another problem with healthcare is unequal access. New facilities for maternal and child care would help alleviate this problem. Access will also improve upon implementation of The Affordable Care Act. This act will expand Medicaid coverage, increase pay for rural healthcare professionals, and make health insurance mandatory.³ A problem with the current healthcare system is over-crowding of emergency departments because people without access to care use the ER for non-urgent health problems.¹ With the new law, everyone should have financial access to care. This will reduce crowding in the ER. To ensure that everyone has physical access to care, the government should create incentives for students to go to medical school, especially those going into primary care. Scholarships and federal student loans with low interest rates may increase the number of medical students.

Canada

Canada's healthcare system is built around Medicare, the national health insurance system that is funded by both the federal and provincial governments.⁴ This system covers 97% of the population, and the remaining 3% are covered under other government programs. Public and private sector providers are utilized; however, most hospitals are government institutions. Provincial health care plans have to abide by the rules of the Canada Health Act of 1970, but specifics vary from one province to another.⁵



Canada's economy fell under stress in the 1990s, and the federal government cut the healthcare budget.⁴ The federal government's financial contribution to the health budget has been decreasing during the past few decades.⁵ In 2007, 10.1% of the GDP was spent on healthcare; the largest expenditure was on physicians and hospitals. The decline in funding for healthcare has led to several problems in Canada's healthcare system, including long waiting times and the low availability of medical technology.

The long waiting times for health related procedures may be exacerbated in the future due to changes in the work force. The percentage of female physicians is rising, as is the average age of physicians.⁴ Women and older doctors work fewer hours than do young male physicians. This will further the need for more physicians to alleviate the waiting time issue.

In order to improve the healthcare system, the number of doctors and nurses needs to increase significantly. In addition, more medical technology needs to be purchased. In 2006, there were only 11.4 CT scanners per million population in Canada, compared to 32.2 per million population in the United States.⁴ Perhaps the country could generate revenue to purchase more advanced technology by charging higher premiums for the use of such diagnostics as CT scans and MRIs. In order to solve the problem of understaffing, restrictions on the number of medical students should be removed, and the government should take measures to encourage people to go to medical and nursing school. This could be done through offering scholarships to new medical and nursing students.

As long as funding for healthcare is continually cut, the problem of limited timely access will remain. In order to eliminate this problem, more money must be spent on the healthcare system. Budget limitations have led to hospitals closing or merging.⁵ This exacerbates the problems in the system. Access is dependent upon the availability of facilities and personnel. Currently, the majority of hospitals are government facilities. Bank financed privately owned facilities could be opened, especially in the provinces that need more technology and doctors. This would increase access to healthcare and decrease waiting times along with creating more job opportunities.

United Kingdom

Healthcare in the United Kingdom is provided through a mixture of private and public sources. The National Health Service (NHS) is the public healthcare system that covers all legal UK citizens.⁶ Employers and trade unions frequently offer private insurance to employees or members as a benefit to supplement the coverage provided by the NHS. The NHS is

funded mostly by general taxation, which includes direct taxes, value-added taxes, and local taxation.⁷ Payroll taxes, employer contributions, and fees for certain services also fund the NHS.^{6,7} There are co-payments for drugs, dental services, and optician services; however, these fees may not apply to children, elderly, pregnant women, people with low income, people with certain medical conditions, and people who are disabled.^{6,7}

Healthcare in the United Kingdom is provided by general practitioners at the primary level, and patients are then referred to specialists for further care if needed.⁷ There are many types of hospitals and there are also long-term care facilities available; however, both the number of hospital beds per 1,000 population and the number of nursing home beds per 1,000 are below the OECD average.⁶ There are also shortages in healthcare personnel, including both general practitioners and specialists.⁷

One of the major problems in the UK healthcare system is long waiting times.⁶ This is due not only to a shortage in healthcare workers, but also due to a need for more technology and equipment. As of 2005 data, the number of CT scanners and MRI scanners were below OECD averages.⁶ In order to relieve the long waiting times, the number of healthcare personnel needs to increase as does the amount of essential medical technology such as CT and MRI scanners. The solutions to both these problems involve increased government expenditure on healthcare. Increasing the salaries of government healthcare workers would encourage more students to go into healthcare careers. Purchasing new MRI and CT scanners is also essential. Allowing public patients to go to private healthcare centers for MRI and CT scans and then reimbursing the private sector may be a short-term solution, but if waiting times are to truly be reduced the number of scanners needs to increase.

Another major issue with the healthcare system in the UK is the financial sustainability.⁶ The aging population, need for more personnel, and need for new technology are all factors that drive the cost of healthcare upward. The percent of the GDP spent on healthcare in the UK is lower than the OECD average.⁶ If healthcare is going to continue to be free at the point of service, the UK government will have to allocate more money toward healthcare. The government does have plans to increase the value-added tax to 20% in January of 2011.⁸ If tax increases and increased government allocation toward healthcare do not generate enough revenue to continue the provision of free healthcare, small co-payments should be added to doctor's visits and hospital stays. These fees could be waived in certain circumstances as the co-payments for medications and certain doctor's visits are currently.



Ireland

The majority of healthcare funding in Ireland is public; this money comes from taxes and accounts for 70% of healthcare funding.⁹ The other 30% of healthcare money comes from private insurance and fees. In 2008, Ireland spent 8.7% of its GDP on healthcare.¹⁰ Care is available from several different types of hospitals including government hospitals, voluntary public hospitals, and private hospitals.⁹ The country is also implementing primary care teams to work at the local level. Access to care is determined by a medical card system. Medical card holders are those who make between €6,500 and €12,000 per year. People with a medical card do not have to pay for their healthcare at the point of access; their healthcare is funded solely by taxation. Those without medical cards pay co-payments and pay for part of their medication costs. People without medical cards often purchase private insurance to supplement public coverage.

Traditionally, one of the most apparent problems in the Irish healthcare system has been long waiting times. The government has reduced waiting times by creating the National Treatment Purchase Fund (NTPF), which pays for treatment for patients on waiting lists.⁹ In some cases this program had reduced waiting times from years to months. The problem with the program, however, lies in financing. Private patients may utilize care from public institutions at subsidized cost; however, the NTPF pays full price for public patients to undergo procedures at private hospitals. The government needs to contract with certain private facilities to make a list of treatments and subsidized prices that the government can pay for care. Competition among private facilities to gain these contracts should allow the government to purchase care at fair prices. This will reduce the cost of the NTPF, which will allow more patients to utilize the program and decrease waiting times further. Another way to decrease waiting time is to purchase more medical technology. Ireland had 9.4 MRI scanners per million and 15.1 CT scanners per million.¹⁰ The respective OECD averages were 12.6 and 23.8.

Ireland is also facing the change to chronic and lifestyle diseases. The leading causes of death in Ireland are cardiovascular diseases, cancer, respiratory diseases, and injuries.⁹ The smoking ban will most likely improve the death rates from both respiratory diseases and cancer. However, measures should be taken to combat the increasing trend of obesity. Also, alcohol use in Ireland is high. In 2008, the consumption rate was 12.4 liters of alcohol per adult, and the OECD average was only 9.4 liters per adult.¹⁰ The best way to decrease obesity and alcoholism is public education. Both private and public insurance could offer discounts or lower premiums to patients who have a physical exam annually and undergo health improvement programs

to improve diet and decrease alcohol consumption. This would save the insurance companies money in the long run because the people they are covering would be healthier. The money that the government insurance saves could then go toward the purchase of new medical technology.

Portugal

The National Health Service (NHS) is Portugal's public healthcare system.¹¹ The system began as a Bismark model system; today it is a mix of the publically funded NHS and private health insurance. The amount of money spent on healthcare per capita is below the OECD average.¹² Portugal has 3.7 doctors per 1,000 population, which is above average. The number of nurses is below average, but the government has taken measures to correct this problem.¹³ The number of acute care hospital beds and MRI scanners are also below average.¹² The number of CT scanners is above average, and Portugal is increasing healthcare technology.

Problems in Portugal's healthcare system involve access and financial issues. Out of the OECD countries, Portugal has one of the highest inequities of doctor and specialist visits based on income.¹³ This may be because NHS does not cover specialist and dental care, which are paid for out-of-pocket.¹¹ Such expenses create a barrier to care for people of low socioeconomic status and contributes to high out-of-pocket costs. The fact that 20% - 25% of the population is covered by subsystems or voluntary private insurance is proof of barriers to care.¹³ If the NHS covered all types of care for everyone, people would not pay for extra health insurance. The government further discriminates against lower income citizens by giving more tax refunds to higher income brackets than to lower income brackets.¹¹ This puts the largest financial burden of healthcare on the poorest portion of the population. Also, 750,000 citizens do not have a general practitioner, which is partly due to the concentration of facilities in urban areas.¹¹ This leads to over-utilization of emergency rooms for primary care, which wastes resources.

Financial problems are further imbedded in the healthcare system in the management of the NHS budget and pharmaceutical policies. The government sets a budget for the NHS each year, but it is frequently surpassed and supplements are provided. This is represented in the fact that Portugal has increased healthcare spending to approximately 10% of the GDP with little improvement in the health of its citizens.¹³ Another example of poor financial management decisions is the ability of pharmacies to set prices on over-the-counter drugs.¹¹ The Ministry of Health regulates the distribution of pharmacies



across the country, giving pharmacies a monopoly in their respective communities. These two policies allow pharmacies to make an excessive profit on over-the-counter products at the expense of their patients and worsen inequalities in access to care.

To fix the problems in the healthcare system, the government needs to place regulations on the NHS budget and significantly limit the amount of supplemental money provided when the budget is exceeded. Tax refunds should be changed to provide more refund money to low income brackets and less to high income brackets. Safety net coverage financed by the government that includes specialist and dental care should be provided to the poor. Also, prices on over-the-counter drugs should be capped, and co-payments should be lower for the poor. More primary care facilities should be built in rural areas. Incentives, such as medical school loan forgiveness, should be provided to doctors willing to serve rural areas. To finance these changes, a value added tax of 15% - 20% could be implemented, with the exception of food and medical supplies.

Germany

Healthcare in Germany is based on the Bismark model, which began in 1883 with the Sickness Insurance Law.¹⁴ This system is a mixture of public and private insurance. The public insurance is funded by financial contributions from employees and employers. The private insurance is mostly utilized by the self-employed and the wealthy. Public insurance covers the vast majority of the population. Citizens can choose among 200 sickness funds to join, they can switch to a different fund if desired, and if they become unemployed they do not forfeit their coverage. Citizens pay a monthly income tax that is the same for everyone, not dependent upon the sickness fund chosen. They also pay their doctor a quarterly co-payment. There are separate benefits for each of the three mandatory categories of insurance, which include health insurance, accident insurance, and long-term care insurance.

The major problem with the German Bismark system is its financial sustainability. In order to cut costs, the government has implemented several strategies. One way the government is keeping costs under control is by using global budgeting.¹⁴ This means that there is an annual limit on the amount of money used for healthcare. Although it may help keep costs from rising, this leads to the allocation of money toward certain resources at the detriment of the budget for other resources. Hospitals that have no flex in their budget for the year will avoid high expenses, such as technology, to assure they have enough money for essentials. This may be one of the reasons why Germany has

fewer MRI and CT scanners than do other countries. In 2005 Germany had 7.1 MRIs per million population, which is much lower than the OECD average of 9.8 per million.¹⁵ In the same year Germany had 15.4 CT scanners per million population, which was also below the OECD average of 20.6 per million. The German government needs to find new ways to cut costs that do not come at the expense of forfeiting useful medical technology.

Another cost burden that is emerging is the aging of the population.¹⁵ As the population gets older, more money will be needed for healthcare, especially in the treatment of chronic diseases. In order to sustain the German system more money needs to be spent, the money being spent needs to be used more effectively, or both. One possible strategy is to invest some money in creating an institution to gather data from public hospitals every year and analyze how the hospitals spend their money. This would give better insight into where money could be cut and where it should be added. For example, if this institution found that certain labs or tests were being ordered when they were not necessary, the hospital should update protocol on test ordering and hold a meeting to educate physicians and other health professionals on the changes.

Other means of increased financing for the healthcare system could include cutting back or limiting the use of certain benefits. In some instances, sickness funds cover spa treatment and health clubs.¹⁴ Perhaps making these benefits and possibly others (such as chiropractors) part of private insurance only could reduce the burden of cost on the government system. Patients could purchase small private insurance packages to supplement their public insurance coverage based on their individual healthcare needs.

Russia

In Russia the majority of healthcare is public rather than private.¹⁶ Healthcare is financed through taxes. Employers provide 3.6% of payroll toward healthcare, but employees do not pay a matching tax. The amount of money the government allocates for healthcare is declining. Primary care is provided in polyclinics and primary care practices. Secondary and tertiary care is provided in hospitals, most of which are run by local governments.

The Russian government does not spend enough money on healthcare. The employer tax of 3.6% is too low. This should be increased to 5%, and employees should make a matching payment. In 2006 the government spending on healthcare was only 5.3% of the GDP.¹⁷ In order for Russians to get quality



healthcare, the government needs to increase spending. Because of how underfinanced the healthcare system is, people often have to make under-the-table payments to get care.¹ Also, patients have to bring their own medications, bedding, and other supplies to the hospitals. The quality of care is low, partly due to a lack of evidence-based medicine. Funding also needs to go toward the improvement of medical schools, medical management training, and continuing education programs for existing healthcare professionals. There needs to be financial incentives, such as student loan forgiveness and scholarships, for students willing to go into primary care and for those willing to work in rural areas. This will combat the imbalance between specialists and primary care doctors and will help alleviate the growing inequalities between urban and rural healthcare.

Other areas that need improved include healthcare facilities, medical equipment, and internet access in rural healthcare facilities.¹⁶ Again, solutions to these problems require increased spending. Private companies that produce medical equipment could be brought to Russia. This would create new jobs and increase the availability of affordable equipment for hospitals.

Other problems in Russia involve the structure and management of the healthcare system. Insurance companies will pay the hospital for a patient's care and retrospectively bill the Mandatory Health Insurance Fund (MHIF) for services that the MHIF covers.¹⁶ This does nothing to control cost because the hospital gets reimbursed no matter what kind of care it provides. Hospitals should be reimbursed directly by the MHIF for services that the MHIF covers. This will give hospitals incentives to care for the patient properly instead of ordering expensive tests and procedures to get reimbursement money. The MHIF should look at outcome data and charge penalty fees to hospitals that are being reimbursed for care that is not producing good health outcomes. Primary care physicians should be given incentives for quality care, rather than being paid based on volume. The MHIF could make a list of diagnoses and pay a certain amount for each diagnosis instead of paying for individual tests or procedures.

In order to control costs and implement the changes mentioned above, the government needs to look carefully at where money is spent. Drug costs are high in Russia because western countries sell high-cost brand-name medications to Russia.¹⁶ Russia should implement a price-referencing scheme and purchase more generic medications. Along with adding a payroll tax to employees, co-payments for drugs and medical care should be added based on income. More private insurance companies should be encouraged so that the financial burden of healthcare is spread among citizens, employers, and the government.

Australia

Medicare is the national health insurance available in Australia, and it is funded by the commonwealth government, state and territory governments, and individual citizens.¹⁸ Citizens pay an income tax levy toward Medicare.¹⁹ They can also purchase private insurance if they wish. The government provides prescription insurance that allows citizens to purchase medications at subsidized prices; this insurance is called the Pharmaceutical Benefits Scheme.^{18,19} The government also helps alleviate the cost of private insurance via the 30% Private Health Insurance Rebate.¹⁹

Australia is facing healthcare challenges that many countries are currently dealing with. Increases in obesity and diabetes and an aging population are examples.¹⁸ In 2007, 24.8% of the population in Australia was obese.²⁰ Obesity can lead to other health problems, such as diabetes and cardiovascular diseases. These diseases are expensive to treat, and they require a lot of pharmaceutical therapy. In order to decrease future healthcare costs, obesity needs to be prevented. This could be accomplished by offering further discounts on private insurance for people who take measures to improve their health. Health programs could require annual physicals, participation in exercise classes, or meetings with a dietician.

Although there are several ways to help prevent diabetes, the aging of the population cannot be changed. As people get older their health deteriorates. A large percentage of the population entering into advanced age automatically means more money will be spent on healthcare. Another reason why healthcare costs in Australia are increasing is prescription drugs.¹⁸ New medications are continuously becoming available, and doctors tend to prescribe newer, more expensive drugs. In order to combat this increase in price, the government could narrow formulary of the Pharmaceutical Benefits Scheme and cut down on what drugs it will pay for. If a newer drug is not more effective or beneficial than an older and cheaper alternative, the government should not pay as much toward the new drug. Australia could also use reference pricing to set the cost of drugs. The government is doing a good job of encouraging people to purchase private insurance to supplement Medicare by implementing the 30% Private Health Insurance Rebate. If this program is promoted effectively, the number of people with private insurance will continue increasing, thus reducing the financial burden on the government for healthcare.

Although the general population in Australia is covered by at least one form of insurance and enjoys quality healthcare, the indigenous population is a markedly different story. The



indigenous people die about 17 years younger than other Australian citizens.¹⁸ They often live in overcrowded areas with little to no access to adequate shelter and clean drinking water. In order to combat this issue, the government needs to build rural healthcare facilities specifically for treating the indigenous people. A piped clean water supply and adequate housing must be provided also. These could be funded by the government, by NGOs, or a combination of the two. Building these facilities may help decrease overall cost in the long run. Currently, the majority of the money spent on indigenous people's healthcare is spent on hospital care.¹⁸ By providing access to clean water, preventative healthcare, and health education the cost of secondary and tertiary care would decrease dramatically. More importantly, the overall health and quality of the life of the indigenous people would increase.

Japan

Healthcare insurance is mandatory in Japan. The Employees Health Insurance Plan (EHI) is funded by employers and employees.²¹ The National Health Insurance program (NHI) covers citizens not covered by an employer. Premiums for both plans are based on income. Although insurance is public, most care is delivered in private institutions.²² Preventative care, however, is not covered and is provided in public facilities. Insurance does not directly cover maternity care. The government provides checks to pregnant women, new mothers, infants, housewives, and elderly for acquisition of maternity or preventative care.

Health education and preventative care are important parts of healthcare. Public education is needed to stress diabetes prevention and breast cancer screening.²² The dangers of smoking should also be stressed. In 2008, 26% of Japanese citizens smoked daily.²³ Reducing smoking rates would decrease chronic complications like cancer and cardiovascular disease. This is important since Japan has the oldest population in the world.²⁴ The chronic disease burden is high and quickly increasing. Insurance should cover maternity care and preventative care. Providing checks does not ensure that people use the money for healthcare or that the funds they are receiving are sufficient for quality care.

Insurance and regulation of the healthcare system need restructuring. Waiting times for healthcare are long, and acute-care beds in hospitals are overrun with people, preventing those who need care from being treated promptly.²⁴ Part of the problem is from limits on medical school class sizes.²³ In 2008, there were 2.2 doctors per 1,000 population, and the OECD average was 3.2. Another element of the problem is

overuse. Japanese citizens have four times as many doctor's visits as Americans, and they choose any doctor they wish to see.²⁴ To make the problem worse, hospitals are reimbursed by how many days the patient stays.²² Hospital beds are taken up by the elderly because the majority of long-term care beds are in hospitals. All of these elements combined create a system where healthcare is overused and backed up, preventing people with urgent issues from getting prompt care.

To solve the aforementioned problems, the government must change several aspects of healthcare. Limits on the number of medical students should be removed. To decrease waiting times more doctors are needed. Nursing homes should be built to decrease long-term care beds in hospitals and make room for acute care beds. A gatekeeper system should be implemented so that citizens must see a primary care physician for non-emergencies before going to specialists or hospitals. If a person goes straight to secondary care, insurance should not reimburse the cost. Insurance should not pay hospitals based on length of stay. Instead, they should pay a flat rate per diagnosis.

To build new nursing homes and increase insurance coverage for maternity and preventative care, the government has to increase spending. The current system, along with the improvements suggested, will not be financially sustainable. Public healthcare spending is already at 81.9%, which is over the OECD average of 72.8%.²³ To keep the healthcare system strong, some of the cost must be diverted from the government. The government will either have to drastically increase taxes or move toward private health insurance. The government could keep the NHI program in place to cover unemployed and elderly, and replace the EHI with employer-chosen private insurance with government-regulated basic minimum coverage requirements.

Korea

In Korea, the National Health Insurance program (NHI) covers 97% of the population.²⁵ The rest of the population is covered by The Medical Aid program. Healthcare funds come from insurance premiums, employer contributions, government subsidies, and out-of-pocket payments. Healthcare is provided in hospitals and clinics, the majority of which are privately owned and concentrated in urban areas.

There is currently an imbalance in the funding and provision of healthcare in Korea that must be improved before access to care will be adequate and equal for everyone. Growth in healthcare spending is twice the OECD average.²⁵ However, expenditure is only 6.5% of GDP while the OECD average



rests at 9%.² Because government spending is still low, Koreans face extensive out-of-pocket costs for care. The problem is compounded by a lack of insurance coverage for preventative and primary care.²⁵ When citizens need primary care they visit doctors in the private sector and are forced to pay for this care themselves. These doctors overprescribe to increase the number of patient visits and order tests and procedures not covered by NHI to increase their income. This leads to a high burden of cost on the patient and to inappropriate care.

Many healthcare problems in Korea are due to inherent weaknesses in the system. The fee-for-service reimbursement should be eliminated and replaced with diagnosis-related group pricing. This should be mandatory for any provider to be reimbursed by NHI. Doctors who want to be reimbursed by NHI should also be required to abide by a formulary to decrease the inappropriate use of drugs and to lower costs. Insurance should be expanded to cover preventative and primary care not only to increase the health of the population, but also to decrease patients' out-of-pocket costs. Insurance should also cover mental healthcare to combat the high suicide rates in Korea.²⁶

Along with suicides, the number of smokers in Korea is extremely high. This is mostly due to male smokers. In 2008, 44.7% of men smoked daily.²⁶ Smoking in public places has been banned in certain parts of Korea.²⁷ In order to significantly decrease the smoking rate, new smoking laws will have to be enforced strictly and violators should be fined heavily. Tobacco products should be heavily taxed. Public education needs to start early in life to change the culture of smoking encouragement among men. Anti-smoking education programs should be brought to public schools and should be targeted at young and older students alike. Insurance should also cover smoking-cessation drugs, and healthcare professionals should encourage patients to quit.

Another problem in healthcare provision is the inadequate amount of healthcare personnel. In 2008 there were 1.9 doctors per 1,000 population, and the OECD average was 3.2.²⁶ There were 4.4 nurses per 1,000 population in 2008, and the OECD average was 9. The government has to make health a priority and increase the pay of public healthcare workers along with reimbursement rates of private personnel. This would increase the number of workers and decrease perverse practices. In order to finance these changes and the expansion of public insurance coverage, the government needs to spend its money wisely. One area where costs can be cut is in the pharmaceutical industry. The government should use a price-reference system to set the cost of medications. Formularies will also help cut this cost.

India

The Indian healthcare system involves many types of institutions financed in several different ways. Facilities include hospitals, community health centers (CHCs), primary health centers (PHCs), and subcenters.²⁸ CHCs, PHCs, and subcenters are government-owned facilities. Subcenters and PHCs are sources of primary care, and patients who need more advanced care move on to CHCs or other hospitals. There are few facilities available to care for the elderly. The formal sector of the economy has closed-panel hospitals and clinics for specific employee populations including government workers, Indian Railway workers, the armed forces, and certain industrial workers. The majority of the advanced medical technology in India can be found in the private sector and industrial hospitals. The facilities funded by the government are funded both by the federal and state governments. The state governments pay the majority, approximately 80% of government health spending. Of all the money that the government spends, only 2.9% goes toward healthcare, and only 0.2% of the GDP is spent on healthcare for the informal sector. Very little money is spent on public health. Most money is spent on curative care, and 75% of this is spent on secondary and tertiary care in mostly urban areas.

Several problems in India's healthcare system need to be addressed, especially the allocation of government money; however, there are also infrastructural weaknesses that must be addressed first. India lacks adequate roads, water supplies, sanitation, widespread electricity, and quality education.²⁸ These problems constitute significant physical barriers to healthcare. In addition to problems with money allocation and infrastructure, there are problems with unequal access to care, high out-of-pocket costs, high infant and child mortality rates, high prevalence of communicable diseases, and a lack of adequate and timely health information required for responding to outbreaks.²⁹

To address the infrastructure issues and the disparity between urban and rural healthcare, the government needs to change the way it spends money. The government needs to spend more money on healthcare, especially for the informal sector. Money should also go to basic amenities. New roads and schools need to be built in rural areas. Also, piped water systems need to be brought to areas of the country that do not have adequate water, and electricity should be provided also. This would allow for rural healthcare facilities to be updated. All of these changes should be funded by the government. New schools could be built by NGOs. Food markets and other stores could be built in rural areas in order to attract more people, especially health professionals, to the area and to increase the resources for the



people who already live there. This could be financed through private companies. All of these changes would help bring updated healthcare and more healthcare workers to rural areas.

In order to adequately finance such a large project, the Indian government needs to acquire more tax revenue. Currently, the informal sector does not pay income taxes, which means only 30% of employees are paying central income tax.²⁸ Also, state governments do not levy income taxes. Both of these policies must change. Even with increased tax dollars, the government will have to rely on NGOs and private companies to help pick up the rest of the bill for many of the proposed changes.

Jordan

In Jordan the public sector provides the majority of healthcare.³⁰ Other sources include private care, NGOs, and charities. The majority of funding (47.7%) for healthcare comes from household spending.³¹ This includes employee's payroll deductions for insurance, out-of-pocket payments for private care and drugs, and premiums that private companies pay to provide insurance for employees. Public funding (46%) comes from taxes and premiums from public companies. The rest of the funding comes from NGOs. The major care provider is the ministry of health (MOH). The other public provider is the Royal Medical Services, which covers the military and the uninsured.

The proportion of public funding should be higher. The financial burden of citizens is too high, especially the cost of drugs. People who are uninsured pay full price for medications.³¹ The high cost of drugs is a burden to citizens and the government. The government should implement a price-referencing system by taking the average cost of a drug from three other countries and refusing to pay more than this average. This will reduce healthcare costs significantly.

Another cost burden for Jordan citizens is paying for clean water. Water in Jordan is polluted by industrial waste, landfills, and agriculture.³¹ Jordan is among the top ten water-scarce countries.³² Because of the lack of clean water, citizens must pay high prices for bottled and tanked water. Agriculture places a large burden on the water supply by using 62% of the available water, but only earning 4% of the GDP. The government should implement policies limiting the use of water for farming and placing regulations on fertilizers. More food should be imported to limit the amount of farming. Regulations are needed for industries to ensure that they are not dumping contaminated water. Landfills should be required to be a minimum distance from water sources.

Even though water contamination is an issue, communicable diseases have declined significantly. Non-communicable diseases are now the main challenge in healthcare.³¹ To deal with the burden of chronic and lifestyle-related diseases, the country needs to invest in new medical technology. This technology, along with more diagnostic testing, will increase costs. Costs will also increase due to population growth. The healthcare system has already been stressed by the influx of refugees. To lower cost, the government should not grant citizenship to additional refugees. Also, family planning should become an important part of health education. Currently, 5.2 children are born per woman.³⁰

To use healthcare dollars effectively, the government should spend more money on health education and disease prevention. Most public health dollars are spent on secondary and tertiary care.³¹ Preventing diseases is cheaper than treating people once they are ill. This is especially true regarding both the chronic and lifestyle-related diseases that Jordan faces.

The government will save money by implementing drug reference pricing and increasing preventative care; however, more money is needed for regulating healthcare technology and water. To finance these changes, the government could add a high tax on tobacco products. This would increase revenue and decrease the use of tobacco, which is high in Jordan.³¹ NGO financing should continue to be encouraged. Bank-financed small businesses should be encouraged to create more jobs and stimulate the economy. As the economy improves, the value-added tax rate could be increased over time.

Turkey

The ministry of health (MoH) is the major healthcare provider in Turkey.³³ Private sector healthcare also exists. Money for public healthcare in Turkey comes from a state budget, budgets of social security organizations, and out-of-pocket expenses. The state budget is the major monetary source, and it comes from tax revenues. There are three social security organizations. The Civil Servants' Pension Fund (ES) collects money from the state and state employees. The SSK collects from industry workers. Bag-Kur is the social security vehicle for the self-employed. The poor and those who are not covered by social security are given a green card that covers their healthcare. Health centers provide primary healthcare. Public, private, and specialty hospitals provide secondary and tertiary care.

A major problem in Turkey is the shortage of healthcare professionals. In 2008 the number of doctors was 1.5 per 1,000 population, and the OECD average was 3.2.³⁴ In the same year,



there were 1.3 nurses per 1,000 population, and the OECD average was 9. Another problem with personnel is the unequal distribution of staff between urban and rural parts of Turkey.³³ Also, differences exist in the availability of technology, such as CT and MRI scanners, among different regions of the country. Turkey has only seven CT scanners and three MRI scanners per million population. The majority of this technology is in the private sector. Turkey does not produce CT or MRI scanners; these are imported from other countries. Vaccines are also imported.

Another healthcare issue results from the healthcare budget. As of 2006, the healthcare budget was only 4.4% of the general budget, which amounted to 1.14% of the GDP.³³ The money allocated to preventative care is decreasing. Spending less money on preventative care will lead to an increase in cost. Prevention of diseases, especially chronic diseases, is cheaper than treating them. Preventing diseases also keeps people from missing school and work.

In order to fix the problems with the healthcare system, the government needs to make an effort to spread healthcare facilities into underdeveloped areas. Government or NGO-funded health centers and small hospitals should be built in rural areas so that everyone in the country is within an hour of driving time from care. Each new hospital should have a CT scanner and an MRI scanner. The focus of care in these new facilities should be preventative care and health education. Of course, secondary and tertiary care will be provided when necessary.

If the changes mentioned above are implemented, there will have to be an increase in the government healthcare budget. Improving the economy can help facilitate this increase and develop the rural areas of the country at the same time. Businesses should be encouraged to open branches in these areas. Such business arrangements can be financed by bank loans. NGOs can help open facilities such as schools. Turkey has a high unemployment rate.³³ As new businesses open, the unemployment rate will decline, providing more tax revenue for the government. More people will be able to afford to attend school. This fact, along with government or privately financed scholarships, will increase the healthcare workforce. Jobs could also be created by opening facilities to produce medical technology (such as MRI and CT scanners) and vaccines. This will stimulate the economy and reduce dependence on foreign medical technology.

Democratic Republic of the Congo

The majority of healthcare facilities in the Democratic Republic of the Congo (DRC) are run by religious organizations and

international relief organizations.³⁵ Facilities available in the country include several types of public hospitals, private hospitals, health centers, and private medical centers. Healthcare is funded via three sources: the state budget, external contributions, and cost recovery. There is a severe lack of healthcare personnel, and the buildings and equipment have not been modernized since the country's independence in 1960.

The lack of healthcare for citizens in the DRC is due to political unrest in the country. A Rwandan rebel group called the Democratic Forces for the Liberation of Rwanda (FDLR) have brutally attacked DRC citizens because of new cooperation between the DRC and Rwandan governments.³⁶ The Congolese army does not protect its citizens, and it attacks people believed to be FDLR allies. The DRC government needs to stop the crimes committed against its citizens. People are being raped and killed, and houses are being burned down. The government needs to take control of the Congolese army and ensure that this defense force works toward the country's best interests.

The government in the DRC runs healthcare as well as it runs the army. Healthcare relies heavily on money from the government, and this money has been steadily declining.³⁵ External contributions and money from healthcare users are the only resources left once government funding is lost. If citizens did have access to modern healthcare services, they may not use them because of the wide belief in spiritual causes of illness. Also contributing to access issues is the lack of personnel. Workers trained in the DRC often leave the country to work elsewhere. There is also no form of medical insurance available in this country.

In order to fix the healthcare problems changes must begin at the government level. The government is a republic in which the president holds a high degree of power.³⁵ The president appoints the prime minister and the ministers of state.³⁷ This gives a considerable amount of power to one person. The government should be changed so that the ministers of state are elected by the people. By giving more influence to DRC citizens the government will become more representative of the population, and more officials will be elected who care about the wellbeing of the population. The government needs to increase spending on the healthcare system to update facilities and technology. Also government medical insurance should be created, and care should be free to the poor, the disabled, and to pregnant women and children. NGOs and the government should implement aggressive preventative care including vaccinations and public education about the causes of disease. Foreign healthcare workers should be brought to the country via NGOs to eliminate the



severe lack of personnel until the country is improved enough for DRC healthcare workers to want to stay in the country.

In order for the government to acquire enough money to implement the drastic changes needed, it should take control of the natural resources in the DRC. The government could create jobs for people to process the natural resources to get them ready for export. Money from exports and cash crops could be taxed to provide money for healthcare.

Nigeria

Nigerian healthcare is in a dismal state. Life expectancy at birth is 48 years for men and 49 years for women.³⁸ The number of deaths occurring at age five or younger is 191 per 1,000 live births. The government allocates 2% to 3% of the national budget to healthcare; due to corruption, the entire budgeted amount is not actually paid out.³⁹ In the public Nigerian healthcare system, care is available from PHC centers, health clinics, health posts, and hospitals. There is also a private healthcare system made of for-profit and not-for-profit institutions. In addition to the public and private systems, there is an informal system. None of these subsystems are effective in delivering highly accessible quality care to the Nigerian citizens.

An important barrier to healthcare in Nigeria is the lack of proper infrastructure. Nigeria does not have adequate roads, drinking water, sewage systems, trash disposal, transportation, or electricity.³⁹ The lack of clean water is an especially debilitating problem as it contributes to the burden of communicable diseases. Nigerians are afflicted by malaria, tuberculosis, diarrhea, poliomyelitis, and HIV/AIDS. A moderate estimate of the number of adults 15 and older and children living with AIDS in 2007 was 2.6 million.⁴⁰ Another devastating part of the healthcare system is a lack of child and maternal care. The infant mortality rate is 101 per 1,000 live births.² Because most of the population of Nigeria cannot access the public healthcare system, an informal sector of unregistered healthcare workers providing unregulated care exists.

In order to solve the complications of Nigeria's infrastructure and healthcare system, the government must increase spending dramatically. The government should finance infrastructural reform to bring clean piped water and electricity to the entire population. Facilities should be built in urban and rural areas to provide maternal and child care. Through these facilities, women and children will get all of their vaccinations. Public health information and family planning education will also be provided here. Visits will be mandatory once a woman becomes pregnant and will remain so until the child has been

fully vaccinated. In order to eradicate communicable diseases such as polio, NGO-funded vaccination programs should be initiated countrywide. The facilities mentioned previously would help implement the vaccine programs. Once access to healthcare increases, the informal sector should diminish.

Once adequate facilities are built, they must be staffed. Many of the Nigerian healthcare personnel leave the country upon graduation.³⁹ Hopefully the improvement in the infrastructure of the country will entice them to stay. In addition to these changes, private companies should be encouraged to develop areas of Nigeria with shopping malls, grocery stores, and restaurants. The government and NGOs should also make an effort to build new schools, especially in rural areas.

In order for the government to finance these changes, it needs to use the country's natural resources (such as oil) effectively. Proper management of exports would go a long way toward improving the economy. Financial aid from NGOs would have to continue for the present time. Once private companies have created a significant amount of businesses there will be an increase in jobs and an improvement in the economy. When the majority of the population is adequately employed, the government can levy income tax and implement a value-added tax to help finance the healthcare system.

Ghana

In recent years the healthcare system in Ghana has undergone significant changes. In the late 1970s the healthcare system changed to a cash-and-carry system.⁴¹ There were no government subsidies on healthcare, and citizens were required to pay user fees. The people of Ghana were too poor to pay for healthcare this way, and many went deeper into poverty, got sicker, or died. Because of these tragedies the government changed the healthcare system in 2004 to the National Health Insurance Scheme. Insurance is mandatory for everyone. The normal premium is \$8.00 per year, and people under 18, over 70, or those who are indigent do not have to pay. There are no co-payments or deductibles; the NHIS is funded only by premiums, sales tax, and social security.

A significant problem all citizens of Ghana face currently is a shortage of clean water. Decreases in rainfall, increases in population, degradation of the environment, pollution of the rivers, and draining of wetlands all contribute to the problem.⁴² The government needs to continually monitor water quality and put strict regulations on farming practices and industrial waste to ensure that the scarce amount of water the country has is kept clean and does not contribute to disease.



Other problems in Ghana's healthcare system revolve around the need for more resources. Ghana has only one doctor per 160,000 population.⁴¹ The majority of healthcare professionals trained in Ghana leave the country. The government needs to increase salaries for healthcare personnel and offer free schooling to entice them to stay in the country. Also, general improvements in the healthcare system may help keep professionals from leaving. One of these necessary improvements is new technology and medical equipment. The majority of medical equipment is outdated or broken.⁴¹ New equipment is needed for upgrades and for new healthcare facilities. In addition, access to care is not equal between urban and rural parts of the country. More facilities need to be built in underserved areas. If this happens, it will increase the demand for more personnel, equipment, and technology.

To implement the changes mentioned above, the amount of money spent on healthcare must increase. This is difficult in a country with a relatively poor economy. If the healthcare system is going to be improved, first the economy must be improved. This is not an impossible task, as Ghana has many natural resources that can be harnessed for income. Some of these resources include gold, timber, industrial diamonds, rubber, petroleum, and silver.⁴³ Private companies could be allowed to organize the processing of these resources for export, creating new jobs and bringing more money into the country. The government could put taxes on the exports. Other companies should be encouraged to start businesses in the rural areas, such as grocery stores. Soon many more people will have jobs, and the rural areas of the country will be better developed. These changes also may help bring healthcare workers back to the country. Eventually the government will be able to afford to create a safety net for the poor, much like Medicaid in the United States. Increases in the government's income will hopefully mean that enough facilities will be built and additional personnel will be trained so that everyone will have reasonable access to primary care and health education. This income growth will help combat the problems of malaria and HIV/AIDS that Ghana faces.

Mexico

Healthcare in Mexico is predominantly public.⁴⁴ Social security organizations cover many workers and are funded by the government, the employer, and the employee. The Ministry of Health (MoH), the State Health Services (SESA), and the IMSS-Oportunidades Program provide care to those without insurance. A newer program called Seguro Popular is being implemented to cover everyone who is not eligible for social security. This includes people who are self-employed, unemployed, and workers of the informal sector. These programs

are financed by the federal and state governments and small user fees. Healthcare is provided in public and private hospitals and primary care facilities.⁴⁵

The quality of healthcare in Mexico needs improvement. Recently the mortality rates have decreased, life expectancy has increased, and fertility rates have decreased.⁴⁴ These factors show significant improvement, but problems still exist. In 2008 the infant mortality rate was 15.2 deaths per 1,000 births, and the OECD average was 4.7.⁴⁶ The health of rural, poor, and indigenous people is often worse than the rest of the population. The poor in Mexico are likely to have infectious diseases, reproductive issues, and malnutrition. Healthcare needs to be available to the entire country. Government or NGO-financed primary care clinics should be built for rural and indigenous communities and in urban areas that do not have clinics. These clinics should provide vaccinations, primary care, preventative care, first aid, health and reproductive education, and maternal and child care. Services should be available to everyone whether they are covered by social security, the Seguro Popular, or private health insurance. This would drastically improve the lives of many citizens.

The establishment of new clinics shows the possibility of improvements in quality, but it also highlights another problem. The number of healthcare workers in Mexico is severely under the number that is necessary to provide quality care. In 2008 there were 2 doctors and 2.4 nurses per 1,000 population.⁴⁶ The OECD averages for the same year were 3.2 and 9, respectively. There is also a need for technology. Mexico ranks last of all OECD countries in number of CT scanners, number of radiation therapy units, and number of mammographs.⁴⁴ To encourage increases in healthcare workers, the government needs to increase pay for public workers and either help pay for medical school or offer schooling for free. It should offer financial incentives for people who work in rural areas and clinics.

Shortages in workers and technology are not the only problems in the Mexican healthcare system. The government needs to allocate more money toward healthcare. In 2006 it spent 6.5% of the GDP on healthcare, and the OECD average is 9%.⁴⁴ The public expenditure is extremely low, yet the majority of healthcare facilities are public. Most private-care expenses are paid out-of-pocket. This leaves citizens with little options for care. The government needs to increase its spending on the public healthcare system in order to increase facilities, decrease waiting times, and improve access and quality. In order to divert some financial burden away from the government, private insurance companies should be started. Bank-financed private



facilities could then be built. This would increase access to care, and competition between private facilities would increase quality and availability of technology. The government also needs to continue its support of the Seguro Popular program to ensure coverage for all citizens.

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