

Government and Medicine: the evolution of the Chinese health care system

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## **Introduction**

Politically, China's journey to present day features a wide variety of government types. Traditional Chinese history consists of centuries of imperial rule. This was followed by a short period as a republic. Then, Mao Ze Dong established China as a communist state. Most recently, the Chinese government has led China to a market economy, and the nation still attempts to find a balance between the wishes of the Chinese Communist Party and the demands of a market economy. China's diverse political history offers the unique opportunity to explore how a nation's government impacts its approach to medicine and public health.

By utilizing literature review methodology, the relationship between Chinese government and health care was investigated. The dominant theme that emerges from this data is that the evolution of Chinese medicine directly reflects the trends in political rule of that time. During imperial China, though there was no established public health care system, emperors' interest in medicine generated new knowledge that trickled down to the masses. Weak leadership, war, and foreign abuse during the Republic of China led to a rejection of all things "Chinese," including medicine, by citizens. When China became a

communist state, heavy government involvement in health care ensured that nearly all of China's millions of citizens would have access to basic care.

However, Deng Xiaoping's market reforms scaled back government control tremendously, and the health of the Chinese people suffered as a result. Now, China is attempting to correct the mistakes made after market reform by investing in basic universal health care. The impact these efforts have on citizens remains to be seen.

The successes and failures at each stage of China's health-care system provide other nations with vital information on how to adjust the influence their own governments have on medicine. In particular, the Chinese and United States superpowers have an opportunity to work together as the former moves to universal health coverage and the latter prepares for major health care reforms.

### **Imperial China**

Imperial China covers centuries of traditional Chinese history and the reigns of countless number of emperors. Interestingly, though there was no established health care system in China during this time, Chinese physicians practiced medicine based on the literature being published by court physicians employed by the emperor. Thus, without a personal interest in medicine being expressed by the emperor, there would not have been nearly the amount of medical advancements made in China during this period.

### **Shang Dynasty**

During the Shang dynasty, the oracle bones of political leaders contained descriptions of medical diagnosis and treatment. The Shang dynasty, China's earliest recorded dynasty, existed from 1700-1100 BCE. The most popular features of this time period were oracle bones. Oracle bones were created by placing a hot poker on a turtle shell or animal bone. The heat created cracks in the shell or bone, and then diviners interpreted the cracks. The purpose of oracle bones was for Shang kings to communicate with ancestors. Many times, this communication was conducted in question-and-answer format (Ebrey 2008, pg. 21). Interestingly, some of these oracle bone messages have connections to medicine. Some are related to diagnoses, and others reveal common methods of treatment, such as wine for medicine and bronze knives for basic surgeries (Sivin 1988, pg 70).

### **Zhou Dynasty and the Introduction of Medical Publications**

During the Zhou dynasty, from 1111-222 BCE (Ebrey 2008, pg. 38), there was no established public health care system. However, emperors employed court physicians to care for their families. Many emperors also took a personal interest to medical advancements, and so these court physicians had additional support to conduct their own research and to publish their thoughts. Many primary sources that reveal knowledge of dynastic medicine can be found in the biographies of physicians. Also, physicians often wrote about their predecessors, partly as a means of validating their own medical beliefs. Interestingly, the published works of court physicians had an influence on how

civilian doctors treated their patients. Civilian doctors often followed the trends that were published by the medical elite (Sivin 1988, pg. 46). Thus, there was a trickling down effect of medical practice from the highest levels of the emperor down to the masses.

The relationship between politics and medicine during this time is undeniable. The basic concepts of yin-yang and the Five Phases originated from Dong Zhongshu's writings in the *Book of Changes* from the early second century BCE and Yang Xiong's *Tai xuan* from 4 BCE. Thus, the foundation of Traditional Chinese Medicine rose from political leaders. Furthermore, the *Yellow Emperor's Medicine Classic*, written during the first century BCE, had discussions of diagnosis and clinical reasoning (Xu and Yang 2009, pg. 133). Furthermore, Sivin (1988) points out that "The similitude of governing and curing (both called zhi, "bringing order") remains a theme throughout the history of classical medicine. The idea that illness results from incorrect action or thought, found in records of healing at every level of Chinese society, has political consequences when public authority enforces social definition" (pg. 53).

### **Traditional Chinese Medicine**

During imperial China, the foundation of Traditional Chinese Medicine emerged. The practices of Traditional Chinese Medicine have lasted over centuries and it still practiced in modern times. Traditional Chinese Medicine is based on traditional Chinese beliefs of yin-yang and the Five Elements. It includes five-zang organs and six-fu organs, qi pathways, blood, and meridians.

Holistic care and balance are crucial themes within Traditional Chinese Medicine. Disease-causing factors are grouped by whether they are external or internal. Finally, syndromes are classified as yin, yang, exterior, interior, cold, heat, deficiency, and excess (Xu and Yang 2009, pg. 133). Knowledge and practice of Traditional Chinese Medicine were passed down through generations of families and sometimes to students through apprenticeships (Xu and Yang 2009, pg. 134).

Diagnosis is a critical aspect of Traditional Chinese Medicine. Methods include inspection, listening to organs, smelling, asking the patient questions, and palpation (Xu and Yang 2009 pg 133).

Chinese herbology is another important component of Traditional Chinese Medicine. Plants, animals, and minerals may be employed for treatment. How these medicines are prepared is no random act; there is always a precise formula and method of creating Chinese herbal medicines (Xu and Yang 2009, pg. 133).

### **Achievements in Medicine**

Initially, considering the connection between political leadership and medicine in imperial China, one might assume that medical advancements are based solely upon the success and power of the ruler at that time. However, the relationship seems to have been more direct. The flourishing of medicine under a particular emperor seems more based upon the emperor's personal interest in medicine rather than his overall effectiveness as a ruler.

There are several examples that show that imperial interest, not necessarily political success, drove the development of Chinese medicine. During the Qin dynasty, Qin Shi Huangdi was criticized for the burning of many scholarly books. However, medicine still managed to fare well because Huangdi did not order the destruction of medical books. Imperial interest in medicine peaked during the Han dynasty, when Emperor Lingdi began the search for an elixir of immortality. He employed Taoist and Buddhist monks to create this elixir, and as a result, the school of Chinese prescription was formed. Another interesting time for medicine occurred during the period of disunity that followed the Han dynasty. Though the leadership of the country was in shambles, there was also tremendous medical development as a result of the people's support for Buddhism. Beginning in the Tang dynasty, more emphasis was placed on educating court physicians. After the establishment of the Imperial Academy, which was designed to train the emperor's physicians, many local regions opened their own medical schools to supply physicians for the people. Thus, one can see how health care for the masses was a reflection of the emperor's personal interests (Sivin 1988, pg. 69).

### **Qing Dynasty and Contact with the West**

Just as the emperor's support of medicine led to development that trickled down to the masses, the outside pressures from the West that occurred during late imperial times also had a great effect on the health care of Chinese citizens. During the 19<sup>th</sup> century, in which China was ruled by the Qing dynasty, the

government was heavily impacted by western missionaries. Though contact with the West is usually seen more from a political perspective, it had a tremendous impact on medicine in China as well. Western medicine began to take over the market. Eventually, a blend occurred in which Chinese Traditional Medicine was practiced alongside Western medicine (Xu and Yang 2009 pg 134).

Therefore, for the period of imperial rule in China, concepts were constantly being taken from the highest levels of government rule and being applied to everyday citizens. What is so interesting about this is that health care trends reached the masses with barely any help from the imperial court. The emperors' interests in medicine were the primary motivators for medical development. We see that during the periods this interest is lacking, medical achievements for all of China decline.

### **Republic of China**

China had a taste of a republic form of government early in the 20<sup>th</sup> century. Because leadership during this period was so weak and short-lived, there were no major health care policies established during the republic. However, the time of the Republic of China gives us an opportunity to see how health care evolved during one of the weakest and most unstable times in China's recent history. Particularly interesting is the impact that foreign contact had on Chinese citizens during this time.

In 1911, the Qing dynasty was successfully overthrown, and the imperial form of government was replaced by a republic. However, the Republic of China

was extremely short-lived. Yuan Shikai was a terrible leader and behaved as a dictator soon after Sun Yatsen passed along presidency of the republic. During the time between the Republic of China and the People's Republic of China, China was plagued by poverty, disunity, warlords, and mistreatment by foreign powers (Ebrey 2008, pg. 266).

These difficulties had a very interesting effect on Chinese medicine. As a result of poverty and war, the health of the Chinese people suffered greatly. Infectious diseases such as cholera, the plague, smallpox, malaria, and tuberculosis led to many deaths. Famines and starvation were also very common (Ebrey 2008, pg. 272). There is no doubt that the Chinese people were facing many hardships, with little to no help from the government. Their reaction to the weak political state of China was to reject all things considered traditional Chinese, including medicine. Western medicine spread very quickly during this period. Thus, when Chinese citizens witnessed outside powers repeatedly defeating their weak leadership, their response was to reject traditional medicine and replace it with that of the more powerful nations they were constantly in contact with (Shen-Nong 2005).

### **People's Republic of China**

Mao Ze-Dong and the Chinese Communist Party officially became rulers of a very weak China in 1949. The new policies of the Communist Party completely changed the face of China. Rural Chinese society was organized into communes. "Communes owned the land, organized its cultivation, distributed its

harvest, and supplied social services” (Blumenthal and Hsiao 2005, pg. 1166). In addition, the government extended an incredible amount of control and regulation never before witnessed by the nation (Ebrey 2008, pg. 294).

Though China was still considered a very poor nation, the government was still able to organize an efficient health care system. Each community used government funds to develop finance village health stations and train and employ “barefoot doctors” (Hsiao and Liu 1996, pg 383).

### **Structure of System**

The Chinese government developed a three-level system for health care. In cities, street health stations provided the most basic care, followed by community health centers and district hospitals. In rural areas, the most basic level consisted of village stations, followed by township health centers and finally county hospitals. Village stations were supervised by barefoot doctors who had minimal medical training. Township health centers were able to house roughly a dozen patients and were staffed by physicians, assistant physicians and village doctors. County hospitals usually held up to 300 beds, and patients were under the care of physicians and other health professionals with higher medical training (Hsiao and Liu 1996, pg. 383).

During this time, the government provided the bulk of funding to the health care system. Rural communities used the welfare funds received by the government to help pay for the Cooperative Medical System (Liu et al 1999, pg. 1354). The Cooperative Medical System covered village doctors’ salaries, paid

for drugs and occasionally reimbursed patients for higher-level treatment (Hsiao and Liu 1996, pg. 430). Patients made an annual payment of 0.5-2 percent of their annual income. However, the majority of Cooperative Medical System funding was on the shoulders of the government (Hsiao and Liu 1996, pg. 430).

In urban areas, the Government Insurance Scheme and Labor Insurance Scheme provided coverage to urban dwellers. The Government Insurance Scheme was financed by government money. The Government Insurance Scheme covered health care for government employees, retirees, veterans, teachers, and students. The Labor Insurance Scheme was provided by employers and covered employees, dependents, and retirees (Yip and Hsiao 2008, pg. 461).

### **Barefoot Doctors**

Chinese barefoot doctors were actually peasants who were given basic medical training. Mao began supporting the barefoot doctor initiative soon after he came to power in 1949. At that time, only 40,000 doctors, mostly located in urban areas, were serving the 540 million citizens of China (Siden 1972, pg. 1293). Clearly, more health care providers were needed immediately, and the barefoot doctors soon filled the gaps.

The duties of a barefoot doctor included both agricultural and medical work. Most barefoot doctors still spent their days doing normal farm work but stopping if medical treatment was needed. Their health care responsibilities

included sanitation, health education, immunization, first aid, primary care and follow-up visits (Siden 1972, pg. 1295).

Though training for barefoot doctors varied from region to region, most areas offered three months of formal training, followed by hands-on experience (Siden 1972, pg. 1972). In the United States, where medical training for physicians includes years of undergraduate study, medical school, and internships, it is difficult to grasp the notion that millions of rural Chinese citizens were in the hands of barefoot doctors who received minimal six-week training. Nevertheless, barefoot doctors were effective in providing basic, primary care to millions of rural Chinese (Blumenthal and Hsiao 2005, pg. 1166).

### **Successes**

Under this set up, more than 90 percent of the Chinese population was able to receive basic health care services (Hsiao and Liu 1996, pg 430). By 1975, government employees and nearly 85 percent of the rural population had health insurance (Lazarus 2004, pg 914).

As access to health care improved, so did the general health of the population. From 1952 to 1982, the infant mortality rate was reduced from 250 to 40 deaths per 1000 live births. During this same time period, life expectancy also increased from 35 to 68 years (Hsiao and Liu 1996, pg 430).

In addition, the Chinese government supported major public health campaigns (Lazarus 2004, pg 914). The Chinese government largely modeled their investments after the Soviet Union of the early 1950s (Blumenthal and

Hsiao 2005 pg 1166). As a result, many infectious diseases were brought under control (Lazarus 2004, pg 914). Improvements to sanitation and controlling the prevalence of vectors were especially successful points of focus (Blumenthal and Hsiao 2005 pg 1166). From 1952 to 1982, the prevalence of malaria decreased from 5.5 percent to 0.3 percent (Hsiao and Liu 1996, pg 430).

Therefore, under the guidance and funding of the Chinese Communist Party, health care improved tremendously for Chinese citizens. Not only was an organized health care system established in both urban and rural areas, but the health status of citizens consistently improved across the board. Unfortunately, health care improvements would not last forever. In China's case, they ended with market economy reforms.

### **Market Economy**

Market economy reforms, introduced in the late 1970s, allowed China to transition into the wealthy international superpower that it is today. Total resources available to China's society has undoubtedly increased in recent years, which means that more money can be invested in societal goals such as better health care. Both the pros and cons of health care in China under the market economy will be discussed. Market reforms have introduced amazing growth in both the overall economy and health care market. Bigger does not necessarily mean better, and this is the situation Chinese health care faces here. The health care system under the market economy is tremendously challenged from many angles.

**General information**

In 1978, under the command of Deng Xiaoping, China evolved from a planned to a market economy. In a market economy, “private ownership and market forces largely supplanted government control” (Hsiao and Liu 1996, pg. 430). In the first years of the market economy, from 1979 to 1985, increasing agricultural productivity was the main focus. Collective farming was replaced with privately leased land. Farmers’ incomes increased, since they were allowed to keep their profits. After 1985, private ownership and investments became the new priority of the government (Hsiao and Liu 1996, pg. 430). As China made these economical changes, the Chinese government also reduced its presence in regional and local affairs (Blumenthal and Hsiao 2005, pg. 1166).

As desired, the efforts of the market economy led to tremendous economic growth in China (Hsiao and Liu 1996, pg. 430). From 2007 to 2017, China’s GDP is expected to increase from 2.2 trillion USD to 3.2 trillion USD (Ward 2008, pg. 383).

**Modernization**

Since market reform, the government has also made modernization a priority in China. Increases in education, urbanization, and affluence have contributed to a wave of modernization in present day China. Since 1979, with the “one child” policy, the Chinese government began spending more money on

education. Over the years, more and more children have become educated and began seeking better employment and higher salaries in the cities. Thus, the themes of education, urbanization, and affluence are linked in contemporary China. Both urbanization and affluence continue to grow steadily. Urbanization has grown from 32 percent in 1997 to 43 percent in 2008 to an expected 52 percent in 2017. Similarly, affluence is also growing, as indicated by a predicted average urban household income increase from 4,032 USD in 2007 to 5,115 USD in 2017 (Ward 2008, pg. 383).

### **Growth of Chinese Health Care Market**

Alongside the Chinese economy as a whole, the Chinese health care market has also grown tremendously. There is no way to ignore the growth of the Chinese health care market. The rapid growth of the Chinese health care market is thanks to its aging population, post-market reform economic growth, and urbanization. In 2004 alone, China's pharmaceutical market grew 28 percent, making it the fastest growing in the world. In 2006, the Chinese pharmaceutical market is estimated to be worth 13 billion USD and up to 38 billion USD by 2010. At this rate, China's pharmaceutical market is predicted to be the largest in the world by 2050 (Ward 2008, pg. 383).

### **Challenges of Market Economy Health Care**

Though the government has been successful in transitioning China from an underdeveloped nation to a modern, market-driven superpower, health care

has faced tremendous challenges in recent years as a result of government-led economical changes.

### **Decreased Government Spending.**

When Deng Xiaoping introduced economic reforms in 1978, the health care system, along with other sectors of the economy, became privatized. In other words, the government very suddenly stopped spending large amounts of money on health care. Communes were abolished, and the government's laissez-faire policy allowed the market to drive the structure of the health care system and its mode of financing (Hsiao and Liu 1996, pg. 431). Government funding was limited to covering basic salaries and investments, which only consisted of 20 percent-25 percent of hospital expenses (Hsiao and Liu 1996, pg. 430). From 1985 to 2005, health care payments by the government decreased from 40 percent to 17 percent (Ward 2008, pg. 383).

Decreased government spending on health care had several significant effects. It greatly handicapped the Cooperative Medical System that had been developed during previous decades, which relied on government funds (Lazarus 2004, pg. 914). The government also reduced spending on preventive care, vaccinations and other public health initiatives. As a result, managers of these services were forced to charge fees or offer prepayment options (Hsiao and Liu 1996, pg. 430). These service providers were also forced to earn income from other services, such as inspection of cosmetic products, which took away time

and commitment from preventive programs (Liu et al. 1999, pg. 1355). As a result, health education and disease prevention suffered tremendously (Blumenthal and Hsiao 2005, pg. 1167).

### **High Costs to the Patient.**

When the Chinese government decreased financial support, patients were left to foot the bill. There was a sudden shift from government spending to patient spending. This was very problematic to Chinese citizens, as only 25 percent of the population was insured after the health care system became privatized (Hsiao and Liu 1996, pg. 430). In 2008, over 50 percent of health care costs were paid directly by the patient (Ward 2008, pg. 383). This placed China near the top of the list for Asian countries that have the highest out-of-pocket health care payment percentages (Yip and Hsiao 2008, pg. 461). From 1986 to 1993, the average amount spent per person per year on health care increased by 11 percent (Hsiao and Liu 1996, pg. 431).

### **Health Care Price Regulation.**

Many would say that it is bad enough that so many patients have to pay for their own care, but on top of that, the cost of health care in China has skyrocketed. This is partly because the government prices routine health services below cost. Therefore, laboratory tests and expensive medical procedures are often employed to keep hospitals afloat. Providers also encourage new and expensive medicines since these are one of the only other methods they can make a profit (Lazarus 2004, pg. 914). "Half of Chinese health

care spending is devoted to drugs, as compared with 10 percent in the United States” (Blumenthal and Hsiao 2005, pg. 1677). Finally, the government also changed the formula of salaries and added bonuses for physicians who generated the most money for their hospitals. This gave physicians even more motivation to abuse the health care market (Blumenthal and Hsiao 2005, pg. 1167).

This has had an unfortunate effect on the care patients receive. Hospitals and physicians can only make money from overprescribing and over-testing patients using high-technology tests (Lazarus 2004, pg. 916). To ensure that they receive the most current technologies, providers form partnerships with manufacturers to purchase the latest releases. Furthermore, the differences in cost and price of care have forced providers to employ fee-for-service payments. Unfortunately, this sometimes leads to physicians ordering excessively expensive services and prescriptions (Hsiao and Liu 1996, pg. 383). For example, Yip and Hsiao (2008) reported that 75 percent of patients with the common cold and 79 percent of hospital patients are prescribed antibiotics, much higher than the international average of 30 percent (pg. 462-463).

The trend of self-pay has had a significant impact on how rural, uninsured patients receive care. In 2002, the Ministry of Health reported:

More than 60 percent of patients in rural areas had to leave hospitals before recovery because they could not pay. In 1998, 37 percent of all sick farmers reportedly did not see doctors and 65

percent of patients who should have been hospitalized failed to receive medical treatment. Rural residents accounted for 70 percent of China's population but shared only 20 percent of its medical resources (Lazarus 2004, pg 914).

These numbers are understandable once one realizes that for 50 percent of rural patients, one hospital visit exceeds their average annual incomes (Hsiao and Liu 1996, pg. 431). For uninsured rural patients, receiving health care services often translates into debt. In a survey, 25 percent of patients who received care had to borrow money to cover the costs, and another 6 percent were forced to sell their property (Hsiao and Liu 1996, pg. 431). This data suggests that the introduction of the market economy and the decline of the community-based medical care system have decreased access to care in rural areas and also led to poverty for those citizens who do receive care.

Despite steps that have been taken to give insurance companies, rather than patients, more payment responsibility, many times this translates into reimbursements back to the patient. Therefore, how much an insured patient can actually afford remains an important aspect of what services they receive. As a result, profit-seeking pharmaceutical companies focus on the needs of insured patients, who foot the bill for uninsured patients as well. This undoubtedly has an impact on which types of medical technologies are quickly developed. Unfortunately, catering to only the insured portion of the population leaves the uninsured even farther behind (Ward 2008, pg. 384).

### **Rural-Urban disparity.**

With the market economy, the wealth disparity between urban and rural citizens has widened. In 2002, Shanghai residents earned 11 times more than the average annual income of a person living in southwestern rural China (Lazarus 2004, pg. 915).

Similarly, a health disparity between rural urban residents has also developed. When the government decreased its spending on health care, local governments were put in charge to pick up the slack. Taxation was the primary method of funding local health care, which automatically put poorer rural areas at a disadvantage (Blumenthal and Hsiao 2005, pg. 1166). Furthermore, the market economy reforms abolished rural communes, and without government funding the Cooperative Medical System ended as well. Most village doctors became private physicians or even went back to farming in order to make better salaries (Hsiao and Liu 1996, pg. 431). For the barefoot doctors that became private physicians, their quality of care is very questionable considering the fact that they were quickly trained for primary care only (Blumenthal and Hsiao 2005, pg. 1167). During the 1980s, township clinics decreased in number by 14.2 percent, and primary care professionals decreased by 35.9 percent in rural areas. Health care access continued to decline into the 1990s. A study based on 30 poverty-stricken counties in China found that 71 percent of villages had at

least one health station in 1979, but that percentage dropped to 55 percent by 1993 (Liu et al 1999, pg. 1354).

Meanwhile, the organization of urban health care remained the same since many of its patients received higher salaries than their rural counterparts and were thus better able to put more money into the system (Hsiao and Liu 1996, pg. 431). As rural areas saw a decrease in health care access, urban areas saw an increase. From 1980 to 1989, the number of urban health care professionals increased by 234.5 percent and then by another 142 percent from 1990 to 1995 (Liu et al 1999, pg. 1354). The number of urban hospitals also increased from 9,478 in 1980 to 14,771 in 1995 (Liu et al 1999, pg. 1354).

There is also a significant difference in percentages of insured patients in rural and urban areas. About half of urban residents are insured under the Government Employee Health Insurance or by Labor Health Insurance (Liu et al 1999 pg. 1354). The percentage of insured rural patients, however, is at 7 percent overall and 3 percent in poverty-stricken Western China (Blumenthal and Hsiao 2005, pg. 1168).

Research into the health status of Chinese consistently reveals an urban-rural disparity. For example, the maternal death rate in urban Zhejiang Province was 23.74 per 100,000, compared to rural Qinghai Province's rate of 215.37 per 100,000 (Liu et al 1999, pg. 1351). Further research shows an overall increase in height of Chinese children, but there is also a significant difference in growth between urban and rural areas (Hsiao and Liu 1996, pg. 430). Life expectancy

for rural citizens is less than it is for their urban counterparts (Liu et al. 1999, pg. 1351). Interestingly, there is even a marked difference between rural and urban patients when it comes to perception of health:

While two indicators reflecting self-perceived illness (illness days and incidence of chronic diseases) are consistently higher for the urban population than for the rural population, functional status of the rural population as reflected in the indicator of disability days, an arguably more 'objective' measure of morbidity, seemed to be worse than the urban population (Liu 1999 pg 1351).

Most alarming, however, is that some rural areas are witnessing a rise in infant mortality and some infectious diseases that were controlled in the past (Blumenthal and Hsiao 2005, pg. 1167) *See Figure 1.*

It is important to note that many studies that examine the overall health status of China report improvements. However, in some circumstances, improvements in the urban sector are great enough to offset the decline seen in rural areas. Considering that China's rural population is estimated to be around 900 million, analyzing the rural statistics is equally important, if not more, than the viewing the urban or overall numbers (Blumenthal and Hsiao 2005 pg 1165).

The reason why rural areas find themselves in such a health care predicament has mostly to do with the agricultural decentralization of market reform led by the Chinese government. Additionally, instead of stepping in to control the health care deterioration, the government decided to stick with its

laissez-fair approach. “Moreover, while the urban share of China’s government health budget continued to grow, public subsidies for rural health care decreased significantly, reflecting a bias of public resource allocation” (Liu 1999, pg. 1354).

### **Aging population.**

The aging population of China represents another health care challenge and a population characteristic that will surely have an effect on the future of health care. Since 1979, China’s birth rate has steadily decreased. Much of this was due to the “one child” policy. Other important factors in lowering the birth rate include progress in education and affluence. The decline has been significant, and it continues to present day. It is expected that the number of births will decrease from 12.7 million to 8.9 million between the years of 2007 and 2026 (Ward 2008, pg. 383).

Alongside the declining birth rate in China has been an increase in life expectancy. As a result, the number of young people is declining and the number of older citizens is increasing. For example, between the years of 2007 and 2026, the percentage of people under the age of 25 is expected to decline from 437 million to 297 million, a 47 percent decline. During the same time period, the number of citizens over the age of 40 is expected to increase from 566 million to 740 million, an increase of over 30 percent. Furthermore, by 2020, half of the Chinese population is expected to be over the age of 40, and a quarter of the population over 60 (Ward 2008, pg. 383).

As expected, the aging population has made a significant impact on the health trends facing Chinese. Currently, 56.7 million Chinese have type 2 diabetes, a disease that was rare in China 20 years ago. Other degenerative diseases, especially cancer and heart disease, are starting to become a real problem for citizens (Ward 2008, pg. 383).

### **Health Effects of Modernization.**

Many unhealthy lifestyle habits have developed within the Chinese population as a result of the modern advancements promoted by the government. Citizens have become less active, are eating bigger portions of fatty foods, and are consuming more toxins from tobacco and alcohol use. As a result, obesity is becoming a widespread trend in China. Over a 20-year span, from 1982 to 2002, the percentage of overweight adults increased from 6 percent to 22.8 percent, and the percentage of obese adults increased from 0.6 percent to 7.1 percent (Ward 2008, pg. 383).

### **Poor Quality of Care.**

Poor quality of medical care is another factor that is leading to patient dissatisfaction in China. “The public is bombarded with frequent reports of shoddy medical care, overpriced fake medicines, faulty technology, and inhuman medical service” (Lazarus 2004, pg 915). Research indicates that Chinese patients have reason to worry. Despite the tremendous increase in diabetic patients in China, diagnosis of the disease remains low. In 2007, only 32 percent of urban diabetics were diagnosed. This is an appalling figure when compared to

Hong Kong's 50 percent and the United States' 70 percent (Ward 2008, pg. 383).

As a result, the public has come to expect poor medical care when they receive treatment from health care professionals. Some have even begun giving physicians cash so that they receive enough attention (Lazarus 2004, pg. 915).

Quality of care is also a concern for the physician. The structure of the health care system and Chinese culture do not allow much mercy for human error. Many physicians feel that one mistake automatically costs them their careers. When providers do make an error, it often goes unreported. As a result, quality improvement is nearly impossible (Lazarus 2004, pg. 915).

In 2002, the government introduced sweeping malpractice reform and demanded transparency of health care records and quality assessment. This much-needed step to restore public confidence will face substantial barriers to implementation because of the existing culture of punishment (Lazarus 2004, pg 915).

**Poor service.**

“Long waits for registration and doctor visits, lost records, untraceable laboratory results, rude employees, and inadequate facilities are common” (Lazarus 2004, pg. 914). Furthermore, the visit with the physician does not last long since they have many other patients to see. Therefore, inadequate patient histories and physical examinations are common. “Multiple patients may be examined simultaneously in the same room so males and females are disrobed without visual barriers and sensitive questions must be answered in the presence

of others” (Lazarus 2004, pg. 915). Occurring simultaneously with the decline in quality of service is an increase in service expectation from wealthy urban Chinese patients (Lazarus 2004, p 915).

Many patients feel that doctors are only after their money. Some scholars suggest that hardships experienced during the Cultural Revolution plus the desire for affluence have led to young doctors who go into medicine for better pay rather than professional and moral motivations. As a result, physicians often seem uncaring and unprofessional to their patients (Lazarus 2004, pg. 916).

#### **Communication Breakdown.**

Patients are not the only group of individuals who are angry about their care. Many doctors feel that they are doing everything they can for their patients, for a lot of work and little pay. Much of their frustration centers around lack of government support. Government policies set physician services below cost and drugs and technology above cost (Lazarus 2004, pg. 916). As a result, providers actually lose money when they see patients, perform basic surgeries, or hospitalize patients (Hsiao and Liu 1996, pg. 431).

Much of health care leaders' disappointment rises out of lack of communication by the government to its citizens. Overall, citizens are unaware of the reasons behind increasing cost of care. The government has been criticized for not explaining to urban patients that they must pay more for their healthcare in order to help support the basic health care needs of rural patients. Many citizens also do not realize that new technology, drugs, and a graying

population are increasing health care costs around the world (Lazarus 2004, pg. 916).

A serious consequence that may arise from lack of government support is that young physicians will decide to leave medicine or leave China. Young medical professionals are frustrated that they must work tirelessly for little pay and little chance of promotion unless they have the help of *guanxi* (Lazarus 2004, pg. 917).

### **Unorganized Health Care Structure.**

The Chinese medical system has a bipartite organizational structure. The divide is between the Administration and the Party. The Administration is headed by a president and has the responsibility of running health care as a business in the competitive market economy. The Party is under the authority of a secretary and is in charge of maintaining Party values. There is also a third element to the medical system in academic medicine, where small groups compete for little funding (Lazarus 2004, pg. 916). This hierarchical setup makes quick decisions and efficient actions a nearly impossible goal (Blumenthal and Hsiao 2005, pg. 1677). So, even for urban health care, which receives a disproportionate amount of health care financing by the government, this money is wasted due to inefficiency of the system (Liu et al. 1999, pg. 1355).

Another inefficient structural feature occurs between the levels of the three-tier medical system. In the market economy, hospitals and clinics are competitors, and they act as such. Many times, patients are held for too long or

after they should have been referred. When patients are transferred, care is not continuous. Often times, patients must endure repeated tests when they change providers (Yip and Hsiao 2008, pg. 463).

### **Lack of Administrators.**

Inefficiencies in the medical system are also a result of poor health care administrators. This is a result of both cultural and structural issues. The confusing and hierarchical structure of the health care system makes it difficult for employers to quickly hire competent administrators. Also, there is a lack of training provided for new hires. There is a pressure for health care officials to hire individuals with “connections” to the Party, a reflection of the cultural and political nature of China. There also exists a bias against young professionals. Instead, older physicians fill many hospital administrative positions. Though these doctors have much experience in medicine in academia, they know little about how to run a hospital or clinic. For many, it is only a temporary position. The failure to retain health care administrators is a result of low pay and lack of appreciation. The physicians who serve in these positions know that their stay will only be temporary, and the short-term mentality often means that little is accomplished during their terms. They have no initiative to make significant changes (Lazarus 2004, pg. 916).

Administrators are unable to improve upon one of the biggest problems facing Chinese health care: patient dissatisfaction. Patient complaint programs throughout clinics and hospitals in China have been established to perform early

detection of patient dissatisfaction. However, the staff rarely records patient complaints because they want to look good in the eyes of the Party (Lazarus 2004, pg. 917).

### **Violence Against Physicians.**

The demands placed on providers and hospitals have resulted in a deteriorated patient-physician dynamic in China. Historically, this relationship has been one of peace and mutual respect. In 2004, Gerald S. Lazarus, MD, published results of his study of several major Chinese hospitals and medical schools. His research revealed that hospital leaders and other health care professionals were significantly concerned with patient dissatisfaction, violence, and malpractice suits (Lazarus 2004, pg. 913).

News stories reveal that health care leaders have a reason to worry. Between the years of 1998 and 2001, there were 525 reported assaults against health care providers in Beijing alone. Two of these results resulted in acid being thrown in two nurses' faces. In another case, a dissatisfied patient bombed a hospital where he had received eye surgery. The bomb killed the patient, his doctor, and three others (Lazarus 2004, pg. 913).

Reactions to these attacks revealed even more anti-physician sentiments from many Chinese citizens. Overall, it roused little sympathy from others (Lazarus 2004, pg. 913).

### **Adverse health effects on population.**

Though incredible medical advances would be expected in a nation that is experiencing such impressive economic growth, in China, this is lacking. Despite economic and educational growth and improvement, the child mortality rate has not declined since 1985. The infant mortality rate has also remained at its mid-1980s level (Hsiao and Liu 1996 pg 431).

### **Improvements**

The Chinese government undoubtedly noticed the health care problems and their effects on Chinese citizens. But the greatest initiative to improve the health care system came after China's embarrassing mishandling of the SARS epidemic. "Decentralization and underfinancing of public health services have significantly undermined China's ability to mount an effective, coordinated response to potentially pandemic infectious illnesses" (Blumenthal and Hsiao 2005, pg. 1168). After the SARS outbreak, both Chinese citizens and the government became worried that the health care system would be unable to handle other epidemic outbreaks, such as HIV, tuberculosis and avian influenza (Blumenthal and Hsiao 2005, pg. 1168).

In urban China, the government tackled health care issues by requiring employers to provide health care insurance. Since 1998, all private and state-owned businesses have been required to offer their employees medical savings accounts and catastrophic insurance (Blumenthal and Hsiao 2005, pg. 1169). This scheme covers both government and nongovernment employees (Yip and

Hsiao 2008, pg. 431). The purpose of the medical savings accounts is to require citizens to put away their own earnings to pay for personal medical expenses. Money saved in medical savings accounts offer the first line of defense for expenses up to 10 percent of a worker's annual salary (Blumenthal and Hsiao 2005, pg. 1169). Employers pay 6 percent of the employee's salary, the employee pays 2 percent, and government funding covers the remainder (Yip and Hsiao 2008, pg. 431). The catastrophic plan covers medical expenses between 10-400 percent of annual salary. For expenses greater than 400 percent, employers can also offer their employees additional insurance (Blumenthal and Hsiao 2005, pg. 1169).

Unfortunately, there were many problems with this new policy. Many urban residents do not work for organized businesses. For those who do, many employers refuse to offer insurance options because they cannot afford it. A downside to the medical savings accounts is that dependents may not benefit from it (Blumenthal and Hsiao 2005, pg. 1169).

Also, migrant workers are not eligible for the medical savings accounts. This is a great disadvantage to the "floating population" of migrants (Yip and Hsiao 2008, pg. 461). In cities, groups of floating migrants are appearing from the countryside. These people are usually poorly educated, and they perform manual labor for low wages (Lazarus 2004, pg. 915). In the late 1980s, several epidemic outbreaks were traced to this population, which has very low access to care (Liu et al. 1999, pg. 1355).

Efforts in rural areas have also met challenges. In 2002, the government launched a program, coined the New Cooperative Medical System, which provided 20 *yuan* (2.50 USD) per year per rural resident. An additional 20 *yuan* was given by the local government as well (Yip and Hsiao 2008, pg. 464). In turn, patients must provide 10 *yuan* (1.25 USD) of their own money. The total 50 *yuan* comprises roughly one-third of a rural patient's health care annual spending. In 2007, 86 percent of rural patients were covered by the New Cooperative Medical System (Yip and Hsiao 2008, pg. 464). However, because this money can only be used for inpatient care, rural patients were still left to pay for their primary care and drug expenses (Blumenthal and Hsiao 2005, pg. 1169).

While the New Cooperative Medical System was being established, the Chinese government allowed local governments to adopt the appropriate combination of coverage that would best serve the local residents. However, all New Cooperative Medical System offers must be both voluntary and include catastrophic insurance. Voluntary enrollment puts residents at ease who are unwilling to give money to their local governments. In the past, local governments in China have been criticized for corruption and over-taxation. The catastrophic insurance feature is a direct response to reports that showed rural patients were facing poverty when they received medical treatment (Yip and Hsiao 2008, pg. 464).

In urban areas, the government began investing in new community health centers to take some demand off of urban hospitals. The purpose of these

community health centers was to provide patients with primary care, preventive services, at-home care, and rehabilitation. Eventually, the government plans to establish a community health center in each urban neighborhood. The hope is that the centers will not only provide better access to primary care, but also at a lower cost. Hospital services are often very expensive for outpatient care.

Physicians working at the community health centers have received extra training as general practitioners. Financing for the community health centers comes from both the government and patient. Insured patients send payments through their medical savings accounts, and uninsured patients, including migrant workers, pay directly out-of-pocket (Yip and Hsiao 2008, pg. 464).

The government also began re-investing in infectious disease. An electronic disease reporting system is now available to each district to monitor infectious disease activity. Though this is an important step, there is a delay when notifying health officials of an outbreak (Blumenthal and Hsiao 2005, pg. 1169).

The Chinese government is also taking steps to monitor how drugs and technology are provided to physicians (Lazarus 2004, pg. 917). Quality of care has become another focal point for improving patient services (Lazarus 2004, pg. 917).

### **Lessons learned**

Several lessons can be learned from the health care changes witnessed in China during its transition to a market economy. First, economic growth does not

guarantee better health care for a nation's citizens. An organized health care system and supporting policies are necessary in order to maintain health care advancements (Hsiao and Liu 1996, pg. 431). Furthermore, when trust is solely placed on laissez-faire policies and there are no regulatory policies to fall back upon, the most vulnerable populations are hurt the most. In China, these vulnerable populations have been rural patients and the floating migrant population (Liu et al. 1999, pg. 1355). Finally, the government must take on a balanced role during a transitional economic period to ensure that health of its citizens does not suffer from neglect.

### **Universal Coverage**

There are many reasons why it behooves other nations to pay attention to the health care dilemma in China. China is now a major player in the world economy. As such, each decision the Chinese government makes that betters or worsens its situation also impacts the other nations it maintains relations with. Furthermore, China finds itself in a unique situation where it is in a comfortable financial position to take on the health care challenges it faces. The United States, which suffers from much of same health care issues, could learn very much from the successes and failures China will experience as it tackles its problems (Blumenthal and Hsiao 2005, pg. 1165).

Fortunately, China now has enough revenue to commit to major health care initiatives without being forced to cut corners in other areas of social services, such as housing, education and defense (Blumenthal and Hsiao 2005,

pg. 1168). Before, a challenge facing government support for health care was that by increasing payments to health services, they would have to withdraw funding for social services that are equally important to Chinese citizens (Lazarus 2004, pg. 915).

After the turn of the century, the Chinese government announced that it would focus its attention on providing its nation's citizens with universal health care coverage (Yip and Hsiao 2008, pg. 460). President Hu Jintao committed to a "bigger government role in public health, with a goal for everyone to enjoy basic health care service to continuously improve their health and well being" (Yip and Hsiao 2008, pg. 463). This would mean an attempt to extend health care coverage to over 900 million rural citizens (Lazarus 2004, pg. 914). The government promised to increase health care funding by 1-1.5 percent of its GDP, which converts into 25-38 billion USD over a several year period (Yip and Hsiao 2008, pg. 460). This amount of money is triple the previous amount spent on health care (Yip and Hsiao 2008, pg. 464). In June 2003, the Ministry of Health announced again that China would be investing billions of *yuan* in rural health (Lazarus 2004, pg. 917). Thus far, China has indeed committed much more money to health care. In a one year span, from 2006 to 2007, China's health budget increased by 87 percent (Yip and Hsiao 2008, pg. 460).

Though there is undoubtedly money to spend, how that money is spent will truly determine the success of this venture. Yip and Hsiao (2008) believe that China must target cost inflation and inefficiencies in the health care system,

or else all the government money will end up in the wallets of health care professionals (pg. 460). If cost inflation is not addressed, there will be a real risk of bankrupting the financing system (Yip and Hsiao 2008, pg. 460).

Many approaches to universal care in China have been discussed and debated. Essentially, they may be broken down into three plans: government-provided health care facilities, regulated market approach, and a non-government purchaser (Yip and Hsiao 2008, pg. 464-466). In each case, the new plan for national health insurance includes placing some of the financial burden on patients who currently have health insurance (Lazarus 2004, pg. 913).

### **Government-Provided Health Care Facilities**

With the government provision approach, government funding goes directly to the Ministry of Health, and they make management and financing decisions on public health facilities. This is a more traditional approach, as the Chinese government has done this in the past. Of course, the Ministry of Health is a big supporter of this approach (Yip and Hsiao 2008, pg. 465). The positive notes of this plan are that providers would no longer have to compete for patients, perhaps solving the problem of physicians holding onto patients for too long (Yip and Hsiao 2008, pg. 463). On the other hand, lack of competition could leave physicians with little motivation to go above and beyond and provide patients with the best medical experience possible. There is also concern that progress will be hampered by the bureaucratic structure of the Ministry of Health.

China's Ministry of Finance has been vocal in their concerns of inefficiencies within the Ministry of Health (Yip and Hsiao 2008, pg. 465).

### **Regulated Market Approach**

The second proposed approach to universal care in China is through a regulated market approach. This involves a purchaser who would take control of the health budget and select and contract providers who the purchaser deems best for the population. Both public and private health care providers compete for contracts based on their performance and cost. Contracted providers would have a salary based on the populations they treated. From the surface, quality and efficiency seems to be much more promising with this approach. To put it in perspective more familiar to Americans, the purchaser would act like the Medicare program does when adjusting payments. However, the idea is that the purchaser would have an additional role in monitoring the care a patient receives, based on quality, performance, and exposure to new technologies and drugs. One obstacle to this approach is finding a good purchaser. A key qualification is that they must have the patients' wellbeing in mind. If the purchasing power were given to a government agency, a system of checks and balances would be absolutely necessary (Yip and Hsiao 2008, pg. 465).

Due to recent history, there is hesitation to giving the purchasing power to a government agency. When the government mandated that every urban employer provide medical savings accounts for their employees, the government appointed the Ministry of Labor and Social Security as the purchaser for this

venture. Unfortunately, the Ministry of Labor and Social Security has not been a successful purchaser on several counts. Most of their attention has been paid to balancing the funds it receives, so there has been little effort in hiring quality providers who offer good care at low costs. Cost inflation continues to rise under their supervision (Yip and Hsiao 2008, pg. 465).

### **Third-Party Purchaser**

The third option plan for universal care is to seek a third-party, non-government purchaser for control over the health fund. Not surprisingly, this raises a lot of questions. If China decides to side with this approach, they must decide if they will allow multiple purchasers. This may be even more difficult, considering how hard it will be to find just one qualified purchaser. Other nations who have taken this approach, including the United States, the United Kingdom, and Thailand, have seen mixed results (Yip and Hsiao 2008, pg. 465). It seems that China may need to formulate a novel approach. Some Chinese believe a not-for-profit organization with a panel of community and government representatives should act as the purchasing power for each community. In urban areas, the purchaser would set and give payments to contracted providers. In rural areas, purchasers would also become negotiators to set payments and performance standards with the area's provider (Yip and Hsiao 2008, pg. 466).

It is important to remember that the new health care system will only provide basic health care initially. Hospital expenses will still be covered under medical savings accounts. Once basic care is established for all Chinese

citizens, the government plans to also begin financing the tertiary levels of care. So, when choosing the best health care approach, the Chinese government must also consider which plan would allow for the easiest transition for an all-inclusive, integrated financing system. From this angle, the purchaser plans have an advantage since directly funded public facilities may hesitate to be combined with tertiary health care facilities. With the purchaser approach, physicians could be easily given capitation so that they can purchase hospital services on behalf of their patient (Yip and Hsiao 2008, pg. 466).

Recently, the Chinese government has indicated that it will attempt a combined, rather than singular, approach to providing basic universal care to its citizens. China will provide direct funding to primary care facilities and salaries. They will also increase payments to the New Cooperative Medical System so that migrant workers can also be covered. In order to ensure quality care by physicians, the government will also maintain a pay-per-performance system. Revamping public hospitals is still an issue, so the government is encouraging local health care communities to come up with individual and unique plans to battle inefficiencies (Yip and Hsiao 2008 pg. 466). Because these changes have been so recent, there has yet to be substantial data to indicate progress or problems.

### **Reflection**

Initially, I chose this topic as a way to combine my interest in Asian studies and my career interest in health-care. As I began to research, I noticed that

political control in China consistently had an impact on many levels of health care – its structure, financing, challenges, successes and even the actual health status of its citizens.

My assumption going into this topic was that “good” Chinese leaders would result in successful health care systems while “bad” leaders would face many health care failures. These days, when describing political leaders, those who seem “good” or effective are often the ones who have brought stability and, especially important these days, economic growth to the nation they lead. However, surprisingly to me, I did not find the wealth of a nation to be an indicator of the health of its people.

Secondly, I did find correlation between Chinese government and health. Just as the face of Chinese government changed throughout its history, the face of health also changed in response. Sometimes, as during Mao’s reign, the government’s effects on health care were direct. Other times, however, political effects on health care were significant but completely unintended. Such was the case with government led market reform.

I learned very much about what I should expect with my future career in health care. Before, I had no idea of the complexities involved with dealing with insurance companies and forms of government funding. The daily life as a physician is much more than seeing and treating patients.

After completing this paper, not only do I know much more about the evolution of Chinese health care, but I also feel much more prepared for what will

come as the United States seeks universal health care coverage. Before, I didn't realize how many options there were for financing health care. After researching all the financing options and analyzing their pros and cons, I can understand why so many countries like China are finding it so difficult to find a solution to their problems. There really doesn't appear to be a perfect answer. However, I believe this only makes it more interesting to see how China will handle the task ahead of them.

### **Conclusion**

Thus, at each stage of political leadership in China, health care has been significantly affected by its leaders. Though science is naturally considered to be separate from politics, the research indicates that medicine and politics actually share a connection. Though this relationship has been present throughout Chinese history, the face of it has changed with each major government type that has led China. Further research into this topic should include updates on the development of basic universal care in China. This information will be especially interesting for the United States as they too embark on major health care reform.

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