

# Primary Healthcare Financing Systems: International Comparisons and Lessons

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## Introduction

Primary healthcare is one of the most immediately familiar aspects of health systems. Whether it is at a private practice, a government-run health center, or a health mission having a place to go for non-emergency complaints and regular checkups, it is an integral part of healthcare access.

Over the past 60 years, primary care has also been seen as a vital mode of intervention, though with varying justifications. As early as 1946, the Bhole Committee recommended the construction of a health system in India based around non-specialized primary services, which led to today's Primary Health Centres (PHCs) and Sub Centres (SCs). In 1978, a commitment to primary care was affirmed internationally in the Alma Ata Declaration, as part of sustainably addressing the developing world's health problems, especially infectious diseases. Thirty years later, this declaration has had mixed results, as free public primary care systems in the developing world, including India, generally continue to stagnate due to insufficient funding (Peters 2002).

In the developed world, primary care has gained respect recently for different reasons. In American discourse, one of the first research results in this direction was the finding of the Dartmouth Project that in areas with a greater proportion of primary care practitioners (PCPs) to population, Medicare outcomes improved. Since then, a wide variety of reports have shown increased primary care supply to improve mortality, infant mortality, low birth weight, and mortality from a wide range of causes, mostly noncommunicable diseases. These results have been quite robust, holding up after controlling for many confounding factors, including income, education, percentage of elderly, and even lifestyle factors like smoking and obesity (Starfield et al. 2005). They also extend beyond the United States. Across 18 OECD countries from 1970 to 1998, stronger primary care systems are correlated with lowered mortality, premature mortality, and premature mortality from a variety of specific conditions (Macinko et al. 2003). Primary care is also believed to lower costs by preventing many hospitalizations (Jamison et al., eds., 2006:1240).

In the developing world, the justification for primary care is less founded on experiential evidence and centers around the utility of available treatments for different diseases. In developed countries, infectious disease has been largely brought under control, and the more difficult cases – cancer, heart disease, and other chronic conditions – are considered the pressing task for health systems to address. However, primary care can potentially help make up a great deal of the health gaps in India and the developing world at large. As described in *Disease Control Priorities in Developing Countries*, interventions for maternal and childhood diseases, malaria, tuberculosis, HIV/AIDS, hypertension, etc. are highly cost-effective (in terms of disability-adjusted life years (DALYs) and well-adapted to prevention, treatment, and management at the primary level (Jamison et al., eds., 2006).

The health situation in India today also indicates the need for greater access to and quality of primary healthcare. The current structure of government-provided "free" care provision includes PHCs and SCs which are explicitly designed to prevent and treat basic health issues that only need medical professionals up to the level of general practitioner (GP) or family doctor. However, this system has enough shortfalls – in funding, human resources, governance, etc. – that the World Bank's Human Development Network believes it would not be cost-effective to give the system the necessary resources to perform its intended mission, even if such money existed (Peters 2002). More promising will be new schemes that complement and supplement existing public and private care, conceivably eventually to supplant them if successful.

At the same time, while an extensive private health provision network exists in India, it may not be adequate to the task of

providing primary care to all. It is particularly scanty in rural areas, and even has affordability problems. According to the National Sample Survey, in 2004, economic status was a significant factor in whether ailments were treated in any way; for rural residents surveyed with a monthly per capita expenditure (MPCE) of less than 225 rupees, 76% of spells were treated, whereas for those with an MPCE of 950 rupees and up, the figure was 89%. Of those rural Indians who received no treatment, 28% said it was for financial reasons, 32% said it was because the ailment was not considered serious (which is partly an issue of affordability as the "seriousness" of an ailment is weighed against the cost of care and lost income), and 39% gave various other reasons (National Sample Survey Organisation 2006).

Therefore, it is likely that India's health problems call for a system that makes primary care available and affordable to all (probably together with secondary and tertiary care). For reasons of sustainability, if such a system is built, it will almost certainly take some form of contributions from its users, rather than solely public funding. It may also take advantage of the wide existing network of private primary care providers in order to put at arm's length actual management of provision.

In any such system, with or without private providers, the exact method of financing is a complicated decision which significantly influences how actors make use of the system. It affects utilization, moral hazard, physician decisions, and more. Exact methods of financing are the topic of this white paper.

*There are arguments that difficulty in affording primary care is not a major concern. Most of these arguments stem from the Rand Health Insurance Experiment (HIE), which found that health insurance plans varying by amount of cost-sharing (from 0% to 95%, with a maximum expenditure level) reduced utilization and costs but did not affect health outcomes overall. It is generally interpreted to mean that a large proportion of normal care – especially at the primary level – is sought largely for patients' peace of mind, and discouraging it through cost-sharing therefore reduces incidence of care to when it is truly necessary (Newhouse 1993).*

*If this is indeed the case, it would imply the best policy solution is guaranteed catastrophic coverage, possibly paired with a medical savings account (MSA) to ensure that funds will exist to purchase normal care. However, there are a number of criticisms of this interpretation of the Rand HIE. In particular, analysis suggested that patients in high cost-sharing plans did not just cut out unnecessary care, but care generally whether necessary or not. Indeed, it is common for normal patients to be unable to determine the necessity of care on their own. The most relevant fact for applying the Rand HIE results to India is that one of Rand's own analyses (Keeler 1992) showed that preventive care as a category – one of the most important functions of primary care for the Indian situation – markedly declined for those in high cost-sharing plans. Also, according to Hudman and O'Malley 2003, low-income children in high cost-sharing plans often did not receive care for several conditions very widespread in India, such as bronchitis, diarrhea, influenza, acute upper respiratory infection, gastroenteritis, etc. Finally, Normand 1994 observed that while the health of the experimental subjects as a whole was unaffected by cost-sharing, the health of those classified as "sick poor" (about 6% of the population) did decline. While this observation is vulnerable to charges of cherry-picking, the sick poor are the segment of the population who need effective and affordable care most of all.*

*There is not enough data for this white paper to conclusively point to the superiority of either the insurance model or the savings model for primary care. However, since most developed countries have converged on an insurance model where primary care is cheap or free, the bulk of the data presented will be on such systems. Singapore, and the achievements of its MSA model, will also be briefly discussed.*

## Objectives

IKP Centre for Technologies in Public Health (ICTPH) is currently starting up Rural Medical Health Centres (RMHCs) in Thanjavur district, Tamil Nadu state, but this is largely a provision exercise without a full financing model. It is also rolling out a catastrophic health insurance model in the same area. In one or two years' time, it may expand services to a primary healthcare insurance system. This paper is intended to provide reference for ICTPH going forward. It will study existing methods of financing primary healthcare for the general population and identify financing techniques for ICTPH that are appropriate to the goal of promoting affordable, accessible, and preventive healthcare in India.

## Methodology

Eleven major countries have been selected for comparison in this paper: the United States, the United Kingdom, Canada, Australia, France, Germany, the Netherlands, Singapore, Japan, Spain, and the Czech Republic. These were picked for various reasons, including availability of descriptive information on their health systems as well as outcome information for the countries as a whole. These systems were evaluated based on exactly how they finance primary care, specifically, on what basis patients pay for and receive care, how medical providers (almost always private physicians) are paid for care, and the restrictions, conditions, etc. that affect provision. The sources were largely from existing

scholarly literature, with particular help from the *Health Systems in Transition* series from the WHO European Observatory, which describes a number of countries' systems in great detail. Government websites also filled in some gaps.

After describing these countries' systems in detail, they have been categorized by the salient features that divide these systems (primary care free versus at a charge; main funding from general revenue versus premiums or dedicated taxes; etc.). Then, information from OECD Health Data 2008 was used to make a rough measure of the efficacy of primary care, as separate from other care.

Two measures were created from the data, both based on preventable years of life lost (PYLL) due to conditions for which primary care is critical. The first measure, *Prevention-related PYLL*, is the sum of PYLL figures for the following conditions: infectious and parasitic diseases, respiratory diseases, and pregnancy and childbirth. The second measure, *Detection-related PYLL*, is the sum of PYLL figures for the following conditions: diabetes mellitus, ischemic heart diseases, breast cancer, cervical cancer, and lung cancer. All of these are numbers per 100,000 population between the ages of 0 and 69 years, except for breast and cervical cancer, which are per 100,000 females of the same ages; for these two, the figures have been divided by two so that the addition is meaningful. The figures' date is the most recent available, which is 2003 to 2006 depending on the country. The OECD Secretariat calculated them based on WHO age-specific death statistics, broken down by ICD-10 categories in all cases, and standardized for age. Therefore, it is reasonable to use these figures for cross-country comparison.

In addition to PYLL figures, the average annual number of outpatient contacts per person was also taken for reference from the OECD Health Data. These numbers were collected from very diverse sources, including national statistical offices, health ministries, doctors' associations, etc., and are less comparable than PYLL, so they will only be used secondarily. Data from the Commonwealth Fund's surveys on the quality and accessibility of primary care in seven countries (United States, United Kingdom, Canada, Australia, New Zealand, Germany, and the Netherlands) was also used, but will not be dealt with here since no strong conclusions could be drawn (Commonwealth Fund 2004 and 2006).

As the main quantitative phase of this paper, the prevention-related and detection-related PYLLs were averaged out across countries that did or did not use various techniques of interest, in order to very roughly gauge the possible effect of these techniques.

## Limitations

There are a number of caveats to interpreting the PYLL data for specific financing techniques. Obviously, there are only

ten datapoints, sometimes fewer, so statistical significance, if calculated, would be low. This comparison is to the end an arithmetic, observational one, rather than a statistical one.

There are also a number of possible confounding factors which have not been corrected for. These include the amount of money spent on health, lifestyle risk factors, medical practices and resources, and many more. Therefore, the comparisons drawn should be taken as observations rather than settled conclusions.

It should be noted that GDP, one of the greatest possible confounding factors, is not a major issue since the countries examined all have relatively high GDP, in real or purchasing-power parity terms.<sup>1</sup>

## Country system descriptions

### 1. United States

#### a. Overall system

Healthcare in the United States is difficult to categorize in many ways, since there is no one system or model for all Americans. Briefly, the existing government programs are: Medicare for the elderly (over 65); Medicaid for most people below the poverty line; State Children's Health Insurance Program (SCHIP) for children whose families are near the poverty line; and private insurance coverage for everyone else who can afford it. Outside the government systems that exist, policy is very ad hoc; the majority of private insurance is provided by employers, due to a complicated chain of events starting with wage controls in World War II, and perpetuated today by the exemption of health insurance premiums from income tax. However, the rising cost of healthcare is slowly squeezing this system. 46 million people currently have no insurance (Sherman et al. 2008), as it is difficult for many people even above the poverty line to afford, especially if they do not receive it through their employers (many of whom are dropping their plans due to cost) and have to take out an individual policy. As a last recourse, emergency room care is available to all; hospitals are prohibited from refusing emergency care to those who cannot pay, but they still bill these people, often causing bad credit or bankruptcy.

Medicare is the federal system that most closely resembles a universal healthcare system in operation. It is managed at the federal level, with some regional payment variation, by the Centers for Medicare and Medicaid Services (CMS). It is divided into Part A (inpatient care), Part B (outpatient care and other miscellaneous goods and services), and Part D (pharmaceuticals, a recent addition). Part A is funded out of payroll taxes from those still in the workforce, while Part B's costs come 75% from general tax revenue and 25% from patient cost-sharing. All legal residents are entitled to Medicare upon turning 65; in exchange for Part B care, they pay premiums of US\$96.40 per month (as of 2009), a

<sup>1</sup> It would be even more useful to have as data how much is spent on primary care in proportion to other levels of care. However, the WHO and other governmental sources do not break down their spending this way; breakdowns usually divide physician versus hospital services, or inpatient versus outpatient care.

deductible of US\$135 per year, and after reaching the deductible, pay 20% of all costs incurred. Cost-sharing in Part A is a separate affair not described here. (Centers for Medicare and Medicaid Services 2008)

In Part B of Medicare, health providers are paid on a fee-for-service (FFS) basis. The method of calculating the fee schedule has changed several times, in an effort to restrain rising health costs. It involves a Relative Value Scale, in which services' value is rated only in relation to other services, as well as a Geographic Adjustment Factor and other determinants. In theory, total spending is only allowed to grow at a fixed rate per year, and if more services are provided than there is money for, all fees will be adjusted downward to match. However, over the last several years, in response to lobbying, Congress has repeatedly delayed implementation of this measure, allowing spending to grow rapidly. (Medicare Payment Advisory Commission 2009)

It is not mandatory for physicians to take Medicare patients, but the vast majority choose to. Physicians can legally charge up to 15% over the scheduled fees, but if they want to receive certain incentives, such as 5% higher standard fee levels and being listed in directories for beneficiaries, they must sign a participation contract in which they accept the scheduled fee as total payment. (Damiano 1997, American Academy of Family Physicians 2008)

Neither Medicaid nor SCHIP operates uniformly across the country. Rather, they are administered separately by each of the 50 states, with federal subsidies and guidelines, but with wide variation within those guidelines. Therefore, they will not be described here, except to note a few facts. They tend to operate on a similar basis as Medicare, with deductible and copay, except that cost-sharing in Medicaid is strictly limited or prohibited by the federal government for certain especially needy groups such as the disabled, pregnant women, and children. They often subcontract HMOs as a middleman for many of their beneficiaries' service provision (especially in SCHIP), and have more leeway to set up experimental structures. Medicaid's fee levels (for where FFS is used) were only 69% Medicare's in 2003,<sup>2</sup> and accordingly only about one-third of doctors nationally participate in Medicaid (Zuckerman et al. 2004).

One of the most important features of Medicaid and SCHIP is that they are theoretically entitlements, but in practice they are *means-tested*, meaning that would-be beneficiaries must put together a great deal of documentation (proving income, etc.) before they are allowed in, and as with all social programs, means-testing significantly limits participation. Medicaid, for example, enrolls only about 40% of adults below the poverty line in the United States, though this partly excludes childless, non-disabled adults from coverage. When states simplify their enrolment procedure, enrolment reliably rises dramatically. (Hudman et al. 2003)

Medicaid and Medicare interact in regards to "dual-eligibles," or elderly people who are also poor. People below the

poverty line, if enrolled in these programs, have their Medicare premiums and copayments paid on their behalf out of Medicaid funds; people with income up to 135% of the poverty line have only their premiums paid for them. These programs are also administered by the states as part of Medicaid, and the same means-testing issues exist: about 60% of the eligible poor and near-poor elderly do not receive Medicaid assistance, and according to a study, these people spend an average of half their income out-of-pocket for healthcare. (Asch et al. 2000)

In the private insurance market, there is again enough variation that it is difficult to categorize the system.

Private insurance, like Medicare, uses a wide variety of cost-sharing methods including deductibles and copays. It also uses a great deal of "pre-authorization," in which many procedures and prescriptions need prior approval from the insurance company based on their guidelines. Although their internal workings are not well studied, the dominant mode of competition apparently consists of excluding high risks from care, either up front or later on through "recession" (terminating coverage due to a non-disclosed pre-existing condition), or through refusal to cover specific procedures based on opaque rules. (Mays et al. 2004)

#### *b. Primary care*

Primary care is not specifically encouraged by Medicare to any great degree. Fee levels for primary care services, one of the most critical factors in this type of system, are generally lower than levels for specialist services. This decision reverberates across the country, since private health insurance companies tend to take these levels as a reference. As a result, PCP incomes are much lower than specialist incomes, and the numbers of current and prospective PCPs are declining rapidly. (American College of Physicians 2004)

One way in which Medicare has promoted primary care services is by assigning new fees for certain services it wishes to encourage. Many of the services added in recent years are preventive in character or deal with chronic disease management. They include bone mass measurement, cardiovascular and cancer screening tests, diabetes screening and self-management training, medical nutrition therapy services, a one-time "Welcome to Medicare" physical exam, as well as various vaccinations. (Centers for Medicare and Medicaid Services 2009)

Although it does little to promote primary care holistically, Medicare does provide a great deal of access to care. Virtually all America's elderly choose to use Medicare, and it is actually preferred over private insurers. However, the 20% copayment rate and the monthly premium can still make it difficult for the poor elderly to afford. Private insurance plans called Medigap are offered, under federal supervision, to cover the required cost-sharing; but the poor elderly are now having trouble meeting the premiums for Medigap plans as they rise as well. (Asch et al. 2000)

<sup>2</sup> Medicaid is an exemplar of the political adage that "a program for the poor is a poor program."

Medicaid is similar to Medicare in its treatment of primary care, although scheduled fees for primary care services were hiked recently to narrow the gap between PCPs and specialists somewhat. (Zuckerman et al. 2004).

Private insurers favour primary care no more than the US government does; PCPs have as many complaints with private insurers as with Medicare and Medicaid, if not more. In particular, in the early 1990s, in an attempt to restrain costs, many HMOs experimented with capitation, in which PCPs received only a fixed amount of money per patient per year, making it in their interests to lower costs. However, doctors quickly grew to despise this system and it sparked a backlash. Today, FFS is again the dominant model. (Mays et al. 2004)

Interestingly, although various new techniques are now being tried to combat rising health costs, gatekeeping (requiring or encouraging hospital and specialist care to be only given based on PCP referrals) is emphatically *not* one of those. Also, despite rising health costs, the bulk of insurers seem to be not highly motivated to control costs through primary care, evidence-based medicine, or other wellness-focused methods. (Mays et al. 2004)

The extent to which the United States fails to promote affordability in its healthcare, both overall and primary, and the poor outcomes (life expectancy, infant mortality, PYLL, etc.) that result from this situation make it difficult to compare on the same basis as countries with universal health systems. It is also very difficult to distinguish to what extent poor outcomes are caused by neglect of primary care, neglect of overall healthcare access, or other issues (such as overtreatment). Therefore, in many cases, when averaging PYLLs for a particular financing technique, country groups have been made including the US as well as excluding it, due to its possible confounding effect.

Still, it is clear that lack of access to affordable primary healthcare for a significant proportion of the American population occurs together with poor outcomes, even if it is not necessarily its cause. This lack of access is certainly a direct contributor to excessive costs at least to the extent that it leads to low-income people using the emergency room as their only source of care. According to Commonwealth Fund 2004, 16% of American respondents said that they had used an emergency room for care that could have been provided by a regular doctor in the last year, compared to an average of 10% in Australia, Canada, New Zealand, and the UK. The US also does extremely poorly in constraining the overall costs of care.

## 2. United Kingdom

### a. Overall system

Healthcare in the United Kingdom is the antithesis of healthcare in the United States. The National Health Service (NHS), funded entirely from general revenue, provides virtually all healthcare in the country for free. A small amount of private provision exists, but entirely outside the public system.<sup>3</sup>

<sup>3</sup>Health services are administered separately in England, Wales, Scotland, and Northern Ireland; as the differences between these systems are minor, and 83% of the UK's population lives in England, only the English system is described here.

Although the NHS's basic principles of free care and public provision have held since the system was inaugurated in 1948, its administration has seen a number of changes in recent decades. There is currently a system of separation between provision and payment bodies, even though both functions are public. Most of the system's revenues are funneled through Primary Care Trusts (PCTs), autonomous governmental bodies of which there are 152 in England, divided by locality. PCTs pay PCPs and specialists on a contractual basis, and also pay institutional healthcare providers (in the form of Hospital Trusts, Ambulance Trusts, and Mental Healthcare Trusts) for care provided. In total, over 80% of NHS money goes through PCTs; the other trusts also receive money directly for other purposes such as capital expenditure. ("About the NHS" 2009)

### b. Primary care

The main exception to the principle of free care in the NHS is prescription charges, but these are very low as well. Prescriptions cost patients GBP 7.20 (about US\$12) each, but for patients who require a high volume of prescriptions, a voucher can be purchased for GBP 28.25 (about US\$46) that covers all prescriptions within 3 months. These fees are waived for various low-income or needy groups, and there are extra charges if a branded drug is used with no reason to choose it over a generic equivalent. Since there is no other form of cost-sharing at the patient level, primary care policy is enacted almost entirely on the demand side, i.e. the organizational and financial management of physicians and hospitals.

Most primary care in the UK is provided by physicians in private practice, solo or group. The standard contract under which PCPs work is called the GP Contract, and applies to most PCPs not working on a salaried basis. Payment is not via FFS but determined on a weighted capitation basis, modified by various policy factors. GPs in the UK are well-organized and took years to negotiate the current GP Contract before it was approved, demanding many new concessions, including a minimum guaranteed income, which greatly reduced the intended payment differential that would have encouraged service in disadvantaged areas. Nevertheless, the GP Contract incorporates a good deal of operational influence over physicians, in particular by incentivizing them to provide after-hours care and making appointments with patients within 3 days of a phone call. (Burr 2008)

There are alternatives to working under the GP Contract; in an effort to foster innovation, PCTs are allowed to develop novel ways of providing primary care. Frameworks for such innovation include: Primary Care Trust Medical Services, where PCTs set up primary care centers and hire medical professionals directly; Personal Medical Services, where PCTs contract non-GP entities to provide primary care, such as clinics that employ both doctors and nurse practitioners; and Alternate Personal Medical Services, where PCTs can design programs that are not bound by existing practices and agreements (including contracting for-profit entities).

However, in practice, the PCTs have not strongly innovated. The major direction in which PCTs have taken these frameworks is that of adding more integrated care for conditions important to local communities like addiction, mental healthcare, and STDs.

Primary care's quality is enforced to some extent through the Quality and Outcomes Framework (QOF), a set of goals for meeting which GPs receive extra payments. The QOF is a uniform system that does not exist in most other countries, and theoretically would increase the uniform quality of primary care. However, for reasons of ease of implementation, negotiations with doctors, etc., the QOF leaves much to be desired. In its first year of use, the *average* practice scored 91%, and in 2006-07, the average was 95.5%. Critics say that some parts of it merely assess physicians' volume of care, rather than quality (which is admittedly difficult to measure), and other parts reward GPs for filling out forms and following practices they had already followed in the past. On the other hand, it does seem to have improved the extent to which GPs manage patients' chronic conditions like hypertension, diabetes, and asthma.

Since NHS revenues come from general taxation, and are not represented in a dedicated tax, citizens do not have a strong perception of linkage between their payments made to and services received from the system, which could theoretically cause problems. On the other hand, the progressivity of income tax allows the collection of more revenue than a flat percentage of income (the usual alternative) would glean. Fully-public healthcare provision has allowed much more cost control than other countries; healthcare spending per capita in the UK is much lower than most European countries. Basic outcomes such as life expectancy are only slightly inferior; primary care outcomes (PYLL) are somewhat inferior. For purposes of this paper, the UK serves as an example of a model with virtually zero cost-sharing or "premiums."

### 3. Canada

#### a. Overall system

Canada, like the United Kingdom, has a free, universal healthcare system. Unlike the UK, it does not actually provide most of this healthcare itself, but rather only pays for it. Also, the system is not managed on the central level, but each Canadian province and territory (hereinafter referred to as "province") has its own separate system, while the federal government sets standards they must follow according to the Canada Health Act. The system is funded mostly by general revenue collected by the provinces, but with large federal subsidies. A few provinces have recently imposed an additional healthcare tax known as a premium. In Ontario, the most populous province, the premium is an income tax surcharge which varies by income; in British Columbia and Alberta, the premium is a fixed amount which is waived for those unable to pay. (Marchildon 2005)

The standards enforced by the federal government for provincial health systems are public administration, comprehensiveness, universality, portability, and

accessibility. The standards are not optional or amorphous but actively enforced by the federal government and interpreted in detail.

For the purposes of this paper, "accessibility" is the most crucial standard, as its legal definition is that care must be unimpeded, directly or indirectly, by *any form of charges* or other means. This includes cost sharing, user fees, or even physicians billing over what the government pays them. The government's means of enforcement are to deduct the full value of any charges assessed from the province's federal subsidies, and this has been carried out on more than one occasion.

However, while Canada makes actual care universally free, pharmaceuticals are another story. Although the government negotiates the prices of patented drugs in exchange for placing them on official formularies, preventing some of the excessive pricing seen in the United States. Provinces have various programs to make pharmaceuticals affordable to seniors, low-income individuals, and the disabled. Nevertheless, in 2001, the average Canadian household was estimated to spend C\$1200 (about US\$1059) on prescriptions annually.

Canada's universal system represses the possible emergence of a private payment system. Private insurance exists, but it is largely supplementary, for such services as dental care and physical therapy. In several provinces, including the most populous ones (Ontario, Quebec, and British Columbia), private insurers are actually legally barred from covering "necessary" care, meaning care in the universal system.

#### b. Primary care

As described above, primary care itself is more or less guaranteed in Canada, but prescriptions create an effective choice much of the time.

Primary care is provided by physicians in private practice working on a FFS basis, similar to Medicare in the US, except that the fees are determined separately from province to province. Perhaps due to an overreliance on this policy, there is much less policy facilitating access (such as providing after-hours care) than in the UK. Interestingly, in the Commonwealth Fund survey, the percentage of Canadians responding that they had visited an emergency room for care that could have been provided by a regular doctor is slightly *higher* than the percentage in the US, perhaps reflecting such lack of policy. Subjectively, Hutchinson et al. 2001 observe that physicians have a powerful lobby in Canada compared to other universal-care countries, and that strong reliance on input from physician associations has led to a preservation of the FFS-centered status quo.

There have been attempts at reforming primary care in Canada, described in Hutchinson et al. 2001, but these have largely centered around novel medical institutions dedicated mostly to providing primary care. Most of these experiments have foundered, except in Quebec, and almost none of them has reformed financing for private PCPs which continue to provide the vast bulk of primary care. The one exception is

in Ontario, where a new “family health network” scheme pays participating family doctors and GPs on a basis combining several payment methods: FFS (10% of regular rates), capitation, and bonuses for targeted preventive care, new patients, continuing medical education, and practice management. This is a very recent scheme, and data on its implementation does not yet exist.

Overall, the Canadian system provides quite good healthcare and primary care outcomes, but its cost per capita is on the high side for developed countries (except, of course, the United States). In addition, the population is fairly satisfied with the system, and there is little pressure for change, except from the top level as the government focuses on cost control. Primary care in Canada may “work,” but it is not a very good model from a cost perspective.

#### 4. Australia

##### a. Overall system

Australia is an example of a country that has achieved near-universality without the government being the hegemonic payer. In its model, healthcare is available for free (hospital care) or at a low cost (outpatient visits), but private insurers offer care on better terms with more amenities. The system has some patchwork characteristics, though, and OOP costs remain a problem.

The principal public healthcare system in Australia is Medicare, which works on a similar basis as Medicare in the US, but applies to all Australians rather than just the elderly. It is funded from tax revenues (general revenues from states and the federal government, plus a dedicated 1.5% income tax surcharge), and pays physicians mostly with FFS. It is notable for reimbursing different types of services at different percentage levels. Hospital services are reimbursed at 75% of fees, non-hospital services at 85%, and GP services at 100%. This does *not* mean that GP services are always free, because only scheduled fees are reimbursed, and doctors and hospitals are allowed to charge over those fees. (Healy et al. 2006)

As a side note, it may seem odd that hospital visits are subsidized less, since it is the more expensive type of care. That is because public hospitals allow patients to be admitted as “public patients,” meaning they incur no charges whatsoever for their stay or follow-up care, in exchange for reduced amenities. However, this facility is outside Medicare, and is provided by hospitals themselves. Medicare’s 75% reimbursement applies only to those admitted as “private patients,” who receive better grades of amenities, in either public or private hospitals.

Australians may use Medicare alone, Medicare plus supplementary insurance to cover cost sharing, or private insurance exclusively. There is a 1% income tax surcharge for high-income individuals who have no adequate private insurance. To encourage private insurance, the government subsidizes 30% of premium costs; this subsidy has been available to all Australians, not just the lower-income, since 1999. There is also a publicly-managed insurance provider, Medibank, which competes with the private insurers to serve as a benchmark and keep them “honest.”

Drugs are not covered by Medicare. However, there is a Pharmaceutical Benefit Scheme available to all which offers most drugs at a price of A\$32.90 (about US\$26) per prescription, or A\$5.30 (about US\$4) for low-income patients and veterans, and lowers this price after A\$1,264.90 (about US\$1,009; or A\$318, about US\$254, for the special groups) has been spent in a calendar year. And since copays too can add up to a significant sum for many households even with public support, there is also a Medicare Safety Net which covers 80% of (non-hospital) OOP costs after paying A\$1,111.60 (about US\$887) in a calendar year, or A\$555.70 (about US\$443) for low-income families.

##### b. Primary care

In Australia as elsewhere, private physicians provide almost all primary care. 97% of physician visits are billable to Medicare or the Department of Veterans’ Affairs (under the same system). According to an AIHW report, in the 2007-08 year, 27% of doctors “bulk-billed” (accepted the government fee levels) for all patients; 47% bulk-billed all consultations with pensioners or concessionary (low-income) patients; and 36% bulk-billed all children. According to earlier reports, while the majority of physician visits (65.7%) were still bulk-billed in 2003, this was down from 78.6% in 2000.

Patients who have doctors who bulk-bill *do* owe zero copay for their primary care (except drugs), since GP care is reimbursed at 100%. Even among those who are not bulk-billed, the variant reimbursement rates can still incentivize all Medicare patients to seek primary care over specialist physicians.

Although most PCP payment is on a FFS basis, Australia has created a large number of programs incentivizing various physician practices via payment incentives, many of them related to primary care:

- Enhanced Primary Care makes payments for preventive care, care planning, chronic disease management, and extra checkups for elderly Australians. It also pays for five yearly “allied health professional” services, such as physical therapy, that are usually not covered by Medicare.
- Service Incentive Payments are for providing various services, including cervical screening, asthma care, and diabetes care, on a per-patient basis.
- Service Outcome Payments are lump-sum payments to doctors based on outcomes, such as having a specified percentage of their female patients screened for cervical cancer, or having a specific percentage of their TB patients completing their cycle of care.

These are interesting examples of the sort of incentives that can be crafted in a landscape of independent PCPs. However, it is hard to evaluate their efficacy, as almost no outcome studies have been done. One, on Enhanced Primary Care, showed that the program enhanced patients’ reported quality of care and knowledge of their case condition and management, but not actual outcomes.

Australia's health financing system contrasts to the UK, Canada, and US Medicare where there is a single-payer system. Instead, Australia has achieved variant, competing financing models both public and private, and gives a basic guarantee of care. As such, it is worth considering for the future of India, where public schemes cannot be the only solution. However, it may not be sustainable, as the numbers of Australians with private insurers have diminished every year since 1984, when Medicare was introduced. Such an approach also has equity problems, as it risks perpetuating India's two-tier system where the poor use public facilities and the better-off use private. It may be instructive to the extent that it subsidizes primary care more than other types, and incentivizes doctors to provide a wider range of primary services.

## 5. Germany

### *a. Overall system*

Germany was the first country to offer healthcare benefits to broad segments of its population in the 19<sup>th</sup> century, and its model strongly influenced other continental European countries.

In Germany, healthcare is universal but managed through "sickness funds," which are entities receiving premiums from their members and reimbursing their members' health costs in accordance with statutes. Although they are theoretically not government entities, their operations are governed by enough laws and regulations that they might as well be. There are currently nearly 300 sickness funds; the vast majority are run by various large companies for their employees. There are also 7 regional funds (open to anyone in their region) and 10 "substitute" funds (managed by employees only, historically an outgrowth of the social-democratic movement). There are also specific funds for certain professions, such as farmers, miners, sailors, and artisans in guilds. There are a few other mechanisms for other segments of the population, including civil servants; the sickness fund-based system, which covers over 90% of the population, is known as Statutory Health Insurance (SHI). (Busse and Riesberg 2004)

The SHI contribution varies slightly by sickness funds (though rates are now being unified), but they average to about 14% of monthly income (applying only up to 3,487.50 euros (about US\$4,898) monthly), 7% of which is contributed by the employer and 7% by the employee. Those earning less than 400 euros (about US\$562) monthly, about 11% of all members, are exempted from the employee contribution. The government pays contributions for the retired and unemployed. Supplementary private insurance exists to cover enhanced hospital amenities; under 10% of SHI members have such insurance.

Copays for treatment in Germany are fairly low, but apply to multiple products and services. Ambulatory medical care (including doctor consultations) costs 10 euros (about US\$14), but only per physician per quarter. Prescriptions cost patients between 5 and 10 euros, depending on their price; more expensive pharmaceuticals can cost extra in some circumstances, but this is not common. There are also

similarly-sized copays for medical transportation, medical supplies and bandages, hospital stays per day (no charge past 28 days), and preventive spa treatment. The patient is responsible for a large proportion of the cost of non-basic dental care and of non-physician care such as home nursing and physical therapy.

All of this cost sharing remains in flux. A number of vulnerable groups, such as the poor, pregnant women, children, and other people with high health needs used to be exempted from any cost sharing whatsoever; however, the proportion of those exempt had steadily risen to almost 30% of the population, and from 2004 the exemptions were greatly cut back.

Germany, like other countries, is suffering from rising health costs, conveyed to the public in the form of steady increases in the percentage of income to be contributed to sickness funds. In addition to higher copays, the government has also attempted to alleviate these problems through better management of sickness funds. From 1993, there was an attempt to rationalize the sickness funds by forcing them to compete against one another ("managed competition"), except for the profession-based funds. However, due to the limitations on sickness funds' freedom of action, this competition has not yielded much fruit. (In one case, a fund subtly attempted to drive away its dialysis patients by extolling the dialysis capabilities of another fund) (Brown and Amelung 1999). Now, sickness funds are being reformed on a more top-down basis.

Doctors in Germany are paid by an idiosyncratic mixture of capitation and FFS. Specifically, sickness funds pay regional medical associations, based on adjusted capitation (negotiated between funds and associations). Doctors then bill their services to the associations, and the associations divide the money they have received based on the Uniform Value Scale of the services provided. In other words, if doctors increase their services provided, that will not increase the total amount of money spent. However, this is not a panacea, since healthcare spending is still increasing about as fast as GDP.

### *b. Primary care*

Primary care is provided by private physicians in Germany; the former German Democratic Republic (East Germany) had its PCPs work in polyclinics and other institutions, but they eagerly changed over to private practice soon after unification.

Germany is notable for having recently (since 2004) introduced a gatekeeping system for ambulatory (not hospital) care. For most ambulatory care, there is a 10-euro fee per physician per quarter. However, this does *not* apply to referred physicians. In other words, if patients choose to see a specialist on their own initiative, they must pay the fee; but if they get a referral from their PCP, there is no additional charge. The payment is more of a reminder than a burden, due to the amount being small.

Some primary care policy continues to be delegated to sickness funds. In the 1990s, sickness funds were mandated

to increase their preventive and primary services. However, they have been criticized for merely adopting a laundry list of required interventions to advertise their compliance, without making determined efforts; this is probably another outcome of their low individual innovative power. More recently, since 2004, sickness funds have been required to give the option of a “family physician care model” which, in addition to the *negative* gatekeeping incentives (the extra small payment for new non-referred physicians), would also offer *positive* incentives for complying with gatekeeping, whose nature is up to the sickness fund. In one such model, patients pay only 50% of the normal copay for visiting their regular family doctor, and can receive faster appointments and assistance in booking specialists.

Although sickness funds enable universal care to be achieved without putting too much administration in the hands of the government – therefore fitting well with Germany’s corporatist traditions – they are relatively passive actors. However, Germany does have a number of policies promoting primary care on a holistic level, and it does achieve fairly good basic and primary care-related outcomes, if at a high cost per GDP.

## 6. France

### a. Overall system

Historically, France’s healthcare system is inspired by Germany’s, with putatively independent sickness funds. However, its funds gradually consolidated into a mere handful, one of these dominant, so there is much more uniformity in financing. It also has a strong progressive character and a greater presence of supplementary private insurance than in other countries.

In France, there is a single sickness fund that covers all salaried workers, about 80% of the population. A few funds cover different groups such as the self-employed, farmers, students, and civil servants; put together, these cover virtually the entire population. Those who cannot afford to join a sickness fund receive similar coverage through the government-run CMU, “Universal Medical Insurance” where the government pays premiums. (Sandier et al. 2004)

The premium rate of the sickness funds is 0.75% of monthly income from the employee and 12.8% from the employer. (A socialist government reduced the employee contribution from its previous 6.8% in 2001.) There is a minimum salary below which employee contributions are not required, but this is very low. The healthcare system also receives a large proportion of revenue from the 7.5% general social security tax, which applies to investment income as well as salaries, making it more progressive.

Reimbursement levels in France are, nominally, lower than those in other countries. All doctor visits are reimbursed at 70% of fees, hospital care at 80% (no cost-sharing after 30 days), and pharmaceuticals between 35% and 100% depending on cost and necessity. Although the fees reimbursed are those officially scheduled, two-thirds of all doctors in France (and over 80% of GPs) are in “sector 1” of the insurance system, meaning they may not charge over

scheduled fees. The other third, sector 2, can charge up to five times scheduled fees, though in practice their fees range from 50% to 200% more. New entry to sector 2 is strongly limited (especially for new doctors), an issue leading to some resentment among doctors. Less than 0.5% of physicians are not in the insurance system at all, and they can charge whatever they please.

Also, there are some exemptions from cost-sharing. These exemptions are not based on income, but are for treatment for various chronic diseases like AIDS, cancer, and diabetes, as well as most treatment for pregnant women and disabled children.

Despite this relatively high level of *de jure* cost-sharing, *de facto* cost-sharing has been almost nonexistent until recently. Most French have complementary insurance through nonprofit mutual funds, and these insurance plans traditionally covered *all* of the cost-sharing which the patients were responsible for. Even as the government raised cost-sharing gradually over time, starting in the 1970s, insurance continued to cover their payments as they rose. Therefore, in practice, most French did not have to consider the cost of individual episodes of care. The availability of complementary insurance became so common that it recently shifted from an option to an entitlement: a new program, CMUC (“Complementary Universal Medical Insurance”) since 2000 has provided the same complementary benefits to those making less than 535 euros (about US\$751) monthly, at no charge. (Grignon et al. 2008)

Since 2005, this has been changed slightly: true copays have been instituted, by means of prohibiting complementary insurance from reimbursing specific amounts. However, these amounts are closer to nominal than any other country in this paper: 1 euro (about US\$1.40) for doctor visits, 0.50 euros for prescriptions, and 16-18 euros (about US\$24) per day for hospital visits up to a certain point. In the quantitative comparison carried out later in this paper, for this reason (and because the outcome data is from 2005), France is treated as a country without fees charged for primary care.

### b. Primary care

France at this point does not focus strongly on primary care within health overall. However, one recent policy does affect primary care by attempting to set up a more solid gatekeeping system. This policy is part of the Douste-Blazy reforms, which were passed in 2004 by a new conservative government based on the recommendations of an independent advisory commission. One of the changes was the new copays mentioned above. Another is a new gatekeeping system that works through disincentivization. Specifically, if patients visit a sector 1 specialist without a referral from their regular doctor (with whom they register), the specialist is then entitled to charge up to 25% more than scheduled fees, and the government will reimburse only 50% instead of 70% (this was scheduled to decrease once more to 30% in February 2009). (Naiditch and Dourgnon 2009)

So far, a large majority of French have chosen a regular doctor as part of participating in the system. (Technically they are not required to do this, but the disincentives apply to everyone, and therefore most people perceive it as mandatory.) This is already a success compared to the Juppe reforms of 1998, which also attempted to institute gatekeeping, but by offering discounts to specialist care (positive, rather than negative, incentives). Very few PCPs enrolled in this system, and it withered on the vine. Still, health outcomes from the new gatekeeping system are not yet available.

There is a significant focus on specialist payments in French reforms. This may be for more political than policy reasons. Doctors' associations continually lobby to allow more doctors to enter sector 2, but the government sees this as guaranteed to make costs skyrocket. Soon after the gatekeeping system came into effect, specialists saw their incomes drop, and the government raised the fee levels of several professions on an emergency basis. It has been imputed that was the government's intention from the beginning.

Despite this lack of active primary care policy, there is a good deal of satisfaction with primary care among the public. In terms of comfort, the existing system has a great deal to recommend itself: physician consultations average between 15 and 30 minutes, whereas in the English-speaking world they are less than 10 minutes. House calls are also available in many cases. Basic outcomes and primary care outcomes are among the best in this paper's sample. At the same time, healthcare cost as a proportion to GDP is the highest in this sample except for the US at 11.0%.

## 7. Netherlands

### a. Overall system

The Netherlands originally had a healthcare system along the same lines as in France and Germany, with sickness funds. However, it is embarking on a novel experiment that is worth relating. Also, it seems to have a very robust and effective primary care system, although it is not clear if this is a result of the financing system.

Previously, about two-thirds of the Dutch had care under sickness funds, while another third had care on a similar basis from private insurers. Many of the details of this system changed under constant reforms over the 1990s; described here is the prevailing situation in the early 2000s.

Sickness funds (of which there were 22 in 2004) charged 1.25% of members' monthly salaries and 6.75% from their employers. Private insurance plans varied in premiums. However, this was only meant to cover *usual* medical expenses. In addition, there was also the Exceptional Medical Expenses Act (EMEA), funded by a 13.25% income tax levy. After a certain threshold of spending had been crossed, the EMEA would kick in, limiting the risk of sickness funds and private insurers. (den Exter et al. 2004)

The sickness funds in this system paid by capitation, the private insurers by FFS. Specialist visits required a PCP referral. There was no cost-sharing in sickness funds except for a few products like wigs and orthopedic shoes (again, as of the early 2000s); private insurers varied in cost-sharing.

The new system, inaugurated in 2006, did away entirely with sickness funds, and requires everyone living in the Netherlands to sign up for a *private* insurance plan. The EMEA system remains, named the Risk Equalization Fund (REF), and financed by a 7.2% income tax levy. The policy aim behind this shift is to harness the "magic of the market" with an infrastructure that incentivizes private actors to bring costs under control. The REF is a key component of the new infrastructure: it pays out different capitated amounts to insurers for their higher-risk individuals, based on age, diseases, etc. Taking diabetics as an example, the idea is that if each insurance provider actually takes in the average cost of a diabetic for each diabetic they enrol, they will not feel obliged to drive them out of the plan (as in the US) but instead will be able to make money if they find ways to spend less. Various other controls are supposed to prevent them from providing inadequate care to save money. (van de Ven and Schut 2008)

The REF still pays for care over a monetary threshold, but this threshold is gradually increasing (it is currently E20,000). It also *receives* some payments from insurers for low-risk patients.

The premiums, copays, etc. vary by insurance plan, so they cannot be described here. There is some regulation on deductibles: all plans must have a deductible of at least 150 euros (about US\$211); excludes GP services and maternity care, but people can choose deductibles of up to E650 (about US\$913) in exchange for higher premiums. Gatekeeping continues, but with the exact method also varying.

### b. Primary care

Basic and primary care outcomes in the Netherlands are excellent, and for the Netherlands in particular, certain measures are available that point to excellent standards for primary care. Apparently, only 6% of PCP visits in the Netherlands result in a referral to a specialist, and for some specific issues the referral rates are even lower: 1% for hypertension, 2% for lower back pain, and 3% for upper respiratory tract infections. Also, only 2/3 of all primary contacts result in prescriptions, much lower than the rest of Europe.<sup>4</sup>

It is unclear to what extent this primary care quality is the result of the financing system in the Netherlands, or of human resources or cultural factors, such as doctors seeing their mission as to treat complaints and manage chronic illnesses on their own without many referrals. On the other hand, the Netherlands is notable for being the only country in this sample to actually have referrals from primary care to specialists *required*, rather than incentivized. The use of capitation by the erstwhile sickness funds may also play a role.

<sup>4</sup> Unfortunately, these same figures are not available for individual European countries; they would be highly useful.

Private insurers in the new system have an increasingly free hand in negotiating new standards or practices in primary care (including even setting up their own institutions with salaried medical professionals), so interesting innovation may emerge in the next few years.

## 8. Japan

### a. Overall system

Japan has a universal healthcare system divided into two systems. Employee Health Insurance (EHI) is for most formal-sector workers, and takes employer as well as employee contributions. National Health Insurance (NHI) is for everyone who does not fit into this category, including the self-employed, employees of extremely small companies, farmers, etc., and works on member contributions. (This division is for historical reasons, and is mirrored in Japan's pension system.) (Fukawa 2002)

Both EHI and NHI run on premiums. EHI premiums vary, but are an equal percentage of income from both the employer and the employee. In the "government-administered EHI," which smaller companies use, the percentages are 4.2% each. NHI premiums, on the other hand, are flat, currently at JPY 14,100 per month but rising annually. ("Japan's Social Insurance Agency official website"; "Japan's National Health Insurance official website")

Medical costs in both Japanese systems are reimbursed with the same copay level. This is 30% for most adults and children, 10% for the elderly (20% or 30% for some high-income elderly), and 10% for children under 3. These copay levels have increased periodically since the 1980s when cost rises started to become troublesome.

Although this cost-sharing is similar to the nominal cost-sharing in the French system, unlike in France, complementary insurance does *not* cover the patient's responsibility. An extremely small proportion of Japanese (less than 1%) have any kind of private health insurance. However, there is another provision in the EHI and NHI which effectively caps OOP expenditure, the High Medical Expenses (HME) benefit. The benefit is calculated based on a formula which is unwieldy when written out, but in effect, it means that patients pay the regular copay (30%) only up to bills of about US\$700 (higher in EHI); after that, the copay does not go up with medical bills *until* the bill passes about US\$2,500. After that, 1% of the bill past US\$2,500 is added to the copay, so as to transmit some of the burden of large medical bills in a humane fashion. This is a limit per medical bill, not per year; but after the HME benefit has taken effect three times in one year, future OOP payments are limited to about US\$400. The HME benefit also takes effect earlier for low-income Japanese, and later for higher-income Japanese.

Physician payment in Japan is strictly via FFS. Japan has been particularly hard-hit by overprovision of services in

response to cuts to scheduled fees. A majority of Japanese doctors not only prescribe but dispense medicines to their patients, though the markup they can charge is capped. This seems to lead to overprescription of drugs, which are one of the fastest-growing segments of care in Japan. Interestingly, this is not a result of price, as the Japanese government stringently negotiates the price of patented drugs before they enter the reimbursement system; rather, it is a result of ever-increasing volume.

### b. Primary care

The majority of primary care in Japan is provided by private physicians; however, hospital outpatient departments also maintain a presence. This is because over the years the majority of FFS cuts have been to hospital payments, making regular hospital care decreasingly profitable. In response, hospitals have developed and in some cases even advertised their outpatient departments for basic needs. (Kozo 2001)

Japan is a case where the assumptions regarding primary care start to be overturned. There is virtually no policy aimed at promoting primary care. Reimbursement is not greater, PCPs are used alongside specialists as first contacts, and FFS together with the high social status of doctors means that primary care sessions are often rushed. (Even in hospitals, patients rarely have a single attending physician who coordinates their care.) Nevertheless, its primary care outcomes are extremely good. There are a number of risk factors, such as diet, that are often cited for health levels in Japan. Whatever the causes, Japan definitely puts to rest any accidental notion this paper may have encouraged that well-designed primary care financing systems are a necessary precondition for good primary care outcomes.

## 9. Singapore

### a. Overall system

Singapore is the only country along with the US in this paper that does *not* have a universal health insurance system. Healthcare is more or less accessible to Singapore's well-off population, but the government systems that facilitate it are novel in the world and often taken as an example. Since it is a member of the OECD<sup>5</sup> the PYLL data does not exist for quantitative comparisons. But with its long life expectancy and shockingly low percentage of GDP spent on healthcare (about 3.4%, compared to 8-12% elsewhere), Singapore is proposed as a model often enough for its system to merit a description here.

The two basic programs in Singapore's health system are Medisave and MediShield. The first is savings for regular medical expenses; the second is catastrophic insurance.

Medisave is a special tax-free savings account; deposits are mandatory for all Singaporeans. 6.5 to 9% of salaries are automatically diverted into Medisave accounts monthly (depending on age). Account-holders may draw on Medisave money for the medical expenses of themselves and their immediate families. However, calling it a savings

<sup>5</sup>Which is a democracies' club despite its economic focus.

account is a fiction, similar to calling a healthcare tax a "premium." It cannot actually be withdrawn for any medical expense the account-holder selects. Rather, much like traditional government health insurance, it can be applied only to certain expenses in scheduled amounts. It is also almost wholly dedicated to hospital bills, with a few recent exceptions. For hospital stays, it pays ward charges, doctor's fees, surgical fees, and various other fees, all with capped amounts (for example, S\$450 (about US\$310) per day in ward charges). It is also possible for various chronic disease sufferers to use up to S\$300 (about US\$206) per year in outpatient treatment, after a S\$30 (about US\$21) deductible and 15% copay; and for cancer sufferers to use up to S\$600 (about US\$413) per year in diagnostic scans with the same limitations. There are also scattered benefits for miscellaneous uses, like a few expensive, necessary drugs, or oxygen therapy. (Singapore Ministry of Health 2007)

The catastrophic insurance MediShield is not mandatory, but Singaporeans are signed up automatically unless they opt out. In 2007, 78% of Singaporeans were enrolled. Its premiums come out of Medisave accounts. It covers 80% of large medical bills (hospital stay or day surgery only) after a deductible of S\$1,000 or S\$1,500 (about US\$688 or US\$1032), though only at hospitals' subsidized public wards. If a patient uses a better ward, MediShield pays as if they were using the regular ward. 90% can be covered if the bill is especially large. MediShield resembles a commercial insurance policy in that it also has a benefit cap: no more than S\$50,000 (about US\$34,400) can be paid out in one year, or over a lifetime, S\$200,000 (about US\$137,600). This reduces its "public welfare" aspect to some extent, since after a certain point of extremely high expenses a patient can look to no more assistance.

There is a third system called ElderShield, for some additional medical expenses by the elderly. Premiums for it are paid out of Medisave starting at the age of 40. It can pay out up to S\$300 (about US\$206) monthly for outpatient expenses, without much restriction on the type of expense, but only if the medical problem is causing severe disability. It can also only pay out for up to 60 months in total. (It is possible to elect to pay additional premiums and be entitled to S\$400 (about US\$275) monthly for 72 months.)

Finally, there is Medifund, which can assist patients who have no other way to pay. While its name may make it sound like a government benefit, it is actually a glorified charity fund, which operates off the interest of a one-time S\$200 million contribution from the government in 1993. It accepts applications from patients who need assistance, and gives aid according to neediness.

In addition to health payment programs, Singapore also has a large public network of hospitals (alongside many private ones), which offer significantly subsidized rates for those willing to take lower amenities.

#### b. Primary care

Medisave and all Singapore's other systems have very little bearing on primary care; they assume that Singaporeans have the money to pay for it, *outside of their medical savings account*. There is some other policy promoting affordability: although 80% of primary care in Singapore is provided by private physicians, public hospital outpatient departments also provide the same services at quite low rates. Therefore, Singapore's small low-income population may be decently well served for primary care itself.

The important question Singapore brings up for health policy is whether its combination of medical savings and catastrophic insurance, in line with the recommendations from the Rand HIE, is what enables Singapore's good outcomes and extremely low costs. Certainly it is worth close appraisal; if true, it would be much easier to implement. However, there are a number of caveats brought up in the scholarly debate, suggesting the link may not be airtight.

First, how good are Singapore's outcomes? 3.4% of GDP spent on health is extremely low by the standards of most developed countries; however, comparing it with other prosperous, mercantile, small, Chinese-populated countries, Hong Kong and Taiwan spend about 5%, without policies like Singapore's. (Hong Kong has an *ad hoc* system of subsidized hospitals; Taiwan has had a universal system resembling Japan's since 1995.) This brings up questions like those about Japan, on lifestyle factors, doctor practices and other cultural or economic characteristics common to the region. (Barr 2001)

Second, Singapore does a great deal of cost control from the supply side. The number of doctors trained and imported is strictly limited; expensive devices like scanners are also restricted; specialists are restricted to 40% of all doctors; and there are price caps on services in government hospitals. The number of new private hospitals is also limited. Given Singapore's technocratic government, it is conceivable that simple government fiat, effectively implemented, is responsible for much cost-saving.

Third, it is unclear how much Medisave is even used. According to Hsiao 2001, Medisave only made up 8.5% of total national expenditure in 1995 (11 years after it was introduced).<sup>6</sup>

Finally, there is not a good deal of data on Singapore's health outcomes besides the basics already mentioned. Being a non-democratic state, Singapore keeps a great deal of information that would be of use to researchers close to its chest. For all these reasons, Singapore should only be marshalled with some caution as an example of the Rand HIEs lessons paying off.

<sup>6</sup>This was not independently confirmed, although it claims to be government statistics. The WHO's National Health Accounts for Singapore now, unfortunately, report Medisave only as part of OOP spending, not separately.

## 10. Spain

### a. Overall system

Spain's healthcare system has its roots in 1986, when an elected socialist government began implementing its vision. It is explicitly modeled on the British system, with the government in the role of hegemonic (though not sole) provider. A private provision system still exists, but today the government pays 71.4% of total health expenditure (and a good deal of the rest is cost-sharing in the public system). The system is popular, with about three-quarters of the public satisfied with it. (Duran et al. 2001)

Like Britain, there is a large network of government-run hospitals and government-paid physicians available to all Spaniards (with a very broad definition that now even includes children of illegal immigrants). Most of the money comes from general revenue. There is a high level of decentralization, with Spain's 17 "autonomous communities" having had direct control over health policy and planning matters since 2002.

There are zero costs at the point of care, while there is a 40% copay for pharmaceuticals; the elderly and the chronically ill are exempted. Although affordability is generally good, pharmaceuticals are growing to be a significant expense as they make up the largest share of health spending growth.

10% of the population in Spain has private insurance, but it is generally supplementary for dental care and other uncovered items.

### b. Primary care

Unlike in Britain with its GP contract, Spain's PCPs are civil servants, usually working at various public institutions, especially primary healthcare teams with a wide range of functions. Most of their pay is salary, but 15% is a capitation bonus to incentivize taking on patients.

A PCP referral is required for specialist visits in Spain, except for dentists, ophthalmologists, and obstetricians. There is a good deal of government emphasis on preventive / promotive medicine. Spain has a very low number of GPs for its population (50 per 100,000) compared to most EU countries, and heavy workloads for GPs, but this is not clearly reflected in outcomes. General health outcomes in Spain are decent, and have increased markedly since the introduction of the current health system; prevention-related PYLL is not as good as most other European countries in this paper, but within a tolerable range (much below the US), while detection-related PYLL is very good.

## 11. Czech Republic

### a. Overall system

The Czech Republic (Czechia) inaugurated a healthcare financing system along Western European lines in 1993, and this system is fairly mature. It has a particularly low degree of cost-sharing considering that it resembles the French or German systems in outline. It was selected for description here partly to have a slightly less high-income country in

the sample, and partly because Central Europe (Czechia, Slovakia, and Hungary) have astonishingly high numbers of outpatient contacts per year, which is worth looking into.

Formal sector employees in Czechia pay into a health insurance system. Payments are 4.5% of income from the employee and 9% from the employer. The individual directs a sickness fund for his or her contributions to go to, and this sickness fund pays for care. In 2002, 68% of the population was using the government-run General Health Insurance Fund (GHIF), and a number of smaller funds were dissolving due to financing problems. (Rokosova and Hava 2005)

Notably, people outside of formal employment – pensioners, the unemployed, children or dependents up to 26, students, those on social welfare, etc. – are enrolled in the same system, but as "state-insured," with the government paying the entire 13% contribution from a notional wage. Added together, these people make up 56% of the Czech population. (Most of the state-insured use the GHIF, which therefore has a worse risk pool.)

There is *no* cost-sharing in the government financing system, with the exception of some prosthetics, eyeglasses, etc. Generic drugs are free in the government system, while there is some copay for non-generics. As in Germany, preventive spa treatment is covered.

Physicians in the government system are salaried civil servants; private physicians were originally FFS exclusively, but this led to huge cost growth, and for the past decade there have been a number of reforms moving to capitation and other means of payment. These reforms will be described for PCPs in more detail below.

### b. Primary care

There were previously governmental primary healthcare facilities (polyclinics) for some time even after 1993, but since 2002 nearly all PCPs have worked in solo private practice.

The GHIF, which acts as a trend-setter, has paid PCPs mostly with capitation instead of FFS since 1997. Capitation varies by type of person, paying extra for children ages 0-4 and the elderly. FFS payments persist for specified services such as preventive examinations, and make up about 30% of PCPs' income. Also, to the capitation bonus from creating adverse workload outcomes, the bonus goes down after a doctor passes a certain set number of patients.

Gatekeeping is usually practised in Czechia, but it is not mandatory.

The number of outpatient contacts in Czechia in 2003 was 15.0, compared to an average of 6.6 for the entire EU. It does have a high number of doctors compared to the population, but not enough for that to be the only answer: 3.7 doctors per thousand in Czechia compared to 3.4 in both France and Germany. One phenomenon that may help explain the situation is that it is routinely necessary to get a doctor's certificate for an absence from work; consultations for these certificates apparently make up a large part of PCPs' workload.

In primary care outcomes, Czechia’s prevention-related PYLL is quite up to scratch – much better than Spain’s, compared to whom it has a lower per capita GDP – but detection-related PYLL is poor, rivaling the US’s. This could have to do with the partial FFS system better prioritizing preventive care.

## Data

The derived primary care outcome measures for the ten countries for which data exists (all of the above minus Singapore) are as follows:

### Chart 1

Country	Prevention-related preventable years of life lost
Netherlands	146
Germany	147
France	158
Canada	160
Australia	162
Japan	168
Czech Republic	190
United Kingdom	238
Spain	266
United States	404

### Chart 2

Country	Detection-related preventable years of life lost
Japan	308.0
France	308.0
Spain	468.0
Australia	473.5
Netherlands	516.5
Germany	532.0
United Kingdom	576.0
Canada	577.0
Czech Republic	719.5
United States	757.0

### Chart 3

Country	Percentage of GDP spent on healthcare, 2006
Czech Republic	6.8
Japan	8.1
United Kingdom	8.4

Spain	8.4
Australia	8.7
Netherlands	9.5 (2004)
Canada	10.0
Germany	10.6
France	11.0
United States	15.3

(Source: OECD Health Data 2008)

Dividing these figures between countries that do or do not charge additional fees, copays, or other **cost-sharing for primary care visits**, we get the following:

### Chart 4

	Countries	Prevention-related PYLL	Detection-related PYLL
<b>Charges</b>	Australia, Germany, Japan	159.0	437.83
<b>No charges</b>	UK, Canada, France, Spain, Czechia	202.4	565.70

The US has been excluded from most of these figures due to its being an outlier; the lack of universal healthcare and major access problems are clearly a formidable confounding factor. The Netherlands is excluded from this comparison since its use of charges varies historically as well as across systems. France currently has charges, but it did not when the data was collected. Also, every country in the “no charges” row has some payments for pharmaceuticals.

Second, looking at countries’ **principal source of funding** for their health systems – general revenue or dedicated taxes (“premiums”):

### Chart 5

	Countries	Prevention-related PYLL	Detection-related PYLL
<b>General Revenue</b>	UK, Spain, Canada	221.33	540.33
<b>Premiums</b>	Australia, Germany, France, Netherlands, Japan, Czechia	161.83	506.25

Third, the method of **paying doctors for their services** – FFS or other methods, usually salary, capitation, or a mix:

### Chart 6

	Countries	Prevention-related PYLL	Detection-related PYLL
<b>FFS</b>	Australia, Canada, France, Japan	162.00	440.81
<b>Other</b>	UK, Spain, Germany, Czechia	210.25	573.88

There are elements of FFS in Germany’s system, but without Germany here the gap between the two groups would only increase.

And finally, the issue of **gatekeeping**. This is difficult to quantify because systems incorporate gatekeeping in many different ways, some financial and some not. Since we are trying to assess the benefits of gatekeeping as a practice, the following groups together all countries where gatekeeping is a common practice, even if it is not enforced by specific financial mechanisms.

**Chart 7**

	Countries	Prevention-related PYLL	Detection-related PYLL
<b>Gatekeeping</b>	UK, Spain, Czechia, Netherlands	210	570.0
<b>No gatekeeping</b>	France, Germany, Canada, Australia, Japan	159	475.7

## Discussion

The numbers in Chart 4 on **cost-sharing for primary care visits** suggest initially – while bearing in mind everything in the “Limitations” section above – that systems with charges for primary care actually do *better* than those where primary care is free. This is rather counterintuitive, as charges depress utilization, and regular utilization is an important part of primary care. It does not even accord with the Rand HIE, which merely states that cost-sharing decreases spending *without harming* outcomes, not that cost-sharing *improves* outcomes.

Are other features shared in the two groups that could be confounding? Australia, Germany, and Japan all have a majority private provision of primary healthcare; but so do France, Czechia, and Canada. Additionally, there is no common focus on primary care resources in the “charges” countries: Australia pays a good deal of attention to primary care, as reflected in Medicare bonuses; Germany has more limited policy; Japan has virtually none; whereas the UK and Spain are built with primary care as a focus.

What mechanism could account for such a linkage, if it holds up? Conceivably, there could be better and less frivolous use of medical care when there is the “buy-in” effect of charges, along the lines of the commonest interpretation of the Rand HIE (which is not a direct result of the HIE, more a surmise). Looking at outpatient contacts, which were also collected in OECD Health Data, the “charges” group had an average of about 9 per year, and the “no charges” group about 8. Could charges actually *increase* utilization, making that their *advantage*? But if Czechia and Japan, both outliers in this group, are removed from their respective groups, there is virtually no difference: both drop to about 6.5.

To make a firm conclusion about any effect of financing on doctor use, a greater sample incorporating more regions is probably necessary. But, it should be mentioned, it is not ridiculous that charges in some circumstances could increase utilization, even in the developing world. In the experience of the Grameen Bank in Bangladesh, starting out with zero charges for using its health facilities, it found that members took free care as synonymous with low-quality care. Accordingly, the Grameen Bank added (very small) charges, and seems to be satisfied with them. (Ahmed et al. 2005)

Any lessons the ICTPH might draw from this result should be very cautious. From the development literature (Lagarde and Palmer 2006) user fees overall seem to depress utilization. Anything in this direction is perilous from the point of view of broadening the reach of care in rural and low-income India. However, even in the Lagarde and Palmer review, there were some examples where introducing user fees, together with increasing quality, was followed by increased utilization. Together with the example of the Grameen Bank, it is possible that introducing a nominal charge, more for behavior-modification than revenue purposes, could have a positive effect even in rural India. Still, more research is definitely required here. The case of the “ultra-poor” who cannot even afford the most nominal of fees also needs consideration. Formal methods to assess whether someone indeed cannot pay produce the same old problem of means-testing, once again depressing participation.

The data on **principal source of funding** in Chart 5 gives premiums a lead over general revenue. Since there are only 3 countries in the sample which use general revenue – and 2 of them, the UK and Spain, use the same model of government provision – conclusions about the inherent superiority of one system over another are probably fruitless. However, it is worth noting that at the very least, the premium model, taking in dedicated revenues for health, is the one that has accompanied most of the best primary care outcomes in the world today; there is certainly nothing wrong with it. Since it is the system that ICTPH is almost certainly going to experiment with, and in the longer term any true innovation in India’s public health system will probably entail a shift away from general revenue to premiums, it is good to have this confirmation.

There are also some observations to be made about the political origins of these different systems. General revenue is historically associated with the government making a decision to make health a public service, like firefighting, with no payment required – often from a leftist or socialist starting point. Since revenue is not dedicated but must be allocated out of all the rest of the government’s money, this is often followed by an unwillingness to adjust the system upwards for increasing population and improving technology. This process did not just happen in India, but

also to a lesser but real extent in the United Kingdom. It is good on a cost-control basis, but not necessarily on a health basis, as the UK's outcomes are decent but not as good as elsewhere in Europe, and there is widespread complaint due to waiting for procedures and other deficiencies. On the other hand, premiums are often associated with a political compromise – “this, and only this, will go to healthcare” – and less direct management by the government (for example, with sickness funds or autonomous agencies intermediating). These structures allow for more flexibility and enhancement of the system over time; on the other hand, the separation from the regular budget and the “routinization” of growing care can make costs grow over-quickly. But with premiums, workers actually see the amount that is going specifically to healthcare, either in their paycheck deductions or (in the informal sector) in handing over the premiums directly. Then, if the system functions well enough, they may feel more of a connection and investment in it, and therefore use it more often when necessary, or follow doctors' instructions more regularly.

That said, the dominance of the informal sector in India makes premiums more technically difficult; and a program that focuses on the poor certainly cannot draw most of its revenue from their premiums; subsidies are required. (Hsiao usefully found that low-income Asians do tend to see primary care services as a good value for their money (Hsiao 2004.) But if the visibility of premiums leads to better usage of primary healthcare, it is probably also a good idea to make the subsidy just as visible as the premium members pay.

The data on **methods of paying doctors** is interesting: FFS seems to work better for primary care outcomes than do salary, capitation, and various combinations. However, from more holistic experience in the countries that use FFS, it is probably more trouble than it is worth. Generally, when countries adopt FFS, doctors quickly learn to take advantage of the system and the volume of services provided goes up unsustainably. This happened in the US after Medicare was instituted in the 1960s; in Germany in the same decade when doctors switched from salary to FFS; and in Czechia, health spending grew 60% per year in 1993 and 1994, just after the change. Likely, if compared in terms of how much the primary health systems' costs as well as outcomes, FFS would come out behind.

Despite this caveat, it was still surprising that FFS seemed to perform better in primary care outcomes, since it is also associated with PCPs being undercompensated compared to specialists, and a consequent decline in their number. Possibly the result reflects extra treatment actually improving outcomes by catching more diseases; going along with such an interpretation, the gap between systems in *detection*-related PYLL was 133, the highest gap out of any in this paper, suggesting more use of diagnostic tests, scans, etc. in FFS countries. Of course, overtreatment can lead to more health problems (especially in the hospital setting) and, again, higher costs.

Capitation, salary, or a combination of those and other factors (like in Ontario) seem likely to allow policy goals to be pursued with more precision. It may be helpful to add limited “bonuses” for specific desired services. Another reason for mixing is that straight capitation seems to be extremely odious to doctors.

**Gatekeeping** also gives nonintuitive results: having a gatekeeping system is associated with worse primary care outcomes. The gaps between systems' primary care outcomes based on gatekeeping are just as wide as any other described in this paper – assuming, perhaps wrongly, that none of them is statistical artifacts – and put gatekeeping on the side of worse outcomes. It could be that gatekeeping is merely a clever idea without practical impact.

At any rate, when applying the idea of gatekeeping to ICTPH's plans, it brings up two new issues. One is relevance: to what extent are rural Indians actually using specialist care, or non-urgent hospital care? Gatekeeping may be more relevant to a country with a highly-developed universal health system. The other is, once more, utilization depression: if rural Indians face a fee for visiting a specialist without a referral, this may prompt them to stay home entirely. Also, the transportation cost and time of seeing two doctors rather than one (especially for an issue that seems to immediately call for a specialist) could further restrain utilization.

Still, gatekeeping could have independent merit for promoting goals like coordination of care, better management of chronic diseases, and longitudinal data collection. If it is to be implemented at some point, it may make more sense to enforce it on the doctor side rather than the patient side – that is, offer doctors a bonus for adhering to the gatekeeping system, or possibly a penalty for failing to do so.

## Further research

To improve the current small sample, it would be helpful for this particular study to extend its reach to all OECD countries. The use of statistical methods, controlling for the confounding nature of the numerous factors, would also help bring more confidence in the conclusions above.

In terms of ICTPH's future operations, exhaustive longitudinal datakeeping could help bring the unanswered questions on the utility of primary care into the light: do people who use more primary care visit the hospital less? Do patients paying premiums use RMHCs in a different way than those who do not? Also, since there is not a great deal of data in the developing world related to the Rand HIE / Singapore model, and there is already a catastrophic insurance product being rolled out shortly, it would be instructive to compare this block with another experimental block that receives primary care with low cost-sharing – both in outcome and cost terms.

## Conclusion

Very tentatively, the outcome data and experience derived from developed countries points toward: very small cost-sharing; premiums over general revenue; and a mixture of physician compensation methods. Gatekeeping is not well-supported. However, most of the countries studied in this paper achieved satisfactory, if not optimal, health outcomes with widely varying financing systems. The most important lesson may be that as long as perverse outcomes (like FFS exploitation) are averted, a health system can choose its means of financing according to its immediate needs and not be unduly hindered by these choices. In the end, issues like affordability, physician mindset and practices, availability of medical resources, etc. are just as important for the success of primary care as techniques for financing.

Although primary care is now lauded in the developed world, there is still no solid data showing that this level of care, as a whole, benefits developing countries. As such, it is bound to compete for funding and attention, especially against disease-targeted populational interventions, like the various national health missions in India. It would be a significant accomplishment for ICTPH to leverage its operations to turn this situation around. Showing a system that finances *comprehensive* primary care (rather than selective) and thereby improves health and financial security would impact the development literature worldwide and vindicate ICTPH's mission in a new way.

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