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Unifying India's Healthcare Markets

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Abstract

This paper delves into the structure of the healthcare market in India, contending the existence of three distinct markets: the government monopsony market, the institutional market, and the retail market. Each of these markets has unique characteristics in terms of healthcare service provisioning, pricing, and accessibility. We underscore systemic failures resulting from a lack of clarity about the structure of these markets, including disparities in service provision, lack of awareness about available services, and skewed incentives favouring private sector provisioning. We suggest unification of India's disparate healthcare markets, advocating for a more prominent role for the government. The proposed unification is a modification of the school voucher program, aimed at ensuring competitiveness on the supply side, and thereby improving service quality. While acknowledging the challenges of scale and state capacity, we argue that the proposal is worthy of further discussion and research, given its potential to harness the government's purchasing power to improve accessibility, affordability, and promote a competitive landscape that encourages innovation and quality in healthcare services.

Keywords: Universal Health Coverage, Benevolent Monopsonist, Market Unification, Healthcare

JEL Codes: I10, I14, I15

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1. Introduction

Two separate aspects – 'provisioning of public health' and 'healthcare markets' - are often lumped together in India as one market, and not just by the media or the layperson. Schemes and programmes launched by the government are also not cognizant of what should, in fact, be thought of as three separate markets: the government monopsony market, the institutional market and the retail market.

These three markets have very different structures in terms of:

- The provisioning of healthcare services
- The pricing of healthcare (both goods and services)
- The procurement of medical goods
- The accessibility of healthcare services

A lack of clarity about how one ought to think about the healthcare sector in India has led to a morass of regulations pertaining to the creation of different markets, with predictably confused outcomes - such as the same drug being available at different prices depending upon which healthcare scheme provides it.[1]

Such confused outcomes are only the tip of the iceberg, in the sense that the malaise caused by the lack of clarity about the very structure of the healthcare system in India has led to multiple systemic failures. These include:

- A lack of awareness on the ground about the availability of healthcare services, particularly among the poorer sections of society, who are the main targets of government schemes (Yadapalli, Pal and Babu 2018);
- Even when there is awareness of the existence of the scheme itself, there is ignorance about coverage, limitations, and restrictions (Yadapalli, Pal and Babu 2018);
- A markedly better provisioning of these services to government employees at lower prices. (While this is not in and of itself a systemic failure, the fact that others get a lower quality of service at higher prices can be counted as a failure.)
- An incentivization towards provisioning of healthcare services exclusively through the private sector, rather than building out government-funded health infrastructure.

Each of these has contributed to the market for healthcare in India being inefficient. It is our aim in this paper to document and highlight these failures, and to suggest how such outcomes could be avoided.

In the first section, we define and contextualise the Indian healthcare market. We do this by examining how the market for healthcare in India has been defined and segmented. We analyse its evolution and segmentation over time, and analyse the implications of the segmentation in terms of

coverage, pricing, and outcomes, with specific regard to equity in terms of accessibility. We point out the obvious shortcomings that can be currently seen because of the segregation of India's healthcare market.

In the second section, we compare the structuring of the healthcare market in India with six different healthcare markets across the world, and identify key strengths and weaknesses of the current structure. We also point out aspects of these markets that could be incorporated into India's healthcare market to make it more efficient and equitable.

In the third section, we highlight the importance of the law of one price, and how the Indian healthcare market fails this litmus test of efficiency. This section also includes a discussion on how the opacity in India's healthcare markets results in a failure of efficient price discovery. Following this, we propose a way to unify India's disparate healthcare markets, with a more prominent role for the government than has been hitherto the case. We also discuss in this section the importance of utilising the Indian government's potential monopsony power.

Finally, we conclude by providing an estimate of the costs and benefits associated with such unification, examine some of the risks associated with such a proposal, and suggest how they might be overcome.

2. Understanding the Indian Market for Healthcare

The question of what constitutes a market often receives insufficient attention in introductory economic literature. Surprisingly, prominent economic resources like The New Palgrave Dictionary of Economics, The Concise Encyclopaedia of Economics (CEE), and even The Economist's "Economics A-Z" section do not dedicate entries to defining a market. In contrast, the legal field has extensively pondered this question, primarily due to the necessity of defining markets in antitrust cases and resolving legal disputes.

The Oxford Dictionary of Economics does have a definition of the market: "A place or institution in which buyers and sellers of a good or asset meet". However, this definition may not satisfy economists or lawyers, as it raises further questions. What precisely constitutes a "place or institution"? Do participants merely meet, or do they engage in transactions as well?

The need to define markets more rigorously arises from antitrust analysis, where a market is considered a collection of products and geographical locations. This delineation is crucial for making inferences about market power and potential anti-competitive effects. In this context, markets are often referred to as "relevant markets" or "antitrust markets", to distinguish them from broader definitions used by business executives, consultants, etc.

One such definition (Directorate For Financial And Enterprise Affairs 2012) is:

> "Market definition is a widely applied analytical framework to examine and to evaluate competitive concerns. The relevant market should be defined in a way such that the competitive constraints a firm faces, i.e. demand and supply side substitution, are captured as accurately as possible. The relevant market is usually defined by applying the hypothetical monopolist test (also known as the SSNIP test), according to which a 'market' comprises all the products and regions for which a hypothetical profit-maximising monopolist would impose a Small but Significant Non-transitory Increase in Price (SSNIP)."

From a legal viewpoint, defining the market is a necessary exercise, as a step towards determining whether or not market power[2] exists, and is being exercised in a fashion that is demonstrably hindering the maximisation of consumer welfare (Directorate For Financial And Enterprise Affairs 2012):

> "Market definition serves several purposes in identifying the scope of competition in a market. The main goal of market definition is to assess the existence, creation or strengthening of market power, which is defined as the ability of the firm to keep the price above the long-run competitive level. The market shares of the respective firms provide an indication of market power. Market definition also facilitates the identification of relevant competitors, and is useful in evaluating the risk of potential coordinated effects in mergers. In addition, identifying the area of competition allows other relevant competition issues to be examined, such as potential barriers to entry. Even when the necessary data to perform the hypothetical monopolist test are not available, this test provides a coherent conceptual framework to define the relevant market. The importance of market definition also extends beyond its role in analysing competition concerns: the concept is used as a basis for calculating fines, for estimating the effects on trade between EU member states and has served as a procedural model for other areas of law."

In India, the definition of a relevant market is along two different (but sometimes overlapping) dimensions: product and geography. In this regard, India has followed what is by and large a matter of international convention (WIPO 2018). As per The Competition Act (2002):

> "(r) "relevant market" means the market which may be determined by the commission with reference to the relevant product market or the relevant geographic market or with reference to both the markets;
>
> (s) "relevant geographic market" means a market comprising the area in which the conditions of competition for supply of goods or provision of services or demand

> of goods or services are distinctly homogeneous and can be distinguished from the conditions prevailing in the neighbouring areas;
>
> (t) "relevant product market" means a market comprising all those products or services which are regarded as interchangeable or substitutable by the consumer, by reason of characteristics of the products or services, their prices and intended use"

The definition of the product market, as per competition law, is based on six separate criteria, as follows (The Competition Act):

a) Physical characteristics or end-use of goods;
b) Price of goods or services;
c) Consumer preferences;
d) Exclusion of in-house production;
e) Existence of specialised producers; and
f) Classification of industrial products.

In practice, however, the issue can turn contentious very quickly. Defining the product market on the basis of demand- and supply-side substitutability has been tricky in the case of rubber tires (CCI 2015), automobiles (Neelakantan 2015), and residential units (Neelakantan 2015) – for reasons of price differentiation, end-user segmentation, and product differentiation, among others.

On the other hand, the definition of the relevant geographic market is based on the following factors:

a) regulatory trade barriers;
b) local specification requirements;
c) national procurement policies;
d) adequate distribution facilities;
e) transport costs;
f) language;
g) consumer preferences;
h) need for secure or regular supplies or rapid after-sales services.

Accurately defining the relevant market is of utmost importance in understanding the competitive dynamics of the healthcare industry in India. While adopting a legal and antitrust-oriented definition of markets provides a comprehensive framework, our purpose is not to establish an antitrust case, but rather to evaluate the structure of healthcare markets in India. The application of this framework

helps us determine whether there exists a singular healthcare market or multiple distinct markets within the country.

The significance of a precise market definition in healthcare stems from the localised nature of healthcare services and the substantial regional variations in the competitive landscape. It is crucial to acknowledge that healthcare markets face notable entry barriers due to regulatory requirements and high fixed costs. Consequently, defining the market with care is essential for identifying potential abuse of dominant position, which can result in increased prices, compromised quality, and limited accessibility to healthcare services. Further, the acceptance (even if implicit) of the existence of separate markets on part of the government weakens its own ability to act as a benevolent monopsonist. It is for these reasons that we use the framework provided by the Competition Act.

By examining India's healthcare markets using the definitions provided by the Competition Act (2002), we can better understand the nature of the industry and its competitive dynamics. This understanding allows us to ensure a competitive and accessible healthcare market in the country, utilising the best available framework, without seeking to prove the existence of monopoly power or conducting a specific antitrust enquiry. Instead, the objective is to assess whether conceiving of a single healthcare market in India is a useful approach from the perspectives of equity and efficiency, or if multiple distinct markets better capture the complex realities of the industry.

2.1. The Three Markets for Healthcare in India

Given this framework, it is our contention that there are three different markets for healthcare in India, rather than (as is usually assumed) just the single unified one. These are:

1. The ***government monopsony market(s)***, where the government is the single buyer for all goods (and services) provided under the healthcare schemes run by the government.
   The government plays a significant role as a major buyer of healthcare services and goods within the healthcare schemes it operates. While we avoid labelling it strictly as an absolute monopsonist, it is undeniable that the government's extensive purchasing power approximates that of a substantial buyer in the market (Ministry of Health and Family Welfare 2023).[3] Through its healthcare schemes, the government exercises considerable influence in shaping the competitive dynamics and pricing structures within the healthcare sector.
   By virtue of being a dominant buyer, the government possesses the ability to negotiate volume-based pricing arrangements with healthcare providers. This unique position allows the government to leverage its purchasing power to secure favourable terms and conditions, including cost-effective rates for services and goods (Ayres and Braithwaite 1992). Moreover, the government's substantial market presence gives it the potential to drive market behaviour and affect the overall functioning of the healthcare industry.

The approximation of this market as being led by a monopsonistic buyer (the government) underscores the need for a careful assessment of the healthcare market structure. Understanding the government's role as a significant buyer sheds light on the complexities of market interactions, pricing mechanisms, and competition within the healthcare sector. It emphasises the importance of striking a balance between harnessing the government's purchasing power to improve accessibility and affordability, while promoting a competitive landscape that encourages innovation, quality, and equitable access to healthcare services for all.

2. The ***institutional market***, where patients access, and pay out of their own pocket, for services and goods used while availing of treatment from hospitals.[4]

3. The ***retail market***, where though substitutes for products exist (whether generic or patented), it is the retailer (pharmacist) along with doctors who decide which drug will be sold, often based on price margins. (Jha 2017)

Of these, the first is explained in greater detail in the section that follows. The institutional and the retail markets are almost always conflated together, including in the official government statistics. The National Health Accounts Statistics, for example, reports the data as found in Table 1 (Ministry of Health and Family Welfare 2023):

Defining these markets separately, and sizing them, is thus all but impossible given the current paucity of data. There is, however, precedent from other sectors for defining markets on the basis of consumer segmentation. For example, in the case between the All India Tyre Dealers' Federation vs. Tyre Manufacturers (All India Tyre Dealers Federation vs Tyre Manufacturers.), the CCI has differentiated the market for tyres on the basis of consumer segmentation. Using the same reasoning as in this judgement, we argue that there really are three separate healthcare markets in India, contingent on which of the three groupings outlined above is applicable.

Table 1: Current Health Expenditures (2019-20) by Healthcare Financing Schemes

NHACode	Financing schemes	Rs. Crores	%
HF.1.1.1.1	Union Government (Non-Employee)	54,717	9.22
HF.1.1.1.2	Union Government (Employee)$$	14,969	2.52
HF.1.1.2.1.1	State Government (Non-Employee)	79,136	13.33
HF.1.1.2.1.2	State Government (Employee)~~	7,056	1.19
HF.1.1.2.2.1	Urban Local Bodies	8,667	1.46
HF.1.1.2.2.2	Rural Local Bodies	7,293	1.23
HF.1.2.1	Social health insurance schemes (not incl. 1.2.1.4)^^^^	23,957	4.04
HF.1.2.1.4	Government Financed Health Insurance##	13,809	2.33
HF.2.1.1.1	Employer-Based Insurance (Private Group Health Insurance)	25,881	4.36
HF.2.1.1.3	Other Primary Coverage Schemes (Private Individual Health insurance)	19,957	3.36
HF.2.1.2.1	Community-Based Insurance	39	0
HF.2.2.1	Non Profit Institutions Serving Households (NPISH)	10,231	1.72
HF.2.2.2	Resident Foreign Agencies Schemes	1,023	0.17
HF.2.3.1.2	Enterprises	18,197	3.07
HF.3.3	All Household Out-Of-Pocket Payment	3,08,727	52
Total		**5,93,659**	**100**

Notes:
$$Current expenditures on Defence Medical Services (Rs.10485 Crores), Railway Health Services (Rs.3183 Crores) and the rest is any reimbursements made by Union Government Departments through CSMA.
and the rest is any reimbursements made by Union Government Departments through CSMA.
~~Incl. expenditures on employees through Medical allowance/reimbursements by State Government Departments
^^^^Incl. Central Government Health Scheme (CGHS), Ex-servicemen Contributory Health Scheme (ECHS) and Employee State Insurance Scheme (ESIS)
##Incl. expenditures on Rashtriya Swasthya Bima Yojana and State specific health insurance schemes

2.1.1 The Government Monopsony Market

The National Health Accounts 2019-20 (p. 7) allows us to define the government monopsony market as a separate market (Ministry of Health and Family Welfare 2023). The government tells us it identifies consumers, service providers, and price, which therefore constitutes a separate market (Pindyck and Rubinfield 2013). Further, based on consumer segmentation, the government monopsony market can itself be split into the segments explained below.

The Central Government Health Scheme

The Ministry of Health and Family Welfare (MoHFW) runs the Central Government Health Scheme (CGHS). The CGHS was, at the time of its inception, envisaged as a scheme for serving those central government employees who had difficulty in getting reimbursement for OPD expenses (Annual Report, Ministry of Health and Family Welfare, 2012-13). It was earlier restricted in terms of coverage to Delhi alone. Since its launch in 1954, however, it has expanded to cover 71 cities and covers around 3.5 million beneficiaries. (Ministry of Health and Family Welfare)

While the CGHS even today refers its beneficiaries, in the first instance, to government hospitals for consultation, patients are often referred to private hospitals following said consultation (CGHS, Facilities available under CGHS 2023). Besides consultations, medicines are also issued to the 1.5 million primary cardholders (and the 4.3 million beneficiaries) against the prescription issued by CGHS (and other government) doctors. (CGHS Dashboard 2023) Those medicines that are unavailable in the dispensary stores run by the CGHS may also be procured from authorised local chemists and supplied to patients.

The eligibility for joining the CGHS runs a wide gamut today. While it is primarily focused on all central government employees, it also includes those who draw pension from the central government, Members of Parliament, freedom fighters, Delhi police personnel, and journalists accredited with the Press Information Bureau (PIB), among others. (Annual Report, Ministry of Health and Family Welfare, 2012-13)

The services offered to those who enjoy coverage are equally wide-ranging, and include the right to avail of treatment from any hospital in the country empanelled under the CGHS (or otherwise, in case of emergencies). The monthly contribution required to be a member of the CGHS (assuming eligibility) can range from Rs. 250 per month in the case of Level 1 to 5 workers to Rs. 1000 per month for Level 12 and above. (CGHS 2023)

The CGHS procures drugs, provides most medical services, and provides a list of hospitals where patients can avail of services, but the issue of coverage is rather tricky. Firstly, when it comes to hospitals, these can be private or charitable (although not all private or charitable hospitals are a part of the CGHS scheme). All public hospitals are a part of the CGHS scheme.

Secondly, the CGHS scheme procures a significant number of drugs centrally, and negotiates prices for these drugs (CGHS 2023). Procurement prices are significantly lower than retail prices. For example, a strip of Sofosbuvir retails for INR 16,182 on 1mg, a popular online dispensary in India (1mg 2023), while the same drug on the CGHS website was available for INR 959.84[5]. In addition, beneficiaries are also entitled to reimbursement of expenses incurred or medicines purchased (that are not available from CGHS dispensaries) from the retail market.

The Indian Railways provides broadly similar coverage to its 1.45 million employees (and their families), and 2.8 million retired employees and their families - approximately 6.38 million persons in total (Health Directorate, Indian Railways 2023).

> "Once a railway beneficiary comes to Railway Hospital for medical treatment, he/she is provided all types of Medical treatment as per the need of the patient. The medical treatment is either provided by available Railway hospitals or Govt Hospital or recognized private Hospital. In extreme emergency situations when there is no time for a railway beneficiary to come to Railway hospital then he/she may avail treatment in a private hospital/Govt Hospital in the locality and can claim through reimbursement claim system." (Health Directorate, Indian Railways 2023)

Coverage of a similar nature also exists for current and ex-servicemen, where the armed services own and operate their own hospitals. Current and ex-servicemen are also eligible for coverage under a scheme very similar to the CGHS (FAQ, Department of Ex-Servicemen Welfare 2023).

The Employee State Insurance Scheme

The Employee State Insurance Scheme (ESIS) in India originated with the Employee State Insurance (ESI) Act of 1948 and applies to non-seasonal factories using power and employing ten or more persons, as also to non-seasonal factories and non-power using factories and establishments employing twenty or more persons (ESIC 2023). Over time, the scheme has become much more broad-based, because the Act provides for the extensions of the provisions of the scheme to other classes of establishments - of almost all sorts, based on the prerogative of the appropriate "state or central"[6] government.

> "The Act was originally applicable to non-seasonal factories using power and employing 20 or more persons; but it is now applicable to non-seasonal power using factories employing 10 or more persons and non-power using factories employing 20 or more persons. Under Section 1(5) of the Act, the Scheme has been extended to shops, hotels, restaurants, cinemas including movie theatre, road motor transport undertakings and newspaper establishments employing 20 or more persons. The existing wage-limit for coverage under the Act, is Rs.21,000/- per month (with effect from 1.01.2017)." (ESIC, ESIC Applicability 2023)

> "The ESI has a long and somewhat convoluted history, with the Workmen's Compensation Act (1923), the Trade Dispute Act (1928), and the Employment of Children Act (1938) all playing a contributory role, whether by being subsequently adopted, or by helping to point out important omissions. The eventual form was prepared on the basis of a report prepared by B.P. Adarkar. The Act in its original form provided for "sickness, maternity, disablement, death due to employment, injury and old age." (ESIC, ESIC Applicability 2023)

The actual administration of the provisions of the ESI Act is handled by the Employees' State Insurance Corporation (ESIC), which is a statutory (and autonomous) body under the aegis of the Ministry of Labour and Employment.

The financing of the scheme is in part by the employees themselves, subject to a floor wage, and in part by the state governments. As per the ESIC dashboard, 37.2 million employees and their families are covered under the scheme. In terms of infrastructure, there are 154 hospitals across all variants of the scheme, along with 1595 dispensaries. (ESIC Dashboard 2023)

Much like the CGHS scheme, ESIC coverage entitles a patient to be referred to a private hospital, with the bills being directly reimbursed by the service provider hospital that is a part of the ESIC scheme. (Express 2023)

A relatively recent addition to the ESIC schemes is the "Atal Bimit Vyakti Kalyan Yojana", launched in the year 2018, with a planned initial run of two years. Given the Covid pandemic, the scheme had been extended for an additional year. (ESIC, Atal Beemit Vyakti Kalyan Yojana 2018)

In terms of expenditure, the following information is available in the public domain (ESIC at a Glance 2023):

Table 2: ESIC Data

Year (All data in Rs Cr.)	Expenditure on Cash Benefit Payments	Expenditure on Medical Benefit	Administrative Expenses	Revenue Income	Revenue Expenditure
2017-18	642.84	6867.73	1031.06	23480.37	9161.36
2018-19	1171.00	8721.39	1155.55	27312.64	11085.32
2019-20	1867.21	9368.30	1727.76	22161.91	13033.26
2020-21	2761.88	9530.63	1470.2	21091.12	13746.53

Coverage remains spotty at best. An investigation of insurance coverage under different health schemes in Uttar Pradesh, for example, revealed that "the government-funded insurance schemes (Employee State Insurance Scheme (ESIS), Rashtriya Swasthya Bima Yojna (RSBY) and Central Government Health Scheme (CGHS)) and others have succeeded to provide financial support to a very limited population. Only 4.8% population [sic] are covered by any health insurance scheme in UP." (Singh and Kumar 2017)

The Jan Aushadhi Scheme

The Jan Aushadhi Scheme, launched in November 2008 has the objective of "making available quality generic medicines at affordable prices to all". The scheme has since been renamed to the

"Pradhan Mantri Bhartiya Janaushadhi Pariyojana" (PMBJP)." (Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) 2023)

The scheme, while being fully funded by the Government of India, eventually hopes to recover as much as possible of its expenses through "trading margins". (Pradhan Mantri Bhartiya Janaushadhi Pariyojana 2015 2023)

Any person is eligible to run a PMBJP outlet, in so far as licensing norms are met, and there is no restriction on either the location of the outlet, or in terms of what can be sold within the premises, subject to said products being "allied medical products commonly sold in chemist shops". The scheme provides financial support of up to INR 5,00,000, to be given at 15% of monthly purchases made, subject to a ceiling of Rupees 15,000 per month. Jan Aushadhi outlets are allowed a 20% trade margin on MRP in the case of retailers, and 10% for distributors. (Pradhan Mantri Bhartiya Janaushadhi Pariyojana 2015 2023)

The number of Jan Aushadhi stores has seen a steady increase over the years, as the chart below shows, and sales have also shown a steady uptick over the years. (Annual Report, Department of Pharmaceuticals 2023) (Thawani, Mani and Upmanyu 2017)

Figure 1: No. of Jan Aushadhi Stores

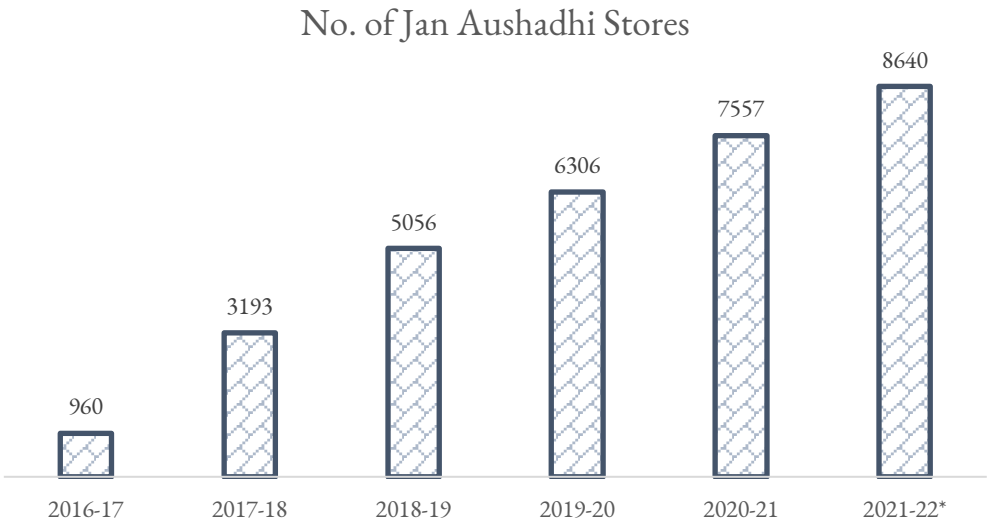
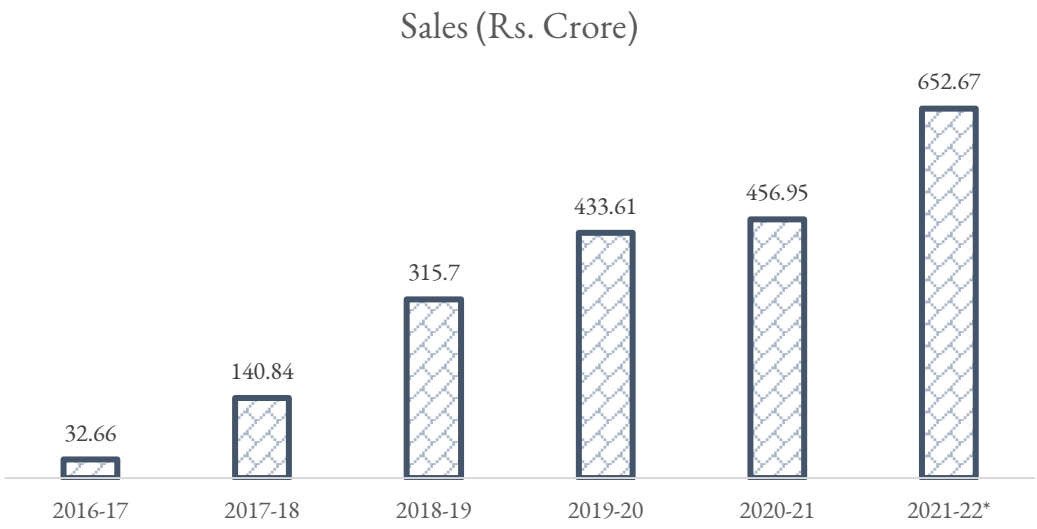


Figure 2: Sales in Rs. Crores, Jan Aushadhi Stores



The Pradhan Mantri Jan Arogya Yojana (PM-JAY)

In 2017, as a part of the National Health Policy, the Union Government of India launched the Ayushman Bharat scheme. The ultimate objective of the scheme is to provide Universal Health Coverage to all of India's citizens. Towards that end, two separate schemes have been launched:

1. Health and Wellness Centres: these are, in effect, existing sub-centres and Primary Healthcare Centres (PHCs). These cover the following services: maternal and child health services and non-communicable diseases, including free essential drugs and diagnostic services.
2. Pradhan Mantri Jan Arogya Yojana (PM-JAY): The much larger component of the Ayushman Bharat scheme, both in terms of coverage as well as ambition, is "the largest health assurance scheme in the world", and aims at providing secondary and tertiary care hospitalisation to over 107 million families, everyone in the bottom 40% of the Indian population by income.

The idea behind PM-JAY is to be an insurance scheme that is fully financed by the government, with a coverage of INR 500,000, and to provide cashless access to healthcare services for beneficiaries at the point of service delivery. This coverage is provided on the basis of a family floater set-up.[7]

As per the PM-JAY website, 28,542 hospitals (out of which 12,854 or 45% are privately owned) have been empanelled under the PM-JAY scheme, and 125 million membership cards (e-cards) have been issued. Under this scheme, 1,949 procedures have been made accessible to beneficiaries to avail cashless treatment. The costs covered include those related to treatment, medicines, supplies, diagnostic services, physicians' fees, room charges, surgeons' charges. and OT and ICU charges. (About Pradhan Mantri Jan Arogya Yojana 2023)

There are, however, implementation issues with the scheme. While some teething problems are inevitable during the launch of a scheme as large as this, research conducted on the ground points to

a misalignment of incentives, and issues that go beyond teething problems. While this is a well-recognized problem in the context of the administration capacity of the Indian state (Rajagopalan and Tabarrok 2019), the specific nature of the problems when it comes to provisioning of healthcare under PM-JAY merits a special focus in the context of our research.

For example, in field research carried out in the state of Jharkhand, there is evidence that a faulty (and imperfect) implementation of the scheme has resulted in patients being "nudged" towards private healthcare (D'Cruze 2020). The result is that the poorest sections of society end up paying out-of-pocket for expensive treatment in private hospitals. Such cases often crop up in the media, in the case of both rural and urban populations. (Upadhyay and Sheriff 2023)

This is as much a problem of a lack of information about the scheme and its finer points as it is a case of some private sector participants in the scheme taking advantage of this fact. In addition, it is also the case that there are issues with pricing and coverage:

> "[...] rates of reimbursement in existing schemes are still too low to attract participation by elite corporate hospital chains. In most states, only one in five private hospitals are empanelled and the rest are rejected on some technical ground or the other, usually related to quality. These are informal ways of controlling expenditure and rationing care." (Sundaram 2018)

A related point about rates of reimbursement: empanelled hospitals get a specified amount for procedures they carry out on patients under the PM-JAY scheme. This rate is often lower than the rate that even State Health Agencies pay, let alone the rate charged in the private sector. These rates have been revised upwards in November 2021 (National Health Benefit Package), but remain lower than what the hospitals charge outside of the PM-JAY scheme. At the same time, premium rates for PMJAY are set to increase, although the percentage increase remains unclear. (Sharma 2023)

From the point of view of economic theory, and specifically that of efficient price discovery, these price differentials become even more problematic. Different prices for the same service, at the same point of service delivery, contingent on whether one is a PM-JAY beneficiary or otherwise, will naturally lead to the temptation to provide a different quality of service. Not only is this antithetical to a well-functioning market, but it also leads to both a different (by definition, worse) quality of service in the case of PM-JAY beneficiaries. Patients in Jharkhand have reported various instances of sub-par treatment as a consequence of being admitted under the PM-JAY scheme:

> "While some accepted this treatment as normal, others felt like second-class citizens for receiving "free" treatment. As one dejected woman put it, "*kutta jaisa vyavhaar karte hain humare saath, aur apna paisa lagao toh aadar-satkaar karte hain*" (they treat us like dogs; only when you pay for your own treatment do they treat you with respect). One patient said that after his golden card was activated,

> he was shifted from a private to a general ward, while another mentioned that his doctor was changed on the day of his golden card activation." (D'Cruze 2020)

Patients are also sometimes denied care by means of a variety of ruses:

- a referral being needed from a public hospital
- empanelled hospitals claiming that they were not in fact empanelled; or
- being told that the treatment being sought was not covered under PM-JAY (D'Cruze 2020)

The PM-JAY scheme has seen increased outlays on part of the government every year since it was launched. The number of cards issued, the number of hospitals empanelled, and number of hospitalizations have all gone up, as has been shown in this section. There is a case to be made for integrating OPD services and Jan Aushadhi services into the PM-JAY scheme, and expanding it to more citizens as well.

Our point, however, is rather more fundamental. The PM-JAY scheme, as well as its antecedents, are at the end of the day schemes that ***distort*** the market. The PM-JAY scheme distorts the market through a variety of ways.

1. It creates perverse incentives for private hospitals to provide a different class of service to citizens covered under the scheme.
    a. This can be through the route of providing different doctors, or indeed a different quality of overall service to patients being covered under the PM-JAY scheme; or
    b. It could be by asking patients to avail of certain diagnostic tests first, before being issued with coverage under the PM-JAY scheme
2. Private hospitals remain unwilling to provide services to citizens under the PM-JAY scheme, because the government's pricing isn't viable.
    a. An article in Forbes magazine highlighted recently that surgery for pancreatic cancer in the Tata Memorial hospital costs INR 150,000, while the price in a private hospital could be anywhere between INR 300,000 to INR 1,500,000. The government, under the PM-JAY scheme, prices this service at INR 25,000. (Meghani 2020)
3. On the other hand, as has been outlined above, those private sector hospitals that are empanelled as a part of the CGHS scheme are willing to provide services at comparable rates, but only to government sector employees. For the service referred to above, the comparable rate paid by the CGHS to a hospital is INR 23,000. (CGHS package rate Delhi & NCR)

Government intervention in the market - any market - is unlikely to work out perfectly. In this case, however, it would seem that government intervention is making the problem even worse, at least in

the cases of the law of one price,[8] efficient price discovery, and lack of discrimination when it comes to the end consumer.

There is one last point to be made regarding the current implementation of the PM-JAY scheme. It ignores the role of the benevolent monopsonist. One of the current stand-offs between private hospitals and the government is about the low rates that PM-JAY mandates for a variety of medical services. There is a case to be made for having the government take up the role of a benevolent monopsonist, and behave as a monopsonist would under such circumstances (Ayres and Braithwaite 1992). Because of the scale at which PM-JAY is already operating, the government certainly has the ability to drive a harder bargain - and it is clearly already (and successfully) able to bargain when it comes to CGHS coverage.

In fact, as a government monopsonist, the government could conceivably drive a hard bargain to get hospitals empanelled under the PM-JAY scheme. For a limited number of empanelled (and relatively smaller) hospitals/clinics in a geographically limited catchment area, it is possible to envisage a sufficient number of potential patients through the PM-JAY scheme on a daily/weekly/monthly basis. As a benevolent monopsonist, setting up coverage under the PM-JAY scheme could potentially be a win-win game for both the government as well as the public.

One of the recent developments in the Indian healthcare system is the attempt by the state of Rajasthan to implement a variant of a single payer model, based on the Central Government Health Scheme (CGHS) package rates. The Rajasthan Government Health Scheme (RGHS), a part of the Rajasthan Right to Health Care Act 2022, aims to provide cashless medical facilities to various categories of beneficiaries, including state government employees, pensioners, legislators, and autonomous bodies (Rajasthan Right to Healthcare Act 2022). However, the scheme has faced some challenges and controversies, such as a lack of adequate funds, infrastructure, and human resources, as well as the opposition from some private hospitals and doctors. (Dutt 2023). The RGHS case illustrates both the potential and the pitfalls of introducing a single payer system in India, where there is a wide diversity of health needs, preferences and capacities across regions and populations. It also highlights the importance of building consensus and cooperation among various stakeholders, such as the central and state governments, health providers, and the public, to ensure the success and sustainability of such a reform.

2.1.2 The Institutional Market

The institutional healthcare market in India is a market that is defined in terms of healthcare being provided in an institutional set-up, with all of its attendant benefits, but also its restrictions. A key objective of our paper is to highlight how the market for healthcare in India is not driven by competitive forces - this is as much a failure of effective regulation in India as it is a case of private players taking advantage of this fact [9]. And nowhere is this more glaringly visible than in the case of the institutional healthcare market in India.

Our definition of the institutional market is very simple, and purely functional. Any healthcare treatment recommended by an in-house physician that necessitates usage of a hospital's services, without the patient having any choice of supplier, comprises the institutional market. Note that the In-Patient Department (IPD) is, by definition, part of what we are referring to as the institutional market; certain operations performed in the Out-Patient Department (OPD) could also qualify as part of the institutional market.

In this sense, the institutional market could be thought of as being defined by geography, rather than product. The relevant definition of the geographic market as per the Competition Commission of India is as follows:

> "relevant geographic market" means: a market comprising the area in which the conditions of competition for supply of goods or provision of services or demand of goods or services are distinctly homogeneous and can be distinguished from the conditions prevailing in the neighbouring areas" (India, The Competition Act 2002)

The *Ramakant Kini v Dr. L.H. Hiranandani Hospital, Powai, Mumbai* case, brought before the Competition Commission of India, is instructive in this regard. In this case, an expecting mother was informed just before delivery that she would not be able to utilise her stem cell collection service of choice, and that she would have to utilise the services of the agency that had been chosen by the hospital.

Pt. 24 in the judgement is worth noting:

> "It is a well-known fact that an expecting mother has to repeatedly consult her gynaecologists for various problems which she faces during the 8-9 months period. No expecting mother, particularly at an advanced stage of pregnancy, would like to change the doctor or the hospital as she develops a trust in the treatment of a hospital. When at the last stage of pregnancy, the woman is told, if she wants stem cell banking of her choice, she has either to change the hospital or to engage the Cryobank with whom OP hospital had agreement, no woman admitted in a super speciality hospital, to save a few rupees will change the hospital. Mrs. Jain probably changed the hospital because she had already paid money to Life Cell for her child's stem cell banking. This, however, is not indicative of patients switching and migrating to other maternity hospitals without any cost or inconvenience. This aspect has been further accentuated by the fact that OP hospital did not inform Mrs. Jain and other patients during that time about its exclusive tie-up for stem cell banking with Cryobank. Thus, the argument of OP hospital that the patients were free to leave the hospital is a flimsy argument, not worth any weight." (Case No. 39/2012, CCI 2012)

Receiving treatment as an in-patient is therefore not the same as receiving treatment from a healthcare professional outside of the institutional set-up. There are differences in terms of:

- The inability to get a second opinion easily
- A mandate to replace pharmaceutical goods only from in-house pharmacies, rather than any other source
- Coverage of services only from approved vendors

Unfortunately, for reasons described above, getting a separate estimate of the size of this market in rupee terms is not possible.

2.1.3 The Retail Market

The retail market is an unusual one in India, in the sense that it operates along informal guidelines that are as much decided by the industry practitioners as they are by the regulators (Madhiwalla, Pai and Roy 2007). Citizens are free to purchase their medicines from either private chemists (which could either be brick and mortar pharmacies, or e-pharmacies) or through government-operated Jan Aushadhi stores, as explained above. Given perceptions of quality, and the low level of awareness regarding Jan Aushadhi stores, most citizens prefer to utilise the services of private chemists.

Such pharmacies are incentivized to stock and sell pharmaceutical products that have high margins, rather than lower-priced drugs that are equally effective. It is worth highlighting the fact that in India, there is an "unholy alliance" between "manufacturers, chemists and doctors conspire to make profits at the expense of consumers and the public's health, even as they negotiate with each other on their respective shares of these profits." (Madhiwalla, Pai and Roy 2007)

Between the institutional market and the retail market, the non-governmental expenditure on health comes out to be 72.98%, or a total of 393,632 crore rupees in 2017, the latest year for which data is available. (Ministry of Health and Family Welfare 2023)

2.2 The Overall Healthcare Market

We have tried to argue in this section that there isn't just the one single unified healthcare market in India. There are, in fact, at least three:

1. The government healthcare market (with multiple constituent parts)
2. The institutional market
3. The retail market

Each of these three markets has the ability to provide the same pharmaceutical drug or service; however, prices are different depending upon who is utilising the good or the service and where. There

is, therefore, an argument to be made about how the law of one price (Feenstra and Taylor 2017) does not prevail in India's healthcare market.

There is nascent research on this subject in India, and it does recommend that India's disparate healthcare markets be unified - but unfortunately, the suggestion is only applicable to current beneficiaries of government schemes for its own employees.[10] Our stance is that ***all*** of India's healthcare markets should be unified, not just the multiple schemes run by the government for its own employees. We argue thus because we believe that equity and efficiency concerns are best addressed through such unification. We present our arguments for (and against) such a unification in the concluding section.

Before moving on to that section, however, we examine the question of how other countries provide healthcare to their citizens, and to what extent they succeed.

2.3. A Comparative Analysis with Other Healthcare Markets

Different countries have different approaches to their healthcare systems, both in terms of regulation of, and in terms of achieving - or attempting to achieve - universal healthcare coverage. Examples abound in the case of developed nations, such as[1] the United States of America, among others (Scott, Klein and Golshan, Everybody Covered 2020), as they do in the case of developing countries (Sen 2015).

Countries such as Taiwan have attempted, and been reasonably successful with, a single-payer system (Scott 2020), while others such as Australia have attempted to develop a public-private hybrid system, wherein the private system provides more options than the public system (The Australian health system 2023). Singapore has a system that resembles the Australian one for the most part (International Health Care System Profiles: Singapore 2020) while the Netherlands have a system that resembles the Affordable Healthcare Act in the United States of America the most - although with its share of problems (Scott 2020).

Of the countries that Ezra Klein and his co-authors covered, they came away the most impressed with the United Kingdom (Scott, Klein and Golshan 2020):

> "Yet in 2016, health care spending in the US equaled more than 17% of the country's GDP, while the share of health spending in Britain was only 9.7%. Nor do health outcomes seem to be suffering. Life expectancy in Britain is higher than in the US, and on measures of "mortality amenable to health care" — which specifically track deaths that could have been prevented by medical intervention — the US performs worse than the UK.

> So here, then, is the comparison: The UK spends barely half what we do, covers everyone, rarely lets cost prove a barrier for people seeking care, and boasts health outcomes better than ours." (Klein 2020) (emphasis added)

Which, in turn, begs the question of how they go about achieving this. At the heart of the system in the United Kingdom is the National Health Service (NHS). Not only does the NHS pay for medical services, it also operates hospitals. The financing of this system is entirely through taxation revenue by the British government (Harker 2012), and the coverage is good enough for only one in ten Britons needing to use private healthcare coverage. (Klein 2020)

When it comes to procurement, the system works along the following lines: the state purchases directly from pharmaceutical companies: on the basis of tenders where there are competing products; where there is a monopoly seller, states negotiate prices with such suppliers. There may be competing products which are not identical (i.e., competing patented products) and states will therefore be able to negotiate so that one of them is purchased or procured, all at negotiated rates.

The economic rationale for the system is set (and administered) by the National Institute for Care Excellence (NICE). The broad guiding principle is to maximise the Quality Adjusted Life Years (QALY) for British citizens, by making recommendations to help those in charge of finite healthcare resources to identify the most clinically- and cost-effective treatments available that offer the best value for patients and the most efficient use of resources. (Ogden 2017)

The system balances, to the extent possible, the needs of the patients, the budgetary constraints of the patients as well as the government, and at the same time attempts to provide the best healthcare possible. In concrete terms, this often results in certain drugs not being made available to patients under the NHS, such as Relenza, an antiviral medication to treat influenza (Rawlins 2009). The centralised procurement under NICE can therefore prove to be controversial, but it is a well-documented system, with clear and transparent rules and documentation (Sasse 2020).

As can be seen with the example cited above, the system works with constraints, and from that rather limited and strict viewpoint, could be called less than perfect. But if one were to keep in mind the statistics quoted above in terms of coverage, deployment, and efficiency, it would seem to be a system that works better than those in most other countries.

Indeed, in almost all economies that are held up as exemplars of good delivery of public health services, there are obvious - indeed, glaring - differences between the way the Indian healthcare system has been designed, and the way it is done in these countries.

- Taiwan, for example, has a national health insurance system in which everybody is included, by definition, and the coverage extends to "hospital care, primary care, prescription drugs, [and] traditional Chinese medicine"
- Australia follows a somewhat similar system, and once again, there isn't differentiation in provisioning on the basis of whether or not one is a government employee; and

- The Netherlands has implemented universal healthcare (UHC), again with no special benefits being conferred upon government employees. (Scott, Klein and Golshan 2020)

There are, to be sure, examples of markets that have managed to pull off a multi-payer healthcare market with heavy regulation in terms of cost controls, the most notable example being the Netherlands (Scott 2020). Given the disparity between the two countries in terms of population, income, and (especially) the extent of rural poverty, implementation of a similar programme, especially one that mandates the purchase of medical insurance by every citizen, will be difficult to implement in India - although there has been some notable progress in recent years.

It is imperative to draw a clear distinction between the concepts of universal healthcare and universal health insurance coverage, as they often get conflated in policy discussions. Universal healthcare refers to a system wherein all individuals have access to comprehensive healthcare services, regardless of their financial status, without the risk of incurring financial hardship due to out-of-pocket expenditures. This concept encompasses the provision of healthcare services to the entire population, while ensuring equitable access, quality of care, and financial protection.

In contrast, universal health insurance coverage pertains to a financing mechanism that aims to provide financial risk protection to individuals by covering a specified range of healthcare services. This system typically involves the pooling of resources and risk-sharing among the insured population, with premiums being paid by individuals, employers, or the government. While universal health insurance coverage can be a crucial component of achieving universal healthcare, it is not synonymous with the broader goal of ensuring access to healthcare services for all. It is essential for policymakers to bear this distinction in mind when designing and implementing healthcare reforms, in order to effectively address the complex and multifaceted challenges facing India's healthcare system.

Australia

Australia’s public healthcare system is called Medicare. It provides healthcare for Australian residents for free, or in some cases and under some circumstances, at a reduced cost. If you have a Medicare card, for example, you can get free or lower-cost medical services by doctors, specialists, and other health professionals. Hospital treatment, many prescription medicines and mental health care is similarly subsidised. Medicare is funded by taxes that every Australian pays.

The Australian health system is jointly run by all levels of Australian government – federal, state, and local. The federal government is responsible for laying out and operationalizing national health policy, along with funding and regulation of health services and activities. On the other hand, the state and territory governments are responsible for managing public hospitals, community health services and some public health programs.

Australia’s expenditure on health as a percentage of GDP has been increasing gradually over the past two decades. According to the World Bank data, Australia’s current health expenditure was 9.9% of its GDP in 2019, the last pre-pandemic year for which data is available (Bank 2023). The

government (across all levels) accounts for $142.6 billion of the total health expenditure, which comes to around seventy percent of total health expenditure. Non-government sources account for the rest (individuals spent $29.8 billion (49.7%), private health insurers $16.7 billion (27.8%) and other non-government sources $13.5 billion (22.5%).) (AIHW 2023)

The first national health plan in Australia was introduced in 1950. Since then, there have been several major restructurings of the system, due to ideological differences between the alternative governing parties (Frankel 2019). Some of the key reforms include the introduction of universal health insurance in 1975, the establishment of private health insurance incentives in 1997, and the expansion of primary health care networks in 2010.

USA

The United States of America has a complex and fragmented healthcare system, that is for the most part based on private insurance. Unlike many other countries in our analysis, the US does not have a universal health insurance scheme that covers all its citizens (Shi and Singh 2014). Instead, it relies on a mix of public and private programs that vary in terms of eligibility, benefits, and costs.

The main public programs are Medicare and Medicaid. Medicare is a federal program that provides health coverage for people aged 65 and over. Medicaid is a joint federal-state program that provides health coverage for low-income people, children, pregnant women, people with disabilities, and some elderly people. Both programs are funded by taxes, and have different rules and regulations depending on the state.

The main source of private insurance is plans sponsored by one's employer. These are plans that employers offer to their employees as part of their compensation package. Employers usually pay a portion of the premiums, and employees pay the rest through standard wage deductions. These plans vary widely in terms of provided benefits, applicable deductibles, standardised co-payments, and which networks of providers one is eligible for. Some people also buy individual plans directly from insurance companies, or through online marketplaces created by the Affordable Care Act (ACA).

The ACA is a major, if somewhat flawed, health reform law that was passed in 2010 with the aim of expanding health coverage, improving quality, and reducing costs. The ACA introduced several changes to the US healthcare system. It required most Americans to have health insurance or pay a penalty, while providing subsidies to help low and middle-income people afford insurance. It also created an online marketplace where people can compare and buy plans. Its major advantage has been regulating insurance companies to prevent discrimination based on pre-existing conditions, while there are some other advantages as well. (Gaffney and McCormick 2017)

Canada

The Canadian system of healthcare, known as Medicare, is one that is publicly funded. Unlike most single-payer healthcare systems which have nation-encompassing plans, Medicare consists of 13

healthcare insurance plans at the provincial and territorial levels. These plans must abide by the standards of public administration, comprehensiveness, universality, portability, and accessibility set in the Canada Health Act.

The federal government also participates in the funding of provincial and territorial universal health insurance programmes and provides a variety of services to specific populations like eligible First Nations and Inuit peoples, members of the Canadian Armed Forces, veterans, resettled refugees and some refugee claimants, and inmates in federal penitentiaries. Around 25% of the funding for Medicare is from the federal government through the Canada Health Transfer. According to the Canadian Institute of Health Information, in 2020, health expenditures accounted for 13.8% of the nation's GDP at $305 billion with expenditure per capita estimated to be $ 8,021 (International Health Care System Profiles: Canada 2020)

What this essentially means is that for all eligible persons, healthcare in Canada is free to a certain extent. Required medical care (which includes services like childbirth, surgery, or giving prescription drugs at a hospital) need not be paid for by the patient. However, dental services, vision care, rehabilitative care, medically superfluous plastic surgery and the administration of prescription drugs outside a hospital environment do not come under Medicare and hence, are expenses paid by the patients themselves.

Given the existence of 13 regional insurance plans, there exist regional differences in payment coverage, with some regions having public programmes targeted at groups like dependents, that may cover services usually not covered by Medicare. This being said, a majority of Canadians fall back on alternate insurance plans supplied by private firms to cover any out-of-pocket medical expenses. (Veillard, et al. 2015)

United Kingdom

Established in 1948, UK'S National Health Service (NHS), aims to provide free and universal healthcare to all British citizens. Until its inception, the British healthcare system worked on insurance-based schemes, as healthcare was unaffordable for most people.

The NHS changed that – being completely funded by taxpayers' money, the rich contributed more to its funding than the poor. It was initially planned as a three-tier structure: hospitals; GPs (general practitioners), dentists, opticians, and pharmacists; local authority health services. These three tiers were set up and meant to interact based on the needs of each patient. However, major structural reforms were set into motion with the Health and Social Care Act of 2012, which divided the NHS into a series of organisations at both local and national levels.

As of 2021, health expenditure in the UK stands at about 11.9% of the country's GDP. Records estimate that government expenditure was in the region of £ 229 billion, about 83% of the national healthcare expenditure at £ 276.6 billion. The onset of the pandemic greatly affected the nation's budget with regard to the NHS, as spending turned out to be around 9% more than what was initially planned for the year 2021-22. The budget, however, is now showing signs of convergence to pre-

pandemic levels. Spending on staff (excluding GPs and primary care staff) constituted 45.2% of the total NHS spending in the year 2019-20. (Key Facts and Figures about the NHS 2023)

What is remarkable about the NHS is that services such as A&E (Accident & Emergency) not including emergency care after being admitted, offered at NHS hospitals are free for all, even overseas visitors. The latest reform with respect to the NHS is the introduction of Integrated Care Systems (ICSs) which are partnerships of organisations that come together to provide joint healthcare services for local populations. The passage of the Health and Care Act of 2022 saw the establishment of 42 such ICSs on a statutory basis across the UK on July 1, 2022.

2.4 The Law of One Price

A corollary to the definition of an efficient market is that the price that has been discovered should be applicable to all consumers. This is the widely accepted law of one price.[11] (Mankiw 2019)

While the law itself is easy to understand, and it is instructive to reflect upon it in a theoretical sense, there isn't much empirical evidence to support the law. For instance Froot and Rogoff, (2019) run an analysis on a dataset that spans 700 years on two-way trade flows between the Dutch and the British agricultural markets, and establish that these markets never have been, and are not even today close to being fully integrated. That is to say, they do not find evidence that the law of one price holds. Or as they put it 'the volatility and persistence of deviations in the law of one price have remained quite stable'.

The law of one price is a concept that emerges from international trade. But the law of one price has applications outside of international trade too. Financial theory has models that are built upon the core assumption of the law of one price, while the law has been used to measure the level of European financial integration. As Thaler and Lamont (2002) argue, 'Economic theory teaches us to expect the Law to hold exactly in competitive markets with no transaction costs and no barriers to trade, but in practice, details about market institutions are important in determining whether violations of the Law can occur.'

Our contention is that the law of one price does not prevail in the case of India's domestic healthcare markets because of two factors. First, there are significant barriers to trade - the inability to trade across these markets, because of binding legal constraints, that end up harming consumer welfare. And second, the market institutions have been set up in a way that arbitrage is not just rendered impossible, but rather that the aim of the institution is to violate the law of one price. That is, we have ended up creating different markets with different prices for the same (and essential) good. This is, to put it mildly, an undesirable outcome. A lengthy, but ultimately illuminating example from Thaler and Lamont (2002) exemplifies the undesirability of such an outcome:

> "Consider the case of aspirin. Suppose, for the sake of argument, that Bayer aspirin and store brand aspirin are identical products, but that Bayer costs twice

> as much because some consumers believe (falsely, in this example) that Bayer is better. Would we expect markets to eradicate this price difference? Since the Bayer brand name is trademarked, it is not (legally) possible to go into the business of buying the store brand aspirin and repackaging it in Bayer bottles. This inability to transform the store brand into Bayer prevents one method arbitrageurs might use to drive the two prices to equality. Another possibility for arbitrageurs would be to try to sell the more expensive Bayer aspirin short today, betting that the price discrepancy will narrow once the buyers of Bayer "come to their senses." Short selling works like this: an arbitrageur would borrow some bottles from a cooperative owner, sell the bottles today and promise the owner to replace the borrowed bottles with equivalent Bayer bottles in the future. Notice that two problems impede this strategy. First, there is no practical way to sell a consumer product short, and second, there is no way to predict when consumers will see the error in their ways. These problems create limits to the forces of arbitrage, and in most consumer goods markets, the Law may be violated quite dramatically."

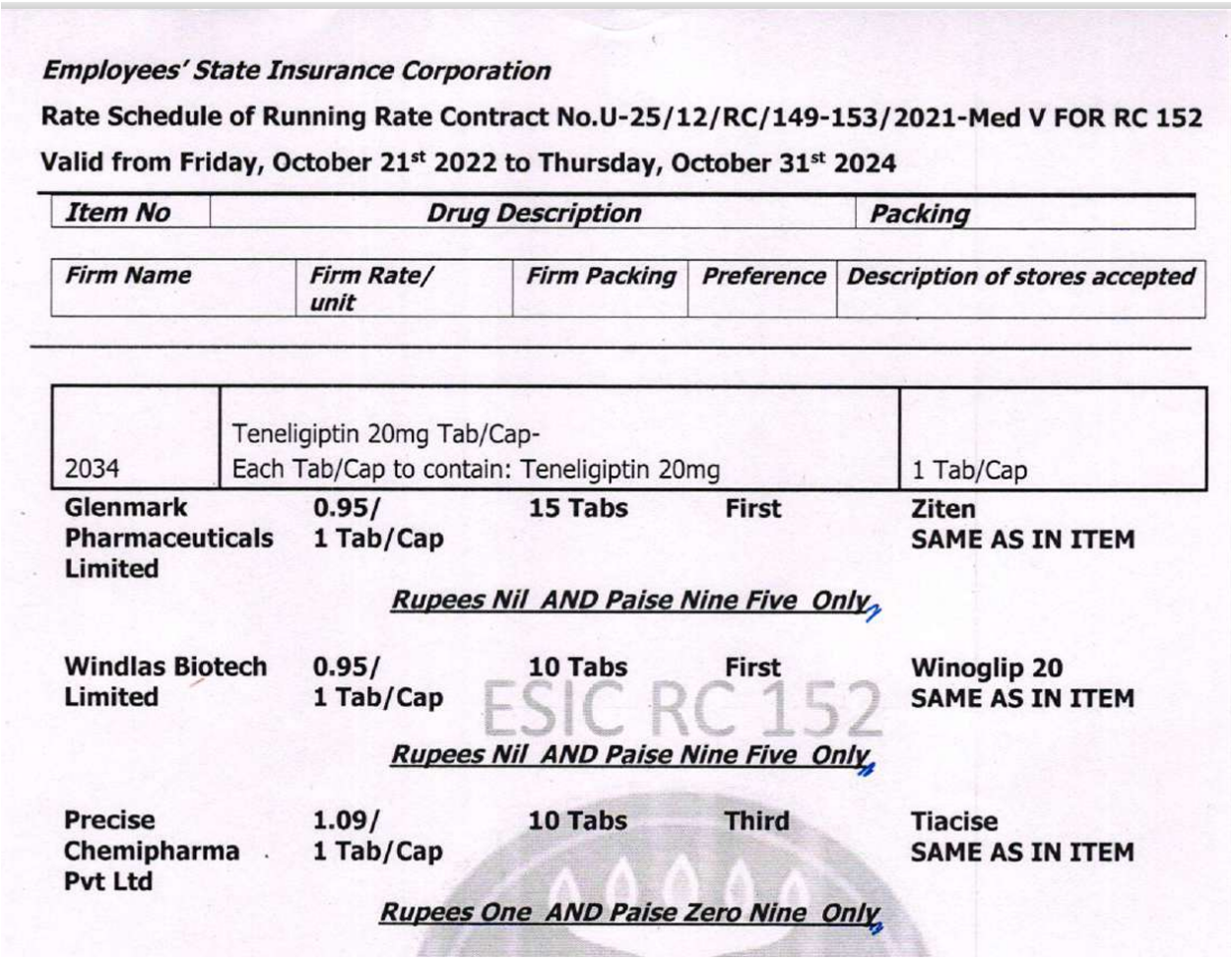
In the context of the Indian healthcare market, the fragmentation of the sector has led to the existence of varying prices for the same drug, both within the same market and across different markets. A single individual may find that the cost of a particular medication differs significantly between retail stores and government markets.

For instance, and as has been discussed above in the case of Sofosbuvir, the price for the same product may vary between a retail pharmacy, a government hospital, and a private hospital, despite the fact that the drug has the same therapeutic effect in all cases. This price discrepancy can have a substantial impact on consumers, particularly those in lower-income groups, who may struggle to afford essential medications due to the lack of price standardisation across the fragmented healthcare markets. By unifying India's healthcare markets and centralising procurement processes, policymakers can work towards achieving more consistent and equitable pricing structures for essential medications, ensuring greater accessibility for all citizens.

Table 3: Comparison of Drug Prices Across Jan Aushadhi, ESIC and the Private Retail Market[12]

Drug Name + Composition	JAN AUSHADHI	ESIC	Private retail market
Vildagliptin 50mg	INR 2.33	Not Available	INR 2.9 (Link)
Saxagliptin 2.5mg	INR 9.3	3.23	INR 35.9 (Link)
Linagliptin 2.5mg	INR 3.9	Not Available	INR 8.9 (Link)
Teneligliptin 20mg	INR 2	INR .95	INR 2.5 (Link)

Figure 3: Rate Schedule for Teneligliptin 20 mg[13]



Employees' State Insurance Corporation

Rate Schedule of Running Rate Contract No.U-25/12/RC/149-153/2021-Med V FOR RC 152

Valid from Friday, October 21st 2022 to Thursday, October 31st 2024

Item No	*Drug Description*	*Packing*

Firm Name	*Firm Rate/ unit*	*Firm Packing*	*Preference*	*Description of stores accepted*
2034	Teneligiptin 20mg Tab/Cap- Each Tab/Cap to contain: Teneligiptin 20mg			1 Tab/Cap
Glenmark Pharmaceuticals Limited	0.95/ 1 Tab/Cap	15 Tabs	First	Ziten SAME AS IN ITEM
	Rupees Nil AND Paise Nine Five Only			
Windlas Biotech Limited	0.95/ 1 Tab/Cap	10 Tabs	First	Winoglip 20 SAME AS IN ITEM
	Rupees Nil AND Paise Nine Five Only			
Precise Chemipharma Pvt Ltd	1.09/ 1 Tab/Cap	10 Tabs	Third	Tiacise SAME AS IN ITEM
	Rupees One AND Paise Zero Nine Only			

ESIC RC 152

Table 2 shows a comparison of the prices at which pharmaceutical products with the same chemical composition[14] are sold across different markets in India. Note that two of the products (Vildagliptin 50mg and Linagliptin 2.5 mg) are not available in ESIC dispensaries. The lack of availability of the same product across different arms of government-run healthcare programmes is, in and of itself, a problem with the current form of centralized procurement. More importantly, the price discrepancies are the more pressing problem. We see no good reason for the same drug, i.e., teneligliptin, to be available at three different prices in the ESIC (See Figure 3: Rate Schedule for Teneligliptin 20 mg) and at larger price differences across markets. Saxagliptin, to take the most extreme example from within the table, is priced roughly three times higher in Jan Aushadhi stores when compared to ESIC, and a further four times higher in private retail markets when compared to Jan Aushadhi stores.

Most of the empirical evidence, whether domestic or rooted in international markets, goes on to show that the law of one price isn't upheld. What's interesting is trying to figure out why. This is equally true, and perhaps even more so, in the context of India's healthcare markets.

The question to ask isn't whether the law of one price prevails in India's healthcare markets. There are in fact two questions that need answering. The first is whether it should hold, and we maintain that the answer to this question is a self-evident 'yes'. The second question is why it doesn't hold, and how it could be made to hold. This paper is an attempt at answering this question.

2.5 The Failure of Price Discovery in Indian Healthcare

There is another argument to be made about the law of one price failing to hold in Indian markets, before we embark upon an exploration of potential solutions to the problem. In the previous section, we have argued that the law of one price does not hold in Indian markets, and the earlier sections help us understand the ways in which it does not hold. But another question remains to be addressed - what, exactly, are the downsides when this law does not hold? That is to say, what shortcomings become manifest in this sector as a consequence of the absence of the law of one price?

Broadly speaking, there are five ways in which negative consequences can arise as a consequence of the failure of efficient price discovery in India. The failure of efficient price discovery itself is a symptom of the absence of the law of one price. But this obvious implication apart, India's healthcare markets also suffer the following negative outcomes:

1. An increase in healthcare costs, for some: By definition, the fact that the same product or service is available at different prices for different consumers means some will end up overpaying. But the question isn't just about whether some people will pay more - instead, the more pertinent question to ask is who is likely to pay more. As discussed above, it usually is the case that the people who can least afford to end up paying more in the long run. The second order effects are perhaps even more pernicious, for the total costs of eventual treatment end up being even higher. (Ruthven, Murdoch and Rutherford 2009)
2. Further, the problem of information asymmetry and the principal-agent problem combine to drive unintended and welfare-reducing outcomes in the healthcare sector. Simply put, because the seller of a medical good or service is almost always likely to know more than the buyer, there is an asymmetry of information. Secondly, the motivations of the seller might be different from those of the buyer. The buyer is looking to get the highest quality for the lowest price, while the seller is looking to fetch the highest margin. Combining both of these features, it is easy to see how less than ideal outcomes can occur during consultations with a trained medical professional, or even in the context of purchasing medicines from a hospital pharmacy or the local pharmacy. As we have discussed above, the same medicine is available from different pharmacies at different prices!

   Inequitable access to healthcare: Particularly in the case of medical services, differential costs of treatment can also result in inequitable access to healthcare. Feizal's case, as cited in (Ruthven,

Murdoch and Rutherford 2009), is a useful illustration of this problem[2] - people may choose to avoid going for treatment altogether if they are under the impression that the cost of treatment is likely to be prohibitively high. Simply put, differential prices, information asymmetry, and the principal agent problem (discussed in the point above) can result in people being driven out of India's formal healthcare system - a textbook definition, if ever there was one, of inequitable access to healthcare.

3. Differential quality of care: Different prices also implies that service providers are incentivized to provide different levels of quality, as has been discussed above in the context of the PMJAY scheme and its implementation in Jharkhand. There exists research to show that this is already happening in different parts of the country (D'Souza 2023). If a patient were to clear the hurdles of information asymmetry, the principal-agent problem and the problem of inequitable access to healthcare - they may land on significantly worse quality of care once they are a part of India's formal public healthcare system. Might this result in people eventually paying out of pocket in the informal healthcare system or private healthcare sector in India? Recent data seems to suggest this might be the case, with a 20% decline in the proportion of those seeking outpatient care in India, and a 25% decline in the proportion of those seeking hospitalisation services from the 2014 survey (Nagarajan 2022).
4. Misallocation of resources: When prices fail to reflect the true cost, the true quality and the true return on investment, the allocative efficiency of the market tends to be less than desirable (Maria, Silva and Thanassoulis 2014). As a consequence, not only is the market not efficient in the present instance, but it is also likely to be less than efficient in the future, and the cycle can end up being vicious. India's healthcare system suffers not just from too little investment, as has often been pointed out (Oommen 2015), but also from the misallocation of said investment. Indeed, the misallocation of investment in India's healthcare system can be observed through several concrete examples: for instance, the imbalance between the allocation of resources to tertiary care facilities, such as specialised hospitals and medical colleges, and primary healthcare centres, which are the first point of contact for patients. A significant portion of public and private investment has been channelled towards the establishment and expansion of tertiary care facilities, often in urban centres (PRS 2023). As a result, these facilities receive a disproportionate share of healthcare funding, while primary healthcare centres, especially in rural areas, remain underfunded and understaffed. This disparity exacerbates health inequities and limits access to essential services for a large portion of the population.

   Another manifestation of misallocation can be seen in the distribution of healthcare professionals across different regions in India. There is a considerable concentration of medical

[2] Feizal, from Uttar Pradesh, India, supported his family on a $36 monthly income. Despite saving for their daughter's wedding, a thighbone fracture led Feizal to initially choose cheaper traditional medical care. His condition worsened, costing nearly $250 in modern medical expenses—two-thirds of their annual income. This, combined with lost wages during his recovery, strained their finances. The family used savings, interest-free loans, and shop credit to cope. The situation underscored the potential value of insurance for timely, quality care.

professionals in urban centres, while rural areas suffer from a scarcity of qualified healthcare providers. This uneven distribution of human resources not only hampers the delivery of healthcare services in underserved regions but also contributes to inefficiencies in the system, as the workforce is not optimally utilised to cater to the healthcare needs of the entire population.

5. Rent-seeking: Finally, inefficiency in terms of the lack of one price can also incentivize producers, who are able to charge a higher price to push for a maintenance of the status-quo. That is, sellers who are able to realise a higher profit margin for the same good or service will quite naturally want to preserve the system rather than seek to ameliorate it. Lobbying and rent-seeking are outcomes that are easy to predict as a consequence, and there is already evidence to this effect (News 2023).

3. Our Proposal: A Unification of India's Healthcare Markets

3.1 Our Proposal

The unification of India's healthcare markets presents a compelling opportunity to address inefficiencies arising from disparate markets for medical goods and services. By leveraging the government's monopsony power, it will be possible to negotiate better terms with suppliers, resulting in more cost-effective and accessible healthcare for the nation. This proposed solution, akin to the widely recommended school voucher program in the field of education (Muralidharan and Sundararaman 2015), holds the potential to revolutionise India's healthcare system and optimise resource allocation across the sector.

Under our proposed system, the government will guarantee free healthcare for all at the point of service delivery, covering both public and private providers. To estimate the cost of this proposal, we need to consider several factors, including the cost of procuring medical goods and services, the cost of subsidising private providers, and potential cost savings from a unified healthcare market. Furthermore, the government will guarantee demand for procedures and services at all hospitals, which may lead to more efficient utilisation of resources and a potential reduction in the cost per patient.

To overcome the limitation of state capacity and effectively implement our proposal for a unified healthcare market, we can draw inspiration from the successful school voucher system in the education sector. Like the voucher system, which empowered parents to choose the educational institution for their children using government-funded vouchers, our proposal aims to empower patients to access healthcare services from their preferred providers without any out-of-pocket expenses. This will create a competitive environment among healthcare providers, incentivizing the provision of quality services as patients can easily switch between providers.

Furthermore, to ensure cost efficiency and streamlined operations, the government will act as a monopsony buyer, procuring medical goods and services for all empanelled hospitals. This centralised approach will enable economies of scale, reduce costs, and guarantee steady demand for healthcare

providers. By taking on the responsibility of procuring medical supplies, the government can negotiate better prices and allocation of resources within the healthcare system. We recognise that the healthcare requirements will vary across the country and even across states but we argue that there can be central procurement nevertheless. The local hospital or health authority will purchase based on the price notified by the central procurement agency.

In summary, our proposal will foster competition and quality improvement among healthcare providers, while the government's role as a monopsony buyer will lead to reduced costs and more efficient allocation of resources, ultimately benefiting patients and the healthcare system as a whole.

The implementation of a unified healthcare market will serve to eliminate redundancies, streamline processes, and encourage economies of scale, ultimately leading to improved patient outcomes and reduced costs. Furthermore, such a system will foster greater transparency and standardisation of healthcare provision, enabling patients to make well-informed choices regarding their healthcare needs. In this manner, the unification of healthcare markets not only addresses inefficiencies but also empowers citizens by granting them increased access to high-quality, affordable healthcare services (Lagomarsino, et al. 2012).

3.2 The Advantages and Potential Limitations

Some of the advantages of a unified healthcare market include the facilitation of data-driven decision-making, improved coordination among healthcare providers, and enhanced monitoring of healthcare quality (Lagomarsino, et al. 2012). The availability of comprehensive data will help policymakers identify gaps in healthcare provision and develop targeted interventions to bridge those gaps (Wyber, et al. 2015). Additionally, the system will enable better allocation of resources, ensuring that underserved regions and communities receive the necessary support. It might also help in plugging the gaps in the system that are currently being filled by informal health providers (IHPs) (Luthra 2023).

However, it is important to acknowledge the potential limitations of this proposal, particularly with regard to state capacity. The successful implementation of a unified healthcare market will require significant investments in infrastructure, technology, and human resources. Moreover, the government will need to overcome potential bureaucratic hurdles and resistance from entrenched stakeholders. While these challenges are considerable, they are not insurmountable (Bali and Ramesh 2021). With a concerted effort from policymakers, healthcare providers, and the broader society, India can work towards overcoming these obstacles and realise the potential benefits of a unified healthcare market.

In the following subsections of this concluding section, we elaborate on the specific strategies and mechanisms that can be employed to successfully implement a unified healthcare market in India. We explore the necessary steps for overcoming the aforementioned limitations, as well as the potential roles of various stakeholders in this transformative process. By providing a comprehensive roadmap

for the transition towards a unified healthcare system, we aim to demonstrate that the benefits of such a proposal can be realised and contribute to the overall improvement of India's healthcare infrastructure.

3.3 An Improvement Over The Status Quo

The current inefficiencies in India's healthcare system can be attributed to several factors, one of which is the existence of separate markets. This fragmentation has led to procurement processes that are diffuse and decentralised, with different schemes run by the union and state governments, often lacking coordination and standardisation. The absence of a unified procurement strategy results in duplicated efforts, suboptimal allocation of resources, and in some cases, corruption, and inefficiency. Consequently, the costs of medical goods and services are higher than necessary, placing a financial burden on both the government and the citizens who rely on these services (Balarajan, Selvaraj and Subramanian 2011).

Another issue arising from the disparate markets is the differential levels of quality and accessibility experienced by various segments of the population. Factors such as socioeconomic status, employment type, and geographical location have a significant impact on the healthcare services available to an individual. Government employees, urban residents, and those belonging to the upper-income class often enjoy better access to quality healthcare than their counterparts in rural areas and lower-income groups. This unequal distribution of healthcare services is not only unjust, but also exacerbates existing health disparities and undermines the goal of universal healthcare coverage. (Balarajan, Selvaraj and Subramanian 2011)

In evaluating our proposed solution of a unified healthcare market, it is important to recognize that while there will be shortcomings and deficiencies. The correct benchmark for comparison should be the existing status quo rather than an idealised but unrealized state of affairs. The proposed model, despite its limitations, presents a significant improvement over the current fragmented system in terms of efficiency, cost-effectiveness, and equity. By addressing the issues of decentralised procurement and unequal access to quality healthcare, a unified market can contribute to a more robust, resilient, and inclusive healthcare system in India.

3.4 An Initial Estimation of the Costs

India's total health expenditure (THE) was estimated to be INR 6,55,822 crores in the fiscal year 2019-120. THE includes current and capital expenditures incurred by both government and private sources. Current Health Expenditure (CHE) is INR 5,93,659 crores (90.52%) of THE. Capital expenditures make up the remainder (9.48%). (Ministry of Health and Family Welfare 2023)

With the government handling all procurement related to healthcare, it is likely that cost savings will be realised through its monopsony power, which can be used to negotiate better prices with

suppliers. Additionally, by streamlining procurement processes, the government can eliminate duplication of efforts and further reduce costs. There is already evidence that bolsters such an argument, especially in an international context (Sanders 2023). Tamil Nadu's experiences in this regard are also instructive (Parthasarathi and Sinha 2016).

Furthermore, the government will guarantee demand for procedures and services at all hospitals, which can lead to more efficient utilisation of resources and a potential reduction in the cost per patient. If we can assume that the government will act as a benevolent monopsonist, (Ayres and Braithwaite 1992), the government will be able to negotiate better prices for surgical procedures and related services, leading to further savings.

Finally, the long-awaited rationalisation of the pricing of pharmaceutical goods will also lead to further reductions in THE. Detailed analysis and scenario building of the reduction in THE is certainly needed, but is beyond the scope of this paper.[3]

3.5 One Step at a Time

Taking into account the complexity and scale of the proposed overhaul, we do not recommend an immediate implementation at the national level. Instead, following the example set by Du Runsheng's gradual rollout of agricultural reforms in China, we advocate for a phased implementation, beginning with a small number of districts or provinces (Rungsheng 2010). This approach allows for evaluation of the system's effectiveness, and identification of potential challenges, in a more controlled and manageable setting. Lessons learned from the initial rollout can be used to inform adjustments and improvements before scaling up the model to a wider geographical area.

This incremental approach aligns with the basic precepts of public policy, which emphasise the importance of evidence-based decision-making, adaptability, and continuous learning. By implementing the proposed healthcare reforms in a gradual manner, policymakers can better assess the feasibility and impact of the changes, ultimately leading to a more efficient and effective healthcare system that caters to the diverse needs of India's population.

There is evidence that such a phased implementation approach can work in the case of health: the United Kingdom's National Health Service (NHS) rollout of Personal Health Budgets (PHBs) (Jones, et al. 2013). PHBs are a financing mechanism that allows eligible individuals to have greater control over their healthcare by allocating a certain budget for their health and well-being needs. The goal of PHBs is to improve patient choice, autonomy, and the overall quality of care.

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[3] Here is one hypothetical scenario: We assume savings of 5% (as a percentage of THE) because of centralised procurement. We further assume savings of 5% by means of the government being able to negotiate better prices with healthcare service providers. We further assume a 5% reduction because of a rationalisation of prices for pharmaceutical goods. These savings (15% of THE) suggest that our proposed system could potentially cost a little less than current healthcare spending (CHE, not THE) in India, while providing more equitable and accessible healthcare services to the entire population.

The NHS initiated the PHB pilot program in 2009, with a small number of sites across England. Over the course of three years, these pilot sites generated valuable insights into the benefits and challenges of PHBs, enabling the NHS to refine the model based on empirical evidence. Following the success of the pilot program, the NHS expanded PHBs across England, with increasing numbers of eligible patients benefiting from this innovative approach to healthcare financing.

This example illustrates the advantages of implementing healthcare reforms in a gradual, evidence-based manner, allowing for continuous learning and adaptation before scaling up to a national level. Indeed, the key takeaway from the UK's Personal Health Budgets (PHBs) example is not the specific policy itself, but rather the nature of rollout – a staggered and slow implementation that allowed for continuous learning, adaptation, and improvement. This gradual approach, which began with pilot sites and expanded nationally only after careful evaluation, demonstrates the value of evidence-based decision-making in the realm of public policy and healthcare reform. By adopting a similar approach for the proposed unification of India's healthcare markets, policymakers can maximise the potential for success and minimise the risks associated with large-scale systemic change.

4. Potential Limitations

In this concluding section of our paper, we defend the idea of unifying India's healthcare markets as a means to address the existing inefficiencies and disparities that currently mar the system. We examine the challenges posed by state capacity, and consider successful examples of healthcare reforms implemented at the state level, such as in Delhi and Tamil Nadu. Moreover, we draw parallels with the school voucher system in the education sector, highlighting its potential applicability to the healthcare domain. By presenting a phased and evidence-based approach to implementation, we demonstrate that a unified healthcare market can be both feasible and effective in promoting a more equitable and efficient healthcare system in India.

As has been mentioned earlier, continued iterations will be needed. Countries that have run Universal Healthcare (UHC) programmes for over two decades are still iterating and making these programs better (Mahajan, Tirakotai and Patcharapim 2023). The correct benchmark isn’t one of perfection, however, but rather the question of whether our proposal is better than the status quo.

One potential limitation of our proposal lies in the challenges posed by state capacity, or the ability of the government to effectively implement and manage the proposed reforms. Although this has been discussed earlier, it is a point that bears repetition. India's vast and diverse population, coupled with varying levels of state capacity across different regions, raises concerns about the feasibility of implementing a unified healthcare market on a national scale. To address this limitation, it is important to draw on successful examples of healthcare reform at the state level, which can provide valuable lessons and insights for the broader implementation of our proposal.

A notable example can be found in the efforts made by the Delhi state government to improve health outcomes. Over the past few years, the government has prioritised healthcare by allocating a

significant portion of its budget to the sector, with the aim of enhancing both the quality and accessibility of healthcare services for its residents. This investment has led to the establishment of *mohalla* clinics, or neighbourhood health centres, which provide essential primary healthcare services free of charge to the local population. The success of the Delhi model can be attributed to the government's focus on strengthening primary health care, as well as its commitment to ensuring equitable access to services for all citizens (Lahariya 2020).

Another instance of successful healthcare reform at the state level can be found in Tamil Nadu, where the state government has implemented a range of innovative measures to improve the accessibility and affordability of healthcare services. These initiatives include the Tamil Nadu Medical Services Corporation (TNMSC), which centralises the procurement and distribution of drugs and medical equipment, resulting in more efficient and cost-effective processes (Parthasarathi and Sinha 2016). Additionally, the state has pioneered the use of telemedicine to bridge the gap between urban and rural healthcare, enabling patients in remote areas to access specialised care and consultations.

While our proposal seeks to address the inefficiencies and disparities in India's healthcare system, it is important to acknowledge that implementing such a reform will be a complex and challenging process. Drawing from the lessons learned in the successful examples of Delhi and Tamil Nadu, as well as the school voucher system in education, we can begin to outline a broad strategy for the implementation of a unified healthcare market in India. This strategy must focus on enhancing state capacity and building robust systems for procurement, distribution, and service delivery.

In conclusion, the unification of India's healthcare markets presents a promising opportunity to address the longstanding inefficiencies and inequities that plague the country's healthcare system. By drawing on successful examples of healthcare reform at the state level, as well as lessons from the education sector's school voucher system, we outline a broad strategy for implementing a unified healthcare market that is both feasible and effective.

While the challenges posed by state capacity and the complexities of reform cannot be underestimated, a phased, evidence-based approach to implementation, coupled with a strong commitment to improving healthcare access and quality for all citizens, can pave the way for a more equitable and efficient healthcare system in India.

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Notes

[1] As is explained later in this paper, a strip of sofosbuvir retails for INR 16,182 on 1mg, a popular online dispensary in India, while the same drug on the CGHS website is available for INR 959.84. Also see Table 3 for prices differences between ESIC and Jan Aushadhi

[2] For our purposes, market power can be understood as the ability to price products above marginal costs.

[3] 35.22% of Current Health expenditure was by either the central or state governments.

[4] Patients in this market might claim reimbursement via their own private healthcare insurance schemes later; however, they are not eligible for coverage under any scheme in what we call the government monopsony market.

[5] The CGHS website no longer divulges information about prices of specific drugs. However, the archived version of the website shows the price before the page was updated. See: https://web.archive.org/web/20200930042635/https://www.cghs.nic.in/ls_online.jsp

[6] This is so because social security and social insurance are included in the Concurrent List under the Constitution

[7] A family floater set-up is a health insurance policy that covers multiple members of a family under a single premium and sum insured. Instead of buying individual policies for each family member, one can opt for a family floater plan. The "floater" in the name indicates that the coverage "floats" among the family members included in the policy.

[8] The Law of One Price posits that, absent factors such as transportation costs, trade barriers, and taxes, identical goods or services will have the same price when expressed in a common currency, regardless of where they are sold.

[9] The report "A Critical Assessment of the Existing Health Insurance Models in India" is no longer available on the NITI Aayog website. A PDF is available here:

https://web.archive.org/web/20190124030035/http://planningcommission.nic.in/reports/sereport/ser/ser_heal1305.pdf

[10] The report "A Critical Assessment of the Existing Health Insurance Models in India" is no longer available on the NITI Aayog website. A PDF is available here: https://web.archive.org/web/20190124030035/http://planningcommission.nic.in/reports/sereport/ser/ser_heal1305.pdf

[11] This law asserts that a good must sell for the same price in all locations. Otherwise, there would be opportunities for profit left unexploited.' *in* N Gregory Mankiw, *Principles of Economics* (9th ed, South-Western Cengage Learning 2019) 653.

[12] 1mg prices have been used for the private retail market. The cheapest drug has been used for purposes of comparison, regardless of the manufacturer. Relevant links are given in each cell.
Jan Aushadhi Link: http://janaushadhi.gov.in/productlist.aspx
ESIC Link: https://www.esic.gov.in/attachments/circularfile/f1fc925ea394b79043c9fb333afd817f.pdf

[13] Source: https://www.esic.gov.in/attachments/circularfile/f1fc925ea394b79043c9fb333afd817f.pdf

[14] Gliptins, also known as dipeptidyl peptidase-4 (DPP-4) inhibitors, are a class of medications used in the treatment of type 2 diabetes. These drugs work by inhibiting the enzyme DPP-4, which is responsible for breaking down incretin hormones like GLP-1 (glucagon-like peptide-1). By inhibiting DPP-4, gliptins increase the levels of GLP-1, leading to increased insulin secretion, reduced glucagon secretion, slowed gastric emptying, and an overall improvement in blood sugar control.