Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

Healthcare Monopoly and Patient Welfare: Economic Analysis of Essential Dialysis Services in Underserved Markets

Dr.A.Shaji George

Independent Researcher, Chennai, Tamil Nadu, India.

Abstract - This paper discusses how monopolistic organizations have developed around the supply of basic healthcare services using the example of Nefro Plus, the leading dialysis center in India, which owns half of the marketplace comprising 519 dialysis clinics, and serves 33,000 patients. The discussion demonstrates the market concentration in the life-sustaining services provides them with the distinctive economic dynamics in which customer retention is the result of the medical necessity rather than the product superiority, which creates what Silicon Valley would deem ideal recurring revenue patterns. The research paper addresses three core questions: how do monopolies develop in underserved markets, what occurs when market share implies capturing patients who cannot switch, and what this informs them about the construction of scalable systems that meet commercial viability and ethical requirements. The systematic analysis of business models, regulatory frameworks, and incentives of stakeholders offers actionable systems of entrepreneurs, policymakers, and communities in the tension between the efficiency and social welfare of the market, in this article. The results indicate that the commodification of survival necessitates the provision of structural protections that are intentional to the conventional market operations to avoid dependency relations that erode patient welfare but sustains innovation and growth in access.

Keywords: healthcare monopoly, dialysis economics, market concentration, patient dependency, essential services, public-private partnerships, medical infrastructure, survival commodification.

1. INTRODUCTION

1.1 The Invisible Giant

And there is a company of 5,000 crore rupee that operates throughout India but of which most people have never heard. No billionaire name plastered on it, no advertisements, no recognition by the consumer of the brand. But it also dominates half the dialysis business in India, has 519 clinics, and serves 33,000 patients who continue to make 2-3 visits a week to dialysis clinics in their lives. This is not a traditional customer base. It is a monopoly that has captured the market where the cost of switching is valued in human lives. Nefro Plus is more than just a success story of a single company. It sheds light on some of the inherent contradictions that arise when life sustaining services are subjected to market logic, where commercial feasibility is driving the need to optimize systems in which customers are unable to exit and where access scaling is also accompanied by control scaling. The company discovered a true market vacuum in the Indian healthcare sector, occupied it effectively and in the process, established a dependency dynamic that poses uncomfortable challenges on power, choice, and commodity of survival.

It is not about demonizing a particular organization or idealizing other alternatives. Market efficiency is important as well as social welfare. The question is how the same systems can aim at addressing the immediate issues and cause new weaknesses at the same time, and what it is teaching us about

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

infrastructure projects that are necessary to support basic human needs. This discovery is framed by three questions. To start with, what happens to the formation of monopolies in spaces that are disregarded by established players. Nefro Plus did not directly compete with hospital chains. They have traversed where others do not, made what others do not, and seized where there were none that existed. It is important to learn this gap-first strategy when constructing an area that is underserved.

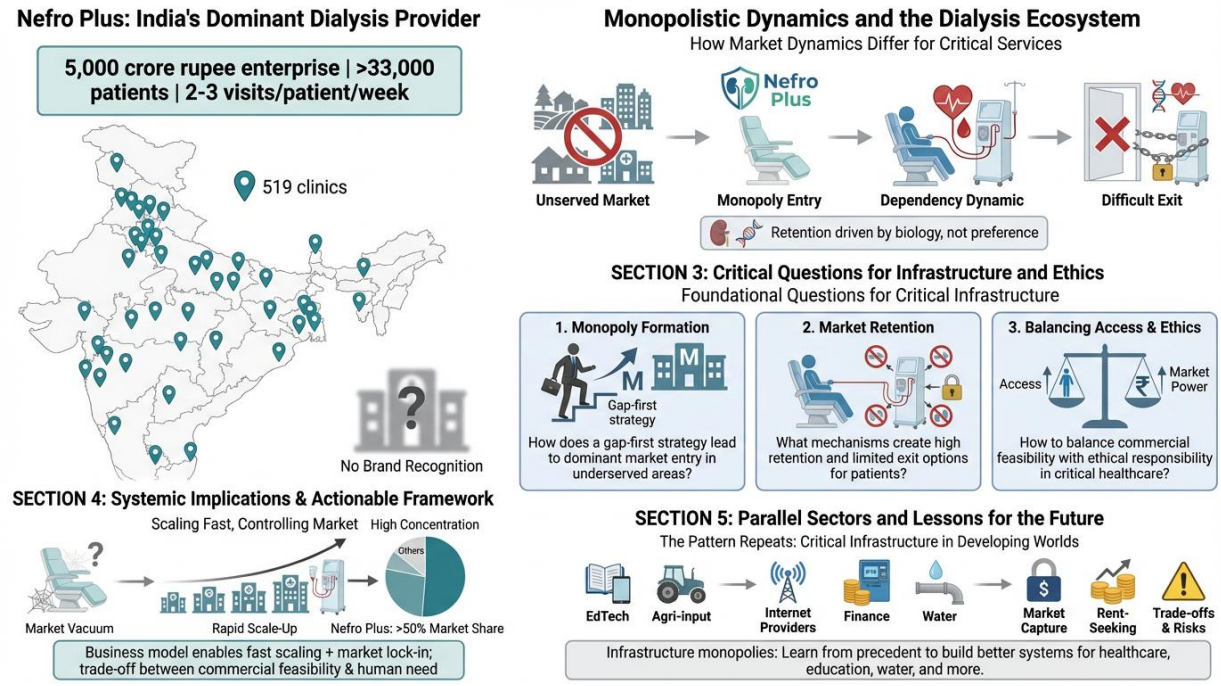

Fig -1: The Invisible Giant

Second, what would be the case when taking out market share involves taking out patients who literally cannot go. The retention of customers in software makes a difference in valuation. Retention is not achieved by excellent service in dialysis. It's guaranteed by biology. Churn changes to being medically impossible, which creates a fundamental change in the market dynamics.

Third, what can we learn about creating systems that are balanced in terms of access, sustainability, and ethics. There should be 10,000 dialysis centers in India and there are approximately 5,000. The missing infrastructure will be built by somebody. It is not whether the participation of private capital is taking place, but how we organize such participation so that expansion of access is not market capture.

This paper breaks down the business model that made it easy to scale fast, explores the systemic forces that made it easy to concentrate in the market without a principal competitor and derives actionable frameworks to all who are building on the line between commercial feasibility and human need. It is not about giving easy answers, but it is about clarity behind the decisions we are making, which we usually do unconsciously when we leave market mechanisms to sort out the necessary services. The trends that can be seen in dialysis are reflected in the industries education technology platforms that emerge as sole providers in school districts, agricultural input suppliers in rural, internet service providers in small towns, financial services in underbanked areas. The same dynamics occurs since the economics behind it are alike. Find untapped markets, deliver true value, pursue aggressively, kill substitutes, shift away from expansion of access to rent.

This knowledge of these trends is important since the current wave of indispensable infrastructures is currently being constructed in the developing worlds. Healthcare, water, energy, connection, education. We can make it better than the previous wave provided that we take the appropriate lessons. However, learning must be based on sincere analysis of what works, what does not, and what trade-offs we must accept as opposed to what trade-offs are options we are making not by choice but by default.

2. OBJECTIVES

The paper seeks to fulfill several interrelated goals which are both local and systemic in their nature in terms of planning necessary services. The main goal is to examine the formation of monopolistic systems in the context of the necessity of healthcare services, and the case study of Nefro Plus will help to observe the key tendencies that may be applied to other spheres and regions. It includes recording the type of business model innovations, market selection approach, and expansion strategies that made it possible to scale in an underserved market fast.

The second purpose is to analyze the specific economic processes that are caused by the commoditization of services that are needed to survive. This involves finding out how medical necessity leads to de facto customer lock-in, what this implies in relation to pricing power and service quality and what occurs when the publicly traded companies maximize shareholder returns in markets where customers lack the ability to exit.

The third goal builds workable systems among entrepreneurs, policymakers, and communities that face the dilemma between market efficiency and social welfare. This means finding design concepts that allow commercial sustainability without establishing dependency relationships, regulatory frameworks that sustain competition without annihilating the innovativeness, and accountability frameworks that safeguard the interests of patients without getting rid of the participation of the private sector.

A fourth goal examines cross-sector trends in which the dynamics can be found. The analysis shows structural similarities between dialysis and telecommunications, education technology, agricultural inputs, and financial services which indicate general principles as opposed to sector specific anomalies.

The fifth goal deals with futuristic goals of infrastructural development in emergent economies. Having huge gaps in the basic services and poor resources of the population, it becomes very important to comprehend how the involvement of the private sector can be organized. This demands the shift out of ideological stands to practical consideration of what is effective in various conditions.

Lastly, in this study, the decision making tools are to be offered to stakeholders at various levels. Entrepreneurs must have structures of making sustainable instead of monopolistic structures of building. Policymakers should have regulation strategies that moderate the expansion of access and maintenance of competition. The communities require measures that can be used to assess the fact that the expansion of services results in more choices or they centralize control.

3. CURRENT TRENDS

This analysis is especially applicable to 2026 due to several converging trends. The identification of these tendencies helps to gain the background of the reason why the market concentration in the essential services is becoming faster and what processes influence the dynamics presently. The initial significant trend is the one of the public-private collaboration in the healthcare infrastructure, especially in developing economies. Governments with capacity issues, budget constraints, and political need to show

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

a rapid growth in service provision to citizens are increasingly sourcing turnkey solutions to their problems through private operators. The example of this model is the collaboration between India and Nefro Plus as government pays 1,500 rupees per dialysis. The same types of arrangements can be found in diagnostics, primary care, specialty care and hospital management in Asia, Africa, and Latin America.

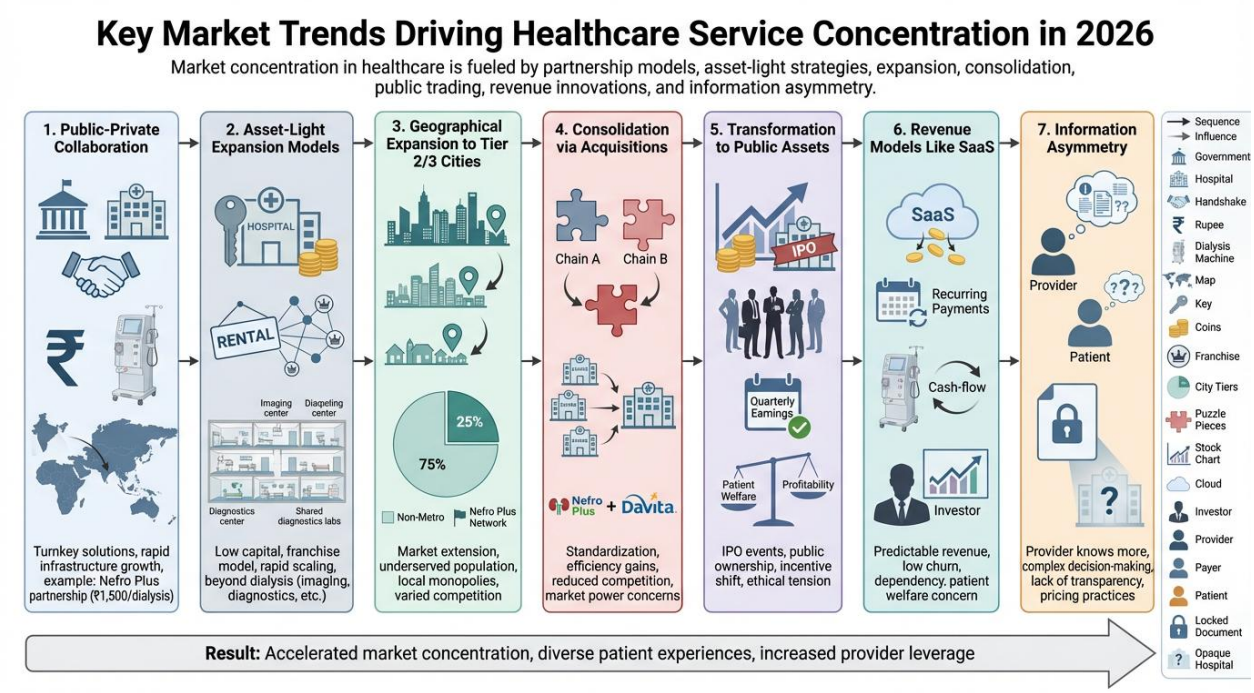

Fig -2: Key Market Trends Driving Healthcare Service Concentration in 2026

There are real advantages to these partnerships. They facilitate quicker deployment of infrastructure, move operational sophistication to professional operators and foster responsibility in performance contracts. Nevertheless, they also reverse leverage between government as primary payer and privates who possess specialized knowledge, network of facilities and patient connections. The outcome is usually alliances that are more advantageous to the private operators than would be the case in the pricing power theory.

The second trend is asset-light models of expansion in the medical field. The conventional hospital chains need huge capital investments on land, construction, equipment, and operations. Such companies as Nefro Plus have set precedents they negotiated and rented space in hospitals that already exist, run their special line of services, and share a share of revenues with the host facilities. This lowers capital requirements, increases the scaling of operations, and leverages current patient flows. This model has spread outside dialysis to diagnostics, imaging, pathology, surgical specialties, and chronic disease management. The consequences go beyond the health sector. It is the franchise concept to the medical infrastructure, just as how cloud kitchens disrupt food service or co-working office real estate. Theoretical benefits of lower barriers to entry are greater competition, however, the network effects and first-mover advantages frequently contribute to fast consolidation.

The third trend is the geographical expansion to the tier 2 and tier 3 cities. Competition is attracted by metropolitan markets and contributes to the reduction of margins and differentiation. The small cities and rural locations have less competition, reduced real estate costs, government support of underserved

regions and patients with less options. Nefro Plus serves three-quarters of its network in non-metropolitan areas, a trend echoed in all areas, including retail to financial services to education. This geographic strategy forms intriguing dynamics. It indeed broadens the coverage to the mostly unserved populations. It also develops networks where other solutions are structurally complex to achieve, as well as establishing local monopolies in competition at the national level. The outcome is disjointed markets in which patients in various localities are experiencing extremely diverse competitive environments.

The fourth trend is the acquisition trend whereby competition is consolidated. Nefro Plus has bought Davita India which is their biggest competitor thus absorbing their clinics and eradicating the main rival. The trend is visible in healthcare: chains of diagnoses buying regional companies, hospital chains buying specialty companies, pharmacy chains merging independent medical workers. Standardization, shared services, and economies of scale are some of the efficiency gains that are achieved by consolidation. However, it also lowers the competition on price, innovation, and service quality. In the case of consolidation in services which are critical and where the cost of switching is very high, it raises specific issues regarding market power and patient well-being.

The fifth trend is the transformation of the providers of healthcare to the publicly traded assets. In 2025, Nefro Plus IPOed at a value of more than 4,000 crore. This liquidity episode gives founders and early investors the ability to achieve returns, capitalizes on expansion, and exposes operations to quarterly earnings pressures. Privatization to the public ownership brings a paradigm shift in incentives. The dilemma that is experienced by the private healthcare providers is that of patient welfare and profitability. Trade providers that are publicly traded also have an extra burden of proving to the shareholders that they are showing steady growth. Growth in dialysis implies increased number of patients, increased prices, or reduced costs. An expansion of access makes the former ethically neutral. The latter and the third pose direct conflicts with the interests of the patients.

The sixth trend entails advanced revenue models that are like software-as-a-service companies. Recurrent revenue, cash flows which are predictable, low customer acquisition costs and amortization over customer lifetime, churn rates are almost zero. These measures are alluring to the capital of the investor and lead to high valuation. The characteristics are created inherently in the business model of dialysis since patients must be treated 2-3 times per week and indefinitely. This forms strange dynamics. One can see perfect unit economics for investors. Medical necessity is viewed by the patients. It is through the difference between financial optimization and human welfare that the same fact is presented in non-English language that the gap is revealed. A SaaS company boasts of low churn. The effect a dialysis patient is dependent on is dependency.

The seventh trend consists of the information asymmetry among the providers, payers, and patients. The complexity of the healthcare sector, the knowledge specifications, and the high-pressure decision-making schedules present structural market advantages to the healthcare providers. Patients are generally not informed of other facilities, performance indicators as well as cost systems or treatment plans. There is no detailed operational information of the private providers by governments. This imbalance allows pricing and practices that would not work in a more transparent market.

4. THE ARCHITECTURE OF OPPORTUNISTIC MONOPOLY

4.1 Understanding the Gap-First Strategy

Nefro Plus did not develop a superior dialysis service to compete with the existing providers. They established dialysis facilities where none were present. This difference is critical towards comprehending

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

how monopolies are created in vital services.

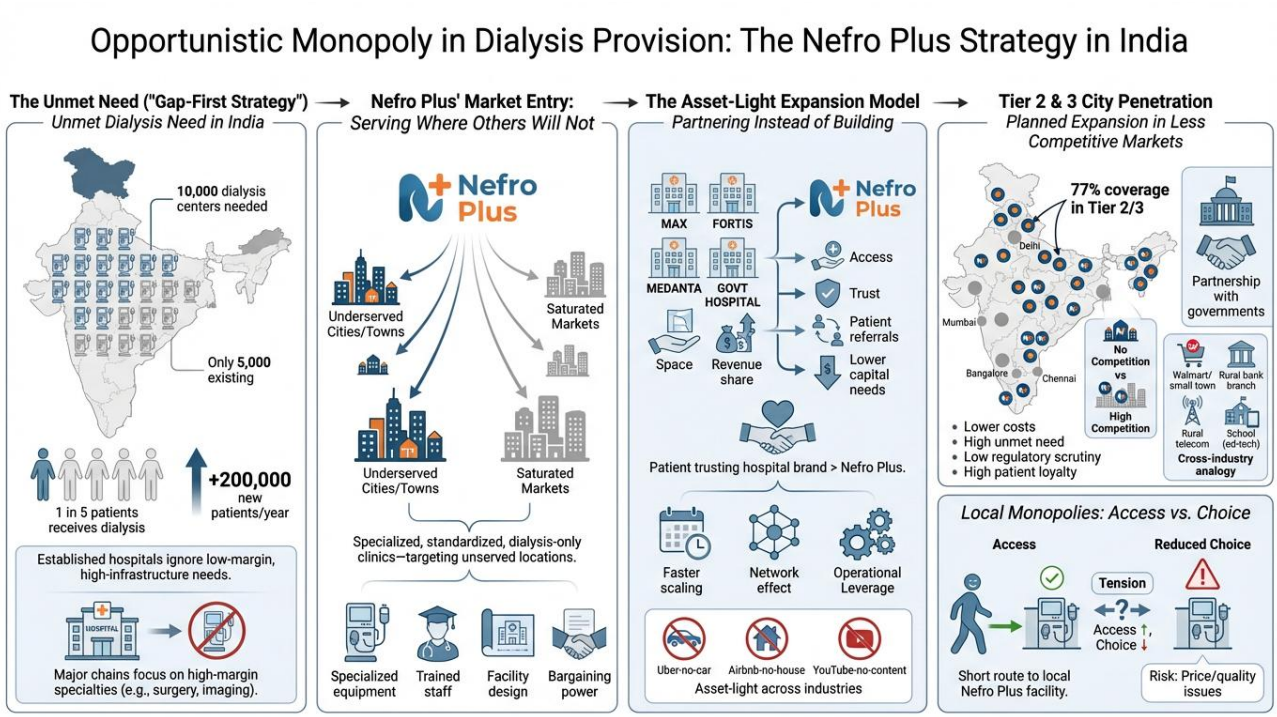

Fig -3: Opportunistic Monopoly in Dialysis Provision

To cover kidney failure in India, the country required about 10,000 dialysis centers to cater to the population. It had roughly 5,000. Only one out of five patients under dialysis was able to get treatment. The gap was increasing rather than narrowing as more new patients join the system with 200,000 new patients in the system in a year. This constituted unmet gigantic medical need and a business opportunity that was not being sought by the established players. Why are the major hospital chains not providing dialysis even though it is evident that there is a demand. Their model could not fit the economics. The margins of dialysis are low in contrast to surgical specialty or diagnostic services. It involves specialized equipment, specialist technicians, and the constant monitoring of the operations of the chronic patients as opposed to occasional acute patients. The patient base requires long term infrastructure and does not provide the revenue density or prestige of other specialties.

Since the hospital chains are optimized to provide high margin services with a shorter patient throughput time. Dialysis implies the investment in dedicated establishments to provide the service to patients that should receive it repeatedly. This is not very appealing in terms of the conventional hospital finance model. It is better to put efforts into surgeries, imaging, or specialties that have higher margins and turnover. Nefro Plus had spotted what other people had overlooked. The market inefficiency was not the difference between need and supply. The market opportunity was the reason. They could specialize all their resources in this service by specializing in dialysis instead of being a general hospital. Standardisation, special training, facility design, bargaining power with suppliers of equipment.

The gap-first approach is applicable in a broad healthcare context. The market niches that are the safest to defend are usually those that are provision of services that the established players view as economically undesirable. Big techs do not pay attention to small business enterprise software until one

has developed a billion-dollar business serving this segment. The big retailers will not venture into rural areas until the person proves that they have a profit there. The banks do not bother with microlending until one comes to show that the model works. The trend exists since large established players are optimized to the business model that they have. They possess fixed cost structures, cultural beliefs about what is successful and organization incentives to encourage some activities more than others. This leaves long-term gaps, which appear as failures in the market, but are in fact strategy decisions. Traveling where others will not need different economics, different ways of running things, and readiness to develop infrastructure to accommodate markets that are not yet, in a form that can be dealt with using traditional business strategies.

4.2 The Asset-Light Expansion Model

Nefro Plus entered into agreements with existing hospitals instead of constructing new dialysis facilities. They offered Max, Fortis, Medanta, and government hospitals a simple offer provide us with space, and we will operate dialysis services and you will get revenue share without spending money or having complex operations. This mediated a solution for both parties. Hospitals obtained a service line that complemented their service without incurring any specialized expertise or initial investment. They might inform patients and referring doctors that dialysis was availed in the facility. The added revenue share is revenue that is added that will not strain the operations.

Nefro Plus received several benefits at the same time. Originally, immediate trust was due to affiliation with established brands of a hospital. The patients will find it easier to believe Max or Fortis than a stranger who is a dialysis operator. Second, availability of current flows of patients. Kidney failure is diagnosed and referred to dialysis at hospitals. The presence of on-site captures such referrals. Third, there are fewer capital requirements. The development of independent facilities involves land acquisition, construction, regulations, and marketing to develop volumes of patients. The cost of operating in the existing hospitals makes most of these risks and costs avoid.

Fourth, faster scaling. The reduced capital requirements per location make the same investment create additional facilities. The network effects are achievable faster. Fifth, operational leverage. The utilities, security, housekeeping, and administrative services are usually offered by host hospitals as per the agreement of partnership. Nefro Plus concentrates on the basic dialysis business. The implications of this asset-light model to non-healthcare are immense. It is the franchise business model of medical infrastructures, just like Uber has no cars, Airbnb houses have no homes, and YouTube has no content. The wisdom is that you do not have to have possession of the full value chain to have control of the relationship with customer and to get economic value.

This principle in physical infrastructure is the identification of the individual room or the individual service or the individual moment when you can add something that is irreplaceable. Then form alliances that put that in your control whilst leaving other things to others. In the case of dialysis that is the treatment itself. The building, the brand, the patient acquisition, you can get through partnerships. The rest, the building, the brand. The strategy is very effective in either a regulated industry or a capital intensive industry where entry barriers are extremely high. You do not have to compete directly with them, but rather they are your partners in certain spheres where you excel where they do not. You construct infrastructure that they do not desire to construct, cater to clients that they consider to be unprofitable, or in places that they have de-rated as unattractive.

The danger is that dependency is formed in all directions in partnerships. Nefro Plus will cause hospitals to rely on them when it comes to dialysis services. Nefro Plus relies on hospitals to gain access to facilities

and referrals for patients. In the long run, the party with more options is put in leverage. If hospitals can readily change their dialysis operators to other competing firms, Nefro Plus does not have much pricing power. In case dialysis operators are few and the number of patients are large, Nefro Plus sets the conditions.

4.3 The Tier 2-3 Penetration Play

Nefro Plus has 77 percent network coverage in tier 2 and tier 3 cities as opposed to major metropolitan regions. This market location approach is planned market selection as opposed to unplanned growth. Metropolitan areas have competition clusters. Healthcare providers are drawn by Mumbai, Delhi, Bangalore, and Chennai due to their big populations, high income levels, improved infrastructure, and the medical expertise concentration. Metro competition reduces margins, necessitates differentiation, and is costly in terms of acquiring patients.

Cities in tier 2 and 3 do not provide the same dynamics. Real estate costs less. There is low or no competition. The government encouragement of the development of services in the underserved areas is higher. There are fewer options available to the patients, which compose increased switching costs and loyalty. There can be a reduced intensity of regulatory scrutiny. There is a tendency to have low operational complexity. The genius of the strategy is the fact that market attractiveness is not only about the addressable market size in total. It is so much unmet need compared to available supply, entry barriers by competitors, cost to acquire customers and cost to defend once you have established presence.

Smaller towns with patients with kidney failure and which lack the dialysis facilities are more favorable than the metros which have numerous competing dialysis providers. The client who had to travel for hours to dialysis in a metro that is in a tier 3 city will very much prefer to access it locally. Once the local option is there, to initiate a competing facility, one must believe that he/she can steal market share off the incumbent and not simply fill unmet demand. The geographic strategy is also associated with government partnership opportunities. States that attempt to increase rural healthcare access accept the entry of the private operators who intend to open services in low-denominated areas. This frequently means better contractual terms, a certain volume of patients in the form of governmental hospital referrals, and support of the regulations.

This trend extends across industries. Walmart established a strong position through opening stores that the big-box stores neglected in small towns. The regional banks cater to those communities in which the national banks shut down their branches. In the developing markets, the focus of telecom operators was the rural coverage whereas competitors competed with urban subscribers. The education technology platforms focus on schools in the smaller cities with low infrastructural facilities. Tracing the path that other people do not is something that needs other models of operation. The infrastructure should be stronger since external services are minimal. The process of staffing demands training for the nationals, as it is more difficult to attract professionals to the small cities. Logistics required in supply chains are different. However, these problems are competitive advantages as soon as you overcome them. You develop strengths that your competitors cannot mimic and thus find it difficult to join your markets in the future.

The unpleasant fact is that this approach increases access and at the same time, it forms local monopolies. Tier 3 cities facilitate the availability of dialysis facilities to patients who otherwise had none. They also have fewer choices in the case of deterioration of the quality of services or price increment. Both things are true. It is important to note the tension instead of ignoring either of the parties to gain

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

some insight into what is really going on.

5. REVENUE ARCHITECTURE AND THE SUBSCRIPTION MODEL FOR SURVIVAL

5.1 Decoding the Business Model

Economics of dialysis have its revenue features which would cause any investor in software-as-a-service to envy. The comprehension of these mechanics shows why medical necessity may appear to be the ideal business model design. Under public-private partnerships, government must pay Nefro Plus 1,500 rupees per session. Kidney failure patients undergo dialysis (intermittently 2-3 times a week) until they have a transplant. The patient at the system creates 1,500 rupees per two weeks or 12,000 rupees in one month and that is 144,000 rupees in an annual recurring income. The lifetime of the customers is multiplied by the lifetime of the patients, customer lifetime value is estimated to be in venture capitalists salivating numbers.

The cost of customer acquisition is not too high. Through advertising or marketing, patients do not shop dialysis. They come in via medical diagnosis. A nephrologist diagnoses kidney failure talks about the need to be treated and directs to the facilities. The partnerships that Nefro Plus has with hospitals put them on point of referral. The process of acquisition occurs due to medical necessity and physical proximity, and not costly consumer marketing. Churn rate is near zero. Patients do not quit dialysis in the belief that they have discovered a superior alternative or were not happy with the service. The cessation of their lives is the death or transplant of the kidney. Neither of the events is discretionary. Retention is not achieved by becoming a better experience for their customers. It's guaranteed by biology.

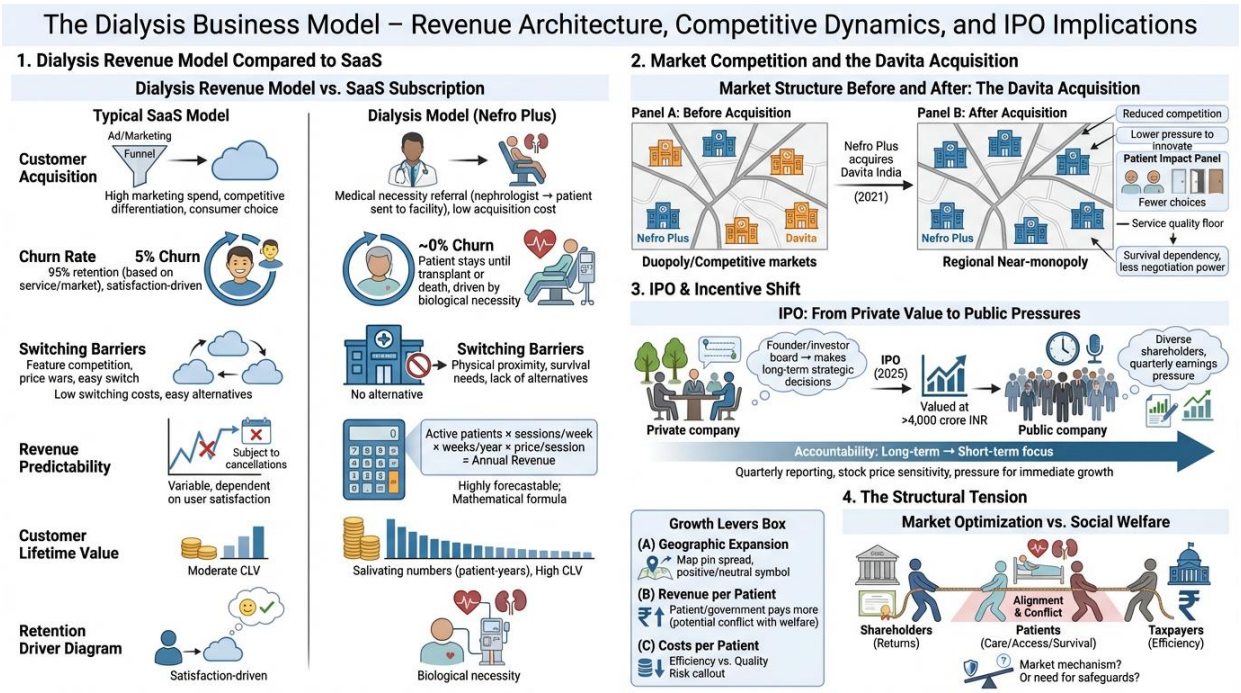

Fig -4: The Dialysis Business Model

The monthly recurrent revenue can be forecasted with unusual accuracy. The dialysis patients present at regular times unlike the subscription software where customers may cancel the payments since failure to observe the schedule leads to a medical crisis. Forecasting revenue will be reduced to basic arithmetic

number of active patients multiplied by the number of sessions per week multiplied by the number of weeks in a year multiplied by the price per session.

Compare to SaaS standard measurements. Enterprise software firms brag about 95 percent yearly retention. The dialysis does not retain its products with product excellence but medical necessity up to 100%. Software firms grapple with the problem of high customer acquisition expenses that batter the initial revenues. Dialysis has the advantage of point of medical decision referral. Software companies fear price sensitivity and rivalry with competitors that have superior features. Patients under dialysis have switching costs in literal survival.

The unpleasant fact inherent in these metrics is that patient satisfaction does not cause retention. There is no way that a patient under mediocre dialysis care can move to a competitor when such is not available in the vicinity. Medical necessity forms the service quality floor, rather than competition on the market. This backfires the natural market laws where bad service sends customers away compelling them to improve.

This is as good as business models could be in terms of financial optimization. Foreseeable revenue, minimal acquisition expenses, zero churn, operations scale effects, payer by the government lessening the collection risk. In terms of patient welfare, the same aspects depict the dependency relationships in which the market mechanisms may fail to guard the consumer interests. The two views represent the same reality in different terms. Customer retention metrics cease to include customer satisfaction, but rather include biological necessity, when the product is survival. Knowing this difference is important to any person who is constructing in an area where the switching cost involves death.

5.2 The Davita Acquisition and Competitive Elimination

Nefro Plus bought the largest competitor Davita India in 2021. This deal made the market a near monopoly in several regional markets that were previously in the duopoly market.

The acquisition in the competitive industry is predictable. Powerful players buy other players to gain market share, customer relationship, geographic coverage, and capabilities. These deals are considered in antitrust terms is the consolidation detrimental to competition, to the extent of blocking the deal, Analysis is more complicated in dialysis. The market is local in nature. A patient in Lucknow will not be able to get dialysis facility in Pune. To a lower degree, the national market share is less important compared to regional concentration. The Davita acquisition removed the option in particular cities and jurisdictions where national statistics indicated that competition existed.

The Nefro Plus strategic logic is simple. The purchase of Davita achieved instant scale, consumed the main competitor, and made the market easier. A smaller number of competitors implies reduced competition in terms of prices, reduced pressure to distinguish themselves due to innovation, and increased bargaining power in terms of negotiation with hospitals and government. The location has different effects on the patients. In cities where Nefro Plus and Davita had their activities, consolidation decreased the options. Nothing changed instantaneously in those cities where one ran. Against this, though, in the long term, removing the main competitor lowers the strain to keep the quality of services good, limits the leverage of patients to negotiate on the costs of services uncovered by the government, and lowers the sense of urgency to make improvement of the facilities.

This tendency of consolidation is observed in industries. Specialty providers, pharmacy chains, and diagnostic chains have aggressively merged in healthcare. Telecommunication companies consolidate to the extent that there is fewer players. Airlines merger until a few control routes. The media houses end

up buying their competitors until the point of vertical integration.

Economic reasoning makes sense. The consolidation saves on redundant expenses, results in the economies of scale and enhances pricing influence. The advantage to shareholders is the lowered competition. The common good becomes more difficult to consider. The consolidation in some cases helps in offering services better due to scale economies. It allows it to extract rents at lower alternatives in some cases. Consolidation brings certain issues in areas of needs that cannot be applied to the case of discretionary purchases. Market concentration will correct itself in case of incumbent players taking advantage of their status when alternative suppliers are easily accessible or even unnecessary. Market concentration is embedded when customers are unable to change without physical damages.

The Davita acquisition provides an example of how even in the absence of anticompetitive conduct in the conventional meaning of this term, legal markets may lead to monopolistic results. Nefro Plus did not practice predatory pricing, no exclusivity deal with hospitals to have partnership with others and forcing them out. When it became a possibility, they just purchased the major option. Acquisition is a normal business strategy, and it has varied implications when used to consolidate the market, but when it comes to services that are necessitated by survival, it becomes a survival strategy.

5.3 IPO as Liquidity Event and Accountability Shift

In 2025, Nefro Plus IPO was valued more than 4,000 crore rupees. This development changed the company into a privately owned company that maximized its long-term value to a publicly traded asset that is expected to maximize its quarterly earnings. The reasoning of an IPO consists of several goals. It liquidates founders and early investors who developed the company. It generates stock-based purchases of future acquisitions. It attracts funds to grow. It develops external image which facilitates collaboration and hiring. These are actual and valid advantages.

The structure of accountability is also radically altered because of the IPO. In case of private firms, boards and investors are accountable and they know the business better and they can take long-term outlook. Shareholders in public companies are various and evaluate performance on a quarterly basis. The analyst reports, earnings calls and movement of stock prices ensure that there is pressure to ensure that there is constant growth irrespective of whether the growth would be beneficial in the long-term interest.

There are three levers in the growth of dialysis. To start with, get more patients through the acquisition of new geographies or penetrating more within already acquired geographies. Second, maximize the revenue per patient by charging more or offering more services. Third, decrease cost/patient by operational efficiency, or by reducing the cost of input. The former lever is ethically neutral in the case that it increases the access of patients who are previously untreated. This is worrying where growth brings up more patients with kidney failure, instead of enhancing the utilization of the already existing need. The latter lever pits shareholder returns and patient welfare directly. The increased prices imply that patients pay more or the government pays more and resources are redistributed to the shareholders by patients or taxpayers. The third level is good provided it represents true efficiency with regard to whether it involves reduction of corners that can influence the quality of care.

Such strains prevail in every business, but these are intensified in fundamental services. A software organization that increases prices runs the risk of losing customers to its competitors. A dialysis company with a concentration market will have less mobility of customers. The lack of ability to switch on the side of patients gives the pricing power that does not necessitate quality improvement to justify the price increments. These dynamics are worsened by quarterly earnings pressure. A privately-owned company can invest in long term infrastructure, take lower margins during growth or reputation rather than profit.

When quarterly earnings are low, the public companies are under scrutiny by the analysts. This puts a strain on the need to be optimistic towards short term performance even though long term thinking would have yielded better results. The bigger trend consists of the transformation of social infrastructure into financial resources. Water systems, electricity power systems, communications systems, hospitals, and schools. Once these are repackaged as profit maximizing institutions (of service) as opposed to public services or managed utilities, the optimization role is altered. Shareholders want returns. Patients want care. Taxpayers want efficiency. These goals are in line and conflict in some cases.

It is not whether the private capital would be involved in the provision of necessary services. Infrastructure needs capital to be built. The issue is how we organize such participation to keep shareholder returns in line with social welfare. Existence of public ownership poses other issues it is unproductive, politicized, and it leads to slow innovation. Privacy leads to other issues concentration, extraction, incentive misalignment. These tensions are brought to the surface at the IPO. Turning a healthcare provider into a publicly traded asset entails having to determine whether market mechanism is sufficient to ensure the protection of patient interests or there is a need to have other structural safeguards.

6. THE SYSTEMIC ENABLERS

6.1 Why Governments Partner Without Leverage

According to the conventional economics theory, the government should possess enormous purchasing power when it serves as the main financer of a service. Massive stable demand is governments. Government contracting should put pressure on the cost reduction and quality improvement of providers who seek government contracts. However, terms that are even more favorable to the private operators are frequently yielded by public-private partnerships in the healthcare sector. This paradox has several explanations. To begin with, there is a limitation of capacity in governments. The construction and management of the dialysis centers needed skills that are not always possessed by the governments. It is not the efficiency of the operations that are undertaken by the leaders of political parties but rather their service delivery. The collaboration with the services of private operators that can implement services in a short period of time gives an opportunity to prove progress in electoral cycles.

Second, information asymmetry is in favor of providers. When governments draft contracts to cover the medical services, they look on the industry players to give them details concerning the costs, requirements, and realities in the operations. The private operators are familiar with their economics. Government procurement may be specialists in contracting, and not necessarily healthcare operations. Such imbalance forms negotiations.

Third, leverage is compromised by urgency. The governments have been pressured to create services within a short time when thousands of patients are on dialysis, and the state does not have a public facility to do the treatment. Delays in trying to negotiate the best terms or creating alternatives that are open to the population translates to patients not receiving treatment. The negotiation positions are undermined by political pressure to act fast.

Fourth, specialized knowledge and decentralization of power. The private healthcare organizations build excellent operation experience and replicate the business model in another jurisdiction. Every negotiation is based on experience. There is no way that government agencies that sometimes must negotiate with various leadership and bureaucratic handicaps can equal that amount of knowledge accumulation.

Fifth, regulatory capture using softer mechanisms. When the business is privately operated, the former government officials are engaged, and they know how the procurement works. They finance studies that

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

will confirm their desired policy strategies. They form industry unions which define regulatory discourses. They establish partnerships that do not seem hostile to one another, but rather natural.

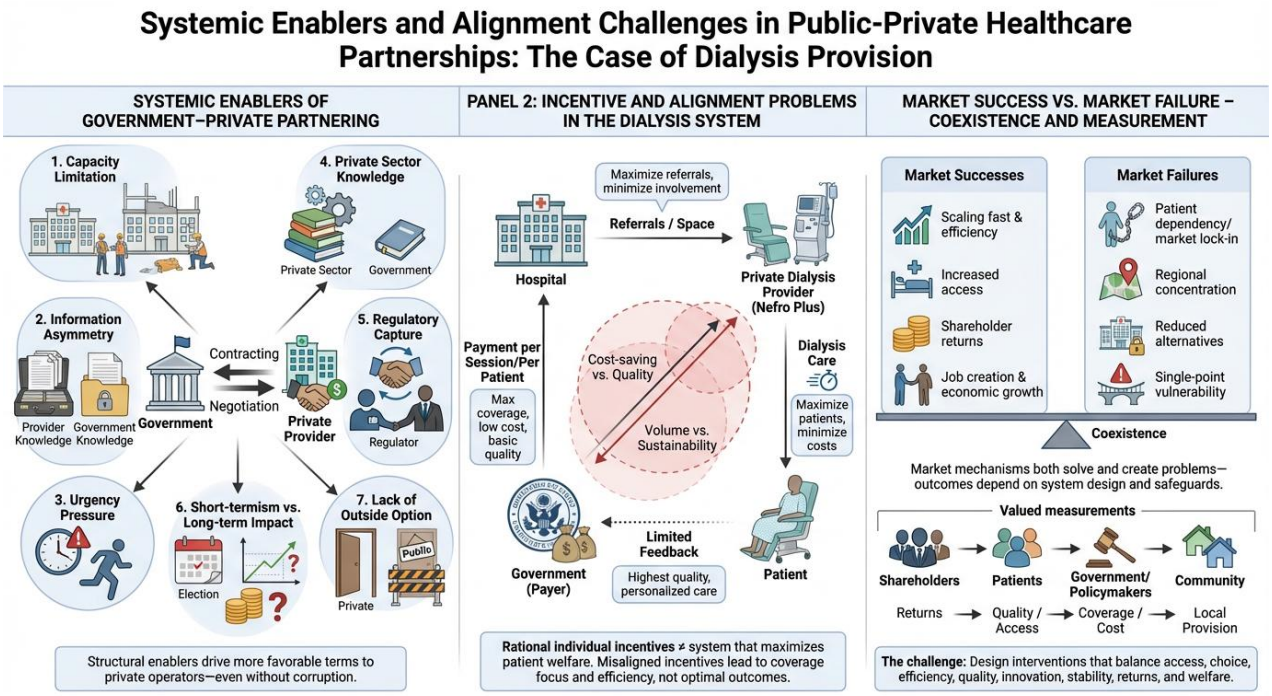

Fig -5: The Case of Dialysis Provision

Sixth, short term measures and long term impacts. The leaders of politics are judged on short-term service growth. Only years after the different leaders are in charge would it be seen whether pricing terms were sustainable or alternative models had been utilized. This generates incentives to give more consideration to speed and certainty as opposed to the best long-run economics.

Seventh, the problem of outside option. In case the terms offered by a private operator are rejected by the government, the other option is to develop public capacity, which takes time, skills, and political determination. The fear of quitting is not convincing in cases where the problem at hand is urgent and there are no alternatives in society. This is cyclical in sectors. Similar information asymmetries and political pressures are seen in governments working with private operators on roads, utilities, telecommunications, education, and healthcare. The outcomes are usually that private operators take more value than competitive markets would permit, not by corruption or by illegal acts, but by structural benefits of knowledge, urgency, and coordination.

6.2 Hospital Incentives and Alignment Problems

An average Nefro Plus setup entails three parties, the hospital, the dialysis company, and the patient. They both have various goals that do not exactly overlap. Hospitals desire income without complexity of operations. Nefro Plus pays them to offer space and make patient referrals. Their motivation is the highest number of patients via the dialysis facility due to the larger revenue share with the increased number of patients. They do not have good incentives towards the best patient outcomes since they are not giving the actual dialysis treatments. Quality issues are left to be the work of another person.

Nefro Plus desires to have the maximum number of patients with minimum cost per sitting. Increased number of patients translates to increased government payment. Reduction in costs translates to

increased margins. They are motivated by the highest use of dialysis chairs, efficient operations and standardized procedures that reduce the labor expenses. These are goals that occasionally meet the interests of patients by providing economies of scale and streamlining the processes. They may even clash as cost-cutting leads to less personalized care or facilities are not fixed promptly.

Patients desire optimum quality care that will help them keep healthy and prolong their life. They desire easy access, hygienic amenities, professional personnel, attentive care, and treatment that can be tailored to their personal demands. These are time consuming and expensive goals that home a conflict with the cost-cutting goal of the provider. As a player, the government desires optimal coverage at the least cost and with acceptable quality measures. They desire dialysis as a provision for everyone in need without financial excesses. They are not well informed on the quality of the real care and depend on the outcomes measures that might not reflect the experience of the patients.

This gives rise to a typical principal-agent issue, in fact, a series of principal-agent issues. Hospitals are agents of patient welfare as well as principals of the process of negotiation with dialysis providers. Patient care is done by dialysis providers, but operational costs are handled by them themselves as principals. Government acts as agent but a principal payer on behalf of taxpayers. The patients are in theory the principals, but they possess restricted information and ability to switch in practice. When there is a loss of incentives, the issues escalate. The hospitals do refer to the highest possible number of patients irrespective of the ability of the dialysis facility to sustain quality at the volume. The providers maximize throughput at the expense of reducing the sessions or the individualized protocols. The reason for coverage metrics instead of outcome quality is the fact that coverage is simpler to measure, and more noticeable politically.

This leads to a system in which everyone behaves rationally in their incentive structure, and collective rationality does not create welfare that maximizes the patient. The hospitals are rational in maximizing referrals. Efficiency is maximized rationally by the providers. Coverage is a rational maxim of the government. The patients are provided with proper care, which keeps them alive, but it might not be the best care that optimizes the quality of life. Alignment issues can only be solved by modifying incentive systems. Patient outcome-based payment models, as opposed to session volume-based models. Facility regulations that require that a maximum number of patients be assigned to a chair. Open reporting enabling the patients to make comparisons among the facilities. Frequent quality audits with repercussions of bad performance. The presence of competition offers real options to the patients. The problem is that both interventions have expenses and unwanted effects. Outcome-based payment involves advanced measurement which can be gamed. Standards in facilities add expenses that are transferred to payers. Open reporting must have data collecting infrastructure. Competition demands the availability of numerous providers who will compete to work in the same markets.

6.3 Market Failure vs. Market Success

According to the traditional business measurement, Nefro Plus demonstrates incredible success. They had market opportunity, which they had executed well, scaled fast, created returns, and were taken public at a high valuation. They have increased the treatment access to thousands of patients who could not have any treatment to save their lives. They established employment, paid taxes, and contributed to growth of the economy. According to other measurements, they developed dependency relations that transformed medical need into market slavery. They have been minimizing alternatives through buying their rivals. They created regional monopolies of the cities in tier 2-3 where the rival facility would be economically hard to develop. They designed a business model wherein retention of customers exists on biological basis instead of customer satisfaction.

These two assessments report on the same reality. This does not concern bad companies versus good companies. It is about appreciating the fact that market mechanisms are both problem solvers and problem creators, especially of basic services. Under specific conditions, markets can be great in the efficiency of resource allocation. The customers need to know about alternatives. They should have the freedom to change suppliers minus the prohibitive costs. Competitive pressure must be put on the providers that would reward quality and efficiency. Prices should be market responsive, as opposed to market power.

The conditions are not quite accurate in dialysis. The patients do not have much information on the quality of facilities. There is a medical risk and geographical constraint in switching. The competition is not necessarily local but is national. Government contracts determine the prices and not the competitive bid. Market results fail to give the best results when market conditions do not work. This does not imply that markets do not fail. Nefro Plus showed an increase in access. Nevertheless, it implies that, unless other structural protection are in place, market mechanisms simply do not ensure protection of patient welfare. The philosophical question is in what way do we measure success of key services.? In case the measure is the expansion of access, Nefro Plus was a success. If they used the patient choice as the metric, they generated concentration. When it is in terms of shareholder returns, they did very well. In case the measure is systemic resilience, they established single points of failure.

Various stakeholders focus on different measures since their priorities are on different results. Shareholders are concerned with returns. Patients are concerned with quality and access. Coverage and cost are matters of concern to policy makers. Locals are concerned with local provision. All these points of view are not wrong. They're incomplete. The willingness to understand market success and market failure not as mutually exclusive but as coexisting allows a more advanced analysis. We can accept that Nefro Plus has addressed real issues but also appreciate that the solution to a problem brings about new challenges. Both require attention.

This is important since the trend is replicated in all places. Technology platforms increase access to services in addition to generating concentrated market power. Microlending increases financial inclusion with some tendency to form predatory debt cycles. Education technology expands access to learning and poses a threat to the privacy of data. Agricultural technology raises yield and establishes reliance of the farmers on proprietary seeds. By knowing how success and failure can coexist, it is possible to design interventions in such a way that they do not harm but reduce benefits. Rather than being forced to retain or sell to the market we can bake the market into proper safeguard participation. We can also not block consolidation either by letting the market free will but rather stipulate that the interests of the consumers are safeguarded. The idea is not to arrive at ideological purity. It is reaching operational results that compromise conflicting goals: access and choice, efficiency and quality, innovation and stability, returns and welfare.

7. FRAMEWORKS FOR BUILDING ESSENTIAL SERVICES

7.1 The Access-Control Spectrum

When it comes to assessing businesses in the essential services, it is necessary to go beyond the good or bad judgments and form a complex evaluation in many dimensions. An effective model is one that places organizations on two slopes expanding access and concentration of market. The horizontal axis is an indication of access expansion. On one end, there are organizations that make a significant contribution to the increments of service availability to the populations that did not have one before. On

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

the opposite end, there are those organizations that are mainly redistributing existing services without increasing access in total numbers. The market concentration is measured on the vertical axis. On one side, there are very competitive markets where there are many providers and the barriers to entry are minimal. On the other extreme, there are monopolistic or oligopolistic markets where there are few substitutes and entry is difficult to attain.

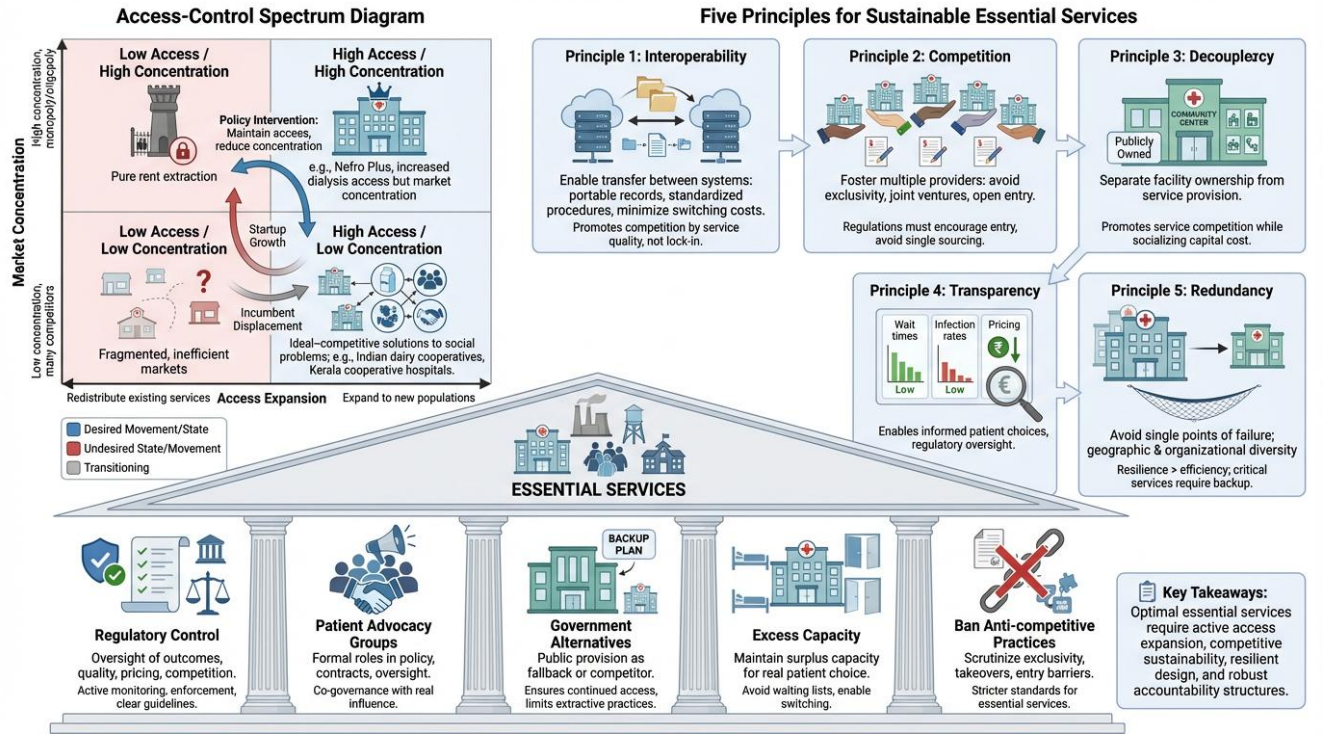

Fig -6: Frameworks for Building Essential Services

This creates four quadrants. Top right high access growth and high market concentration. Nefro Plus falls here. They increased the availability of dialysis and developed concentrated market segments. Bottom right: high access expansion and low concentration. This is the best of competitive markets that provide solutions to social problems. Top left: low access expansion and high concentration. This is pure rent extraction. Bottom left: low access expansion and low concentration. This could be used to refer to fragmented markets that do not solve problems but do not also rent.

The movement of real organizations over the spectrum occurs over time. A startup that increases access in competitive markets may become a strong player that continues to provide access but becomes concentrated. Displacement of incumbent extracting rents may affect increased access and less concentration. This model is useful in determining the most important interventions. In the case of organizations in the upper right quadrant, the objective will be to maintain expansion of access and lower concentration by encouraging competition or ensuring interoperability or structural protection. In the case of organizations in the first quadrant (top left), the direction is either to provide more access or less concentration, preferably both.

Various business models are found in various positions in this spectrum. High access and low concentration is a common attribute of decentralized cooperatives. The utilities are different: some of them are managed with satisfactory concentration and control, others turn into bureaucratic

monopolies. High access with low concentration can be achieved in competitive markets that are highly regulated. The price controls used in monopolies seek to regulate concentration by using regulatory controls.

This is demonstrated in real life. The dairy cooperatives in India increased access to milk and retained distributed control. The State of Kerala has cooperative hospitals which are affordable due to community ownership. The healthcare system in Germany is a combination of both the private providers and regulatory frameworks that ensure competitiveness. The NHS can be viewed as public provision which has its advantages and disadvantages. The trade-offs are also identified in the framework. Co-operatives operating on a distributed basis might not have the resources to grow fast. Competitive markets have to have adequate population density to accommodate various providers. Water supply systems require good management and political isolation. Monopolistic markets need strict regulatory ability. Based on this knowledge of these trade-offs, explicit decisions can be drawn as opposed to a fallback to the first model that will come along. In case we desire quick growth in access, the concentrated market structures can be needed at first. To achieve the sustained competition, then we must design it intentionally.

7.2 Designing for Sustainability Without Capture

There are five principles that are used in constructing commercially viable models in essential services without establishing dependency relationships.

Principle one: design to be interoperable. Customers should be able to transfer to systems without being penalized. In the medical field this translates to portable medical records, standard treatment procedures, and standards in facilities that do not entrap patients into individual treatment providers. It involves implementation with technical standards that all the providers shall embrace. HIEs to enable easy transfer of records. Fungible expertise generated through training and certification programs. Standardization of equipment costs minimizes switching costs. Licensing regulations that require interoperability of the system. The economic implication is that the providers will be competing based on service quality, and not lock-in. Customers will be able to evaluate and make an alternative change in case they are not satisfied. This does not soften the competitive pressure in cases where market structure is concentrated.

Principle two: design to compete. From joint ventures that do not develop exclusivity. Permit several providers within the same hospital networks, the same supply chains, the same government programs. Implementation implies the avoidance of exclusive contracts which exclude alternatives. Single sourcing should not be practiced in government programs but should rather have several providers within. Rival services should be permitted through hospital alliances. Regulations must encourage entry as opposed to blocking entry. This involves not giving into the natural instincts of exclusivity. Single partners are preferred in hospitals to ease the operations. Governments like to have single contractors as an administrative burden. Exclusive arrangements are favored by the incumbents so that they do not have to compete. It is a constant process to ensure that there is always room to use alternatives.

Principle three: decouple infrastructure with service. Physical facilities may be owned by government or non-profits and services delivered across the infrastructure by several competing providers. This model is manifested in other industries. Highway is owned by the government whereas trucking is privately owned. Airlines are privately held but the airports are publicly held. Electrical grids have both public and private components where generation is competitive and access to transmission is guaranteed. In the case of dialysis, facilities and equipment could be owned by the government or a community organization.

Several providers may be hired to administer treatments on that infrastructure. This maintains competition in the provision of services whilst socializing capital cost, which poses an obstacle to new entrants. Its issues of implementation include coordination of multiple providers on shared infrastructure, quality control of facilities when ownership no longer coincides with operation, and contract design that will encourage the performance of the provider but not introduce perverse incentives.

Principle four: require transparency. Public disclosure of outcomes, pricing, capacity, and alternatives give power to patients and brings about accountability. Specific metrics matter. Waiting time for an appointment, infection rate, treatment results, cost breakdown, provider capacity, substitute facilities in geographic radius. This information should be available, comprehensible, and updated on a frequent basis. Market discipline is made possible through transparency. Patients will be able to compare facilities and make decisions by their performance. Systematic issues can be revealed by advocacy groups. Regulators can focus on areas of interventions where most are required. Media can probe and report about quality issues. It needs data collection infrastructure, standard reporting formats, and protection against gaming to be implemented. The providers will maximize measured metrics and therefore measurement should be able to capture what really matters in terms of patient welfare.

Principle five: design to be redundant. Single points of failure in essential services should be avoided. Resilience is concerned with geographic and organizational diversity. This is, in real life, to ensure that patients do not have to go without an option in case one provider fails. Have several facilities within the same location. Maintain a variety of organizational structures as opposed to full consolidation. Encourage social, voluntary, and collaborative models at the same time. Redundancy costs money. It is having a bit of inefficiency to be resilient. However, when it comes to critical services, failure is a higher cost than redundancy. Backup capacity is more important than minimizing unit costs.

7.3 The Accountability Architecture

The internal control mechanisms and social welfare go out of alignment and the external accountability structures are needed when market mechanisms and social welfare are different. These take several forms. To begin with, regulatory control that goes beyond paperwork control to outcome management. The regulators ought to monitor patient outcomes, quality of facilities, pricing, and competition. They should have the power to enforce significant punishment of infractions.

A good regulation must have several components. Enough finances and manpower to carry out routine inspections and investigations. Technical skills to learn complicated processes. Freedom of industry takeover. Defined guidelines to determine what is acceptable or not. Quick disposal laws that do not take years in the courtroom. Second, the patient advocacy groups that have real teeth. The groups that represent the interest of patients are to be given formal roles in policy development, contract negotiations, and overseeing processes. They require funds to bring on board expertise and carry out research and lobby.

This implies shifting away the token consultation to real co-governance. The patient groups should check government contracts with providers, attend regulatory hearings, and have a legal right to contest practices that are damaging to patient interest. Third, government ability to offer alternatives. Though most of the services are provided by the private providers, the government must be able to provide adequate facilities in case of failure in the provision of services by the private providers or in case it becomes extractive.

This back-up capacity can be used in several ways. It offers short-term substitutes in case of a withdrawal by the private suppliers. It provides competition which limits quality and price of privacies. It

shows that it is possible to be provided publicly. It has government expertise thus it does not rely solely on the knowledge of the private sector. Fourth, obligatory excess capacity requirement. The capacity should be maintained well than it is utilized so that the patients will not have to wait months before finding a slot in another facility.

This avoids a typical situation where concentrated markets are run to capacity and there is no viable switching option even though alternatives exist in theory. In case all the facilities operate at 95 percent capacity with waiting lists, patient choice cannot be real, only theoretical. Fifth, ban on anti-competitive services on crucial services. Exclusivity, non-competition, company takeovers, and entry inhibiting practices ought to be under increased scrutiny. Normal antitrust analysis has allowed practices that are not an issue in important services. Stricter standards should be used in cases where the customers are not able to leave without material damages.

8. LESSONS BEYOND HEALTHCARE

8.1 Pattern Recognition Across Industries

The relations that can be observed in dialysis recurring in industries where the services of necessity are subject to the market logic. The identification of these patterns enables the foreseeing of the issues before they get deep-rooted.

Through the same processes, education technology platforms emerge as the sole provider in school districts. They provide schools with solutions that do not necessitate districts to develop infrastructural and expertise bases. They grow at a high rate of spread to different districts. First mover expansion is real. In the long run, they collect data, incorporate fully into curriculum and train teachers about their systems. It gets harder to switch. Districts are being held at the mercy of platforms capable of increasing prices or lowering quality without losing clients.

Farmers in rural regions are agricultural suppliers. They venture into markets that are underserved by the traditional supply chains to farmers. They supply seeds, fertilizer, equipment, and credit which boost production. Farmers see real benefits. The corporation expands into various areas. Eventually they dominate the supply chains to an extent that the farmers have no other choice. Input prices rise. Credit terms become onerous. The first advantage is still that farming is more productive than it used to be before the arrival of the company, however dependency leads to being vulnerable.

The same applies to the internet service providers in small towns. Existing telecommunication firms overlook the rural markets because they are not profitable. Another provider has come in to provide broadband in a location that has none. This alters possibilities of the economy. People can work at home, companies can run their businesses on the internet, students can use educational facilities. The provider gets integrated into the community infrastructure. When they lower the prices or diminish service they provide, customers are left with no choice since the economics that allowed one provider to exist is not conducive to two.

This trend is experienced in underbanked areas regarding financial services. Microfinance companies or online payment systems increase coverage to the members of the unexclusively banking population. They facilitate transactions, savings and credit which enhance economic activity. They increase fast and frequently merge by acquiring businesses. They become so influential in the market that they have taken over financial infrastructure of whole communities. The original advantage of financial inclusion still persists, but concentration opens the possibilities of extractive price or terms.

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

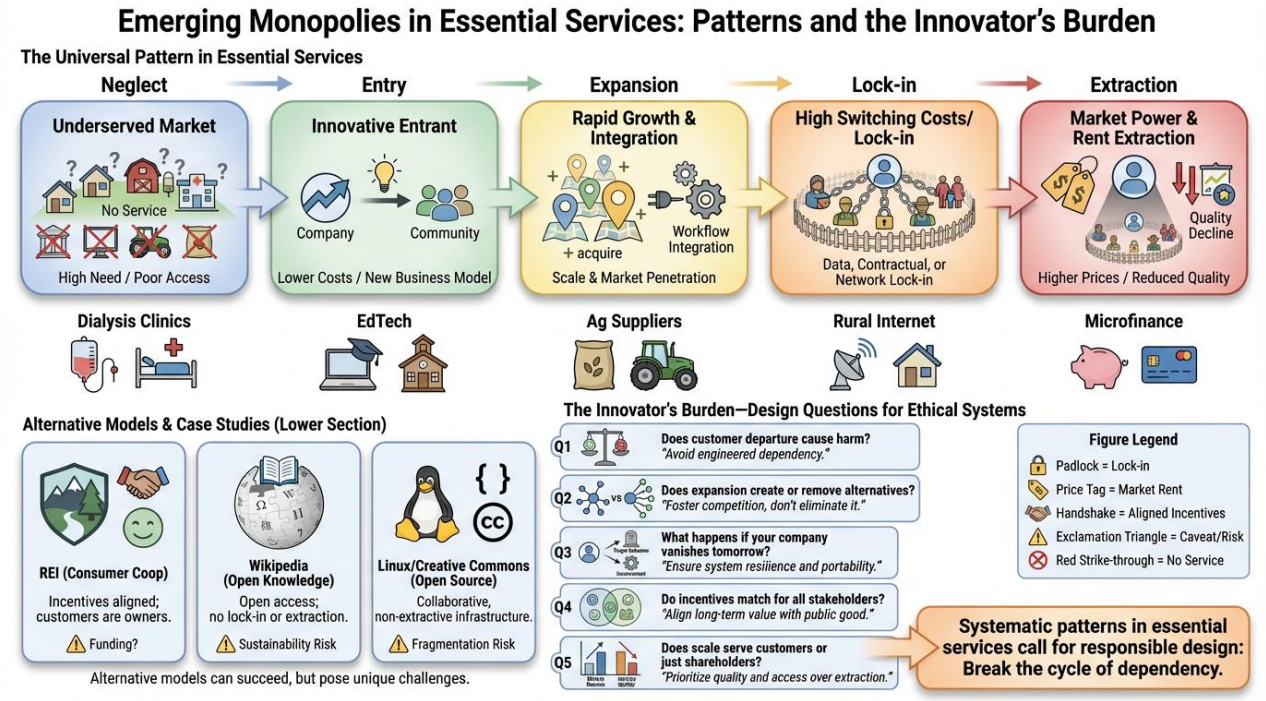

Fig -7: Emerging Monopolies In Essential Services

There are common elements in the pattern. To begin with, it is necessary to find some truly underserved markets that are not appealing to current providers based on economics. Second, invent business models that would allow them to serve those markets at a cost that was either innovative, efficient, or on a different cost basis. Third, grow fast and acquire competition. Fourth, integrate into the customer operations or workflows in such a manner as to develop high switching costs. Fifth, shift of expansion of access to rent extraction with market position cementation. The trend is not an imperative or global one. There are other companies that increase access and uphold rivalry. There are markets that have sustained several providers. Certain regulatory systems forbid concentration. However, the frequency of the pattern is high enough to justify systematic consideration.

8.2 The Innovator's Burden

Designing something that people need and do not want produces various functions as opposed to designing discretionary products. It is not constraint, but design challenge, which produces more sustainable value.

The initial query to builders in the crucial services does the customer leave without tangible injury. Unless the answer to this is yes, you are creating dependency rather than value. This involves coming up with systems that are neither captive nor unprofitable. This can practically refer to the construction of interoperability where lock-in would bring higher profits. It involves endorsing industry standards so that they can be changed even in situations when the proprietary strategies would form competitive moats. It involves capturing, teaching, and passing knowledge to ensure that the customers do not get reliant on your particular know-how.

The second question: will expansion or create alternatives. Scaling by acquiring is a different approach to scaling by organic growth. The former monopolizes markets, the latter may enhance competition in case it proves to be viable that attracts others. The growth strategy must leave room to alternatives or must

remove it all. In some cases, the market will only have one provider in a cost-effective way. In some instances, there are unnecessarily developed artificial barriers that create that situation. The fact that there is a difference between true economic reality and strategic choice is important.

The third question: what will become of your users, should you disappear tomorrow? In case the response is catastrophe, you have created dependence. When the response is inconvenience but bearable transition you have created value of resilience. Such thought experiment explains why it is not identical to be valuable and indispensable in such a manner that introduces fragility. Your service must bring immense advantage to customers but must have acceptable avenues to other options in case they become necessary.

The fourth question: do incentives match all the stakeholders. Where do they diverge? What breaks if they diverge Identification of stakeholder incentives by mapping can identify possible failure modes. You have not designed well when your growth is pegged into things that damage the interests of customers. You have planned well when your success entails the results of all people.

The fifth question: does scale make any difference to service or does scale make any difference to returns. In other cases, it is advantageous to be larger so as to serve customers with economies of scale or network effects or acquired experience. The main advantage of being bigger is that the shareholders gain power in the market.

It is the difference between which kind of scale you are building, that concentration is beneficial or detrimental. Concentration might be warranted should scale enhance service in aspects of value to the customers. When scale is the main source of rents then it is problematic. Case studies demonstrate examples of companies that managed to successfully go through such questions. REI is a consumer cooperation with customers acting as owners. This puts incentives in line with business success and customer benefit. Wikipedia developed knowledge infrastructure without establishing lock-in or extraction. Their model has an emphasis on access and not control.

Linux is a good example of open-source strategies that are competitive and at the same time provide the opportunity to collaborate. The ecosystem is not controlled by any single entity, but coordination leads to the creation of valuable software. Creative commons offers legal frameworks of sharing but preserving the rights of the creators. There are challenges associated with these models. Cooperatives have a hard time raising funds and are slow. Open source can divide up into rival standards. The non-profit models rely on permanent funding. Nevertheless, they also show substitutes to traditional corporate patterns in construction works of basic needs.

9. WHAT POLICYMAKERS AND COMMUNITIES CAN DO

9.1 Regulatory Frameworks That Actually Work

To properly manage the necessary services, it is necessary to go beyond the ideology to make pragmatic judgments of what will bring the desired results in this or that condition. Outcome requirement price controls are a combination of quality and cost containment. Regulations do not merely regulate the prices but connect the prices with the performance indices. Those providers who are up-to-standard on quality are given premium rates. The nonperformers receive lower compensation.

This is evidenced in the healthcare system of France. Prices are discussed at the national level, but they are differentiated according to results. The quality is also an incentive to the providers to sustain quality since it influences reimbursement. The patients are given regular care since they are all subjected to the

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

same standards. Some of the implementation issues encompass formulating meaningful quality metrics that cannot easily be gamed, gathering credible outcome data and modifying payments fast enough to provide incentive to improve.

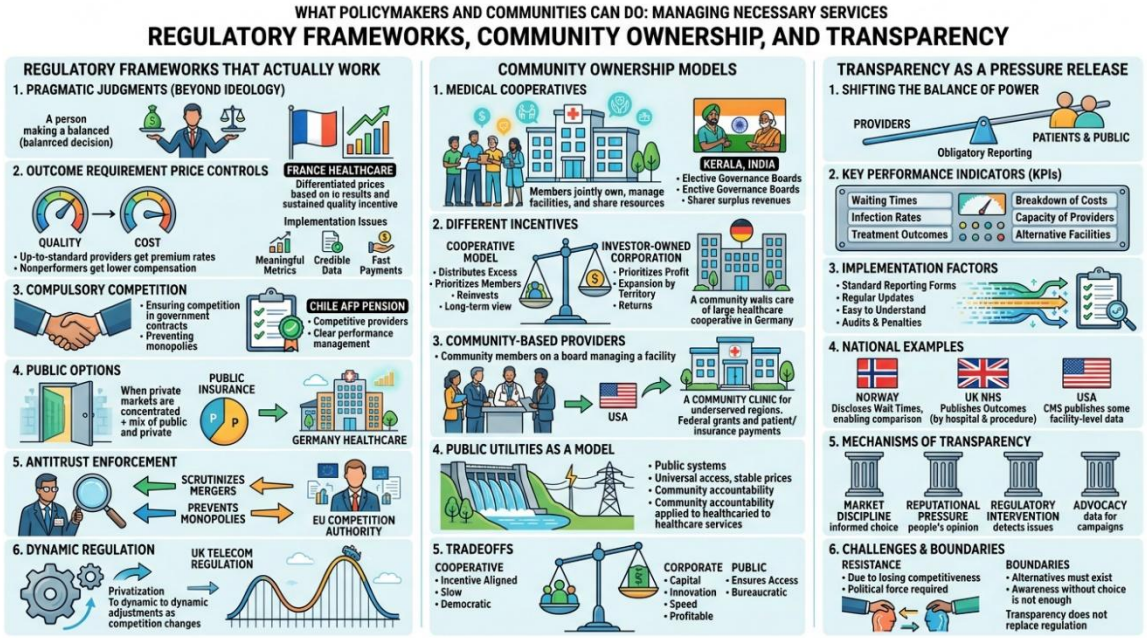

Fig -8: Regulatory Framework, community Ownership and Transparency

Compulsory competition is a government contract provision that prohibits special deals that will remove competition. In the case of government contracting private providers, the agreements need to allow and promote the others instead of creating monopolies. This was necessary in AFP pension system in Chile which had been over-concentrated following an initial privatization. Regulations today demand competitive providers capable of switching easily and having clear performance management. The competition framework is viable, although there are other issues with the system.

The provisions of public options that are set in motion when there is concentration in the private market allow the government to re-enter the markets in case concentration becomes an issue. Instead of making a long-standing decision between public and private provision, hybrid ones retain both possibilities. The healthcare system of Germany is a combination of the private ones and the public. People can go to the public insurance in case the private insurers are concentrated or too costly. This gives competition but does not kill the aspect of the individual participation.

Enforcement of antitrust as a matter of fact needs regulators who have the capability of scrutinizing acquisitions and mergers of vital services with a higher standard. Consolidation, which is problematic in relation to high switching costs, can be allowed by standard competition analysis. Competition law in the European Union is rather aggressive as shown by the competition authority. They have thwarted mergers, forced divestitures, and made terms on combinations that could be detrimental to competition. Findings are flawed yet exhibit regulation abilities.

Frames that are dynamic responding to changes in the market and not fixed enable them to adapt as the market changes. Markets change, technologies change, business models change. The regulation should be equally flexible. Telecommunication regulation in the UK has significantly developed

throughout the decades. Privatization at the beginning was to be heavily regulated. With the advent of competition, the regulation was relaxed. The rules were tightened when competition was threatened once again by the effects of consolidation. This dynamic strategy is more relevant to dynamic situations as opposed to rigid structures.

9.2 Community Ownership Models

Other forms of ownership of enterprises should be taken seriously not as a statement of ideal but as viable alternatives with their own tradeoffs. Medical cooperatives are organizations where members jointly own and manage the facilities and share the resources. Kerala, India has large networks of cooperative hospitals which offer quality services at a cost that is significantly lower than that of the private counterparts. Governance boards are electively chosen and members share the surplus revenues as well as all major decisions. The cooperative model has different incentives than the investor-owned corporations. Excess is distributed among members or invested back in facilities instead of the external shareholders. Member benefit comes first before profit maximization. Expansion is achieved by increasing the membership base and not by conquering the territories.

There is a problem of raising adequate capital to expand, retaining professional management without infringement of democratic governance, and inter-cooperative coordination. However, the decades-long experience of Kerala proves to be viable. The model can be demonstrated to be much larger than small communities, as Germany has a large healthcare cooperative sector. Large insurance organizations are cooperatives. Most hospitals are in non-profit or cooperative organizations. This forms various types of organizations as opposed to monoculture.

Community-based providers are a less weighty alternative to full cooperatives. In the United States, community health centers govern specified geographical populations with the community members included in their board. They are financially non-profit but are governed by community input. This model is very effective, especially in underserved regions where market incentives are not favourable towards the investor. Federal grants assist in setting up facilities. When they are established, they become self-reliant under patient payments and insurance payments besides continuing to be governed by the community.

Adapted versions of the management of other necessary infrastructure are applicable to public utilities modified to serve the healthcare industry. The water, electricity, and transit are usually communal systems that are price-regulated, have set service requirements, and are publicly controlled. The implication of using this framework to healthcare is to make some services like utilities that need universal access, stable prices, and that can be held accountable by the community. This does not exclude the work of the private operators but alters the intensity of regulation.

The tradeoffs of these models include the availability of capital, speed of innovation, patient responsiveness, risk of political interference and operational efficiency. Corporate models do not raise capital in a difficult manner and focus on returns. Cooperative models are more incentive aligned but slow. Public utilities ensure access at the risk of bureaucratic inefficiency. It is not that there is a single model that prevails everywhere. It is a fact that various models apply to different situations and operational conscious diversity makes it resilient.

9.3 Transparency as a Pressure Release

The transformations in information politics change the balance of power. The obligatory reporting on the capacity, pricing, outcomes, and alternatives to the public enables patients and establishes accountability. Certain performance indicators that are important are waiting time to appointments,

which reveal the fact that facilities are available or it is merely theoretical. Infection rates, disclosure of the facility cleanliness and adherence to the protocols. Treatment outcomes, monitoring health indicators of a patient. Breakdown of costs with a distinction of costs that cannot be avoided and gain profit margins. Capacity of providers, which indicates the number of patients that a facility can attend. Alternative facilities in geographic radius, mapping real choice not only national competition.

Various factors need to be implemented. Standardize reporting forms to make data comparable among providers. Ensure that information is up to date by making regular updates. Easy to understand and utilise presentation by the patients. Audits and penalties of false reporting protection against gaming. There is feasibility in a few countries. The hospitals in Norway are required to publicly disclose wait times. Patients can compare the facilities and select the one, according to the availability. This induces some competitive pressure in maintaining capacity. The NHS in UK publishes a lot of data on hospital-by-hospital and procedure-by-procedure outcomes. This information is used by media and advocacy groups to determine quality problems.

The reporting in the United States is fragmented, although some of the facilities-level data are published by other agencies such as Centers of Medicare and Medicaid Services. The quality reporting of healthcare is not finished yet but has technical viability. There are several mechanisms of transparency. It allows market discipline through an informed choice. It causes reputational pressure because facilities are interested in the opinions of people. It permits specific intervention in the regulation because regulators detect systematic issues. It enables advocacy by providing data to groups in concrete forms in terms of campaigns.

The unwillingness to be transparent is caused by the providers being afraid of losing competitiveness or getting a bad reputation. This resistance shows that information asymmetry is currently a lucrative situation to the providers at the expense of the patient. The only solution to resistance is political force by making reporting obligatory as a condition of licensing or government payment. The boundaries of transparency are that transparency will not narrow the gap between problems unless there are alternatives. Being aware of the poor performance of a facility can only assist in case of availability and access to a better option. Transparency should not be used in place of competition and regulatory oversight.

10. THE LONG VIEW

10.1 When Markets Meet Mortality

The basic question that is the core of this whole analysis is should life sustaining services be subject to market logic at all. Efficiency, innovation, and responsiveness are the basis of market provision arguments. Markets are efficient in distributing resources when they are performed well. The competition will lead to the improvement of quality and cost reduction. Government bureaucracies are slower than the private operators. Creativity is more rewarded in an environment where innovation occurs.

These are not some hypothetical advantages. In most settings, private health care providers really offer quality care at an efficient cost. Commercial incentives make a significant contribution to medical innovation. One of the factors that increased dialysis accessibility in India was the ability of the private capital to make it cost-effective. Opponents of market provision include perverse incentives, inequality and concentration risks. Normal market discipline cannot be applied in the case of a survival product. When customers have life in danger, they cannot do rational shopping. The price signals cannot work where the demand is inelastic, and customers can pay any amount to survive. Maximization of profit will

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

provide the incentive to receive maximum compensation even at minimum service.

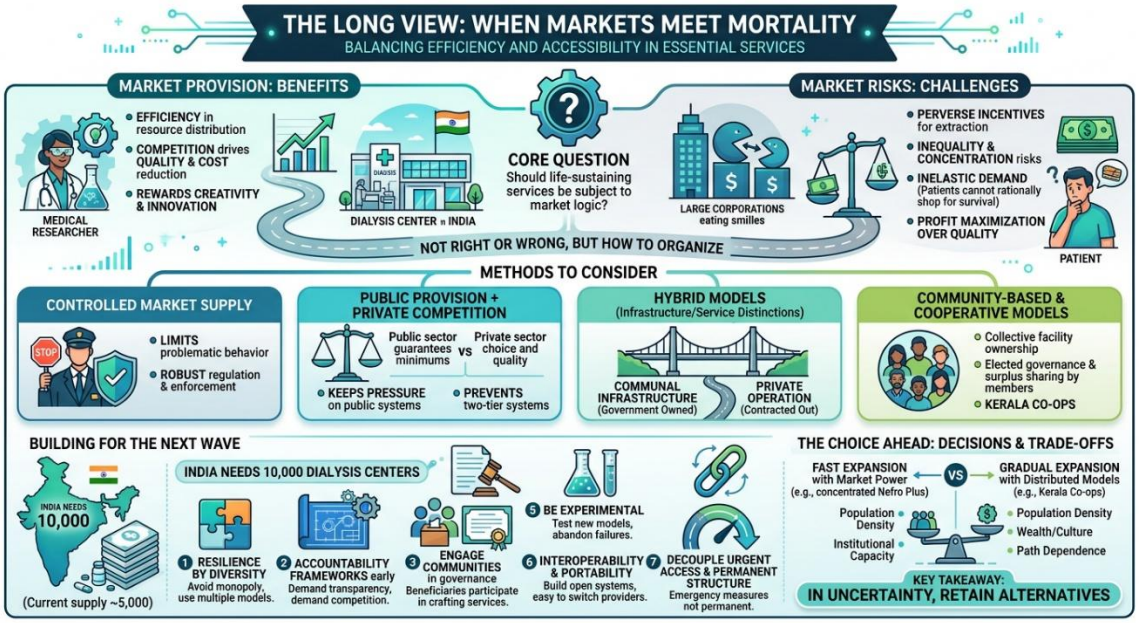

Fig -9: The Long View When Markets Meet Mortality

These anxieties are not hypothetical as well. The healthcare markets have a long-standing history of issues with information asymmetry, overtreatment of profitable cases and under-treatment of unprofitable cases, selection of non-profitable patients and concentration that removes competition. Both these arguments represent real phenomena. Efficiency and innovation do exist in the markets. It is true that markets do generate concentration and extraction. It is not about the right one or wrong one but about the ways to organize systems that would generate advantages and reduce the disadvantages.

There are several methods that should be considered. Controlled market supply keeps the private operators in systems that limit the behaviors that are problematic. It demands effective regulators, enforcement, and constant adjustment in the changing markets. It is effective when regulation is robust, and unsuccessful where the regulators are being captured or are un-financed. Both models can co-exist in the form of public provision and competition involving the private sector. Government offers minimum services which guarantee universal access. The willing can have a choice on quality and convenience in the hands of the private providers. This keeps the pressure on the public systems as well as ensuring minimums. It needs enough public financing to ensure quality and prevent two-tier systems with the private care being hugely better.

Hybrid models combine communal infrastructure and privatization. Facilities are owned and standards are set by government and the private operators that are on contract compete against each other on the delivery of the service. This distinguishes between capital cost that brings about barriers to entry and operational competition. It involves advanced subcontracting and management. Community based and cooperative models privatize ownership and keep the market discipline. There is collective facilities ownership, governance election, and surplus sharing by the members. This is incentive-based on user goodwill and costs are contained. It is effective at a community level but coordinating it in a bigger area

can be problematic.

There are no models that are perfect in every situation. The right structure is based on the population density, the wealth, culture, institutional capacity, and path dependence of history. The nations that have a good tradition of cooperation develop on their basis. It is possible to have countries that have well-developed bureaucracies to handle the provision of the people. Strong regulatory power can be able to control the private markets in countries which have a strong regulatory capacity. The mistake is that one model is applicable in all situations or the fact that ideological purity is more important than practical consequences. It is targeted at systems that perform, that widen access, that preserve quality, that keep costs under control and that generate accountability. All these can be attained by using many models under the right circumstances.

10.2 Building for the Next Wave

India requires 10,000 dialysis centers. Current supply is around 5,000. The missing infrastructure will be constructed by someone. Other such gaps are in healthcare, water, energy, connectivity, and education in developing economies. This is massive potential and vast burden. The infrastructure that is developed during the coming decade will define how human welfare will be in future generations. The query is whether we construct it intentionally with the lessons learnt or patterns are repeated to come up with new patterns solving the same problems.

The next wave has several principles. To begin with, resilience design by diversity. There should not be a monopoly over any one model, provider, or technology. Retain several methods at the same time. This is inefficient but it brings strength.

Second, construct accountability frameworks at an early stage. Do not think that market mechanisms can safeguard the interests of the population, particularly in basic services. Demanding transparency, demand competition, dissociate infrastructure with service, and establish oversight with fangs.

Third, engage communities in governance. Individuals who become services beneficiaries ought to participate in crafting services. This is not merely theory but is practice. Design is enhanced by local knowledge, legitimacy enhanced by participation, and captured by distributed control.

Fourth, invest in regulatory capacity. Any model requires the presence of skilled regulators who recognize the operations that are complicated, negotiate successfully, and apply standards as a way of making it work. This will take training, money, and political autonomy.

Fifth, be experimental instead of allowing results to happen by chance. Experience with new models in other territories. Measure what works. Successes are successful, failures are abandoned. Make infrastructure development a learning process and not a decision.

Sixth, focus on interoperability and portability. Build systems in a way that enable people to switch between providers, are open to new entrants, and are does not lock-in. This continues to create competitive pressure when market structure becomes concentrated.

Seventh, decouple urgent access expansion and permanent structure. Every tool should be used to increase access quickly but should create mechanisms to shift to superior long-term structures. The emergency measures should not be a permanent aspect.

The opportunity is real. Billions of people are deprived of the basic services. Infrastructure development to reach them enhances life and brings about economic activity and global inequity. There are roles played by the private capital, public resources, and community organization. Accountability is also real. Whether

someone is in control of necessities like water, energy, and communication depends on the infrastructure that is developed today. It is up to the decisions at construction to determine whether such power is concentrated or diffuse, accountable, or extractive.

10.3 The Choice Ahead

We can have access to systems which open access fast with focused market power. Or we can have systems that increase access more gradually by distributed models including checks and balances. It is likely that we cannot have two at the same time. It is not about which one can happen. Both are. The query is what we desire, and whether we are prepared to plan for a purpose to fit in with what arises out of the noninterference of the market forces.

Concentration is effective in creating rapid expansion. Nefro Plus proved to be viable. One operator having standardised processes, centralized management, and scale economies can roll out infrastructure at a higher rate than the disjointed ones. This is further quickened through government partnerships that ensure demand as well as curb market risk. The price is market dominance that brings about a dependency. The patients who should be on dialysis to survive have a few options. With concentration in the markets, there is a redistribution of power to the providers. The improvement of quality is based on regulation instead of competition. The system resilience reduces because single points of failure arise.

Reduced growth utilizing distributed models also works. The cooperative hospitals in Kerala were decades old, yet they were able to provide sustainable infrastructure that was owned by communities. The various healthcare providers in Germany needed the development of patient regulation but generated competitive markets that did not discriminate against any. The cost is time. Individuals require services and not decades of building institutions. Electoral pressures on political leaders compel them to show results within a short period of time. Capital is more demanding of returns than distributed models.

Managing this decision involves being truthful on trade-offs as opposed to making it sound like there are no trade-offs. Focus offers haste. Distribution offers reliability. Various conditions can justify various decisions. However, conscious choice-making is different, and default outcomes are permissible. These decisions must be based on several factors. Density of the population influences the number of providers that a market can sustain. Competition is easier to maintain in rich regions than in the poor ones. Culture context is important to the models that are legitimated. The institutional capacity defines the effectiveness of oversight mechanisms.

Most importantly, probably, is reversibility. There are more overturn able decisions than others. Distributed system building and subsequent consolidation is less difficult than concentrated system building and subsequent fragmentation. Once market power has been attained, it seldom disperses itself. This is an indication of a heuristic: in case of uncertainty, consider methods that retain alternatives. Competition should be built even in cases of monopoly that appears to be efficient. Make portability even when lock-in appears quite profitable. Share power even in times of apparent speed in the centralization mode. Essential services will not simply be either purely public or purely private. It will consist of hybrid systems that have clear accountability systems. The construction of those structures whether carefully or unintentionally will define whether they will benefit human well-being or will rob it.

11. EVIDENCE, OUTCOMES, AND LIVED REALITIES

11.1 Clinical Performance and Patient Outcomes

Partners Universal Multidisciplinary Research Journal (PUMRJ)
Volume: 03 Issue: 02 | February - March 2026 | ISSN: 3107-5789 | www.pumrj.com

Any evaluation of dialysis services should be based on what counts most that patients are given proper care that will prolong and enhance their lives. Regrettably, the outcome data on the dialysis providers in India has not been thoroughly posted in the open circles, and this is a significant transparency void. The evidence available as institutions of National Health Mission reports points to improvement in the accessibility to dialysis under the public- private partnerships as a way to offer better survival rates to ESRD patients than in the pre-2016 years when most patients just died on the wait lists. Nevertheless, provider-specific facility-level outcome data that compares rates of infections, hospitalization rate, and long-term survival would enhance accountability.

Such comparisons with other countries give a background. In Japan, where universal dialysis is covered by the national health insurance program, the five year survival rate of dialysis patients stands at about 60 percent. The National Health Insurance in Taiwan has the coverage of dialysis with survival rates comparable to the developed countries. In India, there is no similar national provision of tracking of outcomes and thus it is hard to assess the quality other than through anecdotal reporting.

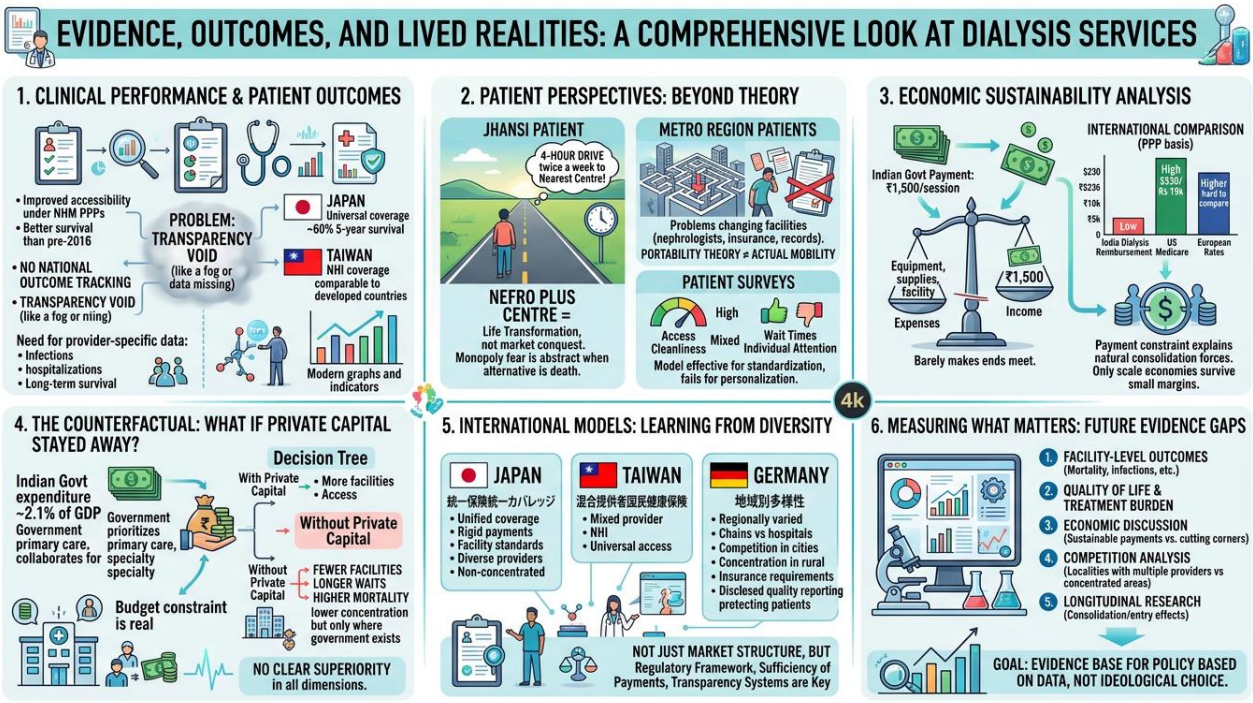

Fig -10: Evidence outcomes and Lived Realities

11.2 Patient Perspectives Beyond Theory

Talking with dialysis patients indicates that there are intricacies that cannot be understood in theoretical market analysis. To a patient in Jhansi who had to drive four hours twice a week to get to the nearest dialysis centre in Kanpur, the establishment of a local Nefro Plus centre symbolises the transformation of life and not market conquest. The anxiety of the power of the monopoly appears to be an abstraction in case of the other alternative: to see family members die of lack of the treatments.

On the other hand, the patients in metro regions where they have a variety of choices raise their concerns differently. According to them, they are experiencing a problem changing facilities because of the coordination problems with nephrologists, insurance firms, and medical records. The portability of theory does not necessarily become the actual mobility. Where patient satisfaction surveys are available, there

are high ratings on both access and cleanliness facilities but mixed ratings on waiting times and individual attention. This indicates that the model is effective at standardization and simple delivery of services and fails at personalization which is important to chronic patients.

11.3 Economic Sustainability Analysis

The government payment rate of 1,500 per session is something that should be explored further. According to industry sources, this is just enough to make ends meet in most places when it is considered that it goes to cover equipment, supplies, staff, and expenses of facilities. This causes the issue of financial sustainability and whether with increased payments better quality could be achieved or more competitors could be attracted. India has a low dialysis reimbursement when compared to international rates of payment on a purchasing power parity basis. In the United States Medicare, the average per session is about $230 (Rs. 19,000), but it is difficult to compare it to both cost structures. The European rates are also more than the Indian payment though they do not differ significantly. This constraint of payment might be better to explain the concentration of markets than strategic behavior. When margins are small at government rates, only those operators who attain scales economies survive. This implies that it is not possible to discuss monopolistic behavior but insufficient government payment that gives rise to natural consolidation forces.

11.4 The Counterfactual What If Private Capital Stayed Away?

Opponents of the privatization of healthcare are not faced with realistic alternatives. Government healthcare expenditure of India is about 2.1 percent of the GDP, which is one of the lowest in the world. It would cost capital of more than Rs: 10,000 crores and operation costs of the same scale to build and operate 5,000 dialysis facilities. States that encounter this calculation took practical decisions: with scarce government income, primary care and maternal health are provided to more individuals, whereas specialty services such as dialysis are collaborated with the private health providers. This may not be optimal resource allocation, but the budget constraint is a reality. The other universe in which the entry of the private providers into dialysis markets did not occur would most likely result in a smaller total number of facilities, a longer wait time, the still high mortality rate due to untreated kidney failure, and a reduced concentration of the markets in the areas where the government facilities exist. There is no apparent superiority of either of the outcomes in all dimensions.

11.5 International Models Learning from Diversity

The strategy of Japan is unified coverage with a largely privatized dialysis system, which would not be concentrated by setting rigid payment rates and facility standards that would allow various providers. Taiwan has mixed provider national health insurance of dialysis. These models have shown that the models of private provision and universal access are not mutually exclusive, but they need robust regulatory structures and sufficient rates of payments. The dialysis situation in Germany is quite varied in terms of regions since some spots are covered by large chains, whereas others are run by separate facilities or departments of hospitals. The cities have competition and the rural areas have concentration as it is with India. The distinction is in the insurance system requirements and disclosed quality reporting protecting patients.

These foreign benchmarks indicate that the structure of the market is not as important as regulatory framework, the sufficiency of payments, and transparency systems. Quality care can go hand in hand with concentration in case adequate protective measures are in place. Fragmentation is not the key to improved results in the absence of coordination and standards.

11.6 Measuring What Matters

These are some of the evidence gaps that should be the focus of future studies. To start with, facility-level outcome reporting that will include mortality rates, the frequency of hospitalization, infection rates, and vascular access complications. Second, quality of life, treatment burden, and satisfaction with care measured using patient-reported outcomes. Third, economic discussion of whether the government payment rates can be used to promote sustainable quality or to result in corners being cut. Fourth, competition analysis that considers whether patients in localities with more than two providers are receiving better outcomes, reduced prices in non-covered services or more satisfaction than in concentrated areas. Fifth, longitudinal research into how the outcomes vary with market consolidation or entry of new competitors. The lack of this evidence makes discussions on the best market structure mere hypothetical. The idea here should be the development of evidence base to enable policy based on data and not an ideological choice.

12. CONCLUSION

Nefro Plus is not an evil character in a mere story. They not only created real values, but real dependencies as well and solved a real problem. All that is at the same time true. This is a complexity to comprehend and not to simplify into comforting stories as the first step to developing more effective systems. It is not about denouncing monopolies or glorifying markets blindly. It is to understand that when you are designing systems that support basic human necessities, you are also deciding the issue of power, access, and dependency whether you like it or not. Those decisions have implications that go way beyond quarterly profits or campaigning.

When the entrepreneurs are constructing in areas where there is a crossover between commercial viability and human necessity, there are a few insights that should inform design. Develop with an eye to the distinction between value creation and dependency. This is because both the retention metrics that measure customer satisfaction and impossibility to leave have a similar look. Design interoperability, portability, and competition even in the case of lock-in would be more profitable. From joint ventures that do not exclude the options. Embrace the notion that essential service provision implies the assumption of responsibilities other than getting the highest shareholder returns.

The capture forms both short-term and long-term benefits as well as vulnerability. A company that is based on the inability of the customer to move on is prone to regulation, reputation loss and ultimate destruction by models that truly serve but not capture. Distributed control, transparent operations, and aligned incentives contribute to the creation of more sustainable value, which is achieved by building resilience. What is of vital importance to policymakers is the fact that market solutions to social problems must have structural safeguards installed at the beginning, not added once the process of consolidation has occurred. It is so much easier to prevent than to cure. When the market power is already in place and invested, capital is hooked to the market power, it becomes a politically hard task to switch structures.

This implies designing procurement systems that require competition, alliances that maintain options and regulatory systems that have actual enforcement capability. It implies the presence of the expertise and capacity of the public sector at the time of contracting with the private one. It implies that treating basic services as opposed to discretionary purchases since customers have no way out in case of dissatisfaction. Most of all it involves leaving ideology behind and getting down to the reality of pragmatic judgment of what works. Pure market provision and pure public provision do not yield the best results at all. The right structure is based on the situation, ability, and conditions. It is better to remain flexible to be able to adapt to the changing conditions than argue out some model. One way in which the citizens and

communities make it a difficult task is by ensuring that they demand transparency, assist in alternatives, and realize that convenience and dependency are one and the same thing, but wearing a different mask. Dependence has been developed whether we like it or not when a service becomes too convenient to abandon, when its incorporation into our daily life has become so far-reaching.

This implies that it should encourage more than one provider despite a dominating provider who appears to be sufficient. It entails insisting on transparency reporting at the time when it is easy to believe that everything is alright. It involves being involved in the governance of key services instead of considering them to be the problem of another person. It constitutes the acknowledgement that the current-day convenience provider may turn into the future rent extractor when accountability structures do not exist.

The larger trend which this case throws light on is well beyond dialysis or even beyond the medical sector. Similar dynamics are evident in the technology platforms, agricultural inputs, financial services, telecommunications, education, energy, and water when they are exposed to market logic of essential services. Knowing the pattern enables foreseeing the issues before they become institutionalized. Our systems are all the product of some designer. Every system that we desire needs someone to design it. That it is we who are at this moment, with the decisions we make about what to construct, how to control, and what to insist on. The infrastructure that is currently being built will define human good over the next few decades. It is either broad or narrow depending on the decisions made now usually invisibly in procurement processes, partnership agreements, and regulatory structures.

This monopoly in the open is not exactly in the shadows. We are only yet to decide whether we are comfortable with what we are seeing. This is not a binary decision, take markets or take government. It is non-stop, deliberate maneuvering of how to design necessary services in such a way that they increase access without capture formation, create innovation without concentration formation, and satisfy human needs in a long-term fashion. It will be hybrid system where there is market efficiency and social responsibility, commercial viability, and social welfare. The issue is whether we create those hybrid systems intentionally or whether we take whatever comes by accident. The argument in this article is that these systems must be purposely designed based on the knowledge of how these systems operate, understanding of trade-offs, and willingness to create infrastructure that serves and not captures. It is up to us to make the decision.

REFERENCES

[1] Daou, M., & Marciano, A. (2023). Commodification. The Routledge Handbook of Commodification. https://doi.org/10.4324/9781003188742-3
[2] Ghafoor, A. (2024). The role of infrastructure in the development process. Public Infrastructure Performance in Developing Countries. https://doi.org/10.4324/9781003576785-2
[3] Pandey, B., George, A., Tiwari, S., Albermany, S., & Hung, H. (Eds.). (2025). Advanced Secure Transmission of Telemedicine-Based Bio-Medical Images. IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-9821-0
[4] Hornum, S. T., & Bolwig, S. (2021). A functional analysis of the role of input suppliers in an agricultural innovation system: The case of small-scale irrigation in kenya. Agricultural Systems, 193, 103219. https://doi.org/10.1016/j.agsy.2021.103219
[5] Dr.A.Shaji George, & Dr.T.Baskar. (2025). A Critical Analysis of India's Medical Workforce Projections and the Future Value of MBBS Education. Partners Universal Innovative Research Publication (PUIRP), 03(03), 35–57. https://doi.org/10.5281/zenodo.15609680
[6] Levin-Epstein, M. (2020). Rising number of dialysis centers will drive renal dialysis machines market in united states. Journal of Clinical Engineering, 45(2), 102-102. https://doi.org/10.1097/jce.0000000000000393

[7] Little, R. G. (2010). Beyond privatization: Rethinking private sector involvement in the provision of civil infrastructure. Physical Infrastructure Development. https://doi.org/10.1057/9780230107670_3
[8] George, Dr. A. Shaji., George, A. S. Hovan., & Dr.Aakifa Shahul. (2025). Healthcare Data Nexus: Ethical Navigation of Hospital Data Collection for AI Training in the Modern Medical Landscape. Zenodo, 02(03). https://doi.org/10.5281/zenodo.15450150
[9] Rust, R. T., & Zahorik, A. J. (1993). Customer satisfaction, customer retention, and market share. Journal of Retailing, 69(2), 193-215. https://doi.org/10.1016/0022-4359(93)90003-2
[10] Sharma, M., & Sanders, L. (2024). Economics of dialysis access. Principles of Dialysis Access. https://doi.org/10.1007/978-3-031-70514-4_59
[11] George, Dr. A. Shaji., George, A. S. Hovan., & Dr.Aakifa Shahul. (2026). AI and IoT in Healthcare Transforming Patient Care Through Intelligent Clinical Systems. Zenodo, 03(01). https://doi.org/10.5281/zenodo.18362962
[12] Voos-Budal Arins, M., & Alvarez, A. (2024). Endovascular salvage of dysfunctional hemodialysis tunneled catheter in a patient with vascular access exhaustion. Nefrología Latinoamericana, 21(2). https://doi.org/10.24875/nefro.m24000020
[13] Weiser, J. (2007). Untapped: Strategies for success in underserved markets. Journal of Business Strategy, 28(2), 30-37. https://doi.org/10.1108/02756660710732639
[14] Williams, B. (2010). Essential hypertension—definition, epidemiology, and pathophysiology. Oxford Textbook of Medicine. https://doi.org/10.1093/med/9780199204854.003.161701_update_001
[15] George, Dr. A. Shaji., & George, A. S. Hovan. (2025). The Transformative Potential of the Doctor of Humanoid Medicine Degree in Bridging Human-Machine Healthcare Integration. Zenodo, 02(04). https://doi.org/10.5281/zenodo.15825026
[16] Acheson, K. (2017). Rural healthcare facilities: Monopolies to cooperatives. Organic & Medicinal Chemistry International Journal, 1(5). https://doi.org/10.19080/omcij.2017.01.555575
[17] Batrancea, L. (2021). The influence of liquidity and solvency on performance within the healthcare industry: Evidence from publicly listed companies. Mathematics. https://doi.org/10.3390/math9182231
[18] George, A. S. Hovan., Aakifa Shahul, George, A. Shaji., T.Baskar, & Hameed, A. Shahul. (2023). Medical Cancer Diagnosis Using Texture Image Analysis. Zenodo, 01(02). https://doi.org/10.5281/zenodo.7853258
[19] Boot, A. (2004). Financial services: Consolidation and strategic positioning. The International Handbook of Competition. https://doi.org/10.4337/9781845423520.00010
[20] George, George, A. S. H., Salam, D., & Dr. Aakifa Shahul. (2025). The Birth of the AI Baby: A Technological Paradigm Shift in Human Reproduction and IVF. Partners Universal Innovative Research Publication, 3(2), 10–36. https://doi.org/10.5281/zenodo.15284446
[21] Forgione, A. F., & Noto, G. (2024). Exploring the determinants of private healthcare providers' market power: A performance-based perspective. Health Services Management Research, 37(3), 153-159. https://doi.org/10.1177/09514848231194850
[22] Goldberg, I., Jedrzejczak, G., & Fuchs, M. (1999). The ipo-plus: A new approach to privatization. The World Bank. https://doi.org/10.1596/1813-9450-1821
[23] George, George, A. S. H., Salam, D., & Aakifa Shahul. (2025). Your Future Kids Might Be Genetically Engineered: Implications, Possibilities, and Ethical Considerations. Partners Universal Innovative Research Publication, 3(2), 1–9. https://doi.org/10.5281/zenodo.15249246
[24] He, Y., & Chen, Y. (2022). An empirical study of software companies' merger and acquisitions in the software-as-a-service market. International Journal of Business & Management Studies, 03(08), 25-37. https://doi.org/10.56734/ijbms.v3n8a5
[25] Aakifa Shahul, Hameed, S., & George, Dr. A. S. (2022). A Comparative Study on Medical Student's and Faculties Perspectives on the Incorporation of Virtual Reality in AETCOM Training in Medical Curriculum in India. Zenodo, 2(1). https://doi.org/10.5281/zenodo.7191096
[26] Hegji, C. E., Self, D. R., & Findley, C. S. (. (2007). The link between hospital quality and services profitability. International Journal of Pharmaceutical and Healthcare Marketing, 1(4), 290-303. https://doi.org/10.1108/17506120710840143
[27] George, D. A. S. (2023). Addressing India's Healthcare Worker Shortage: Evaluating Strategies to Improve Medical Education and Retention. Partners Universal International Research Journal, 2(3), 171–182. https://doi.org/10.5281/zenodo.8370878
[28] Hogg, R. (2013). Building government capacity: Key issues and emerging challenges. Afghanistan in Transition. https://doi.org/10.1596/9780821398616_ch04
[29] George, D. A. S., George, A. S. H., Shahul, A., & Baskar, D. T. (2023). AI-Driven Breakthroughs in Healthcare: Google Health's Advances and the Future of Medical AI. Partners Universal International Innovation Journal, 1(3), 256–267. https://doi.org/10.5281/zenodo.8085221

[30] Jeng, J. L. (2018). Asset pricing models: Specification, data and theoretical foundation. Empirical Asset Pricing Models. https://doi.org/10.1007/978-3-319-74192-5_1

[31] Pandey, D., Pandey, B. K., George, A. S., George, A. S., Sunder, S., Jolly, A., & Verma, S. (2025). Scientific Progress in Artificial Intelligence for Time-Stamped Interpretation of Camera Images in Medical Safety Systems. In B. Pandey, A. George, S. Tiwari, S. Albermany, & H. Hung (Eds.), Advanced Secure Transmission of Telemedicine-Based Bio-Medical Images (pp. 91-114). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-9821-0.ch005

[32] Jones, A. (2000). Customer healthcare horizon scanning: Time to lock in?. Journal of Medical Marketing, 1(2), 131-141. https://doi.org/10.1057/palgrave.jmm.5040022

[33] George, A. S. H., Shahul, A., & George, A. S. (2022). An Overview of Medical Care and the Paternalism Approach: An Evaluation of Current Ethical Theories and Principles of Bioethics in the Light of Physician-Patient Relationships. Partners Universal International Research Journal, 1(4), 31–39. https://doi.org/10.5281/zenodo.7419781

[34] Masullo, H. (2015). Shareholder agreements in publicly traded companies: A comparison between the U.S. and brazil. Revista de Direito Internacional, 12(2). https://doi.org/10.5102/rdi.v12i2.3525

[35] Menona Jacob, A. (2022). Healthcare delivery systems in rural areas. Rural Health. https://doi.org/10.5772/intechopen.98184

[36] George, A. S. Hovan., & George, Dr. A. Shaji. (2023). Plugging into the Human Genome: The Potential of Electrogenetics for Wearable Medical Devices. Zenodo (CERN European Organization for Nuclear Research), 01(04). https://doi.org/10.5281/zenodo.8281821

[37] Mishra, A., & Pandey, N. (2023). Pricing information asymmetry in healthcare: Stakeholder analysis and research insights. International Journal of Pharmaceutical and Healthcare Marketing, 17(4), 539-563. https://doi.org/10.1108/ijphm-01-2023-0010

[38] George, Shaji, T., & Dr. Nataliia Siranchuk. (2025). AI Personalized Learning The Hidden Cost to Children's Critical Thinking. Partners Universal Innovative Research Publication, 3(6), 62–85. https://doi.org/10.5281/zenodo.17963271

[39] Onyango, R., Baker, M. C., Faerberg, J., Haberman, M., McCoy, R., & Orlowski, J. (2023). Evolution of the chief medical officer role in teaching hospitals and health systems. Journal of Healthcare Management, 68, 121 - 131. https://doi.org/10.1097/JHM-D-22-00097

[40] George, Dr. A. Shaji., & George, A. S. Hovan. (2025). Beyond the Stethoscope – Building a Future in Genetic Counseling for Indian PCB Students Without NEET. Zenodo, 02(05). https://doi.org/10.5281/zenodo.17211238

[41] Ramakrishna, N., & Babu S, H. (2021). TRAVELLER'S EXPECTATIONS TOWARDS UPCOMING AIRPORT SERVICES IN SELECT TIER 2 AND TIER 3 CITIES OF SOUTH INDIA. Towards Excellence, 997-1005. https://doi.org/10.37867/te130284

[42] George. (2025). Transforming Healthcare with Artificial Intelligence: Strategies, Insights, and Frameworks for Innovation. Partners Universal International Research Journal, 4(2), 48–78. https://doi.org/10.5281/zenodo.15685381

[43] Robinson, J. C., & Dratler, S. (2005). Corporate structure and capital strategy at catholic healthcarewest balancing mission and margin in the capital-intensive hospital industry.

[44] Ruiz-Nuñez, F., & Wei, Z. (2015). Infrastructure investment demands in emerging markets and developing economies. World Bank, Washington, DC. https://doi.org/10.1596/1813-9450-7414

[45] Sammut, S. M. (2012). Biotechnology business and revenue models. The Business of Healthcare Innovation. https://doi.org/10.1017/cbo9781139176620.005

[46] Student, A. (2024). PUBLIC PRIVATE PARTNERSHIP IN INDIAN DIALYSIS MARKET: A DISRUPTIVE FORCE. REVOLUTIONIZING HEALTHCARE PERSPECTIVES. https://doi.org/10.52458/978-8197040863.2024.eb.ch-08

[47] Susskind, R. (2008). The path to commoditization. The End of Lawyers?. https://doi.org/10.1093/oso/9780199541720.003.0002

[48] Trostel, P. A. (2003). Potential efficiency gains from consolidation of maine□s educational resources. Maine Policy Review, 12(3). https://doi.org/10.53558/skyj2471

[49] Winchester, J. F. (1999). Telecommunications and the dialysis patient. American Journal of Kidney Diseases, 34(1), xxxvi-xxxviii. https://doi.org/10.1016/s0272-6386(99)70100-9

[50] Zuckerman, A. M. (2011). Healthcare mergers and acquisitions: Strategies for consolidation. Frontiers of Health Services Management, 27(4), 3-12. https://doi.org/10.1097/01974520-201104000-00002

[51] (1969). Piaget–a practical consideration. https://doi.org/10.1016/c2013-0-01613-1

[52] (2008). Market share reporter: An annual compilation of reported market share data on companies, products, and services. Choice Reviews Online, 45(07), 45-3562-45-3562. https://doi.org/10.5860/choice.45-3562

[53](2009). Competition in healthcare. Encyclopedia of Health Services Research. https://doi.org/10.4135/9781412971942.n83
[54](2011). Regulation of private sector involvement in solid waste collection. Private Sector Involvement in Urban Solid Waste Collection. https://doi.org/10.1201/b11560-16
[55](2020). Biomedical engineering, healthcare and sustainability. 2020 IEEE 2nd Eurasia Conference on Biomedical Engineering, Healthcare and Sustainability (ECBIOS). https://doi.org/10.1109/ecbios50299.2020.9203580
[56](2022). Frameworks of accountability in healthcare. The State of Accountability in the Global South. https://doi.org/10.4337/9781789907513.00018
[57](2023). Introducing competition in healthcare: What are the risks to healthcare quality?. Healthcare, Quality Concerns and Competition Law. https://doi.org/10.5040/9781509943371.ch-002
[58]&NA; (2008). Bridge of life–davita medical missions opens new clinic in india. Nephrology Times, 1(9), 8. https://doi.org/10.1097/01.nep.0000336387.47489.66
[59]Bajpai, M., & Sheth, A. (2025). Universal health coverage & digital healthcare in tier-2 & tier-3 cities. NATIONAL BOARD OF EXAMINATIONS JOURNAL OF MEDICAL SCIENCES, 3(11), 1315-1322. https://doi.org/10.61770/nbejms.2025.v03.i11.001
[60]Bhagat, S., Lu, J., & Rangan, S. (2019). IPO valuation. The Oxford Handbook of IPOs, 107-145. https://doi.org/10.1093/oxfordhb/9780190614577.013.9
[61]Chibber, K., & Zutshi, A. (2025). Data-driven optimization of customer acquisition cost: A business model based on predictive and prescriptive analytics. International Journal of Science and Research (IJSR), 1018-1027. https://doi.org/10.21275/sr25920111103
[62]Dheerendra, P., Sakam, S., Jeevan, R., JC, K., & Indipakayala, J. (2025). WCN25-4428 IMPACT OF PATIENT AND DIALYSIS THERAPIST EDUCATION ON DIALYSIS ADEQUACY AND ULTRAFILTRATION RATES IN THREE RURAL PUBLIC PRIVATE PARTNERSHIP MODEL CENTERS FROM SOUTH INDIA. Kidney International Reports, 10(2), S725-S726. https://doi.org/10.1016/j.ekir.2024.11.1286
[63]Fernando, C. (2023). Introduction to enterprise software systems. Solution Architecture Patterns for Enterprise. https://doi.org/10.1007/978-1-4842-8948-8_1
[64]Jha, V., Chakravarthi, R., & Shah, K. D. (2015). Sao009vascular ACCESS IN DIALYSIS PATIENTS: OBSERVATIONS FROM a NATIONAL DIALYSIS COHORT IN INDIA. Nephrology Dialysis Transplantation, 30(suppl_3), iii28-iii28. https://doi.org/10.1093/ndt/gfv147.01
[65]Levin-Epstein, M. (2020). Rising number of dialysis centers will drive renal dialysis machines market in united states. Journal of Clinical Engineering, 45(2), 102-102. https://doi.org/10.1097/jce.0000000000000393
[66](2002). VI.4. treatment of vascular access infection. Nephrology Dialysis Transplantation, 17(90007), 76-77. https://doi.org/10.1093/ndt/17.suppl_7.76
[67](2008). Managing the customer lifecycle: Customer retention and development. Customer Relationship Management. https://doi.org/10.4324/9780080949611-16
[68](2020). Surgical margins status. Definitions. https://doi.org/10.32388/7ca0ao
[69](2020). Revenue forecasting and revenue estimation. Encyclopedia of Public Administration and Public Policy, Third Edition. https://doi.org/10.1081/e-epap3-120053578
[70]Aitken, P. A. (2012). Creative commons. Oxford Music Online. https://doi.org/10.1093/gmo/9781561592630.article.a2228168
[71]Daniel, S., & Thomas, A. (2004). Customer service interests: Effects of satisfaction, commitment, and fairness. PsycEXTRA Dataset. https://doi.org/10.1037/e518632013-374
[72]Fergurson, J. R., Marshall, G. W., & Pelton, L. (2024). Toward addressing customer migration: Measuring B2B salespersons' perceptions of customer ownership. Journal of Business & Industrial Marketing. https://doi.org/10.1108/jbim-03-2023-0136
[73]Gupta, M., Gupta, D., & Rai, P. (2024). Digital payment systems and financial inclusion: Examine how digital payment systems, such as mobile wallets and digital currencies, can improve financial inclusion by providing access to banking services for the unbanked and underbanked population. Lecture Notes in Networks and Systems. https://doi.org/10.1007/978-981-97-0892-5_57
[74]Kaplan, A., & Haenlein, M. (2014). Collaborative projects (social media application): About wikipedia, the free encyclopedia. Business Horizons, 57(5), 617-626. https://doi.org/10.1016/j.bushor.2014.05.004
[75]Kumar, P., & Singh, A. P. (2019). Flexibility in service operations: Review, synthesis and research agenda. Benchmarking: An International Journal. https://doi.org/10.1108/BIJ-12-2018-0405
[76]Kumar, S. (2025). Microfinance and economic development. International Journal of Research Publication and Reviews, 6(6), 5452-5454. https://doi.org/10.55248/gengpi.6.0625.2191
[77]Lee, G. (2023). First-mover advantage. Management. https://doi.org/10.1093/obo/9780199846740-

0215
[78] Lerner, A. (1995). The concept of monopoly and the measurement of monopoly power. Essential Readings in Economics. https://doi.org/10.1007/978-1-349-24002-9_4
[79] Middlemas, K. (1990). The strategy of growth. Power, Competition and the State. https://doi.org/10.1057/9780230378780_3
[80] Pokharel, R. (1970). Development of community infrastructure through community forestry funds: What infrastructure gets priority?. Banko Janakari, 20(1), 44-50. https://doi.org/10.3126/banko.v20i1.3508
[81] Saeed, M. K., Ho, V., & Erickson, K. F. (2020). Consolidation in dialysis markets—causes, consequences, and the role of policy. Seminars in Dialysis, 33, 90 - 99. https://doi.org/10.1111/sdi.12855
[82] Ssekiziyivu, B., Bananuka, J., Nabeta, I. N., & Tumwebaze, Z. (2018). Borrowers characteristics, credit terms and loan repayment performance among clients of microfinance institutions (mfis): Evidence from rural uganda. Journal of economics and international finance, 10, 1-10. https://doi.org/10.5897/JEIF2017.0848
[83] Trezentos, P. (2010). Open source - the linux caixa mágica model. Proceedings of the Workshop on Open Source and Design of Communication. https://doi.org/10.1145/1936755.1936781
[84] x, M., & Singh, P. (2026). Tangible service quality and customer satisfaction in quick commerce applications: Empirical evidence from haryana. International Journal of Science and Research (IJSR), 1501-1503. https://doi.org/10.21275/sr26123070729
[85] (2010). Product optimization design based on user needs. International Conference on Optimization Design (ICOD 2010). https://doi.org/10.1115/1.859582.paper62
[86] (2012). Social movement struggles for public services. Alternatives to Privatization. https://doi.org/10.4324/9780203147061-13
[87] (2013). Ict-oriented smart-management of supply chain for organic agricultural products in asia. ICT-oriented Smart Management of Supply Chain for Organic Agricultural Products in Asia. https://doi.org/10.56669/levp2397
[88] (2015). Organic growth versus merger and acquisition. Managing Growth and Expansion into Global Markets. https://doi.org/10.1201/b18934-7
[89] (2018). Failure mode and effects analysis. Guidelines for Process Hazards Analysis (PHA, HAZOP), Hazards Identification, and Risk Analysis. https://doi.org/10.1201/9781315220376-9
[90] (2021). Platform labour in contemporary capitalism. Work and Labour Relations in Global Platform Capitalism, 28-28. https://doi.org/10.4337/9781802205138.00008
[91] Bagchi, A. (2022). The metamorphosis of private healthcare. Healthcare in Post-Independence India. https://doi.org/10.4324/9781003169475-6
[92] Banevičienė$$, A. (2025). EU MERGER CONTROL: HEALTHCARE MARKET ISSUES. 27th Annual International Conference ECONOMIC COMPETITIVENESS AND SUSTAINABILITY 2025 PROCEEDINGS. https://doi.org/10.11118/978-80-7701-047-4-0016
[93] Ellingsen, T. (1997). Price signals quality: The case of perfectly inelastic demand. International Journal of Industrial Organization, 16(1), 43-61. https://doi.org/10.1016/s0167-7187(96)01040-5
[94] Garber, A., Jones, C., & Romer, P. (2006). Insurance and incentives for medical innovation. https://doi.org/10.3386/w12080
[95] Hicks, J. (2020). Community enterprise: Diverse designs for community-owned energy infrastructure. The Handbook of Diverse Economies. https://doi.org/10.4337/9781788119962.00013
[96] Jha, V. (2008). Peritoneal dialysis in india: Current status and challenges. Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis, 28(3_suppl), 36-41. https://doi.org/10.1177/089686080802803s08
[97] Kaabi, S. A., Varughese, B., & Singh, R. (2022). Public and private healthcare system in terms of both quality and cost: A review. JOURNAL OF CLINICAL AND DIAGNOSTIC RESEARCH. https://doi.org/10.7860/jcdr/2022/55387.16742
[98] Marie, A. (2015). 9. healthcare business performance – control mechanisms. Healthcare. https://doi.org/10.1515/9783110414844-010
[99] Minto, J. (2024). THE SOCIOECONOMIC IMPACT OF CHINESE INFRASTRUCTURE INVESTMENTS IN JAMAICA:. Connecting China, Latin America, and the Caribbean. https://doi.org/10.2307/jj.13944248.14
[100] Rothgang, H., Schmid, A., & Wendt, C. (2010). The self-regulatory german healthcare system between growing competition and state hierarchy. The State and Healthcare. https://doi.org/10.1057/9780230292345_6
[101] Singh, C. P., & Shilu, V. M. (2018). Skill efficiency comparison: Government vs private sector. Research Journal of Humanities and Social Sciences, 9(4), 915. https://doi.org/10.5958/2321-5828.2018.00154.7

[102]Spence, M. (1984). Cost reduction, competition, and industry performance. Econometrica, 52(1), 101. https://doi.org/10.2307/1911463
[103]Vlachantoni, A., Evandrou, M., Falkingham, J., & Qin, M. (2025). Unmet care needs over time:. Care Poverty and Unmet Needs. https://doi.org/10.2307/jj.18323771.10
[104](1996). Theory of market efficiency. Between the Dollar-Sterling Gold Points. https://doi.org/10.1017/cbo9780511559723.013
[105](2020). Creative environments. Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship. https://doi.org/10.1007/978-3-319-15347-6_300263
[106](2020). The questions of profit maximization. Moral Case for Profit Maximization, 11-36. https://doi.org/10.5040/9781978736474.ch-001
[107](Mary) Tai, H. Y., & Chang, Y. P. (2022). Coverage of advanced treatments and medical devices. Digital Health Care in Taiwan. https://doi.org/10.1007/978-3-031-05160-9_9
[108]Amani, N., & Amrollahi, M. (2026). Bim-based cost optimization through optimum analytic for clash root cause detection in hospital building facilities management. Facilities, 44(1-2), 1-26. https://doi.org/10.1108/f-11-2024-0153
[109]Barth, C. (2010). Quality assurance in dialysis in germany. Dialysis & Transplantation, 39(9), 404-405. https://doi.org/10.1002/dat.20479
[110]Charytan, C. (2010). Bundled-rate legislation for medicare reimbursement for dialysis services. Clinical Journal of the American Society of Nephrology, 5(12), 2355-2362. https://doi.org/10.2215/cjn.04820610
[111]Ito, M. (2017). MP567PERITONEAL DIALYSIS AND HEMODIALYSIS; a SURVIVAL COMPARISON IN THE OLDEST-OLD PATIENTS IN JAPAN. Nephrology Dialysis Transplantation, 32(suppl_3), iii638-iii638. https://doi.org/10.1093/ndt/gfx176.mp567
[112]Mettang, T. (2004). Changes in dialysis reimbursement regulations in germany. Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis, 24(6), 526-527. https://doi.org/10.1177/089686080402400609
[113]Reaves, A. C. (2025). An ever-changing landscape: Medicare reimbursement of dialysis care. Kidney News, 17(9), 13. https://doi.org/10.62716/kn.001252025
[114]Uchino, J., & Kawasaki, T. (2009). Purification of dialysis water in the central dialysis fluid delivery system in japan: A prospective observation study. Blood Purification, 27(Suppl. 1), 64-69. https://doi.org/10.1159/000213500
[115]Vikrant, S. (2014). Long-term clinical outcomes of peritoneal dialysis patients: 9-year experience of a single center from north india. Peritoneal Dialysis International: Journal of the International Society for Peritoneal Dialysis, 34(4), 426-433. https://doi.org/10.3747/pdi.2013.00050
[116]Yang, W. C., & Hwang, S. J. (2008). Incidence, prevalence and mortality trends of dialysis end-stage renal disease in taiwan from 1990 to 2001: The impact of national health insurance. Nephrology Dialysis Transplantation, 23(12), 3977-3982. https://doi.org/10.1093/ndt/gfn406