REVOLUTIONIZING PATIENT ACCESS: DEVELOPMENT OF VALUE-BASED PRICING MODELS FOR BIOPHARMACEUTICALS IN EMERGING MARKETS

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfillment for the award of the degree of

Master of Business Administration (MBA)

in

Pharmaceutical Management

by

Manore Vaibhavi Anant

Under the Supervision and Guidance of

Dr. Saurabh Kumar

2025

B – BLACK BELT BRAND BUILDERS

CERTIFICATE

*This is to certify that **Vaibhavi Manore** in partial fulfillment of the requirements for the award of the degree of MBA (Pharmaceutical Management) from the IIHMR University, Jaipur has successfully completed her internship at B Black Belt Brand Builders during March 10 - May 31, 2025.*

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CERTIFICATE

This is to certify that the dissertation title **'Revolutionizing Patient Access: Development of Value-Based Pricing Models for Biopharmaceuticals in Emerging Markets'** is a record of the research work undertaken by Vaibhavi Anant Manore in partial fulfilment of the requirements for the award of the degree of MBA- Pharmaceutical Management from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide
IIHMR University, Jaipur
Date: 16.06.2025

School Dean
IIHMR University, Jaipur
Date: 16.06.2025

Declaration by Student

I hereby declare that this dissertation titled **REVOLUTIONIZING PATIENT ACCESS: DEVELOPMENT OF VALUE-BASED PRICING MODELS FOR BIOPHARMACEUTICALS IN EMERGING MARKETS** is the Bonafide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Name: Vaibhavi Manore

Date: 30th May 2025

Abstract

Title:
Revolutionizing Patient Access: Development of Value-Based Pricing Models for Biopharmaceuticals in Emerging Markets

Author Name: Vaibhavi Manore

Advisor Name: Dr. Saurabh Kumar Banerjee

Background:
Health systems in emerging markets are under tremendous strain due to the rising prevalence of chronic and non-communicable diseases as well as the emergence of expensive biopharmaceuticals. Despite providing previously unheard-of clinical results, biologics and advanced therapies are still out of reach for a significant segment of the population because of financial and accessibility issues. The therapeutic and economic value of pharmaceuticals is frequently not reflected by traditional pricing models like cost-plus pricing, external reference pricing and negotiated pricing, which results in inefficient healthcare financing and unequal patient access.

This study explores the potential of value-based pricing (VBP) models as a strategic alternative to improve access and affordability of biopharmaceuticals in low- and middle-income countries (LMICs). VBP aligns a drug's price with the actual clinical benefits and health outcomes it delivers, offering a pathway to balance innovation with affordability. While widely explored in developed markets, its applicability and feasibility in emerging markets remain under-researched.

Objective:
The primary objective of this dissertation is to evaluate the feasibility, challenges, and potential strategies for implementing VBP in emerging markets, focusing on stakeholder perspectives, infrastructure readiness, and policy gaps.

Specific goals include:

Assessing the awareness and readiness of key healthcare stakeholders (payers, policymakers, providers).

Identifying barriers such as lack of health technology assessment (HTA), limited real-world data (RWD), and regulatory constraints.

Proposing a strategic roadmap for phased implementation of VBP in emerging market settings.

Methodology: **Study design**: Descriptive study design because the study helps to identify the consumer perception on VBP models.

The data was collected from 50 customers by using a questionnaire in a structured manner, face to face interview and google forms.

Duration of the study: The study will be completed in 3 months (March-June 2025)

Sampling size: 57

Data was collected with the help of face to face interview, questionnaire.

Primary data was collected via an online structured survey (n=57) and Stakeholders included healthcare policymakers, payers, hospital administrators, and providers.

Secondary data was obtained from peer-reviewed journals, WHO and OECD publications, IQVIA reports, and national policy documents.

Quantitative data was analyzed using Excel. Pivot table was used for the analysis in excel.

Formulas were used to calculate the data.

Pie charts and bar charts are used for graphical representation.

Results / Key Findings:

65% of respondents were aware of the VBP concept, with the majority agreeing on its theoretical appeal but citing practical challenges in implementation.

Major barriers identified include lack of Health Technology Assessment (HTA) institutions (25%), limited real-world data infrastructure (35%), and regulatory constraints (20%).

Stakeholders expressed high interest in piloting VBP initiatives, particularly for high-cost disease areas such as oncology and rare diseases.

Conclusion:

Value-based pricing offers a promising framework for balancing affordability, access, and innovation in emerging markets, but its adoption is not without challenges. The study concludes that while VBP is conceptually supported by stakeholders, successful implementation will require foundational reforms including:

Establishment of HTA bodies

Investment in health data infrastructure

Development of legal frameworks for risk-sharing agreements

Multisectoral stakeholder collaboration

By tailoring VBP models to the economic and institutional realities of LMICs, governments and healthcare systems can gradually transition toward outcome-based drug pricing that enhances patient access while supporting sustainable innovation.

Keywords:
Biopharmaceuticals, Value-Based Pricing, Health Technology Assessment (HTA), Emerging Markets, Patient Access, Healthcare Affordability, Real-World Evidence (RWE), Pharmaceutical Economics, Innovation, Outcome-Based Reimbursement

ACKNOWLEDGEMENT

I want to express my sincere gratitude to all those who have supported me through the journey of completing the thesis titled **"Revolutionizing Patient Access: Development of Value-Based Pricing Models for Biopharmaceuticals in Emerging Markets."**
First and foremost, I extend my sincere thanks to **"B-Black Belt Brand Builders"** for giving me the opportunity to intern with their esteemed organization and for granting access to valuable institutional data and on-ground insights.
I am deeply thankful to my guide, **VIVEK HATTANGADI SIR,** for their constant encouragement, timely feedback, and insightful suggestions that greatly enhanced the quality and clarity of this work.
My sincere thanks to the **Dr. SAURABH KUMAR BANERJEE/IIHMR UNIVERSITY]**, who have enriched my academic knowledge and equipped me with the skills required to undertake this research.
I also express my appreciation to the **doctors, patients, policymakers, marketing team members, and referring practitioners** who participated in the survey and shared their time, perspectives, and experiences, which became the foundation of this research.
Finally, I am grateful to my **friends and family** for their unconditional support, patience, motivation during this academic endeavour.
This work would not have been possible without the contributions of each of the above individuals, and I remain deeply indebted to them all.

Thankyou
Sincerely,

Vaibhavi Manore
Roll no: 0525,
PM15

Index,

CHAPTER 1:

Introduction

Biopharmaceuticals, also known as biologics, are cutting-edge medications created by biological and biotechnological methods. Biopharmaceuticals, as opposed to conventional small-molecule medications, encompass a broad spectrum of treatments, including gene therapies, recombinant proteins, vaccines, and gene therapies. The treatment of numerous chronic and fatal diseases such as cancer, autoimmune disorders, and rare genetic conditions has undergone significant change as a result of these cutting-edge therapies. However, despite their therapeutic advantages, biopharmaceuticals are very expensive to produce and develop, which severely restricts their affordability, particularly in environments with limited resources.

In the global pharmaceutical landscape, India has established itself as an emerging leader in the development and commercialization of biosimilars. Biosimilars are highly similar to already approved biologic therapies, offering comparable efficacy and safety at significantly lower costs. They have become a vital tool for improving access to biologics in resource-limited settings. Recognizing their strategic potential, several Indian companies have heavily invested in biosimilar R&D and manufacturing capabilities to capture both domestic and international markets.

Global healthcare spending has increased in tandem with rise of biopharmaceuticals. High-income nations frequently used established insurance plans and reimbursements structures to offset these expense, but low and middle income nations (LMICs) circumstances are very different. The expense of biologics frequently prevents the majority of the population from accessing them in these economies, where public healthcare financing is scarce and out-of-pocket expenditures the norm. These are serious ethical, public health, and policy issues raised by this injustice that require immediate action.

Two examples of conventional pricing that usually fail to fully capture the clinical and societal value of biopharmaceuticals drugs are cost-plus and reference pricing. Real improvements in patient health outcomes, reductions in the burden of disease, and long-term savings to the healthcare systems are not taken into account by these models. As a result, Value-Based Pricing (VBP), a pricing method that connects a drug's price to the value it provides, is becoming more and more popular worldwide.

Prescription prices under value-based pricing models are determined by health outcomes such as improved quality of life, reduced hospitalizations, and increased survival rates. Countries like Sweden, the UK, and Canada that have strongly Health Technology Assessment (HTA) systems have begun using VBP as part of more extensive pharmaceutical payment programs. These models often use measures like Quality-Adjusted-Life-Years (QALYs) and cost effectiveness thresholds to assess value. However robust data systems, institutional capacity and stakeholder aligment are necessary for the successful implementation of such models- all of which are commonly lacking in LMICs.

There are opportunities as well as hurdles for the implementation of VBP in emerging markets. The main obstacles are fragmented healthcare data systems, insufficient regulatory frameworks, a lack of standardise HTA procedures and a lack of Real-world proof. The progressive incorporation of value-based models can be facilitated by these same markets

growing emphasis on universal health coverage (UHC), restructuring health financing systems, and implementing digital health tools. Additionally alternative pricing strategies that guarantee market sustainability and accessibility are attracting the attention of pharmaceutical businesses.

With the emphasis on patient access to biopharmaceuticals, this dissertation attempts to assess the current environment, obstacles and facilitators for implementing VBP in emerging countries. The study aims to create flexible policy frameworks for LMICs by combining secondary analysis of the international case studies with primary research from stakeholders such as payers, healthcare providers and policymakers.

The importance of this research is in its potential to inform evidence-based pricing reform in emerging economies is what makes it significant. In the post-pandemic era, where healthcare equity and system sustainability have become top goals, value-based pricing offers a possible way. In addition to filling gaps in academic literature the study also provides actionable insights for policymakers and industry leaders seeking to balance affordability, accessibility, and innovation.

Among the frontrunners is Biocon Biologics, which has developed a robust pipeline of biosimilars targeting chronic diseases. Its portfolio includes biosimilars for Trastuzumab (used in breast cancer), Insulin Glargine (for diabetes), Bevacizumab (for various cancers), and Adalimumab (for rheumatoid arthritis). Biocon has also partnered with global firms like Mylan and Viatris to expand global access.

Similarly, Intas Pharmaceuticals has gained recognition for its early success in biosimilars, especially in Europe. The company manufactures biosimilars for Rituximab, Filgrastim, Pegfilgrastim, and Trastuzumab, among others, and has become a key exporter to regulated markets.

Lupin, Dr. Reddy's Laboratories, and Zydus Lifesciences are also ramping up their biosimilar portfolios. Lupin is working on biosimilars for Etanercept and Pegfilgrastim. Dr. Reddy's is developing biosimilars for oncology and immunology indications, while Zydus has launched Adalimumab (Exemptia) in India and is progressing with global regulatory filings.

The growing dominance of Indian pharmaceutical companies in biosimilars not only enhances global affordability but also aligns with the principles of value-based healthcare, where cost-effectiveness and broad accessibility are prioritized. Biosimilars thus play a central role in shaping a more equitable drug pricing landscape, particularly in emerging markets where traditional biologics remain out of reach for many patients.

Top Biosimilars in India (by therapeutic relevance and production):

1. **Trastuzumab** – breast cancer (Biocon, Intas, Hetero)
2. **Bevacizumab** – colorectal/lung cancers (Biocon, Dr. Reddy's, Hetero)
3. **Adalimumab** – rheumatoid arthritis, psoriasis (Zydus, Biocon, Cadila)
4. **Rituximab** – lymphomas, autoimmune diseases (Intas, Dr. Reddy's, Hetero)
5. **Pegfilgrastim** – neutropenia (Intas, Lupin, Zydus)
6. **Filgrastim** – chemotherapy-induced neutropenia (Intas, Alkem, Reliance)
7. **Insulin Glargine** – diabetes (Biocon, Wockhardt)

8. **Etanercept** – rheumatoid arthritis (Lupin)
9. **Erythropoietin** – anemia in chronic kidney disease (Zydus, Reliance, Alkem)
10. **Ranibizumab** – macular degeneration (Lupin – pipeline)

Ancillary Industry Development through Biopharmaceutical Expansion:

The increased adoption of biopharmaceuticals and biosimilars not only improves therapeutic access but also stimulates growth in ancillary healthcare industries. One such example is the prefilled syringe (PFS) industry, which is gaining momentum due to the shift from hospital-based intravenous infusions to self-administered, home-based treatments. Prefilled syringes offer advantages in terms of dosing accuracy, safety, and convenience, making them a preferred delivery method for biologics in value-based care models.

A notable example is Kaisha Lifesciences, a TATA-backed company that manufactures pre-sterilized syringes and related injectable systems. The company has become a key partner in the biosimilar ecosystem, supplying high-quality delivery systems that align with global regulatory standards. As the demand for subcutaneous biologics grows—particularly in chronic therapy areas like diabetes, rheumatoid arthritis, and oncology—the prefilled syringe industry is expected to scale rapidly, creating new employment opportunities and boosting India's medtech manufacturing sector.

Thus, value-based pricing and increased biosimilar use can drive a ripple effect, fostering innovation and industrial expansion beyond pharmaceuticals—reinforcing the case for government and private investment in the broader healthcare ecosystem.

CHAPTER 2

Objective

The main research issue is it aims to address and the stepwise strategy for carrying out the study. Because value-based pricing (VBP) in healthcare is multifaceted and intricate, especially in emerging markets this chapter provides the framework for directing the subsequent study methods and data gathering procedures.

Objectives of the Research Study

Examining how value based pricing (VBP) models can be created and implemented in developing nations to increase patient access to biopharmaceuticals while preserving economic viability and promoting innovation is the main goal of this dissertation.

Specific Objectives:

1. To evaluate the present state of biopharmaceuticals availability and pricing in a few chosen emerging markets, with an emphasis on affordability, reimbursement policies, and healthcare finance arrangements.
2. To determine the main factors that facilitate and hinder the adoption of value based pricing models in low and middle income (LMICs)nations including obstacles pertaining to stakeholders, infrastructure and regulations.
3. To access how stakeholders- payers, legislators and providers perceive the viability dangers and advantages of implementing VBP in their own healthcare systems.
4. To use case study evidence and stakeholder data to analyze how VBP affets patient access, affordability and health outcomes.
5. To create flexible framework and policy suggestions based on both primary research and international best practises that can facilitate the gradual incorporation of VBP in emerging economies.

Research Question

The central research question driving this study is:

"How can value-based pricing models improve affordability and sustainable patient access to biopharmaceuticals in emerging markets?"

This question is backed up by a series of follow up inqueries intended to go deeper into the research thoroughly:

- What systemic and structural obstacles prevent VBP from being adopted in LMICs?
- Which value based pricing models such as outcomes based indication specific and tiered are best suited for situations in emerging markets?
- What are the advantages and disadvantages of switching from conventional pricing methods to VBP, according to stakeholders in various roles?
- What are the institutional, financial and legal requirements for implementing VBP in health systems with limited resources?

CHAPTER 3

Review of Literature

The study titled "Unrevealing elements of value-based pricing from a pharmaceutical industry's perspective" gives a summary of the various methods that pharmaceutical companies have used to implement VBP. It understands the key factors that affect VBP strategies, including cost-effectiveness, clinical efficacy, market conditions, patient outcomes, and regulatory considerations. The study focuses on a thorough understanding of the components necessary to align drug prices with the advantages they provide to the patients and healthcare systems.

The article titled "Value-based pricing for advanced therapy medicinal products: emerging affordability solutions" by Elisabete Gonçalves explains how it is difficult to use conventional methods to evaluate advanced therapeutic medical products such as gene and cell therapies. Because of their premium price and possible long terms benefits, ATMPs have serious accessibility and affordability problems. Value based pricing (VBP) strategies that take into account more comprehensive value assessment, such as long-term social disadvantages are discussed in the paper. In order to understand risks and guarantee long-term access to these treatments, the significance of creative financial strategies-such as managed entry agreements and outcome based payment arrangements-is also emphasized.

The article titled "PHP81 - Biosimilar and Originator Biologic Pricing Dynamics in Emerging Markets" is aware that, in emerging markets, biologics and biosimilars have different prices. The study claims that biosimilars are 30% less expensive than biologics, with some cases showing savings of up to 60%. Pricing strategies have an effect on healthcare affordability and market competition in these regions.

The article titled "Implementation of Value-based Pricing for Medicines" by Claudio Jommi et al. explains how the VBP strategies are being adopted by the pharmaceutical industry. It highlights how crucial it is to match the cost of medications to their therapeutic value and results. The paper highlights the necessity of comprehensive assessments of health technologies and empirical data in order to advance VBP models and achieve a balance between innovation incentives and healthcare affordability.

The article titled "Value-based differential pricing: efficient prices for drugs in a global context" by Patricia Danzon, Adrian Towse, and Jorge Mestre-Ferrandiz talks on the concept behind Value-based differential pricing (VBDP) in the pharmaceutical sector. Considering things like healthcare systems and income levels, it helps determine medicine pricing based on the value they offer different countries. The writers contend that while increasing access to drugs globally, VBDP can help to foster equity and efficiency in drug pricing.

The study by Ravaghi et al. (2024) provides a nuanced review of various pharmaceutical pricing models, shows how ineffective no one strategy is in every situation. After careful analysis, the writers find six different models: value-based pricing, cost-based models, more intricate financial frameworks including the real option rate of return strategy, and more so. Every model brings special advantages and disadvantages. Value-based pricing is still becoming popular, particularly in rewarding innovations, but the study emphasizes that its application has to be tailored to particular therapeutic areas, market conditions, and the capacity of the healthcare system. The writers contend that pricing policies should be flexible, open, and developed in concert with stakeholders if patient access and innovation are balanced in the fast changing pharmaceutical industry.

The article "Factors Influencing Pharmaceutical Pricing – A Scoping Review of Academic Literature in Health Science" by Borges dos Santos et al. (2019) methodically searches gray and scholarly literature to pinpoint important influences on drug pricing. The review divides these elements into five thematic clusters: supply-related factors (such as production costs and manufacturing complexity), consumer related factors (such as patient preferences and demand elasticity), product-related factors (such therapeutic value and innovation level), buyer-seller trading strategies (such as market segmentation and negotiation tactics), and regulatory approaches (such as price controls and reimbursement policies). The paper claims that many issues still exist even with the increasing amount of studies on pharmaceutical pricing, especially with relation to the effects of financing programs, marks liberalization, online trading, and biosimilars on drug prices.

The literature review in the article "Pharmaceutical pricing in emerging markets: effects of income, competition, and procurement" by Danzon, Mulcahy, and Towse (2015) investigates the various elements that affect drug prices in developing nations. The authors examine the effects of several factors on drug prices including market competition, procurement tactics, and national income levels. They draw attention to the problem of affordability in low-and-middle income nations, where the cost of pharmaceuticals frequently exceeds income. The effectiveness of centralized procurement procedures, the influence of generic competition and the function of global reference pricing are all discussed in the review. In order to improve access, the authors stress the necessity of customized pricing and procurement policies that take into account the distinct healthcare and economic contexts of developing nations.

Challenges in Adopting VBP in Emerging Markets

Despite VBPs demonstrated advantages, there are several obstacles to its adoption in LMICs:

- **Weak HTA Infrastructure:** a key component of VBP, centralized organizations for health technology assessment are absent from the majority of emerging economies.
- **Limited Real-World Data (RWD):** Outcome tracking is hampered by inadequate electronic health records, disjointed hospital systems, and a lack of data analytics capabilities.
- **Regulatory Ambiguity:** Because outcome linked pricing lacks a legal foundations, current pricing rules in LMICs frequently rely o cost plus or reference models.
- **Healthcare Financing Barriers:** Because of their low insurance penetration and heavy reliance on out of pocket expenses, many LMICs find it challenging to implement outcome based reimbursement systems.
- **Stakeholder Resistance:** Because of lack of trust or unclear responsibility doctors, payers and pharmaceutical corporation may be wary of risk sharing.

A 2021 report by the OECD emphasizes that successful VBP implementation depends on data standardization, transparent negotiation frameworks, and strong payer-provider collaboration.

Gaps in the Literature

A review of academic journals, policy reports, and case studies reveals several gaps:

1. **Lack of empirical data** on VBP application in LMICs.
2. **Minimal studies on stakeholder readiness** for VBP in emerging economies.
3. **No standard framework** for adapting VBP to fragmented healthcare systems.
4. **Scarcity of implementation research**—few studies have tracked pilot outcomes or long-term cost savings from VBP in LMIC contexts.

Summary

While developed markets offer rich insights into VBP design and execution, emerging economies require localized models adapted to their economic, regulatory, and infrastructural realities. This review highlights both the potential and limitations of applying value-based pricing in LMICs, setting the stage for the empirical sections of this dissertation.

CHAPTER 4

Methodology

This chapter describes the study's research design, sample strategies, data gathering procedures and ethical considerations. A **mixed-method-approach** was used since value based pricing (VBP) involves multiple stakeholders and healthcare pricing systems are complex. A thorough grasp of systemic and perceptual elements affecting the applications of VBP in emerging markets was guaranteed by this approach.

Research Design

To record both numerical trends and subtle stakeholders insights, a **mixed method exploratory methodology** was chosen:

- **Quantitative Component:** Administrators, payers, legislators, and healthcare professionals participated in a structured online survey.

This method made it possible to triangulate results and encouraged a more thorough evaluate of the findings.

Sample Selection

Population and Sampling Frame

Stakeholders directly or indirectly involved in decisions on pharmaceutical pricing, access or procurement were included in the target population. This included:

- Healthcare professionals (such as doctors and pharmacist)
- Healthcare professionals (such as doctors and pharmacist)
- Health ministry or regulatory body policymakers
- Hospital managers.

Sampling Method

- **Quantitative: Purposive sampling** was used to select participants from emerging market: India.
- **Sample Size:** 57 survey respondents

Collection Methods

Survey

16 closed- ended and Likert scale-based items were included in the structured online survey. It was shared via email lists, LinkedIn and professional networks. Topics covered:

- Knowledge of VBP
- The Perceived viability
- Obstacles to adoption
- Readiness to test outcome-based reimbursement

Data Analysis

Quantitative Analysis

Survey data was entered into Microsoft Excel and analyzed using basic descriptive statistics such as:

- Frequency and percentage distributions
- Results were visualized through bar charts and pie diagrams.

Ethical Considerations

This study closely followed ethical and academic research guidelines:

- **Informed consent:** a consent form and an information sheet were given to each participant it was voluntary to participate
- **Confidentiality:** all information was anonymised and kept in a safe location**.**
- Transcripts and survey files were cleaned of personal information**.**
- **Data use:** Answers were not shared with outside parties and were only utilized for scholarly research**.**

CHAPTER 5:

Results and Discussion

Introduction

It presents the findings from the primary research (surveys and interviews) and integrates them with secondary data and literature. The objective is to understand the readiness, challenges, and opportunities for implementing value-based pricing (VBP) for biopharmaceuticals in emerging markets. The results are organized into **quantitative survey, data themes**, followed by an integrated discussion.

Survey Results: Quantitative Analysis

Respondent Profile

A total of **57 participants** completed the survey:

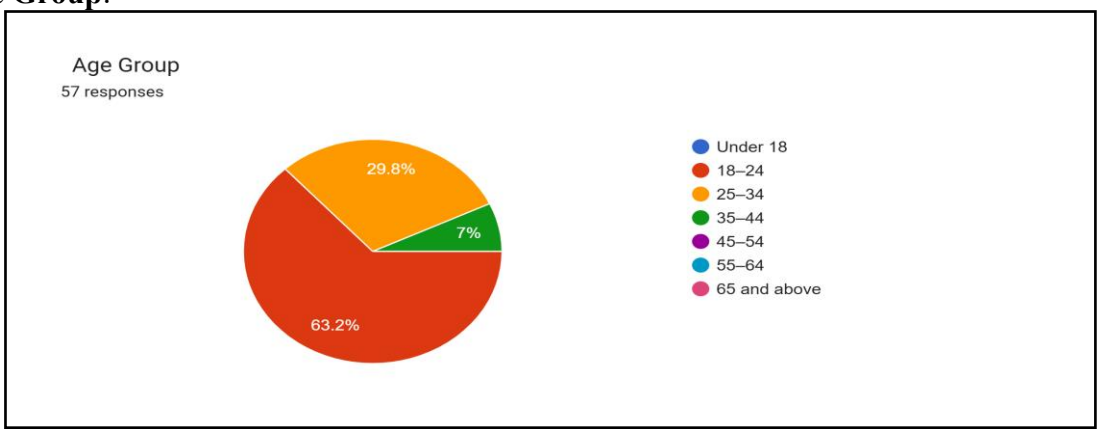
- Healthcare professional (doctor, nurse, pharmacist): 32.1%
- Pharma/Biotech industry professional: 10.7%
- Government/Public Health: 7.1%
- Private Insurance professional: 7.1%
- Researcher/Academician: 42.9%
- Patient or caregiver: 0% (not listed as a separate percentage in the provided chart, implying 0% among the 56 responses for this category)

Here's an analysis of the responses from your Google Form, prepared for your dissertation report:

Respondent Demographics

A total of 57 responses were collected for most demographic questions, with 56 responses for some.

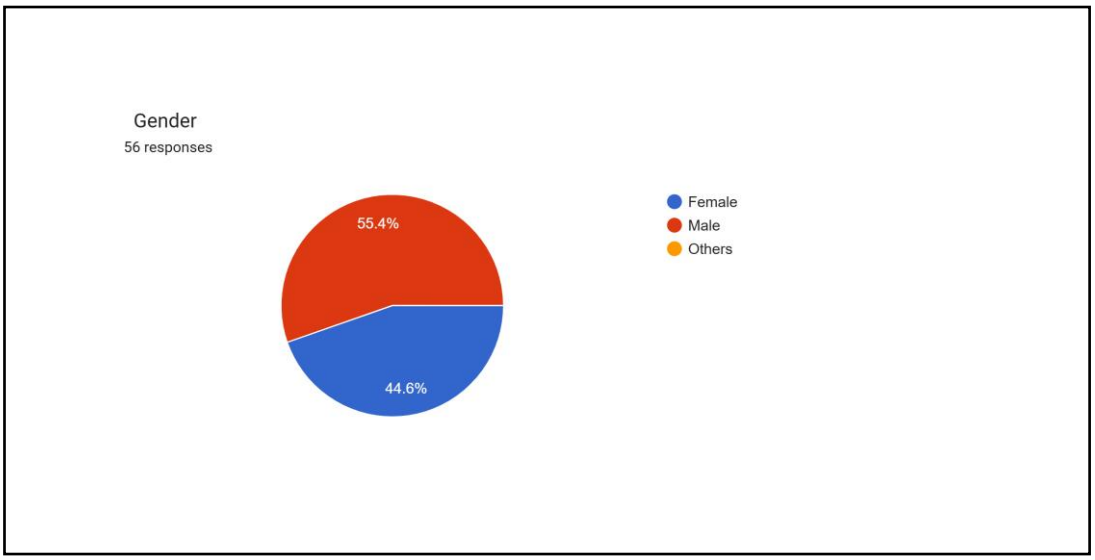
Age Group:



Age Group:

- The largest age group is 25-34 years, constituting for 63.2% of the responses.
- Age group 18-24 constitutes 29.8%
- 75 of the responses were 35-44 years.
- There were no respondents were under 18, 45-54, 55-64, or 65 and above.

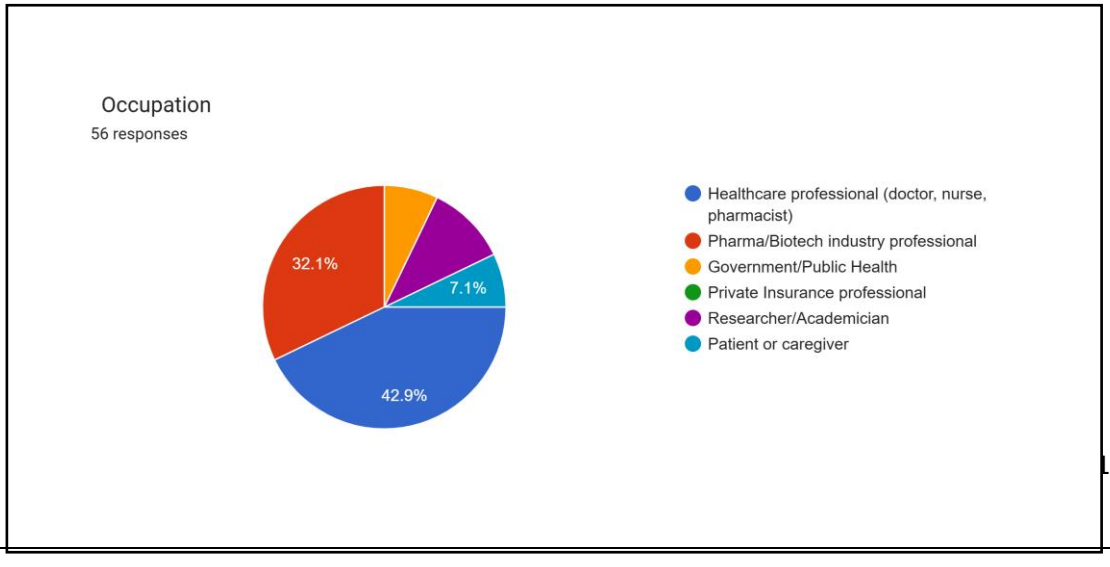
Gender:



Gender:

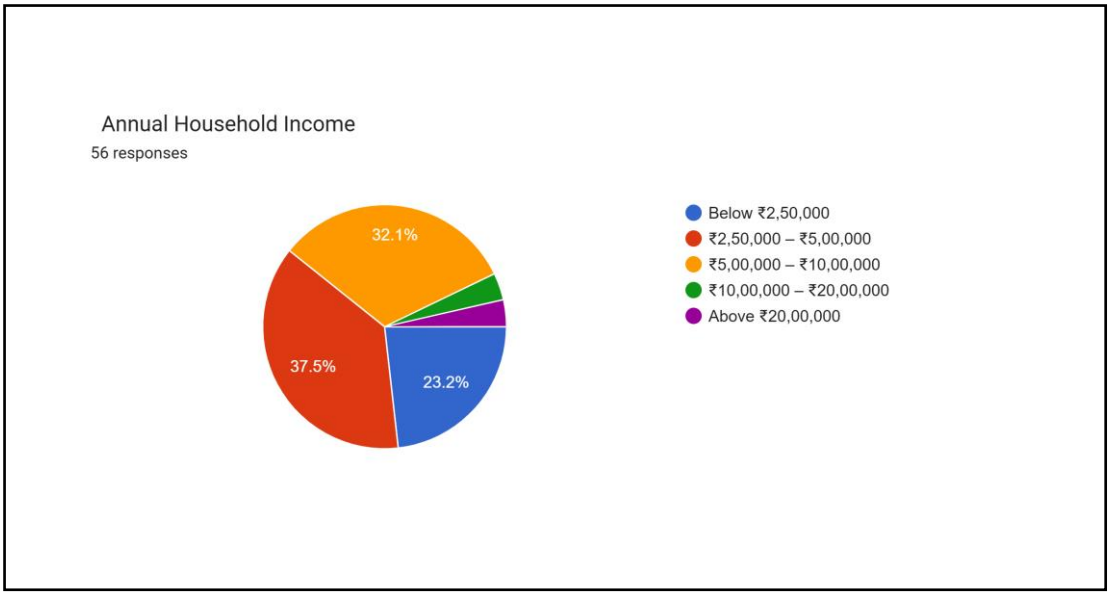
- Female respondents were maximum (55.4%)
- Male responses constitutes 44.6%

Occupation:



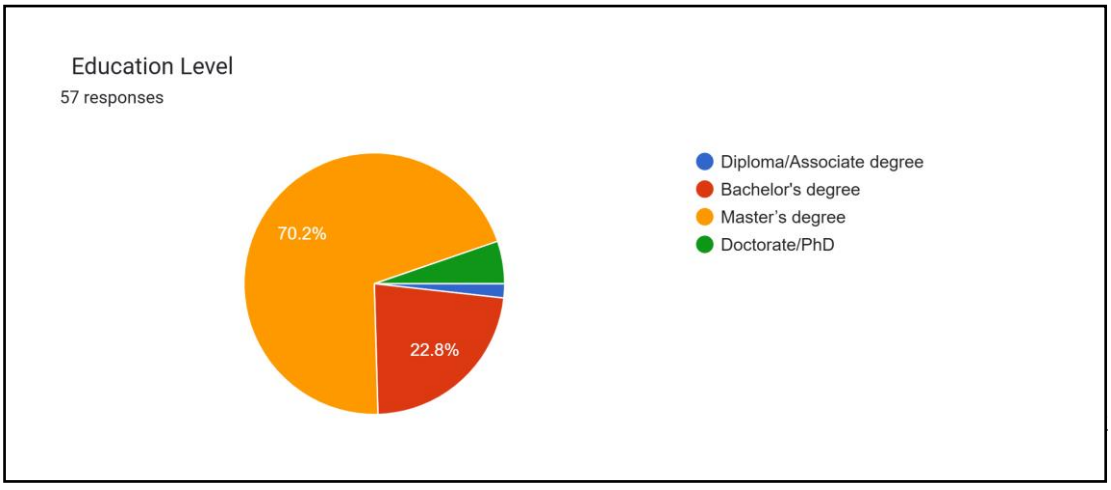
- The maximum respondents (42.9%) were Researchers/Academicians.
- Healthcare professionals (doctors, nurses, pharmacists) made up 32.1% of the responses.
- Pharma/Biotech industry professionals constituted 10.7%.
- Government/Public Health professionals and Private Insurance professionals each represented 7.1%.
- There were no patient or caregiver respondents among the listed occupations.

Annual Household Income:



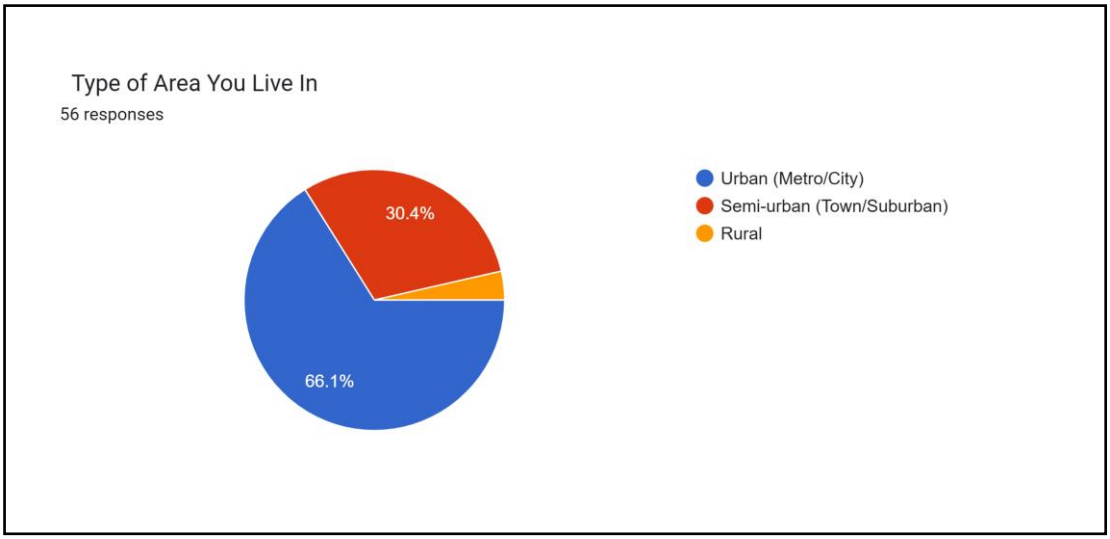
- The maximum respondents (37.5%) reported an annual income between ₹5,00,000-₹10,00,000
- 32.1% of respondents had an income below ₹2,50,000
- 17.9% of respondents fell into the ₹2,50,000-₹5,00,000 bracket
- Only 7.1% earned between ₹10,00,000-₹20,00,000, and 5.4% earned above ₹20,00,000

Education Level:



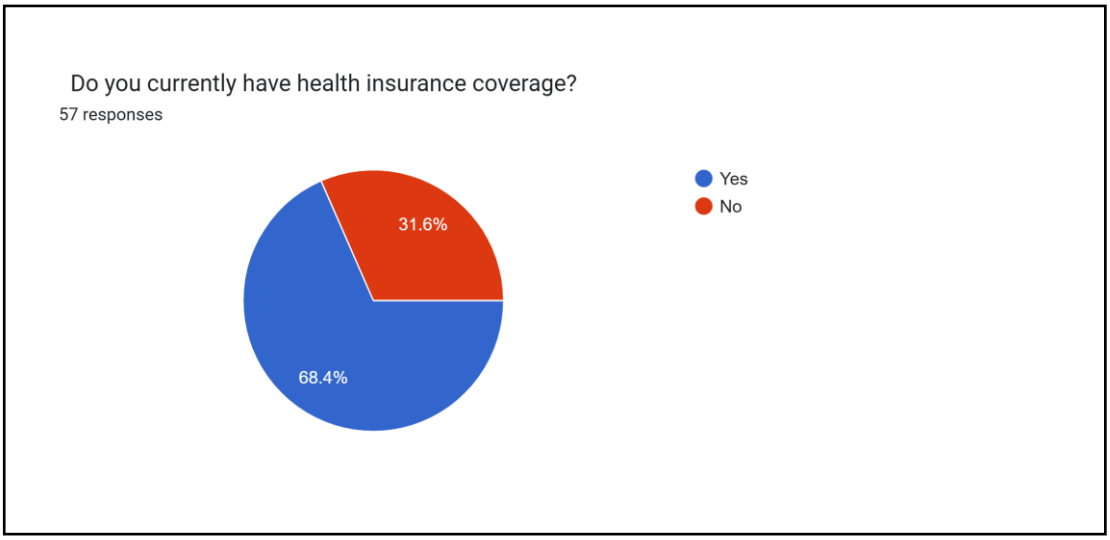
- A majority (70.2%) of respondents held a Master's degree.
- Bachelor's degree holders accounted for 22.8%
- Doctorate/PhD holders made up 5.3% of the respondents
- Only 1.8% had a Diploma/Associate degree.

Type of Area You Live In:



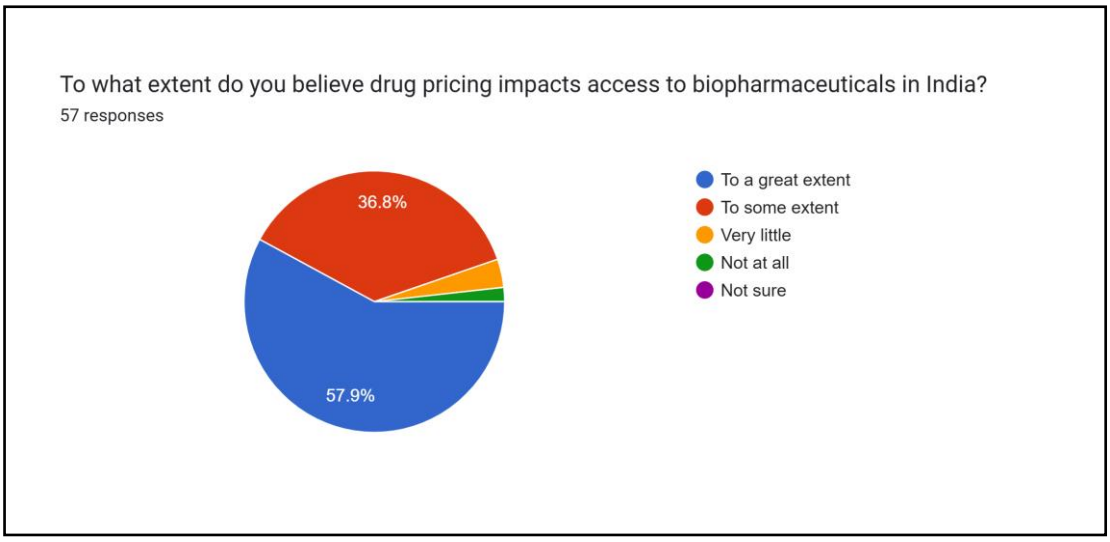
- The majority of respondents (66.1%) live in Urban (Metro/City) areas[cite: 7].
- 30.4% live in Semi-urban (Town/Suburban) areas[cite: 7].
- Only 3.6% reported living in Rural areas[cite: 7].

Health Insurance Coverage



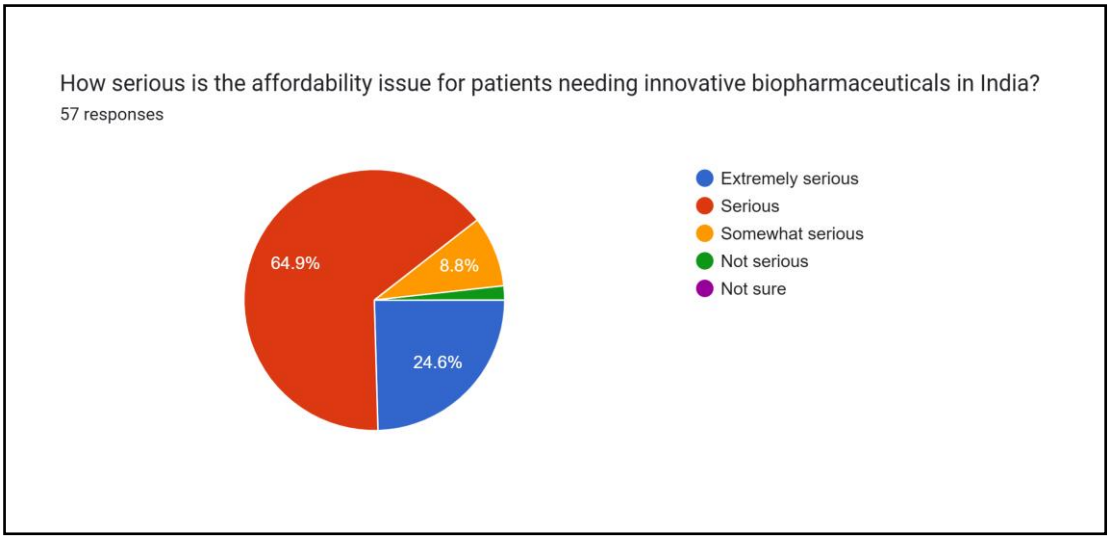
- Do you currently have health insurance coverage?
- 68.4% of respondents indicated that they currently have health insurance coverage
- 31.6% reported not having health insurance coverage

Impact of Drug Pricing and Affordability



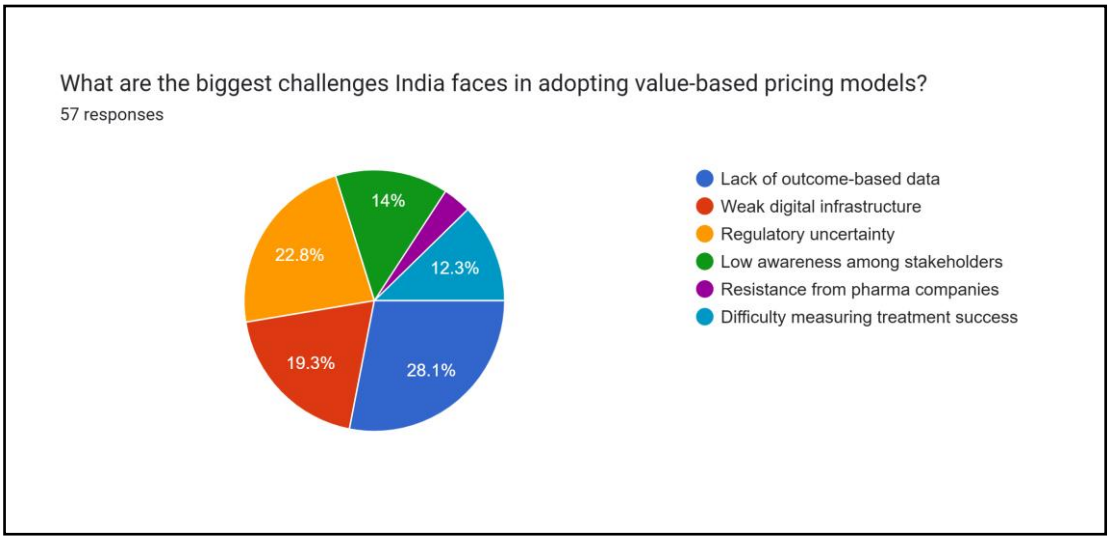
- To what extent do you believe drug pricing impacts access to biopharmaceuticals in India?
- A combined 94.7% of respondents believe drug pricing impacts access to biopharmaceuticals in India to "a great extent" (57.9%) or "to some extent" (36.8%)
- A small percentage (3.5%) believe it has "very little" impact, and 1.8% believe it has "not at all" impact
- No respondents were "not sure"

How serious is the affordability issue for patients needing innovative biopharmaceuticals in India?



- An overwhelming majority (89.5%) consider the affordability issue to be "extremely serious" (24.6%) or "serious" (64.9%)
- 8.8% believe it is "somewhat serious".
- Only 1.8% believe it is "not serious", and no respondents were "not sure"

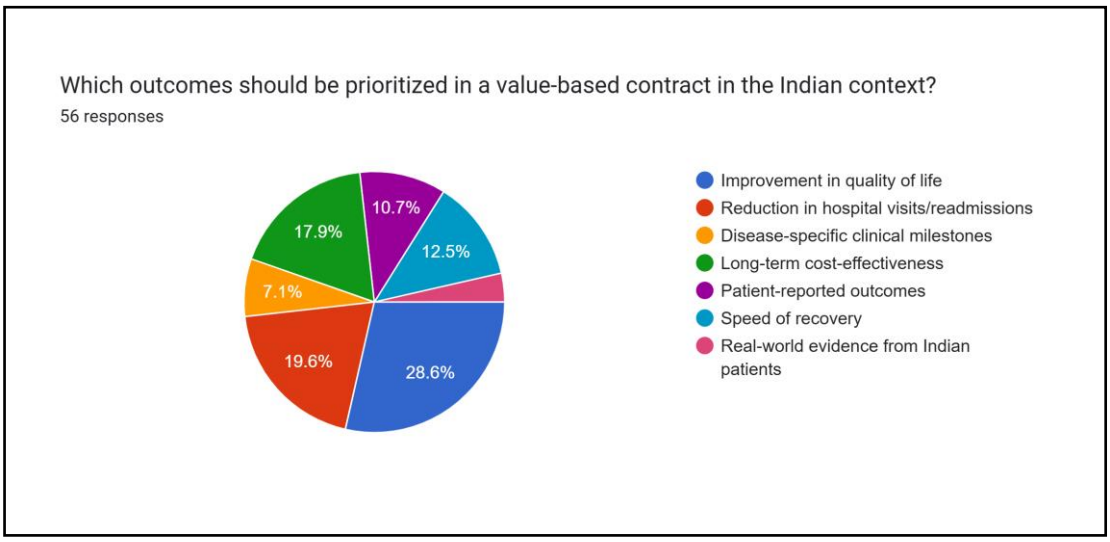
What are the biggest challenges India faces in adopting value-based pricing models?



- The most frequently cited challenge was "Lack of outcome-based data," selected by 28.1% of respondents
- "Regulatory uncertainty" was identified as a major challenge by 22.8%

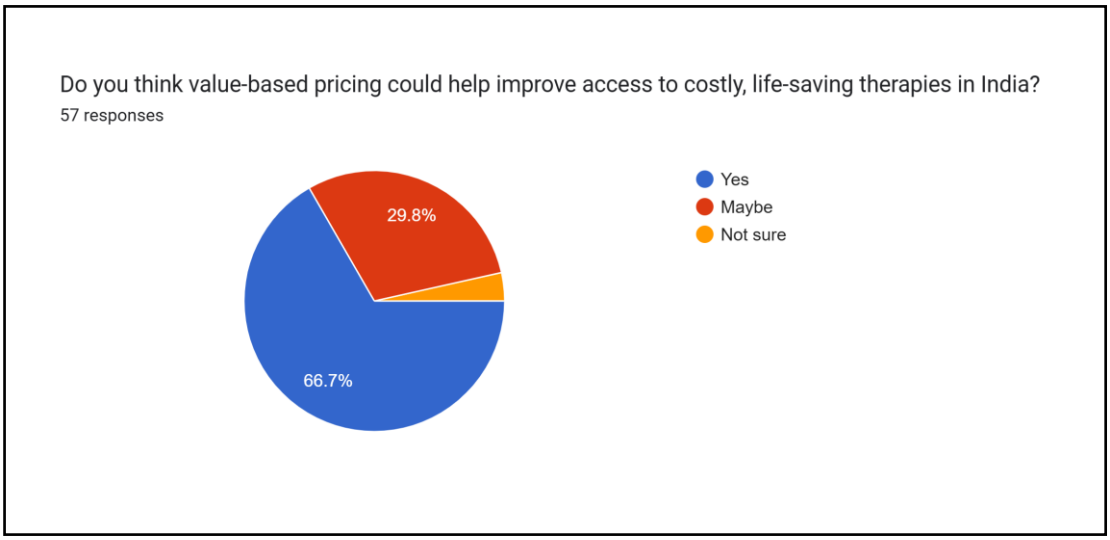
- "Weak digital infrastructure" and "Low awareness among stakeholders" were also significant concerns, with 19.3% and 14% respectively
- "Difficulty measuring treatment success" accounted for 12.3% of responses.
- "Resistance from pharma companies" was the least selected challenge, at 3.5%.

Which outcomes should be prioritized in a value-based contract in the Indian context?



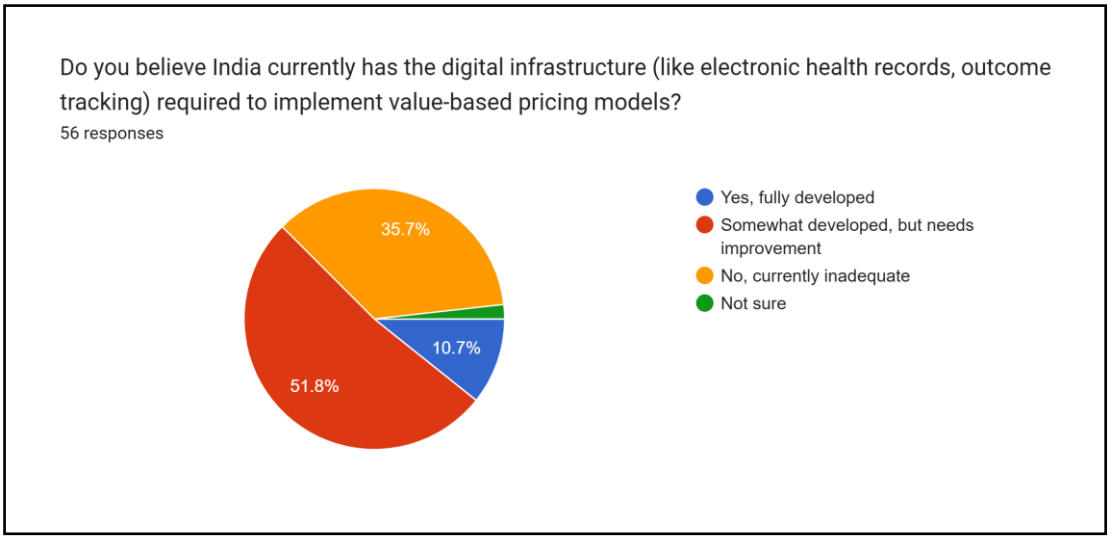
- "Improvement in quality of life" was the most prioritized outcome, with 28.6% of respondents selecting it.
- "Reduction in hospital visits/readmissions" was chosen by 19.6%.
- "Long-term cost-effectiveness" was prioritized by 17.9%.
- "Speed of recovery" and "Real-world evidence from Indian patients" were selected by 12.5% and 10.7% respectively.
- "Disease-specific clinical milestones" and "Patient-reported outcomes" were the least prioritized, each at 7.1%

Do you think value-based pricing could help improve access to costly, life-saving therapies in India?



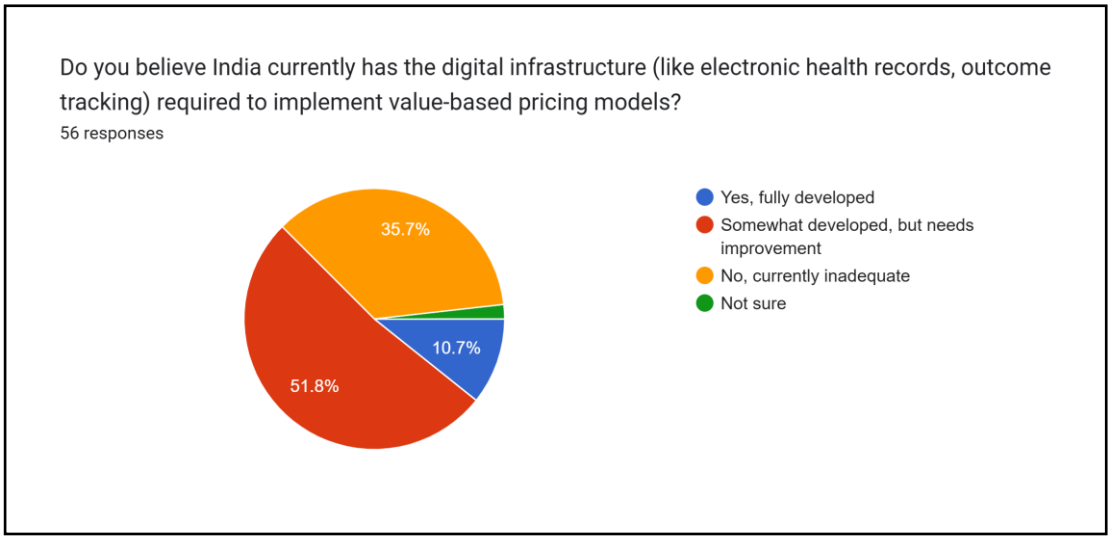
- A significant majority (66.7%) believe that value-based pricing could "Yes" help improve access.
- 29.8% responded "Maybe".
- Only 3.5% were "Not sure".

Do you believe India currently has the digital infrastructure (like electronic health records, outcome tracking) required to implement value-based pricing models?



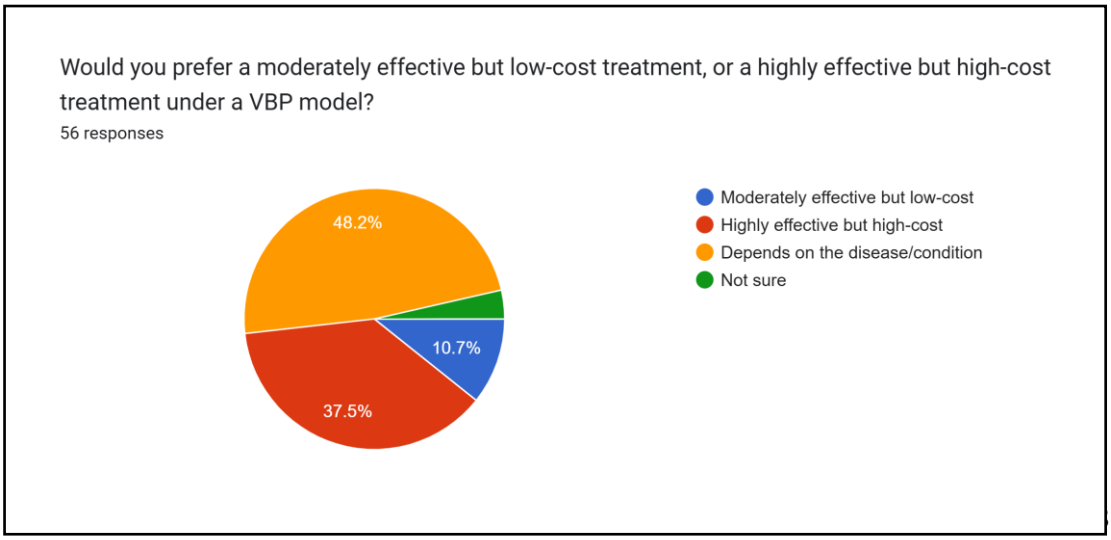
- A combined 87.5% of respondents indicated that India's digital infrastructure is either "Somewhat developed, but needs improvement" (51.8%) or "No, currently inadequate" (35.7%).
- Only 10.7% believe it is "Yes, fully developed".
- 1.8% were "Not sure".

How prepared are Indian pharmaceutical companies to participate in value-based pricing contracts?



- The largest group (43.9%) believes Indian pharmaceutical companies are "Somewhat prepared".
- 36.8% believe they are "Not prepared".
- Only 15.8% believe they are "Very prepared".
- 3.5% were "Not sure".

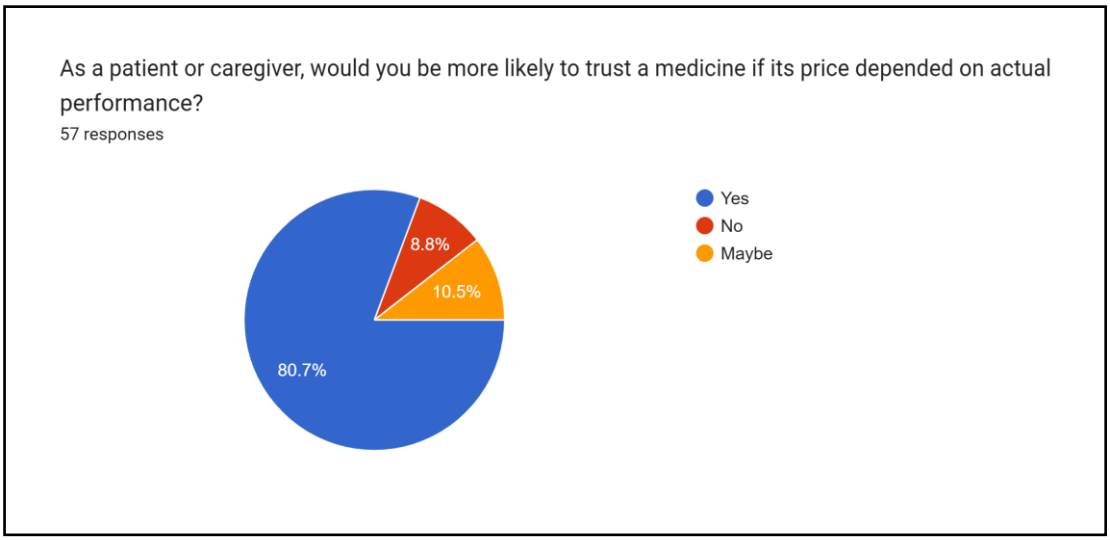
Treatment Preference under VBP



Would you prefer a moderately effective but low-cost treatment, or a highly effective but high-cost treatment under a VBP model?

- Almost half of the respondents (48.2%) indicated that their preference would "Depends on the disease/condition".
- 37.5% would prefer a "Highly effective but high-cost" treatment.
- 10.7% would prefer a "Moderately effective but low-cost" treatment.
- 3.6% were "Not sure".

Patient/Caregiver Trust in Performance-Based Pricing



As a patient or caregiver, would you be more likely to trust a medicine if its price depended on actual performance?

- An overwhelming majority (80.7%) responded "Yes".
- 10.5% responded "Maybe".
- Only 8.8% responded "No.

Awareness of VBP

Awareness of Value-Based Pricing Among Respondents

- Aware: 65%
- Partially aware: 20%
- Unaware: 15%

Most stakeholders had at least a basic understanding of VBP, especially those in policy and payer roles.

Barriers Identified

Key Barriers to VBP Implementation

- Lack of health data systems
- Absence of HTA frameworks
- Regulatory ambiguity
- Stakeholder resistance

The most significant obstacle was the inability to collect or track patient outcomes, a fundamental requirement for VBP.

Expected Benefits of VBP

Perceived Benefits of VBP (Multiple Responses Allowed)

- Improved patient access
- Cost-efficiency in healthcare
- Encourages innovation
- Improves long-term health outcomes

Most respondents believed VBP could significantly improve access and affordability in the long run.

Summary of Findings

Area	Key Finding
Awareness	High among policy and payer stakeholders
Barriers	Data, regulation, stakeholder alignment
Feasibility	Moderate — needs foundational reforms
Opportunities	Pilots in oncology and rare diseases, collaboration with private sector
Policy Recommendations	Establish HTA, digitize records, legal frameworks for risk-sharing

Chapter 6:

Conclusion

Summary of the Study

With the emphasis on the Indian healthcare system, this dissertation investigated the viability and design of applying value-based pricing (VBP) models to enhance patient access to biopharmaceuticals in developing countries. In order to make VBP a competitive alternative to conventional pharmaceutical pricing models, the study sought to evaluate stakeholder awareness, pinpoint systemic obstacles, and offer legislative solutions. With the help of a secondary literature analysis and a mixed method approach that included quantitative surveys the study tackle the main question: *How might value-based pricing enhance the affordability and long term accessibility of biopharmaceuticals in emerging markets?*

Key Findings from the Study

- **Attitude and awareness of stakeholders:** 66% of respondents thought VBP may increase access to pricey therapies in India, and 65% of respondents were aware of the VBP idea.
- **Implementation obstacle:** The absence of real world health data (28.1%) regulatory ambiguity (22.8%) and inadequate digital infrastructure (19.3%) were the main issues noted.
- **Readiness and feasibility:** Only 15.8% of respondents said pharmaceutical businesses were "very prepared" for VBP contracts, while 87.5% said India's digital infrastructure was either insufficient or in its infancy.
- **Preferred Outcomes for VBP:** The most favoured outcome indicators for value-based contracts were a decrease in hospitalizations (19.6%) and an improvement in quality of life (28.6%)**.**
- **Acceptance and Trust:** Theoretically, VBP is strongly accepted as 80.7% of respondents said they would have greater faith in medications if prices were tied to performance outcomes.
- **Gaps at the Policy Level:** Legel frameworks for risk- sharing and the lack of a centralized Health Technology Assessment (HTA) agency continue to be major institutional obstacles.

Major Conclusions

1. **VBP is conceptually acceptable:** The study finds that, particularly when it comes to expensive biologics, VBP is widely endorsed by stakeholders in the payer, provider and policy domains.
2. **Fundamental reforms are needed for Implementation:** although there is interest in investigating VBP its implementation in India and

comparable countries will necessities significant expenditure in outcome tracking, data systems and HTA infrastructure.

3. **Hybrid models could provide a Place to Start :**Implementing fully integrated VBP models right now could be challenging. It is more practical to take a staged approach, beginning with trial programs for high cost disorders (such rare disease or oncology).
4. **Collaboration among multiple stakeholders is Critical:** to establish value criteria create payments models, and track results regulators, pharmaceuticals firms, payers, and providers must work together.
5. **Role of Informal Caregivers in Measuring Value:** In emerging markets like India, where professional caregiving infrastructure is limited and public health systems are overstretched, informal caregivers—usually family members—play a critical role in the continuum of care. These individuals manage medications, facilitate hospital visits, provide emotional support, and make out-of-pocket expenditures on behalf of patients, especially in chronic and life-threatening conditions like cancer, rheumatoid arthritis, and diabetes.

   Despite their contributions, caregivers are rarely accounted for in traditional health economic evaluations or pricing frameworks. Their physical strain, emotional burden, and loss of productivity form a hidden but significant layer of cost. Including caregiver-reported outcomes (CGROs)—such as reductions in time spent caregiving, improved mental well-being, and financial relief—can help more accurately estimate the societal value of a treatment.

   Incorporating caregiver perspectives into Health Economics and Outcomes Research (HEOR) not only strengthens the case for value-based pricing but also ensures that pricing models reflect real-world dynamics, where treatment value extends beyond clinical results and into the lives of entire families.

Incorporating HEOR Studies for Evidence-Based Value Assessment:

A critical enabler of value-based pricing implementation in emerging markets is the generation of reliable, real-world evidence. Health Economics and Outcomes Research (HEOR) is essential to assess not only the clinical effectiveness of a drug but also its economic value, quality-of-life improvements, and impact on broader healthcare outcomes. HEOR provides a scientific foundation for determining "value" in pricing discussions, particularly in settings where cost-efficiency and equitable access are key priorities.

In India, HEOR remains an underutilized tool. There is a pressing need for both public and private stakeholders to build HEOR capacity through academic collaborations, investment in real-world data systems, and methodological training. Biopharmaceutical and biosimilar companies should proactively conduct HEOR studies that include both patient-reported outcomes (PROs) and caregiver-reported outcomes, especially in chronic and high-cost conditions like oncology, diabetes, and autoimmune diseases.

Incorporating HEOR findings into pricing and reimbursement decisions will help align drug prices with health system goals—improved access, affordability, and measurable impact—thus strengthening the case for adopting value-based pricing in India and other emerging economies.

Policy Recommendations

To enable the successful adoption of VBP in India and other emerging markets, the following policy-level interventions are recommended:

1. **Establish a National HTA Authority**: Accelerate the institutionalization of HTAIn (Health Technology Assessment in India) with clear authority to evaluate drug value and guide reimbursement policies.
2. **Invest in Health Data Infrastructure:** Promote electronic health records, outcome-tracking systems, and real-world data collection through public-private partnerships.
3. **Develop Legal Frameworks for VBP Contracts:** Create laws and regulations that support risk-sharing, performance-based payments, and indication-specific pricing to provide legal certainty for stakeholders.
4. **Pilot VBP in Selected Therapeutic Areas:** to access models prior to scaling, start pilot projects in fields with significant disease burden and medications expenses, such as autoimmune disorders, hepatitis, and oncology.
5. **Building stakeholder capacity:** to guarantee a seamless VBP deployment educate payers, providers and regulators on economic analysis, practical evidence gathering and contract administration**.**
6. **Promote Health Economics and Outcomes Research (HEOR):** Encourage pharmaceutical and biosimilar companies, research institutions, and government bodies to invest in HEOR studies. These studies should measure not just clinical outcomes, but also economic, humanistic, and caregiver-related outcomes in real-world settings. HEOR will serve as a crucial evidence base for value-based pricing negotiations, HTA evaluations, and reimbursement decisions, especially in the Indian healthcare context.

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