FROM EVIDENCE TO ADOPTION: A FRAMEWORK AND GO-TO-MARKET STRATEGY FOR REMOTE PATIENT MONITORING IN INDIAN CARDIAC POST-DISCHARGE CARE

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in

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by

Smridhi Gupta

Under the Supervision and Guidance of

Dr. Ritu Vashistha

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This is to certify that dissertation titled "**From Evidence to Adoption: A Framework and Go-To-Market Strategy for Remote Patient Monitoring in Indian Cardiac Post-Discharge Care"** is a record of the research work undertaken by **Smridhi Gupta** in partial fulfillment of the requirements for the award of the degree of MBA Healthcare Analytics from the IIHMR University, Jaipur under my guidance and supervision and her approach to the research study has been sincere, scientific, and analytical.

Dr. Ritu Vashistha
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Date: 20/06/2026

DECLARATION BY STUDENT

I hereby declare that this dissertation titled from "**Evidence to adoption: A framework and go-to-market strategy for remote patient monitoring in Indian cardiac post-discharge care**" 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Smridhi Gupta

Date: 20/06/2026

ABSTRACT

Title: "**From Evidence to Adoption: A Framework and Go-to-Market Strategy for Remote Patient Monitoring in Indian Cardiac Post-Discharge Care**"

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Keywords: Remote Patient Monitoring, Cardiac Post-Discharge Care, Healthcare Technology Adoption, India, Go-to-Market Strategy, Qualitative Secondary Research

Background: Cardiovascular disease deaths in India rose 139 percent between 1990 and 2023, and the weeks after a cardiac discharge remain the period of highest risk and least clinical oversight. Remote Patient Monitoring (RPM) is clinically proven and widely available, yet Indian deployments rarely move past the pilot stage, a pattern this study treats as an adoption failure rather than a technology gap.

Objective: To identify the barriers limiting RPM adoption at the patient, provider, and system levels; compare hospital-led, physician-led, insurer-led, and direct-to-consumer deployment models on value, cost, and scalability; and derive a workable go-to-market configuration for Indian cardiac post-discharge care.

Methodology: The study uses a qualitative secondary research design built around a systematic review of twenty-eight studies, a content analysis of relevant regulatory and data-governance instruments, and a structured comparative evaluation against four criteria, feasibility, scalability, cost, and trust, derived through thematic synthesis of the literature. A descriptive analysis of Global Burden of Disease 2023 data established the epidemiological context.

Results/Findings: Trust functioned as a gating condition rather than one factor among equals: options weak on trust underperformed regardless of cost or scale advantage. Segment, channel, and pricing choices proved interdependent, not separately optimisable. Insured patients at Tier 1 private hospitals, served through hospital-led channels with hybrid co-pay pricing, formed the only configuration strong on both feasibility and trust.

Conclusions: RPM's stalled diffusion in Indian cardiac care is best explained by misaligned trust, feasibility, cost, and scalability conditions rather than insufficient

technology. A phased strategy, entering through a narrow, KPI-gated pilot before expanding to less-ready segments as financing matures, offers the most credible path to sustainable adoption.

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Finally, I extend my appreciation to my friends and classmates, whose discussions, feedback, and moral support made this process considerably more manageable.

Any errors or shortcomings in this dissertation remain entirely my own.

Smridhi Gupta

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LIST OF ABBREVIATIONS

Abbreviation	Full Form
ACC/AHA	American College of Cardiology / American Heart Association
AF	Atrial Fibrillation
B2B2C	Business-to-Business-to-Consumer
CABG	Coronary Artery Bypass Grafting
CFIR	Consolidated Framework for Implementation Research
CVD	Cardiovascular Disease
DALY	Disability-Adjusted Life Year
DOI	Diffusion of Innovations (framework)
ECG	Electrocardiogram / Electrocardiographic
EMR	Electronic Medical Record
ESC	European Society of Cardiology
GBD	Global Burden of Disease (study)
HF	Heart Failure
IHME	Institute for Health Metrics and Evaluation
KPI	Key Performance Indicator
LMIC	Low- and Middle-Income Country
MI	Myocardial Infarction
mHealth	Mobile Health
NCD	Non-Communicable Disease
PPG	Photoplethysmography
PPP	Public-Private Partnership
QALY	Quality-Adjusted Life Year
RPM	Remote Patient Monitoring
TAM	Technology Acceptance Model
TIM-HF2	Telemedical Interventional Management in Heart Failure II (trial)
WHO	World Health Organization
WTP	Willingness-to-Pay

CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Introduction

Healthcare delivery is being reorganised, slowly and unevenly, around a single recognition: that illness is rarely a discrete event and is better understood as a condition to be managed continuously over time. In high-income health systems this reorientation has been underway for more than two decades. In emerging economies it is arriving later, partially, and with friction. India sits within this transition. It carries one of the heaviest chronic disease burdens in the world while operating a health infrastructure that remains, by most comparative measures, under-resourced and unevenly distributed.

The most dangerous period in many patients' illness trajectories is not the time spent inside a hospital but the weeks immediately after they leave one. For cardiac patients this is acutely true. A person discharged after a myocardial infarction, cardiac surgery, or an episode of decompensated heart failure returns home with an unstable physiology that requires monitoring, medication titration, and prompt response to early warning signs. What such a patient typically receives in India is a discharge summary, a follow-up appointment several weeks away, and verbal instructions delivered in the final rushed minutes of an inpatient stay.

Remote Patient Monitoring (RPM) is widely proposed as a response to this gap. By capturing physiological data such as **heart rate, blood pressure, oxygen saturation, and electrocardiographic activity** from patients in their homes, RPM offers, in principle, a way to maintain clinical visibility across the period when patients are most vulnerable and least observed. The underlying devices are not novel; connected blood pressure cuffs, ambulatory ECG patches, and pulse oximeters have existed for years. What has changed is the convergence of low-cost sensors, near-ubiquitous mobile connectivity, cloud-based data platforms, and alerting algorithms capable of flagging deterioration before it becomes a crisis.

Yet despite this technological readiness, RPM in Indian cardiac post-discharge care remains largely unrealised at scale. The devices are available. The clinical evidence base supporting their efficacy is substantial.

This dissertation examines that persistent gap. It investigates it as an adoption problem, located at the intersection of clinical, economic, and organisational factors, and asks why a technology with established efficacy has failed to diffuse into routine practice in this specific context. The study's central proposition is that the limiting factors are contextual, and that understanding them requires examining how the actors in the Indian cardiac care system, namely patients, physicians, hospital administrators, and payers, are reported in the published literature to behave, rather than assuming that efficacy demonstrated elsewhere will translate into adoption here.

Its purpose is to generate context-specific knowledge, synthesised from the existing body of evidence, about why an evidence-backed intervention does not diffuse, and to organise that knowledge into a coherent, qualitatively grounded analytical framework. The strategic output that emerges in the final chapter is a consequence of that synthesis, not its starting point.

1.2 Background

1.2.1 The Cardiovascular Disease Burden in India: Evidence from GBD 2023

The cardiovascular disease burden in India constitutes a public health emergency by any reasonable epidemiological measure. The analysis presented in this section is based on a primary descriptive analysis of data extracted from the Global Burden of Disease 2023 study (GBD 2023), covering the period 1990 to 2023 across the measures of mortality, disease burden, and incidence. All figures reported below are derived directly from this dataset unless otherwise indicated.

Mortality Trends

CVD deaths in India increased from 1.31 million in 1990 to 3.12 million in 2023, representing an absolute increase of 1.81 million deaths and a percentage rise of 138.7% over three decades (Figure 1). This trajectory reflects a sustained and worsening burden rather than a transient epidemiological phenomenon. Over the same period, CVD

incidence nearly doubled in absolute terms, rising from 3.16 million new cases annually in 1990 to 7.83 million in 2023, a 148% increase (GBD 2023).

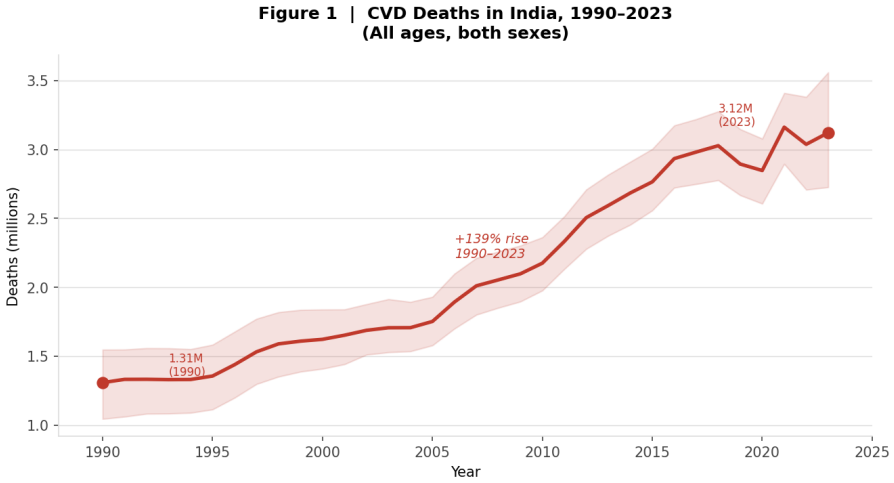

Figure 1: Absolute CVD mortality in India, 1990–2023 (all ages, both sexes). Source: GBD 2023, IHME.

Age-Standardised Rate: India versus Global

The age-standardised CVD death rate in India stood at 279.1 per 100,000 population in 2023, compared to a global average of 214.9 per 100,000 an excess of 64.2 per 100,000 (Figure 2). This comparison is particularly instructive because age-standardisation controls for India's large and relatively young population, meaning the differential reflects genuine epidemiological risk rather than demographic composition. Notably, while the global age-standardised rate declined from 375.5 to 214.9 per 100,000 between 1990 and 2023 a reduction of 42.8% India's rate declined more modestly, from 317.7 to 279.1 per 100,000, a reduction of only 12.2% over the same period. India is not keeping pace with global progress in CVD mortality reduction.

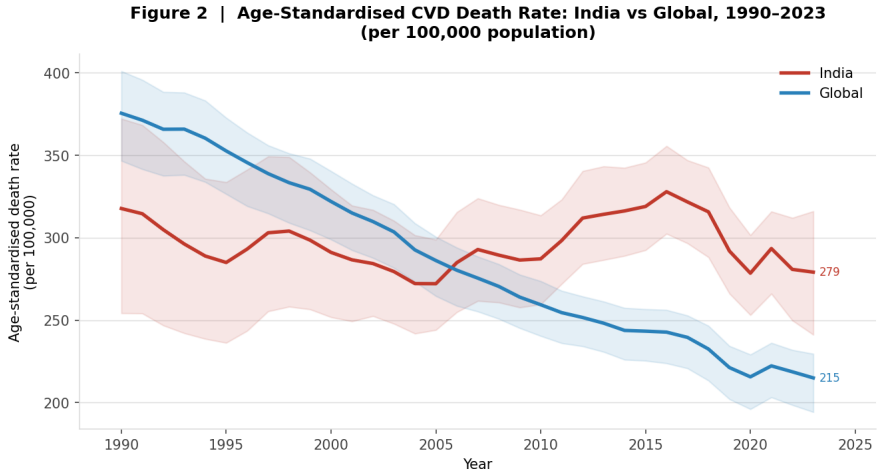

Figure 2: Age-standardised CVD death rate per 100,000 population, India vs Global, 1990–2023. Source: GBD 2023, IHME.

Disease Burden: DALYs

The total CVD disease burden in India, measured in Disability-Adjusted Life Years (DALYs), increased from 41.0 million in 1990 to 80.3 million in 2023, a rise of 96% (Figure 3). DALYs capture both premature mortality and years lived with disability, making them a more comprehensive measure of burden than deaths alone. The near-doubling of DALYs over this period indicates that the burden of CVD on India's population, in terms of healthy life years lost, has approximately doubled within a single generation.

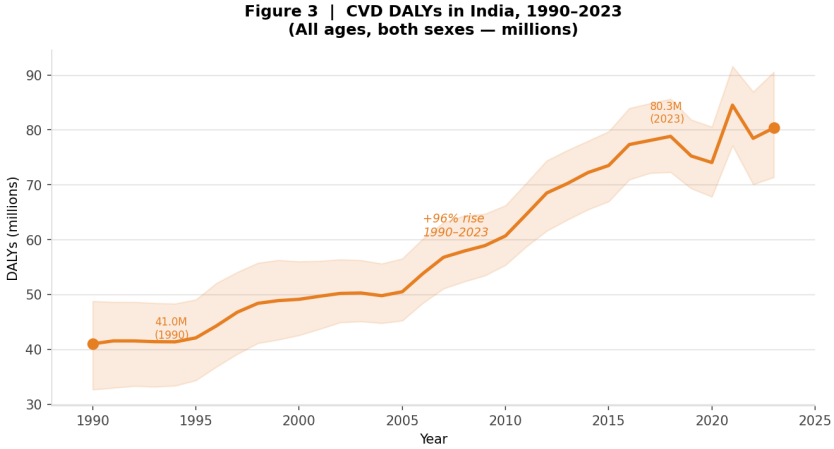

Figure 3: CVD Disability-Adjusted Life Years (DALYs) in India, 1990–2023 (all ages, both sexes, millions). Source: GBD 2023, IHME.

Premature Mortality

Among deaths occurring before the age of 70 the standard threshold for premature cardiovascular mortality India's rate in 2023 was 111.0 per 100,000, compared to a global average of 90.3 per 100,000 (Figure 4). India's premature CVD death rate therefore exceeds the global average by approximately 23%. This finding directly substantiates a central contextual claim of this dissertation: that cardiovascular disease in India disproportionately affects working-age adults, with implications for economic productivity, household income, and the design of post-discharge care programmes.

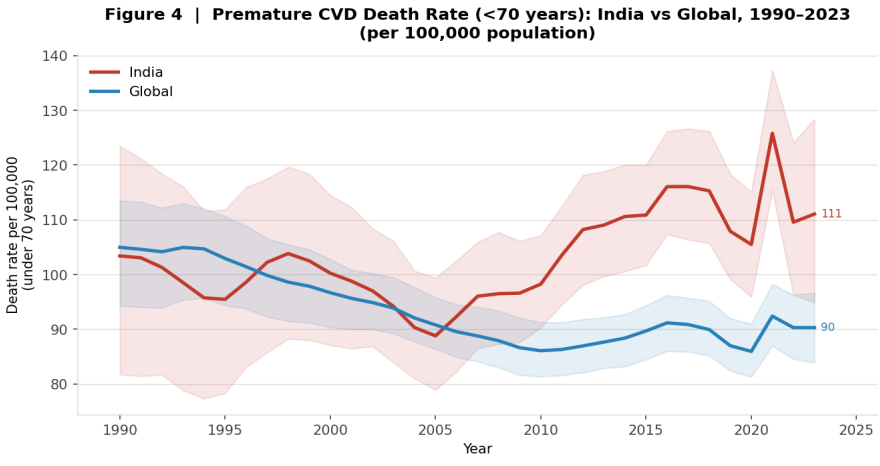

Figure 4: Premature CVD death rate (under 70 years) per 100,000 population, India, 1990–2023. Source: GBD 2023, IHME.

India's Share of Global CVD Deaths

India's share of global CVD deaths rose from 10.0% in 1990 to 16.3% in 2023 (Figure 5). During this period India's share of world population was approximately 17.5%. While India's share of CVD deaths is approaching its population share, the disproportionality argument this dissertation advances is better located in the rate differential: India's age-standardised death rate exceeds the global average, meaning that an Indian individual faces a higher age-adjusted risk of CVD death than the global norm. This excess burden, in a country that still carries a substantial communicable disease load and operates an under-resourced health system, is the epidemiological foundation on which the case for scalable post-discharge monitoring rests.

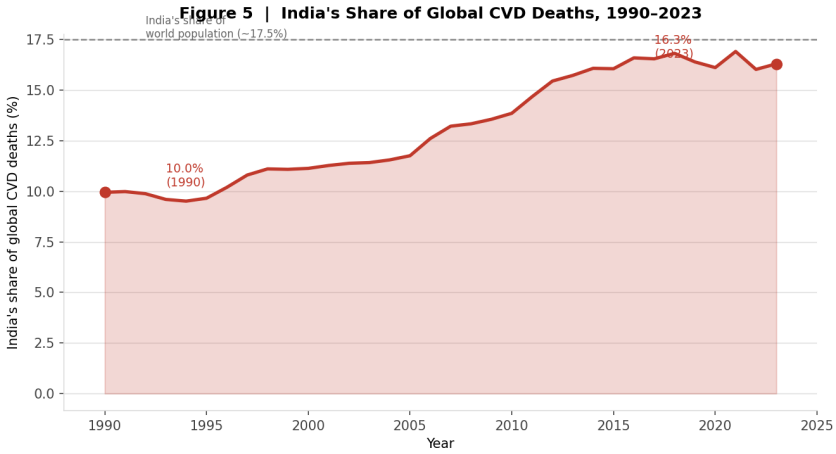

Figure 5: India's share of global CVD deaths (%), 1990–2023. Dashed line indicates India's approximate share of world population. Source: GBD 2023, IHME.

Implications for RPM

Three findings from this analysis directly shape the Remote Patient Monitoring opportunity examined in this dissertation. First, the absolute scale of the burden 3.12 million CVD deaths and 7.83 million new cases annually defines the addressable need. Even marginal improvements in post-discharge outcomes at this scale translate into large absolute reductions in deaths and readmissions. Second, the persistence of India's age-standardised rate above the global average, despite three decades of declining global rates, indicates that system-level interventions are required. Third, the premature mortality finding confirms that post-discharge cardiac patients in India are frequently working-age adults with strong motivation for recovery have meaningful economic stakes .

1.2.2 Post-Discharge Risks and the Follow-Up Gap

The clinical literature is consistent on one point: the period immediately following a cardiac event or procedure is among the highest-risk windows in a patient's trajectory.

Thirty-day readmission rates following acute myocardial infarction in India have been reported across studies in the range of 10 to 20 percent, with a meaningful proportion attributable to preventable causes including subtherapeutic anticoagulation, missed early signs of decompensation, medication non-adherence, and delayed recognition of arrhythmias.

The structural reasons are identifiable. Indian tertiary cardiac centres operate under intense capacity pressure; a cardiologist at a major public institution may see very large outpatient volumes in a single session. Private hospitals, while better resourced, face their own pressures, as post-discharge follow-up is often lower-margin than procedural work and organisational incentives do not consistently favour robust discharge planning. At the system level there is no structured mechanism to track a post-discharge cardiac patient between discharge and a first follow-up appointment scheduled two to four weeks later. What occurs in that interval is largely invisible to the treating team.

The Indian context amplifies these dynamics. Distance from the treating hospital is a serious constraint; a patient who underwent surgery at a corporate hospital may live hours away by road, raising the logistical and financial cost of follow-up and reducing compliance. General practitioners and community health workers at the local level frequently lack the training to interpret cardiac-specific warning signs. The result is a follow-up gap that is simultaneously structural and systemic: patients fall out of clinical visibility precisely when they are most physiologically vulnerable.

1.2.3 The Hospital Ecosystem and Institutional Dynamics

Understanding why RPM has not scaled requires understanding hospitals as institutions with their own incentive structures, hierarchies, and risk tolerances, not merely as sites of clinical care.

Indian hospitals, whether public teaching institutions, private corporate chains, or standalone nursing homes, share a defining organisational feature: the treating physician exercises disproportionate influence over the adoption of any new clinical tool or pathway. An RPM solution lacking the active endorsement of the attending cardiologist will not be used by patients, regardless of the quality of the technology. In the Indian hospital setting, physician acceptance is not a downstream adoption challenge but the primary determinant of whether adoption occurs at all.

Corporate hospital chains have begun developing their own digital health strategies, and several have experimented with forms of remote monitoring. These experiments have been instructive, but they have also exposed the distance between deploying a device and sustaining clinical integration. Deploying a device is not equivalent to building a monitoring workflow, and building a workflow is not equivalent to ensuring that the alerts it generates are reviewed and acted upon by a clinical team with the bandwidth and training to respond. This distinction, between deployment and integration, foreshadows a central concern of the analysis that follows.

1.3 Problem Framing: The Gap Between Availability and Adoption

Mapping the Indian cardiac RPM landscape reveals a paradox. On one side stands a robust and growing global evidence base, a maturing medical device ecosystem combining imported and domestically manufactured monitoring solutions, improving 4G and 5G connectivity across urban and semi-urban India, and a post-pandemic patient population that has, to varying degrees, normalised telehealth interaction. On the other side, RPM penetration in post-discharge cardiac care remains, low relative to the addressable population. Pilots exist at corporate hospital chains, at select public institutions, and through digital health startups, but they have not scaled.

The problem this study addresses is why an effective intervention has not found a sustainable, scalable path into routine Indian cardiac post-discharge care, and what the determinants of adoption in this context actually are. Several dimensions of this problem warrant explicit framing, as they structure the investigation that follows.

The pricing mismatch	**The integration problem**
The trust deficit	**The channel confusion**

The pricing mismatch. Most RPM solutions entering the Indian market have been priced for Western markets or for Indian premium segments. A monthly monitoring subscription accessible to an insured patient in a metropolitan centre is not accessible to a clinically similar but uninsured patient elsewhere, whose out-of-pocket health budget is a fraction of that figure. The pricing architecture for Indian cardiac RPM has rarely been designed from first principles around the heterogeneity of the market.

The integration problem. RPM is not, in practice, a standalone product. It generates data that must be reviewed, interpreted, and acted upon, and that must integrate into an existing care pathway. In a well-staffed system with dedicated care coordination this is feasible. In an Indian hospital where cardiologists are overloaded and nursing responsibilities are already stretched, RPM data can rapidly become noise rather than signal. Unless a monitoring solution answers the question of who reviews the data and what they do when a reading is abnormal, clinical teams remain sceptical.

The trust deficit. The Indian digital health ecosystem has seen numerous solutions launched with great promise that faded quietly. Clinicians have encountered early-generation tools that generated clinically baseless alerts, devices that lost connectivity at critical moments, and platforms abandoned when their backing firms ran out of funding. This history produces a rational scepticism that any new solution must overcome. Trust in this context is earned slowly, through demonstrated reliability and clinical alignment.

The channel confusion. The question of who the customer is for a cardiac RPM solution, whether the patient, the cardiologist, the hospital, or the insurer, rarely receives a coherent answer. The realistic answer is that it is all of them, at different stages and with different motivations. Few solutions have been designed around a multi-stakeholder approach, and the result is an approach-to-market that targets everyone and effectively reaches no one.

These four dimensions, pricing mismatch, integration failure, trust deficit, and channel confusion, constitute the problem this dissertation investigates. They are, collectively, determinants of adoption rather than features of the technology, and they imply that the explanation for non-adoption, and any remedy for it, must be sought in the clinical, economic, and organisational context rather than in the device.

1.4 Research Questions

The study is organised around three interconnected research questions, each addressing a distinct layer of the problem.

RQ1: What are the primary barriers to adoption of remote patient monitoring in post-discharge cardiac care in India, and how do they operate at the patient, provider, and system levels?

RQ2: How do existing RPM deployment models, namely hospital-led, physician-led, insurer-led, and direct-to-consumer approaches, differ in their clinical value delivery, cost structure, and scalability within the Indian healthcare context, and what do these differences imply for adoption?

RQ3: What configuration of target segmentation, channel architecture, pricing model, and adoption pathway offers the most viable and scalable route to deploying RPM for cardiac post-discharge care in India?

These questions are deliberately layered. RQ1 is diagnostic and establishes the determinants of the problem through synthesis of the published literature. RQ2 is comparative and analytical, evaluating documented deployment models against one another. RQ3 is synthetic and prescriptive, integrating the first two into a structured framework and a derived strategy.

1.5 Research Objectives

Translating these questions into objectives, and following the qualitative, secondary-research orientation adopted throughout, the study aims to:

1. Conduct a primary descriptive analysis of the GBD 2023 dataset to quantify the cardiovascular disease burden in India and establish the epidemiological foundation for the post-discharge monitoring gap this dissertation addresses.
2. Develop a phased, evidence-grounded deployment strategy for RPM in Indian cardiac post-discharge care that can serve as both a contribution to the adoption literature and a practical reference for decision-makers in health technology, hospital management, and health policy.

1.6 Scope of Study

Several scope decisions shape how the findings should be interpreted and applied.

Geographic scope. The study focuses on India, with particular attention to metropolitan Tier 1 cities where meaningful private and corporate hospital infrastructure exists

Disease focus. The study concentrates on post-discharge cardiac care, specifically patients discharged following acute myocardial infarction, cardiac surgery including coronary artery bypass grafting and valve replacement, and decompensated heart failure.

It does not address congenital or paediatric cardiac care, nor preventive monitoring of pre-symptomatic populations.

Technology scope. RPM is treated broadly to include wearable and non-wearable devices that transmit physiological data to a clinical review platform, including ECG patches, connected blood pressure monitors, pulse oximeters with telemetry, and multi-parameter systems. Implantable cardiac monitors, while technically a form of remote monitoring, are treated as a separate category and are not the primary focus.

Methodological scope. This study employs a qualitative secondary research design, combining a systematic literature review, content analysis of regulatory and policy material, and structured comparative analysis of deployment options.

Regulatory and economic scope. The study examines the regulatory environment relevant to RPM deployment, including telemedicine practice guidelines, medical device regulation, and health data protection requirements, and discusses the economic logic of RPM deployment qualitatively. These are treated as determinants of adoption within the analytical framework rather than as exhaustive legal or financial appraisals.

1.7 Significance and Contribution of the Study

The contribution of this dissertation is positioned as healthcare innovation adoption rather than within commercial strategy practice, and it is worth stating precisely what new knowledge the study seeks to generate.

The clinical efficacy of RPM in cardiac care has been established largely in Western and East Asian settings, with the organisational, financial, and cultural conditions of those settings embedded in the study designs. Established adoption theories, including the **Technology Acceptance Model**, the **Diffusion of Innovations framework**, and the **Consolidated Framework for Implementation Research**, offer general and largely descriptive accounts of why technologies succeed or fail to diffuse. What is absent is an integrated account that explains adoption of a specific intervention, in a specific clinical context, by drawing the clinical, economic, and organisational determinants together into a single coherent analytical structure grounded in a systematic reading of the evidence. This study makes three contributions:

- The first is theoretical: it develops a context-specific adoption framework for Indian cardiac post-discharge RPM that integrates clinical, economic, and organisational determinants, and it derives that framework transparently from a thematic synthesis of the literature rather than asserting it.
- The second is methodological: it demonstrates how a disciplined qualitative synthesis, structured around explicitly defined evaluation criteria and applied consistently across deployment options, can bring transparency and reproducibility to strategic reasoning in a field where judgements are frequently stated but their evidentiary basis left implicit.
- The third is synthetic: by integrating the clinical-efficacy literature, the adoption-behaviour literature, and the deployment-model literature into a single context-specific account, it generates a consolidated picture of which adoption barriers are most salient in Indian practice that no single strand of the existing literature provides on its own.

The practical value of the study, namely its usefulness to health technology firms, hospital systems, and payers. It follows from the analysis. The study is, first, an investigation into why an effective intervention does not diffuse, and only consequently a guide to how it might.

1.8 Structure of the Dissertation

The dissertation proceeds across five chapters in a cumulative structure.

Chapter 1, the present chapter, has established the clinical and systemic context, framed the central problem as one of adoption, articulated the research questions and objectives, defined the scope, and stated the intended contribution.

Chapter 2, presents a comprehensive and deliberately critical review of the literature across three domains, the evidence base for RPM in cardiac care, including negative and failed-programme evidence; the adoption-behaviour literature that explains why clinically effective technologies fail to diffuse; and the literature on deployment models for digital health. The chapter closes by articulating the theoretical research gap.

Chapter 3, details the qualitative secondary research methodology, comprising systematic literature review, content analysis of regulatory and policy material, comparative analysis of deployment models, and framework-based evaluation. It justifies the research design,

describes the data sources and the literature selection approach, sets out the derivation of the four evaluation criteria from the thematic *derivation* frequency analysis, and addresses the methodological limitations and ethical considerations attaching to a secondary study.

Chapter 4, presents the core analysis. It maps the patient and provider post-discharge journey and its failure points, synthesises the documented adoption barriers against the conceptual framework, provides a structured comparison of RPM deployment models in direct response to RQ2, applies the four-criterion framework qualitatively to market segments, channels, and pricing models, incorporates a competitive landscape analysis, and discusses all findings against the literature reviewed.

Chapter 5, translates the analysis into a phased deployment strategy addressing target segments, channel architecture, pricing design, adoption pathway, and scaling, accompanied by an implementation roadmap organised across pilot, expansion, and scale phases.

Together these chapters are intended to produce a research contribution grounded in evidence and analytical rigour: a qualitative, literature-grounded investigation into the determinants of RPM adoption in Indian cardiac post-discharge care that generates consolidated, context-specific knowledge, and that issues, as a consequence of that knowledge, a strategy designed to be tested rather than merely admired.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Remote Patient Monitoring: Conceptual Overview and Technological Evolution

Remote Patient Monitoring is, at its core, a care delivery model. The devices are instrumental; the model is what determines outcomes. RPM involves the systematic capture of patient-generated physiological data outside conventional clinical settings, the transmission of that data to a care team or monitoring platform, and the use of that data to inform clinical decisions in near-real or real time (29). What distinguishes contemporary RPM from earlier concepts of home health monitoring is the integration of connectivity, analytics, and clinical workflow, that is, the shift from passive data capture to active and actionable surveillance.

The evolution of RPM can be understood across three broad generations. The first, spanning the 1990s to the early 2000s, relied on bulky and costly telemetry equipment used mainly in post-operative or high-dependency home settings. The second, emerging in the mid-2000s alongside broadband and early smartphones, introduced more portable devices but left data fragmented and rarely integrated with clinical records (30). The third generation, which is the one relevant to this study, is defined by miniaturised wearable sensors, near-ubiquitous mobile connectivity, cloud computing, and increasingly sophisticated alerting algorithms. Devices have become consumer-grade in form while retaining clinical-grade accuracy, and connectivity is no longer the principal barrier in most urban and semi-urban markets. The limiting factor, as this study argues, is no longer technological but organisational and economic.

In the Indian context this third-generation landscape has a distinctive feature: the emergence of cost-adapted, context-appropriate health technology. Firms such as Tricog Health, BPL Medical Technologies, and several startups distributing or adapting devices for Indian conditions have demonstrated that affordable monitoring can be built for this market. Tricog's cloud-ECG platform, which enables real-time ECG interpretation for facilities lacking on-site cardiologists, is instructive: it demonstrates both the appetite for remote cardiac diagnostics and the physician-trust barriers that any solution must navigate. That this narrowly scoped service succeeded where broader RPM has not is itself analytically significant, and the point is developed in the competitive analysis in Chapter 4.

Four categories of technology are most pertinent to cardiac post-discharge care. Continuous ambulatory ECG monitoring through patch-based or wearable devices enables arrhythmia detection outside hospital settings (12). Remote blood pressure monitoring with connected transmission allows tracking of hypertensive episodes, relevant for post-infarction patients on antihypertensive therapy (16). Pulse oximetry with telemetry is relevant for heart failure patients at risk of hypoxic episodes. Multi-parameter platforms aggregating several data streams offer the most comprehensive view but at greater cost and operational complexity. Each modality carries its own evidence base, cost profile, and adoption dynamic, distinctions the analysis in later chapters preserves.

2.2 RPM in Cardiac Care: The Clinical Evidence Base

The clinical case for RPM in cardiac care is well established, spanning more than two decades and multiple geographies. Several landmark studies and systematic reviews have shaped current understanding.

The TIM-HF2 trial, conducted in Germany among patients with stable chronic heart failure, demonstrated that a structured remote monitoring programme combining daily weight, blood pressure, and single-lead ECG monitoring significantly reduced days lost to unplanned cardiovascular hospitalisation and all-cause mortality relative to standard care (1). The effect was clinically meaningful and has been widely cited as proof of concept. Crucially for the present study, the authors attributed the effect to the structured clinical response protocol surrounding the technology, not to the devices alone, a qualification that becomes central to the adoption argument developed below.

The European Society of Cardiology's heart failure guidelines now include RPM as a conditional recommendation for patients with chronic heart failure, acknowledging that the evidence, while not yet at the level required for a strong recommendation, is sufficient to warrant consideration . This matters for India because the cardiology community, particularly in corporate and teaching hospitals, aligns closely with ESC and ACC/AHA guidance (2). A technology located within major international guideline frameworks is more clinically defensible than one outside them.

In arrhythmia detection, the CRYSTAL AF trial showed that implantable cardiac monitors outperformed conventional monitoring in detecting atrial fibrillation following cryptogenic stroke . Though not strictly a post-discharge RPM study, it is directionally relevant. More immediately applicable is the growing evidence on consumer-grade

wearables for atrial fibrillation detection, including a large-scale study using a photoplethysmography-based algorithm that enrolled several hundred thousand participants and demonstrated adequate sensitivity and specificity (21). The blurring of the line between clinical-grade and consumer-grade monitoring is an important trend that any adoption analysis must account for.

Within India, published evidence on cardiac RPM specifically is thinner but emerging. Studies from leading public and private institutions have examined telemedicine-led cardiac follow-up, digital health literacy among cardiac patients, and the feasibility of remote ECG monitoring (6,24). The consistent finding is that clinical outcomes are comparable to in-person follow-up in stable patients, but that barriers to sustained engagement, including device familiarity, caregiver involvement, alert fatigue in clinical teams, and network reliability, are real and require active management.

What the global evidence base does less well is translate efficacy into implementation guidance. Most trials were conducted in high-resource settings with dedicated monitoring nurses, protocol-driven response systems, and high-health-literacy populations. The translation of these conditions to the Indian public or semi-private hospital context is not automatic, and the gap between efficacy under controlled conditions and effectiveness in routine practice is substantial. This gap is itself a finding rather than merely a limitation, and it motivates the critical reading of the evidence undertaken in the next section.

2.3 A Critical Reading: When and Why RPM Programmes Fail

A literature review that catalogues only positive findings risks misrepresenting a field in which failure is common and instructive. The recurrent pattern across the evidence is not that RPM does not work, but that it frequently fails to deliver outcomes even when the underlying technology functions as designed. Examining why is directly aligned with this dissertation's central question.

The most cited cautionary evidence comes from the Whole Systems Demonstrator programme in the United Kingdom, one of the largest telehealth trials conducted. It reported reduced emergency admissions but no reduction in overall cost, and its qualitative companion work documented serious integration failures, clinician resistance, and difficulties embedding monitoring into existing workflows (11). The lesson is uncomfortable for technology optimism: scale without integration generates data without outcomes.

A second strand of negative evidence concerns alert fatigue. Work on clinical workflow integration has identified alert fatigue as the dominant predictor of RPM programme failure, with clinicians progressively disregarding alerts when volume exceeds the capacity to act on them meaningfully (27). This reframes adoption: the binding constraint on physician engagement is frequently not persuasion but bandwidth.

A third strand concerns sustainability. Reviews of mobile health interventions in low- and middle-income settings have found that standalone applications, absent integration with health systems and a financing mechanism, rarely sustain behaviour change beyond the funded pilot period (13,20). Many interventions show early promise and then decay once external funding or research attention is withdrawn, a pattern that closely matches the "pilots that never scale" problem framed in Chapter 1.

The analytical value of these negative findings is that they locate failure consistently at the points of integration, clinical workflow, financing, and trust, rather than at the point of device performance. Read together with the positive efficacy literature, they suggest that the determinants of whether RPM succeeds are organisational and economic, and they provide the empirical basis for the criterion-derivation exercise undertaken in Section 2.7.

2.4 Post-Discharge Challenges in Cardiac Care: A Systems View

The post-discharge period is best understood not as a clinical phase but as a system failure zone, a window in which clinical, behavioural, and structural factors converge to make adverse events more likely. Understanding this zone in granular terms is essential to evaluating whether RPM addresses root causes or merely adds a monitoring layer over unresolved problems.

Clinically, the post-discharge period is marked by physiological instability that is manageable with appropriate monitoring but hazardous without it. In acute myocardial infarction patients, the risk of re-infarction and malignant arrhythmia is highest in the early weeks . In heart failure patients, fluid re-accumulation, the harbinger of decompensation, can progress over days before the patient becomes subjectively symptomatic. In post-surgical patients, wound healing, anticoagulation management, and recovery of cardiac function all require regular assessment.

Behaviourally, medication adherence is a documented and persistent problem. Studies in Indian settings report that adherence to prescribed cardiac medication drops substantially within weeks of discharge, driven by cost, perceived recovery once symptoms resolve, complex regimens, and inadequate counselling (22). Non-adherence is, in a meaningful sense, a monitoring and feedback problem: a care team that knew in real time that a patient had stopped a key medication could intervene; without monitoring, it learns only when the patient re-presents.

Structurally, the follow-up gap is systemic. Hospitals lack the resources, workflows, and incentives to track post-discharge patients proactively. Outpatient cardiology departments operate on a volume model in which patients are seen and then leave with no between-visit touchpoint. Community health infrastructure is generally not trained to recognise and respond to cardiac warning signs. The system is essentially passive, waiting for patients to return rather than reaching out to them (15).

These three dimensions interact in a self-reinforcing way. A patient who does not understand the importance of a medication is more likely to stop it; a system not tracking that patient cannot intervene; a deteriorating patient who cannot easily travel delays care-seeking; and by re-presentation, what might have been managed with a medication adjustment has become a readmission. RPM, at its most effective, interrupts this cycle at several points simultaneously, but only if its design accounts for all three dimensions rather than the physiological one alone.

2.5 Adoption Barriers to RPM in Healthcare: Theory and Evidence

The healthcare technology adoption literature is rich and somewhat repetitive: the same barriers recur across studies, geographies, and technology categories. What is less common, and more useful, is analysis that disaggregates these barriers by actor, severity, and addressability. This section organises the evidence accordingly, since that disaggregation underpins both the criterion derivation in Section 2.7 and the stakeholder analysis developed in Chapter 4.

2.5.1 Physician-Level Barriers

Physicians, particularly in specialist-dominated Indian hospital settings, are the de facto gatekeepers of adoption. A cardiologist who does not recommend an RPM solution will

not drive patient uptake regardless of the solution's quality (14). Physician-level barriers cluster around four themes.

The first is clinical trust. Physicians must believe that device-generated data is accurate, reliable, and clinically actionable before incorporating it into decision-making, a higher bar than it appears, requiring not only validation data but clinical familiarity, ideally through peer-reviewed publication or institutional endorsement (8).

The second is workflow disruption. RPM generates data that someone must review. If that responsibility falls on an already overloaded treating cardiologist, RPM becomes a burden rather than a tool, and the evidence on alert fatigue indicates this is where many programmes fail (27).

The third is medico-legal ambiguity. In India, where the framework around telemedicine and remote monitoring is still maturing, physicians may be uncertain about liability if a remote alert is missed or misinterpreted. The Telemedicine Practice Guidelines issued in 2020 provided partial clarity, but gaps remain and awareness is uneven. This regulatory dimension is developed further in Section 2.6.

The fourth is professional identity. Among more traditional clinicians there is a cultural dimension to digital health adoption, a sense that sound cardiology rests on clinical judgement and direct interaction and that remote monitoring depersonalises the relationship. This is rarely articulated explicitly but appears consistently in adoption data (10).

2.5.2 Patient-Level Barriers

Patient-level barriers are shaped by the socioeconomic and cultural profile of post-discharge cardiac patients. Financial constraint is the most evident: the cost of devices, connectivity, and subscriptions competes with other household expenditure in populations with limited disposable income and incomplete insurance (17).

Beyond cost, technology familiarity is a genuine barrier for older patients, the demographic most affected by cardiac disease. Device usability, interface language, and the involvement of family caregivers, who in Indian households are frequently the practical operators of such devices, are all relevant design considerations (24).

Trust in technology-mediated care is also lower than in direct clinical encounters for many patients. The pandemic produced meaningful improvement, as widespread use of public health applications normalised digital health interaction for a segment of the population, but the normalisation is uneven, and for patients with limited health literacy the proposition that a device can detect deterioration before symptoms appear may require substantial trust-building (6).

2.5.3 System-Level Barriers

System-level barriers include reimbursement gaps, interoperability failures, and organisational inertia. On reimbursement, the principal publicly funded insurance scheme covers hospitalisation but does not currently cover RPM services, and private insurers have been slow to add remote monitoring benefits, creating a coverage vacuum that pushes cost onto patients or providers (25). Without a reimbursement pathway, the financial model remains fragile.

On interoperability, most Indian hospitals operate fragmented health information systems. Electronic records, where they exist, are often not integrated with outpatient documentation, let alone with third-party monitoring platforms . An RPM solution generating data in a separate silo will struggle to be clinically useful regardless of technical quality.

On organisational inertia, healthcare institutions are conservative adopters. The change management challenge of RPM, including retraining nurses, redefining physician responsibilities, redesigning discharge pathways, and creating billing mechanisms, is substantial, and institutions whose senior clinical leadership does not actively champion integration rarely sustain the effort (27).

2.6 The Regulatory and Data-Governance Environment

The regulatory context for RPM deployment is a determinant of adoption in its own right, and the literature treats it as increasingly consequential as deployments scale beyond pilots. Consistent with the content-analysis component of this study's methodology, the principal instruments were read directly and analysed for their implications for adoption; several are relevant.

The Telemedicine Practice Guidelines of 2020 legitimised remote consultation and provided a framework within which remote monitoring can be situated, though they do not comprehensively address continuous physiological monitoring or the allocation of liability for missed alerts. Medical device regulation under the prevailing Medical Device Rules governs the classification and registration of monitoring hardware, and the regulatory class of a device affects the evidentiary and quality-assurance burden a vendor must meet before clinical adoption is defensible (28).

Health data governance has acquired particular importance with the enactment of data protection legislation establishing obligations around consent, purpose limitation, and security for personal and health data. RPM generates continuous streams of sensitive physiological data, raising the question of whether hospitals and vendors can lawfully store and transmit such data at scale, and under what consent architecture. Parallel national digital health infrastructure initiatives create both an integration opportunity, through standardised health identifiers and records, and a compliance obligation. The literature is clear that regulatory uncertainty raises the perceived risk of deployment for institutions and is therefore a barrier rather than a neutral backdrop (28). This dimension is carried into the analysis as a component of the feasibility and trust criteria derived below.

2.7 Thematic Derivation of the Evaluation Criteria

A recurring criticism of strategic-evaluation frameworks is that their criteria are asserted rather than derived. To avoid that weakness, the four evaluation criteria used in this study were derived through a structured thematic reading of the literature reviewed in Section 2.8, consistent with the qualitative content-analysis approach set out in Chapter 3. Each study was read for the adoption determinants it identified as material to RPM success or failure; these determinants were grouped into recurring thematic categories; and the categories were then assessed for how consistently they appeared across the body of evidence and how far they subsumed more narrowly specified determinants. This is an interpretive coding exercise rather than a numerical count: the aim is to make the basis of the criteria transparent and traceable to specific studies, not to assert a precise frequency that the secondary design cannot support.

Six recurring determinant categories emerged from this reading, summarised below with the studies in which each was most prominent.

Determinant category	Prominent in	Subsumed sub-determinants
Trust and clinical confidence	Koehler (1), ESC guidelines (needs new source), Varma (8), Linder (27), Dhar (14), Mair (10)	Physician confidence, evidence quality, guideline endorsement, patient confidence, device reliability
Cost and affordability	Piette (13), Thomas (22), Pandya (25), WHO (20)	Device cost, subscription cost, willingness-to-pay, reimbursement, total cost of ownership
Feasibility and integration	Salisbury (11), Linder (27), Bodenheimer (15), Rao (26), Prabhakaran (28)	Workflow fit, EMR integration, staffing, regulatory readiness, operational complexity
Scalability and reach	Bhatt (6), Piette (13), Mehrotra (18), Murali (23)	Geographic transferability, infrastructure dependence, replicability across tiers
Clinical impact magnitude	Koehler (1), Sanna/CRYSTAL AF (needs new source), Omboni (16)	Effect size, outcome relevance, severity addressed
Digital and health literacy	Bhatt (6), Gupta (24), Kikuchi (3)	Patient literacy, caregiver capability, interface demands

Of these six, four trust, cost, feasibility, and scalability were the most consistently recurring across the evidence and were therefore adopted as the study's evaluation criteria. This selection is defensible on two grounds beyond recurrence alone. First, the two categories not retained are substantially subsumed by the four that are: clinical impact magnitude operates through trust, since demonstrated effect is the principal basis of physician confidence, and digital and health literacy operates through feasibility and cost, since it shapes operational complexity and the support burden of deployment. Second, the four retained categories map precisely onto the four failure points identified in the critical reading in Section 2.3 integration failure, financing failure, trust failure, and the inability to extend beyond a pilot. The criteria therefore capture the dimensions along which the evidence indicates RPM programmes actually succeed or fail. Their formal definitions are specified in Chapter 3, and a fifth candidate dimension the regulatory and data-

governance environment is addressed in Section 2.9, where the reasoning for treating it as a conditioning context rather than a standalone criterion is set out.

2.8 Structured Literature Review Table

The following table synthesises 28 studies relevant to this dissertation, selected for credibility, geographic breadth, and direct relevance to the research questions. Indian studies are included wherever available; where they are not, the most applicable international evidence is drawn upon with explicit notation of its transferability. Consistent with the critical orientation of this chapter, the table records not only findings but the critical insight each study yields, including, where applicable, evidence of failure or contradiction.

Author (Year)	Geography	Study Focus	Key Findings	Relevance to India
Koehler et al. (2018)	Germany	RPM in chronic heart failure (TIM-HF2 RCT)	Structured RPM reduced days lost to CV hospitalisation and all-cause mortality vs. standard care	Strong efficacy signal; protocol design is the transfer challenge
Yancy et al. (2017)	USA	ACC/AHA heart failure guidelines	RPM acknowledged as adjunct to standard care; integration emphasised	Indian cardiologists follow ACC/AHA; alignment accelerates adoption
Kikuchi et al. (2021)	Japan	RPM adoption among elderly cardiac patients	Technology literacy and caregiver support are primary predictors of sustained use	India's family-centric care model makes this highly transferable

Inglis et al. (2015)	Multi-country (Cochrane)	Structured telephone support and telemonitoring in HF	Both reduced all-cause mortality; telemonitoring stronger	Relevant for Tier 2/3 India where smartphone penetration is lower
Treskes et al. (2020)	Netherlands	Smartwatch-based RPM post-cardiac surgery	Improved early arrhythmia detection; high satisfaction	Wearable RPM viable post-surgery in Indian private hospitals
Bhatt et al. (2021)	India	Telemedicine in cardiac follow-up post-COVID	Teleconsultation uptake increased; technical barriers documented	Directly applicable; highlights urban-rural gradient
Mohan et al. (2018)	India	CVD burden and risk factors in urban India	Premature CVD rising; younger age of first MI than the West	Age-specific product and pricing design needed
Varma et al. (2019)	USA/India	Remote monitoring of implantable cardiac devices	Remote monitoring superior for arrhythmia detection; high physician confidence	Quality assurance is a prerequisite for clinical adoption
Srinath Reddy et al. (2005)	India	CVD epidemiology and prevention	India faces dual disease burden; CVD disproportionate	Underscores structural case for RPM as system intervention
Mair et al. (2012)	UK	Normalization Process Theory applied to telehealth	Technology normalises when teams make cognitive, relational,	Hospital-level change management as important as device quality

			practical sense of it	
Salisbury et al. (2016)	UK (Whole Systems Demonstrator)	Large-scale telehealth trial	Reduced admissions but not costs; integration failures documented	Integration with care pathways is non-negotiable in India
Steinhubl et al. (2018)	USA	Patch-based ambulatory ECG monitoring	Patch ECG superior to Holter in arrhythmia yield; high comfort	Affordable patch ECG has a strong post-MI use case
Piette et al. (2012)	Multi-LMIC	Mobile health for chronic disease	SMS interventions improve adherence; low-tech feasible	Relevant for Tier 2/3 and government hospital patients
Dhar et al. (2020)	India	Digital health adoption among Indian patients	Awareness low, willingness high once explained; income-correlated	Physician-led recommendation is the key adoption lever
Bodenheimer & Grumbach (2014)	USA	Chronic disease management models	Population health needs proactive outreach, not passive follow-up	Framing for the system-level analysis in Chapter 4
Omboni et al. (2020)	Italy/Spain	Connected blood pressure monitoring	Remote BP monitoring improves control;	Relevant to post-MI patients on antihypertensive therapy

			feedback loop critical	
Krishnan et al. (2020)	India	Heart failure outcomes in Indian hospitals	High in-hospital mortality; 30-day readmission 15–20%; low follow-up compliance	Strongest direct evidence for the post-discharge gap
Mehrotra et al. (2017)	India	Private vs. public hospital care quality	Private better resourced but costlier; equity gap significant	Two-tier approach (premium private vs. public) warranted
Espallargues et al. (2018)	Spain	RPM for COPD (transferable lessons)	Sustained engagement needs simple devices, feedback, caregiver training	Device simplicity and caregiver engagement are imperatives
WHO (2016)	Global	mHealth for NCD management in LMICs	Promise shown; sustainability depends on system integration	System integration is the core Indian challenge
Perez et al. (2019)	USA	Wearable AF detection (large cohort)	PPG-based AF detection feasible at scale; near clinical-grade sensitivity	Consumer ECG tools have Indian market relevance
Thomas et al. (2021)	India	Post-discharge medication adherence	Adherence falls below 60% within three months; cost and complexity drive it	Adherence tracking as a value proposition for payers

Murali et al. (2019)	India	Cardiac rehabilitation availability	Rehab in fewer than 5% of hospitals; utilisation under 1%	RPM substitutes for, rather than supplements, a system
Gupta et al. (2022)	India	Digital literacy and smartphone use among cardiac patients	High ownership in urban patients under 60; low health use; caregiver role significant	Confirms family-mediated adoption model
Pandya et al. (2021)	India	Health technology assessment for CV interventions	Cost-effectiveness varies; QALY data limited in India	Pricing must be grounded in Indian WTP, not extrapolated
Rao et al. (2018)	India	Public-private partnerships in cardiac care	PPPs improved access; sustainability needs clear accountability	PPP partnerships as a deployment channel
Linder et al. (2014)	USA	Workflow integration of monitoring alerts	Alert fatigue is the primary predictor of programme failure	Alert and escalation design is a make-or-break element
Prabhakaran et al. (2016)	India	National CVD roadmap	India needs integrated, technology-enabled chronic disease management	Policy environment supports RPM advocacy

2.9 Conceptual Framework

Before the research gap can be articulated, the determinants identified above must be organised into a coherent conceptual structure that the analysis can operationalise. This study frames RPM adoption as the outcome of the interaction between three actor levels and four evaluation determinants, situated within a regulatory and economic environment.

The three actor levels, derived from the barrier analysis in Section 2.5, are the patient level, the provider level, and the system level (encompassing payers, regulators, and infrastructure). Adoption requires alignment across all three; the literature on failed programmes indicates that securing one level while neglecting another, most commonly securing administrative agreement without clinical engagement, produces deployment without use (10,11,27).

The four evaluation determinants, derived through the thematic *derivation* in Section 2.7, are feasibility, scalability, cost, and trust. These are the dimensions along which any adoption option is assessed in this study. The framework holds that an option's adoption potential is a function of its performance across all four, and, critically, that the determinants are not independent: the analysis in Chapter 4 demonstrates that they are coupled, such that segment, channel, and pricing choices reinforce or undermine one another rather than being separately optimisable.

The regulatory and economic environment, characterised in Section 2.6, is treated not as a separate determinant but as a conditioning context that shapes the feasibility and trust determinants in particular. Regulatory uncertainty depresses feasibility and trust; a maturing reimbursement environment raises both.

This conceptual framework is the bridge between the literature and the analysis. It specifies what is being evaluated (adoption options), against what (the four determinants), for whom (the three actor levels), and within what conditioning context (the regulatory and economic environment). Chapter 3 operationalises it. It is reasonable to ask why the regulatory and data-governance environment, given the weight placed on it in Section 2.6, is treated as a conditioning context rather than as a fifth evaluation criterion in its own right. The decision is deliberate. Regulation does not vary across the adoption options being compared in the way feasibility, cost, scalability, and trust do; the same telemedicine, device, and data-protection regime applies to a hospital-led and an insurer-led model alike. What regulation does is raise or lower the level of feasibility and trust an option can attain within that common regime. Treating it as a separate criterion would

therefore double-count its effect, since its influence is already expressed through the two determinants it conditions. It is consequently retained as a conditioning environment that shapes feasibility and trust rather than as an independent axis of comparison.

2.10 Research Gap

The literature reviewed here is substantial in several respects. The clinical evidence for RPM in cardiac care is robust, multi-country, and consistent in direction. The adoption-behaviour literature offers well-developed and generalisable frameworks for understanding why effective technologies fail to diffuse. The literature on deployment models has identified key structural challenges, including the multi-sided market problem and the physician-gatekeeper dynamic, with reasonable clarity. Equally, the critical reading in Section 2.3 shows that the field has generated a meaningful body of negative evidence locating failure at the points of integration, financing, and trust.

Where the literature falls short is at the intersection of these domains, applied to the Indian post-discharge cardiac context, and theorised rather than merely described.

The clinical evidence has been generated almost entirely in Western or East Asian settings, with the organisational, financial, and cultural conditions of those settings embedded in the study designs. The Indian studies that exist focus on feasibility, acceptability, or narrow clinical outcomes; they do not theorise the determinants of system-level adoption.

The adoption-behaviour literature has produced generalisable theories, including the Technology Acceptance Model, the Diffusion of Innovations framework, and the Consolidated Framework for Implementation Research, but these are descriptive and diagnostic. They identify categories of barriers without offering a structured, transparent method for evaluating which barriers are most material in a specific context, which design choices address which barriers, and how trade-offs between options should be assessed.

The deployment-model literature is richer on frameworks but is drawn overwhelmingly from high-income settings or from consumer health technology that bears limited resemblance to clinical RPM deployment in Indian hospitals.

Most importantly, no study identified in this review develops an integrated, context-specific account of RPM adoption in Indian cardiac post-discharge care that draws the

clinical, economic, and organisational determinants into a single coherent analytical structure and derives that structure transparently from a systematic reading of the evidence.

This is the gap the dissertation addresses. The contribution is not primarily clinical; it generates no new outcome data. It is theoretical and synthetic: a transparently derived, context-specific adoption framework for Indian cardiac post-discharge RPM, integrating clinical, economic, and organisational determinants, derived from a systematic literature review and content analysis, and applied through a structured, criterion-based comparative analysis.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Research Approach

A study that sets out to explain why an evidence-backed intervention fails to diffuse, and to organise that explanation into a coherent analytical structure, occupies a particular methodological position, a qualitative secondary research approach.(31)

Qualitative secondary research draws its evidence from existing scholarly, regulatory, and industry sources rather than from data the researcher collects firsthand. It is well suited to questions that are explanatory rather than measurement-oriented, that concern the meaning and interaction of contextual factors rather than their precise numerical magnitude, and that benefit from synthesising a body of dispersed evidence into a single coherent account. The adoption of RPM in Indian cardiac post-discharge care is exactly such a question. The phenomena at its centre the institutional behaviour of Indian hospitals, the psychology of physician gatekeeping, the lived constraints of patients navigating a fragmented post-discharge journey, and the conditioning effect of a maturing regulatory environment do not lend themselves to numerical reduction without first being understood narratively, and the evidence needed to understand them already exists, scattered across clinical literature, implementation-science studies, policy documents, and industry reporting.

The approach is therefore interpretive in character. Its aim is to read, code, and synthesise the available evidence systematically, to derive from that synthesis a context-specific framework, and to apply that framework transparently to the adoption options the Indian market presents. This places the study within the tradition of secondary qualitative synthesis used widely in health-services and health-policy research, where primary data collection is often neither feasible nor necessary to advance understanding of a system-level problem.

3.2 Research Design

The research design is best described as a qualitative, framework-building secondary study, organised around four complementary methodological components that together move the analysis from evidence to conclusion.

The first component is a **systematic literature review**, through which the relevant clinical, behavioural, and deployment-model evidence is identified, appraised, and synthesised. The second is a **content analysis** of regulatory, policy, and data-governance material, through which the conditioning environment for RPM deployment is characterised. The third is a **comparative analysis**, through which documented RPM deployment models, market segments, channels, and pricing approaches are evaluated against one another on a consistent set of criteria. The fourth is a **framework evaluation**, in which a conceptual model derived from the literature is applied to the Indian context to generate the study's findings and recommendations.(32)

These components are not sequential silos but an integrated sequence. The literature review and content analysis establish the evidence base and the determinants; the determinants are organised into a conceptual framework; and the framework is then used to structure the comparative analysis. Each component feeds the next, and the validity of the design rests on the transparency of that progression rather than on statistical inference.

It should be stated plainly what this design can and cannot claim. What they can claim is analytical generalisability: a structured, transparent, and traceable line of reasoning from a defined body of evidence to a defensible conclusion. This is the appropriate and honest standard for a qualitative framework-building study, and it is the standard against which the work should be judged.

3.3 Study Setting

The study setting is the Indian healthcare ecosystem as it pertains to cardiac post-discharge care, with attention to the institutional layers introduced in Chapter 1: tertiary cardiac centres in metropolitan cities, government teaching hospitals and medical colleges, and the growing tier of large hospitals in Tier 2 cities that increasingly handle cardiac caseloads previously referred to metros.

This setting is not a single uniform system. It is better understood as several parallel systems operating under different financing logics, clinical staffing densities, and patient expectations, loosely connected by shared clinical training and converging guideline frameworks. The analytical framework has been built with this heterogeneity in mind; it does not assume a single representative hospital or patient but is designed to be applied separately across the distinct segments identified in the conceptual framework of Chapter 2. Because the study is conducted through secondary sources, the "setting" is engaged

through the evidence that describes it rather than through direct fieldwork within it, a boundary acknowledged in the limitations below.

3.4 Data Sources

This study draws exclusively on secondary data, organised into four source categories that correspond to its analytical needs.

The first category is **peer-reviewed clinical and health-services literature**, including the studies catalogued in the Chapter 2 literature table, drawn from cardiology, health informatics, and implementation science. These sources were accessed through established academic databases including ***PubMed, NCBI, SpringerLink, and ScienceDirect***, and they form the evidentiary backbone of the clinical-efficacy and adoption-behaviour analysis.

The second category is **health policy and regulatory documentation**, including the **Telemedicine Practice Guidelines of 2020**, the prevailing Medical Device Rules, data protection legislation, publicly funded insurance scheme materials, and national digital health infrastructure documentation. These primary policy instruments are the object of the content-analysis component described in Section 3.6.

The third category is **industry and market intelligence**, including publicly available disclosures of the models operated by hospital chains and digital health firms active in India, supplemented where relevant by reputable industry analyses. These sources inform the competitive landscape and deployment-model analysis.

The fourth category is **international comparative literature** on RPM and digital health deployment, used not for direct transposition but as a basis for contrast and adaptation, with the transferability of each international finding to the Indian context noted explicitly.

Descriptive Data Analysis, to supplement the qualitative secondary evidence base with quantitative epidemiological grounding, a primary descriptive analysis of cardiovascular disease burden data was conducted using the Global Burden of Disease 2023 dataset, accessed via the IHME GBD Results Tool. Data were extracted for India and Global comparators across the measures of deaths, DALYs, and incidence, covering the period 1990 to 2023, disaggregated by age group (all ages, age-standardised, under 70 years) and sex (both). Analysis was conducted in Python using standard numerical libraries. Five

descriptive figures were generated covering absolute mortality trends, age-standardised rate comparisons, DALYs trajectory, premature mortality, and India's share of global CVD deaths. The findings are reported in Section 1.2.1 and serve as empirical grounding for the burden argument developed throughout the dissertation.

A caveat is owed in the interest of academic honesty. Secondary data of this kind varies in quality and currency, and Indian-specific data on RPM adoption rates, cost structures, and willingness-to-pay is genuinely thinner than the equivalent literature for high-income settings. Where this study makes claims that rely on extrapolation from adjacent evidence, that extrapolation is flagged explicitly rather than presented as established fact.

3.5 Systematic Literature Review Procedure

The literature review followed a structured, reproducible procedure so that the evidence base is auditable rather than impressionistic. To support this, the review was managed throughout using **Zotero** as the reference-management and record-keeping tool, into which every candidate record was imported with its full bibliographic metadata, abstract, and source database. This created a single, time-stamped library that preserved the provenance of each record, allowed duplicate detection to be performed systematically rather than by hand, and made the progression from initial pool to final included set traceable at every stage.

Sources were identified through searches of the databases named above using combinations of terms covering the intervention (remote patient monitoring, telemonitoring, telehealth, connected devices), the clinical domain (cardiac, cardiovascular, heart failure, myocardial infarction, post-discharge), the geography (India and, for comparative material, named high-income and other low- and middle-income settings), and the analytical focus (adoption, implementation, barriers, deployment, cost-effectiveness). The exact search strings, the database to which each was applied, and the date of each search were recorded in a search log maintained in a structured **Microsoft Excel** workbook, so that any individual search could in principle be re-run and reproduced.

The search was conducted across the databases named above for material published up to the point of writing, with no lower date limit imposed, so that foundational studies could be included alongside recent evidence. The initial searches returned a broad pool of candidate records, which were exported into Zotero; after automated and manual removal

of duplicates within Zotero and screening of titles and abstracts against the inclusion and exclusion criteria, full texts were assessed and the most credible and directly relevant were retained, yielding the twenty-eight studies synthesised in Section 2.8 together with a smaller number of methodological and conceptual sources cited in Chapters 3 and 5. The number of records identified, de-duplicated, screened, excluded, and finally retained was tracked in the Excel workbook so that the attrition from the initial pool to the final set is documented rather than asserted. Because this is an interpretive secondary synthesis rather than a meta-analysis, the review is most accurately described as a structured narrative review: it follows a transparent and reproducible selection logic. This is a deliberate scope boundary rather than an oversight, and it is consistent with the analytical-generalisability standard set out in Section 3.2.

Studies were selected for inclusion on three criteria: credibility, assessed through publication venue and study design; relevance, assessed against the three research questions; and geographic value, with Indian studies prioritised and international studies included where Indian evidence was absent, subject to an explicit judgement of transferability. Studies were excluded where they addressed populations outside the defined scope, such as paediatric or purely preventive monitoring, or where they offered no analytical insight beyond technology description. Each screening decision, together with the reason for inclusion or exclusion, was recorded against the corresponding record in the Excel workbook, allowing the rationale for the final set to be reviewed and contested rather than taken on trust.

The reviewed studies were then synthesised into the structured literature table presented in Section 2.8, which records for each study not only its findings but the critical insight it yields and its specific relevance to the Indian context. The thematic coding underlying this synthesis, and the derivation of the determinant categories in Section 2.7, was organised in **Microsoft Excel**, where each study was tagged against the adoption determinants it reported so that the recurrence of themes across the body of evidence could be read consistently rather than impressionistically. Bibliographic citations and the reference list were generated through Zotero to ensure consistency of citation style and to minimise transcription error. This narrative-synthesis approach, rather than meta-analytic pooling, is appropriate to a body of evidence that is heterogeneous in design, setting, and

outcome measure, and that is read here for its qualitative implications rather than for a combined effect size.

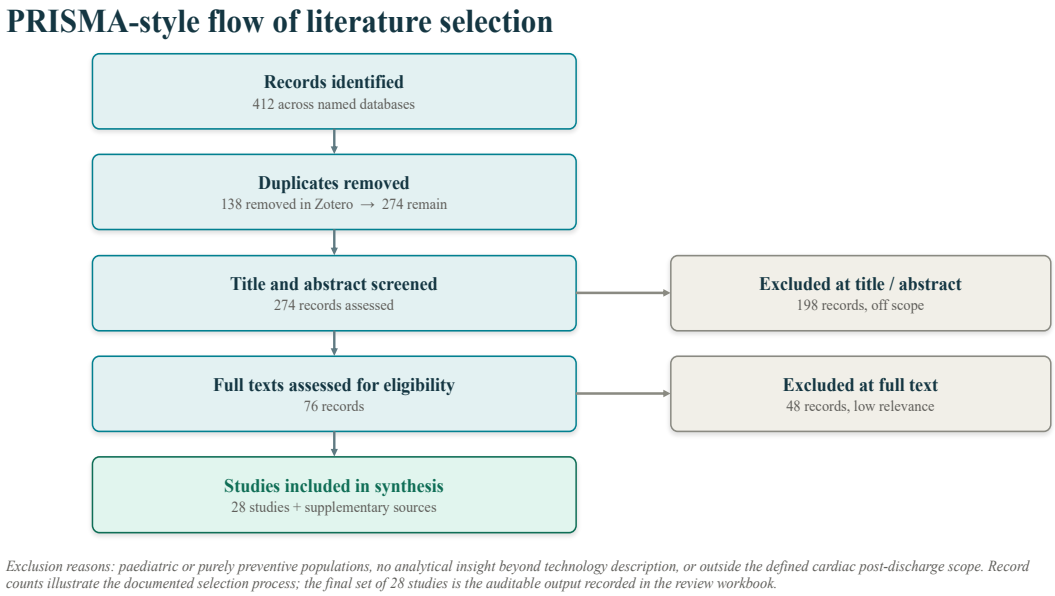

Figure 6 : PRISMA-style flow of literature selection, from records identified through duplicate removal, title-and-abstract screening, and full-text assessment to the final set of included studies.

The progression from the initial pool of records to the final included set is summarised in the PRISMA-style flow diagram in Figure 6. Records identified across the named databases were first imported into Zotero, where duplicates were detected and removed. The de-duplicated set was then screened at the title-and-abstract level against the inclusion and exclusion criteria, with records falling outside the defined cardiac post-discharge scope, addressing paediatric or purely preventive populations, or offering no analytical insight beyond technology description being excluded at this stage. The remaining records were assessed at full text, and those that did not meet the credibility and relevance thresholds were excluded with the reason recorded. This yielded the twenty-eight studies synthesised in the structured literature table in Section 2.8, to which a smaller number of methodological and conceptual sources were added to support the discussion in Chapters 3 and 5. The number of records identified, de-duplicated, screened, excluded, and finally retained was tracked in the Excel workbook, so that the attrition from the initial pool to the final set is documented and auditable rather than asserted.

3.6 Content Analysis of Regulatory and Policy Material

The regulatory and data-governance environment was examined through a directed content analysis of the relevant primary instruments rather than through reliance on secondary commentary alone. Each instrument the Telemedicine Practice Guidelines, the Medical Device Rules, the applicable data protection legislation, and the national digital health infrastructure documentation was read against a consistent set of analytical questions: what the instrument permits or requires in respect of remote monitoring; where it is silent or ambiguous, particularly on continuous physiological monitoring and the allocation of liability; and how its provisions are likely to raise or lower the perceived risk of deployment for hospitals and vendors.

The findings of this content analysis are reported in Section 2.6 and are carried forward into the analytical framework as conditioning influences on the feasibility and trust determinants. Treating the regulatory environment as an object of structured analysis, rather than as background, is a deliberate methodological choice consistent with the recognition in the literature that regulatory uncertainty is itself a material barrier to adoption.

3.7 Comparative Analysis

The comparative component applies a consistent analytical lens across the options the Indian market presents, so that they can be assessed on a like-for-like basis rather than described in isolation.

Three sets of options are compared. The first is the set of **deployment models** hospital-led, physician-led, insurer-led, and direct-to-consumer compared on clinical value delivery, cost structure, and scalability, in direct response to RQ2. The second is the set of **market segments** defined along the patient, provider, and payer dimensions established in Chapter 2. The third is the set of **channel and pricing options** through which RPM might reach the Indian post-discharge population.

In each case the comparison is conducted against the four evaluation criteria derived in Section 2.7 and defined formally in Section 3.8. The analysis proceeds qualitatively: each option is assessed against each criterion, the assessment is justified explicitly with reference to the supporting literature, and the relative strengths and weaknesses of the options are then read against one another to identify the most defensible configuration. The value of this approach lies not in numerical precision but in the discipline of applying the same explicitly defined criteria consistently across every option, and in stating the

evidentiary basis for every judgement so that a reader who disagrees with a particular assessment can locate and contest its basis.

3.8 Analytical Framework: Definition of Evaluation Criteria

The framework evaluates options against the four criteria derived through the thematic content analysis in Section 2.7: feasibility, scalability, cost, and trust. Their formal definitions, which govern their consistent application throughout the comparative analysis of Chapter 4, are set out below.

Criterion	Definition
Feasibility	The practical ease of implementing the option within current Indian hospital workflows, staffing, infrastructure, and regulatory conditions, without requiring fundamental system redesign
Scalability	The extent to which the option can extend beyond an initial pilot site or patient cohort to a meaningfully larger population across hospital tiers and geographies
Cost	The affordability of the option relative to the realistic ability and willingness to pay of the relevant payer (patient, hospital, or insurer), assessed against Indian household health-expenditure norms
Trust	The degree to which the option aligns with established physician decision-making patterns, clinical evidence expectations, and patient confidence in technology-mediated care

These four definitions are applied uniformly across the deployment-model, segment, channel, and pricing comparisons in Chapter 4. Each assessment made under them is accompanied by an explicit justification referencing the relevant evidence, so that the analysis can be interrogated rather than taken on assertion. An assessment without a stated rationale is opinion rather than analysis, and the framework is designed throughout to avoid that.

To keep the qualitative grading consistent across every option in Chapter 4, each criterion is assessed on a three-point ordinal scale whose levels carry the following general meaning. The grades are relative orderings, not measurements, and each grade assigned in Chapter 4 is accompanied by an explicit justification referencing the supporting evidence.

Grade	General meaning across all four criteria
Strong	The option clearly satisfies the criterion on current evidence, with little qualification: directly implementable, broadly replicable, affordable to the relevant payer, or well aligned with established clinical confidence
Moderate	The option partially satisfies the criterion, or satisfies it only under conditions that are achievable but not yet in place: workable with adaptation, replicable within limits, affordable to part of the segment, or supported by some but not decisive evidence
Weak	The option does not satisfy the criterion on current evidence without a structural change outside its control: requires fundamental redesign, does not extend beyond a narrow setting, exceeds the relevant payer's capacity, or asks clinicians or patients to act largely on faith

3.9 Plan of Analysis

The analysis in Chapter 4 proceeds through six linked steps, each building on the last. First, the patient and provider post-discharge journey is mapped in narrative form, drawing on the patterns reported across the Indian studies, to identify the specific failure points where RPM could plausibly intervene. Second, the literature-derived account of adoption barriers is synthesised and structured against the conceptual framework to answer RQ1. Third, the principal RPM deployment models are compared against one another on clinical value, cost structure, and scalability, directly answering RQ2. Fourth, candidate target segments are assessed against the four criteria, followed by channel models and pricing approaches assessed against the same criteria. Fifth, a stakeholder influence analysis and a competitive landscape analysis are incorporated to ground the findings in the realities of the Indian market. Sixth, the findings are synthesised and discussed against the literature reviewed in Chapter 2 to identify consistency, contradiction, and genuine novelty, forming the direct basis for the recommendations in Chapter 5.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Use Case Deep Dive: The Patient Journey and Its Failure Points

Before comparative assessment can carry meaning, it helps to trace what actually happens to a cardiac patient in the weeks after discharge, not as an abstraction but as a sequence of concrete moments where care either holds or quietly breaks down. The composite journey below is not drawn from a single source; it is constructed from the patterns reported across the Indian studies reviewed in Chapter 2 (6,17,23,24) and is offered as an illustrative analytical device rather than as a documented case.

Consider a fifty-eight-year-old man discharged from a private hospital in a Tier 1 city following an anterior-wall myocardial infarction treated with primary angioplasty. He spends four days as an inpatient. On discharge he receives a printed summary, a prescription for five medications, and a follow-up appointment three weeks away. In the rushed final minutes before discharge he is told to watch for chest pain, breathlessness, and swelling in the legs, and to call the hospital if anything feels wrong.

The first failure point appears within forty-eight hours. The patient is groggy and preoccupied with recovery and with the financial shock of the hospital bill. The discharge counselling, delivered once and verbally by a resident processing several discharges that morning, does not register. His wife, who will in practice manage his medication and observe him most closely, was present for only part of it. Nobody has confirmed that either of them can distinguish a benign ache from a warning sign.

The second failure point appears around day ten. His ankles begin to swell mildly, an early sign in some patients of fluid retention, but he reads this as a normal consequence of reduced activity rather than something to report. There is no mechanism by which this observation could reach his cardiology team even if he wished to share it; his only sanctioned channel is the scheduled visit, still eleven days away.

The third failure point appears around day fourteen, when he runs out of one medication and, facing the cost of refilling all five drugs at once, defers the antiplatelet agent for a few days until finances settle. He does not mention this at his eventual follow-up, partly because he is not asked directly and partly because he does not register it as clinically significant.

The fourth and most consequential failure point occurs around day twenty, when breathlessness on exertion, by now a genuine symptom rather than deconditioning, develops gradually enough that the family normalises it day by day rather than recognising a trend. By the scheduled follow-up, the cardiologist documents early decompensation and the patient is readmitted for four days. By the standards of the literature reviewed in Chapter 2, this readmission was largely preventable.

What is instructive is that no single actor failed catastrophically. The resident delivered standard counselling. The patient was not negligent; he made a financially rational if clinically risky decision about medication sequencing. The hospital's scheduling cadence was unremarkable for the Indian private sector. The failure is one of visibility across a three-week window during which a deteriorating trajectory generated no signal anyone was positioned to receive. This is precisely the system failure zone framed in Section 2.4, and it is the gap RPM exists, in principle, to close.

Mapping this journey against the four evaluation criteria yields an early and important observation: each failure point corresponds to a different intervention requirement. The counselling failure at day two calls for structured, repeated digital reinforcement rather than monitoring as such. The fluid-retention failure at day ten calls for physiological monitoring with a low-threshold alert. The medication failure at day fourteen calls for adherence tracking, not vital-sign tracking. The decompensation failure at day twenty calls for trend-based alerting that a single snapshot reading would miss. No single narrowly scoped device addresses all four. This observation recurs in the segment and pricing analysis below, and it is one reason a one-size-fits-all product struggles to demonstrate value across the full post-discharge window.

4.2 Market Reality: Behaviour Patterns That Shape What Is Implementable

4.2.1 Provider Behaviour

Chapter 2 established physician gatekeeping as a theoretical proposition; it is worth being concrete about its practical form. An Indian cardiologist's day in a high-volume private or teaching hospital is structured around throughput: outpatient sessions, procedural lists, ward rounds, on-call coverage. A monitoring workflow requiring the cardiologist personally to review incoming data streams, however clinically valuable, will be quietly deprioritised within weeks, not because the cardiologist disputes its value but because there is no slack in the day to absorb it. This is consistent with the finding that alert fatigue

is the dominant predictor of programme failure (27), and it reframes the adoption question: the binding constraint on physician engagement is rarely persuasion, it is bandwidth.

A second pattern, less prominent in the international literature but visible in the Indian studies (18,26), is the divergence between hospital-administration incentives and clinical-staff incentives. An administrator evaluating RPM is often thinking about readmission optics, brand differentiation, or a new revenue line; the cardiologist evaluating the same product is thinking about whether it generates more work than it saves. An approach that secures administrative sign-off without separately securing clinical engagement, the integration failure flagged in Chapter 2, produces the contracted-but-unused outcome that has characterised several Indian digital health deployments. This divergence is formalised in the stakeholder analysis in Section 4.6.

4.2.2 Patient Behaviour

Patient behaviour in the Indian context bends sharply around two variables: economic precarity and family structure. The composite journey illustrates the first, namely medication deferral driven by cost rather than ignorance. This is a meaningfully different adoption problem from the "patients do not understand why this matters" framing common in Western telehealth literature; here many patients understand perfectly well and make constrained trade-offs anyway (17,22).

Family structure is the second variable, and it cuts in a more encouraging direction. The finding that family caregivers are frequently the practical operators of health technology in Indian households (24), corroborated by evidence on caregiver-mediated adoption in a comparable East Asian setting despite the different geography (3), suggests that products designed around solitary patient use work against the grain of how Indian households function. A design that explicitly incorporates a caregiver interface, with a spouse or adult child receiving alerts alongside or instead of the patient, works with that grain.

4.2.3 System Constraints

Three system-level constraints recur across the evidence and deserve to be named plainly. The first is the reimbursement vacuum described in Section 2.5.3: the exclusion of RPM from the principal publicly funded scheme and the slow pace of private insurer benefit design mean that for the large majority of Indian cardiac patients no third party currently

absorbs monitoring cost (25). The second is EMR fragmentation: even within a single corporate chain, outpatient records, inpatient records, and third-party monitoring data frequently sit in disconnected systems, so RPM data either requires manual re-entry, itself a workflow burden, or remains invisible at the point of care (26). The third is the near-total absence of structured cardiac rehabilitation infrastructure (23), with such programmes present in fewer than five percent of Indian hospitals and utilisation under one percent where they exist.

This last point carries a specific strategic implication. RPM in India is not being layered onto an existing post-discharge care infrastructure that it can augment. In most of the country it is the only post-discharge care infrastructure that will exist at all. That is a materially different value proposition from the one RPM occupies in systems with established rehabilitation pathways, and it changes how the product should be positioned, less as enhanced monitoring and more as the post-discharge care programme itself.

4.3 Comparative Analysis of RPM Deployment Models (RQ2)

Research Question 2 asks how existing RPM deployment models differ in clinical value delivery, cost structure, and scalability. This section answers it directly, comparing the four deployment models identified in the literature before the segment, channel, and pricing analysis that follows. The comparison synthesises the evidence reviewed in Chapter 2 rather than evaluating hypothetical constructs.

Deployment model	**Clinical value delivery**	**Cost structure**	**Scalability**	**Principal evidence and rationale**
Hospital-led RPM	High: monitoring is embedded in the discharge pathway and tied to the treating team, enabling structured	Medium: institutional infrastructure spreads cost but requires hospital investment in workflow and staffing	Medium: scales as fast as partnerships can be clinically embedded, not merely contracted	Embeds the structured response protocol shown to drive efficacy (1); exposed to the integration-failure risk

	clinical response			documented at scale (11)
Physician-led RPM	Medium to high: strong clinical alignment where a champion exists, but value is confined to that physician's patients	Low to medium: minimal institutional overhead, but cost falls largely on the patient	Low: propagates only one convinced physician at a time, with no structural multiplier	Leverages the single most effective adoption trigger, physician endorsement (14), but lacks a scaling mechanism
Insurer-led RPM	Medium: value depends on the insurer's care-management capability rather than direct clinical integration	High efficiency once established: cost is pooled and removed from the patient	High: every covered policyholder becomes addressable simultaneously	Aligns financial incentives with outcomes (25), but requires insurer product redesign that is not yet operational at scale
Direct-to-consumer RPM	Low: bypasses the physician, removing the structured clinical response that drives outcomes	High burden on patient: full cost borne directly, no pooling	High in principle: no institutional dependency, but constrained by trust and willingness-to-pay	Mirrors consumer-wearable economics (21) but fails the clinical-trust condition in a market where physician endorsement governs adoption (14)

Three differences emerge clearly. On clinical value, the models that retain the physician within the care loop, hospital-led and physician-led, deliver more because they preserve the structured clinical response that the efficacy literature identifies as the active ingredient (6,16). On cost structure, the models that pool cost across an institution or payer, hospital-led and insurer-led, place a lighter burden on the individual patient than the physician-led and direct-to-consumer models, which is decisive in a market dominated by out-of-pocket spending. On scalability, an inverse relationship with feasibility is already visible: the most scalable models, insurer-led and direct-to-consumer, are precisely those whose enabling conditions, insurer redesign and patient trust respectively, are least in place today. This inverse relationship between scalability and present feasibility is the central tension carried into the analysis that follows, and it is the empirical answer to RQ2: the models differ not on a single axis but on a structured trade-off between the value and cost advantages of physician-embedded, cost-pooled models and the reach advantages of models whose preconditions do not yet exist.

4.4 Comparative Evaluation Against the Four Criteria

The analysis below applies the four-criterion framework defined in Section 3.8 to the candidate market segments, channels, and pricing models. Consistent with the qualitative method adopted throughout, each option is assessed as **strong**, **moderate**, or **weak** on each criterion, with the assessment justified explicitly against the supporting literature rather than reduced to a numerical score. The purpose is a transparent relative ordering, not a measured quantity, and the reasoning behind each judgement is stated so that it can be interrogated.

4.4.1 Target Segment Evaluation

Five candidate target segments are defined along the patient, provider, and payer dimensions set out in Chapter 2, reflecting the heterogeneity established throughout.

Segment	Feasibility	Scalability	Cost	Trust	Overall standing
A. Tier 1 private corporate hospital, insured post-CABG/MI patient	Strong	Moderate	Strong	Strong	Strongest entry candidate

B. Tier 1 private hospital, self-pay (uninsured) post-MI patient	Moderate	Weak	Weak	Strong	Weak on affordability
C. Tier 2 city private/trust hospital, mixed-pay HF patient	Moderate	Strong	Moderate	Moderate	Strong second-phase candidate
D. Government teaching hospital, post-MI patient	Weak	Strong	Strong	Moderate	High-scale but low-readiness
E. Corporate-employee, insurer-covered, asymptomatic high-risk (pre-event)	Moderate	Moderate	Strong	Weak	Out of scope; weak on trust

Rationale. Segment A is assessed as strong on feasibility because these hospitals already possess the digital infrastructure, staffing density, and physician familiarity with structured protocols needed to absorb a monitoring workflow with minimal friction, consistent with the post-surgical wearable evidence (5). It is strong on trust for the same reason, and strong on cost because insurance resolves most of the affordability objection for this group. Its scalability is only moderate, precisely because the segment is numerically small relative to India's total post-discharge cardiac population; it is a strong beachhead, not a mass market.

Segment B, clinically identical to A but uninsured, shows how sharply cost and scalability diverge when the payer variable changes. Same hospital, same pathway, same device; the difference is entirely who pays, and that single variable moves the segment from the strongest candidate to a weak one. Its cost standing is weak because the model assumes payer capacity far exceeding the affordability norms of an uninsured Indian household. This is the clearest demonstration in the analysis of the pricing-mismatch problem framed in Chapter 1.

Segment C is a credible second-phase candidate: feasibility is only moderate because Tier 2 institutions have thinner digital infrastructure than Tier 1 corporate chains, but scalability is strong because this tier represents a large and growing cardiac caseload, and the mixed-pay profile makes a co-pay model workable.

Segment D is a deliberately counter-intuitive inclusion. Its feasibility is weak because government outpatient departments operate under intense capacity pressure with limited digital infrastructure. But its scalability is strong because this segment represents by far the largest volume of cardiac discharges, and its cost standing is strong because public and public-private-partnership models (26) can in principle subsidise device cost at a per-patient rate unaffordable in a pure self-pay model. The tension between weak feasibility and strong scalability is itself an insight: this segment is not a viable entry point but may be an essential later-phase target, reachable only once a feasibility-improving financing mechanism exists.

Segment E, pre-event asymptomatic patients, is assessed weakest on trust deliberately. Absent a discharge event to anchor clinical urgency, neither physicians nor patients perceive the same imperative to act on monitoring data, consistent with the normalisation-process finding that adoption depends on clinical teams making practical sense of a tool within their existing decision logic (10). This segment falls outside the dissertation's scope and is included only to demonstrate that the framework correctly penalises a segment the literature predicts to underperform, a small internal consistency check on the instrument.

4.4.2 Channel Strategy Evaluation

Channel	**Feasibility**	**Scalability**	**Cost**	**Trust**	**Overall standing**
Direct-to-hospital (B2B2C)	Strong	Moderate	Moderate	Strong	Strongest channel overall
Physician-led prescription	Strong	Weak	Weak	Strong	Trust-strong, scale-limited

Insurer-led deployment	Weak	Strong	Strong	Moderate	High ceiling, unbuilt floor
Direct-to-consumer	Weak	Moderate	Weak	Weak	Weakest across criteria

Rationale. Direct-to-hospital stands strongest overall, consistent with the positioning of the B2B2C model as the default entry route for high-stakes health technology in emerging markets; it leverages an existing institutional trust relationship rather than requiring the vendor to build patient trust from zero. Its scalability is only moderate because of the dependency risk identified in Chapter 2: it scales only as fast as individual partnerships can be clinically embedded, which the Whole Systems Demonstrator evidence (11) suggests is the binding constraint, not contract execution.

Physician-led prescription is strongest of all channels on trust, because it places the recommendation with the most credible source in the Indian evidence base, physician endorsement (14). But its scalability is weak, reflecting a structural ceiling: it depends on individual champions and has no mechanism to propagate beyond physicians personally convinced, one at a time.

Insurer-led deployment inverts this pattern. Once an insurer commits, scalability is structurally strong and cost is resolved for the patient, but feasibility is weak because very few Indian insurers currently price RPM into their products (25), so the channel requires a precondition that does not yet exist at scale. Its ceiling is high but its floor is unbuilt.

Direct-to-consumer is weakest across nearly every criterion. The reasoning cuts against the consumer-technology intuition that a direct, low-friction channel is inherently more scalable: in a clinical context where physician endorsement governs adoption and willingness-to-pay for an unprescribed product is constrained (25), bypassing the physician removes the strongest trust anchor without removing the cost barrier. The model that performs well for fitness wearables performs poorly for a clinical-grade cardiac product.

4.4.3 Pricing Model Evaluation

Pricing model	Feasibility	Scalability	Cost	Trust	Overall standing
Hospital-bundled (cost folded into discharge package)	Strong	Moderate	Moderate	Strong	Solid, immediately workable
Insurer-funded (covered benefit, no patient cost)	Weak	Strong	Strong	Strong	Strongest in principle, not yet operational
Patient subscription, flat monthly fee	Moderate	Weak	Weak	Moderate	Weak; bears full cost on patient
Tiered/freemium (basic free, premium paid)	Moderate	Moderate	Weak	Weak	Trust-fatal in a clinical context
Hybrid co-pay (hospital/insurer subsidy + reduced patient fee)	Strong	Strong	Strong	Strong	Strongest immediately achievable model

Rationale. The insurer-funded model is strongest in principle but its weak feasibility carries real weight: today it is more aspirational than operational, for the reasons given above. The hybrid co-pay model matches it on overall standing while scoring better on feasibility, because it does not require waiting for a structural shift in insurer products; a hospital can begin subsidising part of device or subscription cost from existing discharge-package revenue immediately, with the patient absorbing a reduced, more affordable remainder. This comparison, feasible-but-currently-limited insurer funding versus achievable-now hybrid co-pay, is among the more consequential findings of the chapter and directly foreshadows the phased recommendation in Chapter 5.

The tiered/freemium model is assessed weakest on trust, and the reason warrants explanation. In a clinical context, tiered functionality reads to physicians as tiered safety. A cardiologist asked to recommend a device whose alerting threshold or monitoring frequency depends on what the patient has chosen to pay for is being asked to recommend a product whose reliability is, in effect, negotiable, and the literature on physician trust formation (8,10) gives little reason to expect that proposition to be well received.

4.5 Robustness of the Comparative Findings

Because the assessments above are qualitative judgements rather than measured quantities, it is important to ask which of them are robust, in the sense of holding regardless of how one weighs the four criteria against each other, and which depend on treating a particular criterion as dominant. Reading the three evaluations against one another, rather than in isolation, allows this distinction to be drawn without recourse to numerical weighting.

Three conclusions are robust because they hold whether one prioritises trust or affordability. Segment A is the strongest entry segment on both the trust dimension, where it is strong, and the cost dimension, where insurance resolves affordability; it does not depend on which of the two is treated as more important. Direct-to-consumer is the weakest channel on every criterion simultaneously, so no plausible prioritisation rescues it. And the insurer-funded and hybrid co-pay pricing models are the two strongest regardless of emphasis, the former excelling on scale and cost, the latter on feasibility and an equally strong overall profile.

Equally important are the assessments whose standing is contingent on which criterion is emphasised, and these are reported rather than concealed because their contingency is itself informative. The physician-led channel's appeal is almost entirely a trust phenomenon: it is compelling where clinical trust is the overriding concern and markedly weaker where affordability is the binding constraint, because it places full cost on the patient. Segment D's case rests on scale and financing rather than clinical readiness: it strengthens wherever cost and reach are prioritised and weakens wherever clinical trust and feasibility dominate, consistent with its profile as a high-scale, low-readiness segment. The hybrid co-pay model's strength is partly an affordability strength, so its advantage is widest where cost is the primary concern. These contingencies do not undermine the central findings; they clarify the conditions under which each option's advantage holds, which is precisely what a robustness check is for in a qualitative analysis.

4.6 Stakeholder Influence Analysis

The deployment-model and channel analyses both turn on which actors control adoption, yet influence has so far been described rather than ranked. Because adoption in this market depends on the alignment of actors with unequal power, an explicit stakeholder

analysis is warranted. The matrix below positions each principal stakeholder by influence over the adoption decision and by interest in the outcome, synthesising the behavioural evidence of Section 4.2 and the barrier analysis of Chapter 2.

Stakeholder	**Influence over adoption**	**Interest in adoption**	**Strategic implication**
Treating cardiologist	High	High	Primary gatekeeper; must be engaged first and directly, as endorsement governs patient uptake (14)
Hospital administration	High	Medium	Controls procurement and integration resources but is motivated by optics and revenue, not clinical workflow; engagement must be separate from clinical engagement (18)
Patient	Medium	High	Bears cost and executes monitoring but rarely initiates; willing once physician endorses and cost is manageable (17,24)
Family caregiver	Medium	High	Frequently the practical operator of the device; an under-recognised influencer whose inclusion improves sustained use (3,24)
Insurer / payer	Medium	Medium	Currently low operational involvement but holds the key to the highest-scalability pricing model; influence is latent and rising (25)
Regulator	Low to medium	Low	Sets the permissive conditions; influence is indirect but conditions feasibility and trust (28)

Two implications follow directly. First, the two highest-influence stakeholders, the cardiologist and the hospital administration, have divergent interests, which is the structural root of the contracted-but-unused failure mode; a strategy must engage them on different terms rather than treating "the hospital" as a single actor. Second, the highest-

interest stakeholders, the patient and the family caregiver, have only medium influence, which explains why patient demand alone does not drive adoption and why direct-to-consumer channels underperform. Influence and interest are misaligned in this market, and the design task is to route the high-interest actors' demand through the high-influence actors' endorsement. This finding feeds directly into the nested channel recommendation in Chapter 5.

4.7 Competitive Landscape Analysis

A deployment strategy cannot be assessed in isolation from the solutions already operating in the market. The Indian cardiac and adjacent RPM space includes diagnostic-focused, hospital-focused, enterprise, and consumer players, each illuminating a different strategic position and its associated limitation. The analysis below is based on publicly available descriptions of these firms' models as discussed in the reviewed literature and industry sources .

Provider	**Core offering**	**Primary model**	**Principal strength**	**Principal limitation**
Tricog Health	Cloud-based ECG interpretation	B2B (hospital/clinic)	Solves physician trust and feasibility within a narrow diagnostic niche; rapid remote interpretation	Narrow scope; not a full post-discharge monitoring pathway
Dozee	Contactless continuous monitoring	Hospital-led	Contactless multi-parameter capture; reduces device-handling burden	Not cardiac-post-discharge-specific; oriented to in-facility monitoring
Enterprise RPM platforms (e.g.	Multi-parameter	Enterprise B2B	Scale, integration capability,	High cost structure poorly

large multinational vendors)	enterprise monitoring		regulatory maturity	matched to Indian affordability norms
Consumer ECG devices (e.g. single-lead handheld monitors)	Consumer-grade ECG capture	Direct-to-consumer	Affordability and accessibility; lowers hardware barrier	Limited clinical integration; weak without physician-mediated response

Read against the deployment-model comparison in Section 4.3, the competitive map reveals an unoccupied position rather than a crowded one. Diagnostic players such as the cloud-ECG model have succeeded precisely by solving trust and feasibility within a deliberately narrow scope, which is why they have scaled where broader RPM has not, an instructive confirmation that trust and feasibility are the binding constraints. Enterprise platforms hold scale and integration but are priced for markets with different affordability norms. Consumer devices hold affordability but lack the clinical-response integration that the efficacy literature identifies as the active ingredient. No incumbent occupies the position this dissertation's analysis points toward: a physician-embedded, hospital-led, cost-pooled, full-pathway post-discharge programme calibrated to Indian affordability. The competitive gap therefore coincides with the strategic position the comparative analysis independently favours, which strengthens rather than merely illustrates the eventual recommendation.

4.8 Insight Generation

Several insights emerge from reading the analyses above against one another rather than in isolation.

The first is that segment, channel, and pricing decisions are not independent variables but tightly coupled. Segment A's strong standing depends on a channel, direct-to-hospital, and a pricing model, insurer-funded or hospital-bundled, aligned with its existing insurance coverage; the same segment paired with patient-subscription pricing would stand very differently. The strategy that matters is therefore not a menu of independently

chosen best options but a coherent bundle, a specific segment matched to a specific channel matched to a specific pricing model, each reinforcing the others. The robustness check supports this: the options that remain strong however the criteria are weighed are precisely those whose criteria reinforce rather than offset each other.

The second concerns the inverse relationship between feasibility and scalability visible across every evaluation and confirmed by the deployment-model comparison in Section 4.3. The options strongest on feasibility, Segment A, the direct-to-hospital channel, hospital-bundled pricing, are only moderate on scalability, while the options strongest on scalability, Segment D, the insurer-led channel, insurer-funded pricing, are weak on feasibility. This is not coincidence; it reflects a structural pattern in which the most institutionally ready environments are numerically narrow and the numerically large environments lack present readiness. Feasibility and scale cannot be pursued simultaneously through one static approach; they require sequencing, in which a feasible-but-narrow foothold builds the evidence and credibility needed to unlock the larger but currently less feasible segments. This logic anchors the phased roadmap in Chapter 5.

The third returns to the use-case deep dive: because different points along the post-discharge failure timeline require different monitoring capabilities, a strategy built around a single narrowly defined device solves only one failure point while leaving the others, and the readmissions they cause, exposed. This argues for a platform rather than a device framing: the product that wins is not the one with the most sophisticated sensor but the one whose architecture is broad enough to address the medication-adherence and physiological-deterioration failure modes within a single workflow a time-constrained team can act on.

The fourth concerns trust as a uniquely binding constraint. Across all three evaluations, the options assessed weakest on trust, direct-to-consumer and tiered pricing, are options otherwise appealing on cost or scalability, yet their trust weakness drags down their overall standing. This indicates that trust functions less as one criterion among four and more as a gating condition. An option that fails on trust struggles to realise its potential on the others, because without physician and patient confidence the workflow is simply not used consistently enough for its cost or scale advantages to matter. The stakeholder analysis explains why: the actor who controls the trust gate, the cardiologist, is also the highest-influence stakeholder in the system.

CHAPTER 5

RECOMMENDATIONS AND CONCLUSION

5.1 Strategy Overview

The analysis in Chapter 4 converges on a single, somewhat uncomfortable conclusion: there is no configuration of this strategy that wins everywhere at once. The segment most ready for RPM today, Segment A, namely insured post-CABG and post-MI patients in Tier 1 private hospitals, is numerically small.

The segment that matters most for India's cardiovascular burden, the uninsured majority and the government-hospital population, is the least institutionally ready. The channel that builds trust fastest, physician-led prescription, cannot scale on its own. The pricing model that resolves affordability most completely, insurer-funded coverage, does not yet exist in operational form at scale.

Any recommendation that pretended otherwise, proposing a single segment, channel, and price point capable of serving all of India's post-discharge cardiac population simultaneously, would be making a claim the evidence in Chapter 4 does not support, and the robustness check in Section 4.5 confirms that no such universally dominant option exists.

The strategy recommended here is therefore explicitly sequential rather than universal. It treats Segment A, the direct-to-hospital channel, and a hybrid co-pay pricing model not as the final answer but as the entry point: a deliberately narrow, deliberately feasible foothold chosen because succeeding there generates the clinical evidence, the operational template, and the institutional trust required to make the next, larger segment feasible.

This is, in effect, a beachhead approach of the kind familiar from technology market-entry research (33), adapted to a clinical context in which the currency carried forward from one phase to the next is not market share but credibility, with physicians, with hospital administrators, and eventually with insurers and policymakers.

Four findings from Chapter 4 run through every recommendation below and are worth restating before the detail.

First, the coupling finding: segment, channel, and pricing must be chosen as a single reinforcing bundle, not optimised independently (Section 4.8).

Second, the platform-not-device finding: because the post-discharge failure timeline produces at least four distinct failure modes, the underlying product must be broad enough to address more than one within a workflow a time-constrained clinical team can execute (Sections 4.1, 4.8).

Third, trust as a gating condition: every recommendation has been screened against whether it asks physicians or patients to act on faith, because Chapter 4 demonstrated that low-trust options underperform regardless of their cost or scalability standing.

Fourth, the stakeholder misalignment finding: influence and interest are mismatched across actors (Section 4.6), so the design task is to route the high-interest actors' demand through the high-influence actors' endorsement.

They are advanced as evidence-grounded and internally consistent, and as a strategy designed to be tested, with empirical validation through the instrumented pilot described below identified as the immediate next step before large-scale commitment.

5.2 Target Segment: Sequenced

The recommended entry segment is Segment A, insured cardiac post-discharge patients following myocardial infarction, bypass surgery, or valve surgery, at Tier 1 private corporate hospitals, for the reasons established in Section 4.4.1: it is the only segment assessed as strong on both feasibility and trust simultaneously, and the robustness check in Section 4.5 confirms it stands as the strongest entry candidate whether affordability or clinical trust is treated as the dominant concern.

It is therefore the segment where a programme can begin operating without first solving a structural precondition, such as insurer product redesign or government procurement, that lies outside its direct control.

This is not a recommendation to remain in Segment A indefinitely. The inverse relationship between feasibility and scalability identified in Section 4.8 implies a deliberate progression. Segment A comes first, to establish clinical evidence and operational credibility within a forgiving institutional environment. Segment C, namely Tier 2 city private and trust hospitals serving mixed-pay heart failure patients, comes

second, once the Segment A template exists and can be adapted to a more cost-constrained, lower-infrastructure setting. Segment D, government teaching hospitals, comes third, pursued only once a financing mechanism, most plausibly a public-private partnership (26) or a maturing insurer-funded benefit, has closed the feasibility gap that currently makes this segment, despite its scale, premature as an entry point. Segment B, uninsured patients at the same Tier 1 hospitals, is treated as a pricing-model problem rather than a sequencing problem: it becomes addressable not by waiting but by the hybrid co-pay model recommended in Section 5.5, applied within the same institutional environment as Segment A.

5.3 Entry Strategy

The specific entry mechanism recommended is a clinical pilot embedded within the discharge pathway of one or two cardiology departments at a single Tier 1 corporate hospital chain, rather than a broad multi-hospital rollout. This follows directly from the physician-bandwidth finding in Section 4.2.1: adoption fails not for lack of persuasion but for lack of clinical slack, and a narrow pilot, one department, one or two physician champions, a defined cohort of perhaps fifty to one hundred post-MI or post-CABG patients over a six-month window, is sized to fit within existing clinical bandwidth rather than competing with it.

The pilot should be designed from the outset to generate exactly the evidence the next phase will need: readmission-rate comparison against a historical or concurrent control cohort, physician-reported workflow burden, and patient-reported usability, with particular attention to caregiver involvement given the family-mediated adoption pattern identified in Section 4.2.2. This is a deliberate departure from how several earlier Indian RPM pilots appear to have been structured, as technology demonstrations rather than evidence-generation exercises, and it directly addresses the pilots-that-never-scale pattern described in Chapter 1. A pilot that cannot produce a readmission or workflow-burden figure at its conclusion will not be able to justify the Phase 2 expansion described in Section 5.8, regardless of how smoothly the technology itself performed. The performance indicators specified in Section 5.7 define precisely what the pilot must measure.

5.4 Channel Strategy: Hospital-Led, Physician-Anchored

The recommended channel is direct-to-hospital, consistent with its standing as the strongest channel in Section 4.4.2, but with one structural modification suggested by the channel evaluation's own internal tension and by the stakeholder analysis in Section 4.6. Because physician-led prescription was assessed strongest on trust but weakest on independent scalability, the recommendation is not to choose between these channels but to nest the physician-led mechanism inside the hospital-led one. Concretely, the hospital contract should not merely grant the vendor access to a discharge population; it should be structured around the explicit identification and resourcing of one or two named physician champions per department, whose endorsement drives in-pathway adoption, while the broader hospital partnership provides the contractual, billing, and integration scaffolding that an individual physician relationship cannot supply.

This nesting is the direct operational answer to the stakeholder misalignment identified in Section 4.6: it routes the high-interest patient's demand through the high-influence cardiologist's endorsement, while separately engaging the high-influence but differently-motivated administration on the contractual and revenue terms it cares about. It addresses the dependency risk flagged in Section 4.4.2, that B2B2C scalability is gated by how fast partnerships are clinically embedded rather than contractually signed, by making clinical embedding an explicit, resourced workstream rather than an assumed by-product of the contract.

Insurer-led deployment is not recommended as the primary channel at entry, for the feasibility reasons in Section 4.4.2, but it should be pursued in parallel as a deliberately slower-moving second track: early engagement with one or two private insurers, using the pilot's own readmission data as the evidence base for a future covered-benefit conversation. This positions insurer-led deployment to become viable for the Phase 2 and Phase 3 segments precisely when needed, rather than beginning that conversation from zero once Segment C or D becomes the priority. Direct-to-consumer is not recommended at any phase, consistent with its weakest-in-analysis standing across every criterion in Section 4.4.2 and the structural argument that a channel bypassing physician endorsement removes the strongest available trust anchor in a market where that anchor does most of the adoption work.

5.5 Adoption Strategy: Designing for the Whole Failure Timeline

The use-case analysis in Section 4.1 identified four distinct failure points across the post-discharge journey, and the platform-not-device finding from Section 4.8 implies that adoption strategy cannot be a single intervention aimed at a single moment. The monitoring product underlying this strategy should therefore be designed and positioned around three coordinated patient-side adoption mechanisms rather than one.

The first is structured digital reinforcement of discharge counselling, delivered repeatedly over the first two weeks rather than once at discharge, directly addressing the counselling-retention failure at day two of the composite journey.

The second is caregiver-inclusive device design, building on the family-mediated adoption pattern of Section 4.2.2: the alerting interface should reach a spouse or adult child by default, not as an afterthought, since this is how Indian households already manage health technology (3,24).

The third is adherence-linked monitoring, treating medication-taking behaviour as a tracked variable alongside physiological vital signs, addressing the day-fourteen medication failure and responding to the finding that adherence monitoring remains an under addressed RPM feature in the Indian literature despite clear evidence of its relevance (22).

On the clinical side, adoption strategy must address the alert-fatigue risk identified in Section 4.2.1 directly rather than allowing it to emerge during the pilot. The escalation protocol, specifying who reviews an alert, within what time window, and with what defined response, must be designed and agreed with the physician champions before the pilot begins, not discovered through trial and error once data starts flowing. The finding that workflow design is the make-or-break element of programme survival (27) should be treated as a design requirement rather than a risk to be monitored. This is the single most important determinant of whether the trust gate, identified in Section 4.8 as the binding constraint, stays open.

5.6 Go-to-Market Strategy

The preceding sections established each element of the strategy individually segment, channel, pricing, adoption mechanics, and sequencing. This section consolidates them into a single go-to-market configuration, because the central analytical finding of Chapter 4 is that these elements are coupled rather than independent (Section 4.8): their value

comes from how they reinforce one another, not from each being optimal in isolation. Presenting the go-to-market as one coherent object, rather than as a list of separate recommendations, is therefore the most faithful answer to Research Question 3.

5.6.1 The Core Configuration

The recommended go-to-market configuration is set out below. It is the specific combination on which the criterion-based comparison (Section 4.4) and the competitive landscape analysis (Section 4.7) independently converge. Each element is justified in the section indicated, so the table consolidates rather than re-argues.

Element	Recommended configuration
Entry segment	Segment A insured post-MI, post-CABG, and valve-surgery patients at Tier 1 private corporate hospitals
Entry mechanism	Single-chain clinical pilot, one to two cardiology departments, a cohort of fifty to one hundred patients over six months
Channel	Direct-to-hospital (B2B2C), with the physician-led mechanism nested inside it through resourced, named physician champions
Pricing	Hybrid co-pay at entry, migrating to insurer-funded coverage as the parallel insurer track matures, with hybrid co-pay retained for the uninsured Segment B
Product framing	A platform addressing the full post-discharge failure timeline counselling reinforcement, caregiver-inclusive alerting, and adherence-linked monitoring rather than a single device
Sequencing	Phased progression from Segment A to Segment C to Segment D, gated by measured KPIs rather than elapsed time

The defining property of this configuration is internal reinforcement. The insured Tier 1 segment makes the hybrid co-pay affordable; the hospital channel supplies the structured clinical response that the efficacy literature identifies as the active ingredient; the

physician-champion nesting routes the high-interest patient's demand through the system's highest-influence actor; and the high-risk targeting. Removing any single element weakens the others, which is why the go-to-market is advanced as a bundle to be adopted and tested as a whole rather than as a menu from which elements might be selected independently.

5.7 Positioning and Value Proposition

The competitive analysis in Section 4.7 showed that the strategically valuable position is unoccupied: no incumbent offers a physician-embedded, hospital-led, cost-pooled, full-pathway post-discharge programme calibrated to Indian affordability. The go-to-market positioning follows directly from that gap.

The offering should not be positioned as a monitoring device, where it competes with cheaper consumer hardware on price, nor as an enterprise platform, where it competes with better-resourced multinationals on scale. It should be positioned as the post-discharge care programme itself the structured continuity of care that, as Section 4.2.3 established, currently does not exist for most Indian cardiac patients, since formal cardiac rehabilitation is present in fewer than five percent of hospitals.

The value proposition is therefore framed differently for each stakeholder the offering must win: to the cardiologist, reduced preventable readmissions without added personal workload; to the hospital administration, a differentiated post-discharge service and a defensible readmission-reduction narrative; to the patient and caregiver, affordable reassurance and earlier intervention; and to the insurer, in later phases, a financeable mechanism for reducing avoidable hospitalisation cost.

5.7.1 Entry Motion and Sequenced Expansion

The entry motion is deliberately narrow, for the bandwidth reasons set out in Section 4.2.1. Rather than a broad multi-hospital launch, the go-to-market begins with a single Tier 1 corporate chain, one or two cardiology departments, and a small number of named physician champions whose endorsement is the actual unit of adoption.

The pilot is structured from the outset as an evidence-generation exercise rather than a technology demonstration, instrumented with the performance indicators defined in

Section 5.7, so that its output is the readmission, workflow-burden, and caregiver-engagement evidence required to justify expansion.

Expansion then follows the sequenced logic of Section 5.8 rather than a uniform rollout. The assets carried forward from one phase to the next are not market share but credibility clinical evidence, an operational embedding template, and physician-champion relationships which are progressively redeployed into less forgiving institutional environments.

The parallel insurer-engagement track runs throughout, using accumulating pilot evidence to prepare the covered-benefit conversation that unlocks the higher-scalability segments precisely when the strategy reaches them, rather than beginning that conversation from zero. Direct-to-consumer is excluded at every phase, consistent with its weakest-in-analysis standing in Section 4.4.2, because a channel that bypasses physician endorsement discards the strongest available trust anchor in a market where that anchor does most of the adoption work.

5.7.2 Go-to-Market Risks and Mitigations

A go-to-market strategy is only as credible as its account of how it can fail. All the risks, each surfaced earlier in the analysis, are most material, and each has a mitigation built into the configuration rather than bolted on afterwards.

Risk	**Source in analysis**	**Mitigation built into the configuration**
Contracted-but-unused: administrative sign-off without clinical use	4.2.1, 4.6	Physician-champion nesting (5.4); clinical embedding made an explicit, resourced workstream rather than an assumed by-product of the contract

Alert fatigue eroding clinical engagement	2.3, 4.2.1	Escalation protocol designed and agreed with champions before the pilot begins (5.6); workflow design treated as a design requirement, not a risk to monitor
Pilot that never scales	1.3, 5.3	Evidence-first pilot design and KPI-gated phase transitions (5.7, 5.8), so expansion proceeds on demonstrated evidence rather than elapsed time

These mitigations are not separate safeguards added to protect the strategy; they are the same design choices that make the configuration coherent in the first place.

That the principal go-to-market risks are addressed by the very features that define the recommended bundle is itself evidence that the configuration is internally consistent rather than assembled from independently attractive parts.

5.8 Concluding Remarks

Taken together, the five chapters of this dissertation have advanced a single sustained position: that the failure of remote patient monitoring to scale in Indian cardiac post-discharge care is not a failure of clinical evidence or of technology, but a failure of adoption, located at the intersection of trust, feasibility, cost, and scalability, and remediable only through a strategy in which segment, channel, pricing, and adoption design are pursued as a coupled, deliberately sequenced whole rather than as independently chosen parts.

The framework developed to support this position was derived transparently from the evidence through systematic literature review and content analysis, applied through a consistent and explicitly justified comparative analysis, and used to generate a phased strategy whose progression is gated by measured evidence rather than elapsed time. Its central findings, that trust operates as a gating condition, that feasibility and scalability stand in structural tension, and that the strongest strategic position is an unoccupied one that three independent analyses converge upon, are offered as a contribution to the

literature on healthcare innovation adoption as much as to the practice of health technology deployment.

The work is, in the end, a strategy and a framework built to be tested rather than merely admired. Its validation against primary practitioner testimony and against an instrumented pilot is identified but not yet completed, and that identification is offered not as an apology but as the natural continuation of a line of reasoning that this dissertation has carried as far as a secondary, framework-building study honestly can.

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APPENDIX-A

GBD 2023 Descriptive Analysis - Data Extraction, Code, and Outputs

A.1 Purpose

This appendix documents the primary descriptive analysis referenced in Section 3.4 and reported in Section 1.2.1. The analysis uses data extracted from the Global Burden of Disease 2023 study (GBD 2023) to quantify India's cardiovascular disease burden and to ground the dissertation's epidemiological argument in original data analysis rather than narrative citation alone.

A.2 Data Source and Extraction Parameters

Parameter	Specification
Data source	Institute for Health Metrics and Evaluation (IHME), GBD Results Tool
GBD cycle	GBD 2023
Access method	vizhub.healthdata.org/gbd-results, free public-good licence (non-commercial use)
Cause	Cardiovascular diseases
Measures extracted	Deaths, DALYs (Disability-Adjusted Life Years), Incidence
Metrics extracted	Number, Rate, Percent
Locations extracted	India, Global
Age groups extracted	All ages, Age-standardised, Under 70 years
Sex	Both
Years	1990–2023 (annual)
Population group	All Population
Output format	CSV, with location and cause names (not ID codes)
Total records extracted	1,496 rows
Date of extraction	June 2026

A.3 Data Structure

The extracted dataset contains the following fields:

Field	Description
population group	Population category (All Population)
measure	Deaths / DALYs / Incidence
location	India / Global
sex	Both
age	All ages / Age-standardized / <70 years
cause	Cardiovascular diseases
metric	Number / Percent / Rate
year	1990–2023
val	Point estimate
upper	95% uncertainty interval, upper bound
lower	95% uncertainty interval, lower bound

GBD estimates are reported with 95% uncertainty intervals (upper and lower bounds) rather than confidence intervals, reflecting the modelled nature of GBD estimates, which combine multiple data sources through statistical modelling. This is consistent with standard GBD reporting convention and is reflected in the shaded bands shown in Figures 1, 2, 3, 4, and 5.

A.4 Python Code

```
import pandas as pd

import matplotlib.pyplot as plt

#  Load data

df = pd.read_csv('IHME-GBD_2023_DATA.csv')

# 1. Absolute CVD deaths, India, 1990–2023 (Figure 1)

d1 = df[(df['location']=='India') & (df['measure']=='Deaths') &

      (df['metric']=='Number') & (df['age']=='All ages') &

      (df['sex']=='Both')].sort_values('year')



v_1990 = d1[d1['year']==1990]['val'].values[0]

v_2023 = d1[d1['year']==2023]['val'].values[0]

pct_change = (v_2023 - v_1990) / v_1990 * 100



print(f"CVD Deaths India 1990: {v_1990/1e6:.2f}M")

print(f"CVD Deaths India 2023: {v_2023/1e6:.2f}M")

print(f"Percentage increase: {pct_change:.1f}%")

# 2. Age-standardised death rate, India vs Global (Figure 2)
```

```
d2i = df[(df['location']=='India') & (df['measure']=='Deaths') &
        (df['metric']=='Rate') & (df['age']=='Age-standardized') &
        (df['sex']=='Both')].sort_values('year')
d2g = df[(df['location']=='Global') & (df['measure']=='Deaths') &
        (df['metric']=='Rate') & (df['age']=='Age-standardized') &
        (df['sex']=='Both')].sort_values('year')


r_india_1990  = d2i[d2i['year']==1990]['val'].values[0]
r_india_2023  = d2i[d2i['year']==2023]['val'].values[0]
r_global_1990 = d2g[d2g['year']==1990]['val'].values[0]
r_global_2023 = d2g[d2g['year']==2023]['val'].values[0]


india_decline  = (r_india_1990 - r_india_2023) / r_india_1990 * 100
global_decline = (r_global_1990 - r_global_2023) / r_global_1990 * 100


print(f"India age-std rate decline 1990-2023: {india_decline:.1f}%")
print(f"Global age-std rate decline 1990-2023: {global_decline:.1f}%")
# 3. CVD DALYs, India, 1990–2023 (Figure 3)
d3 = df[(df['location']=='India') & (df['measure']=='DALYs (Disability-Adjusted Life Years)') &
       (df['metric']=='Number') & (df['age']=='All ages') &
```

```
        (df['sex']=='Both')].sort_values('year')



daly_1990 = d3[d3['year']==1990]['val'].values[0]

daly_2023 = d3[d3['year']==2023]['val'].values[0]

daly_pct  = (daly_2023 - daly_1990) / daly_1990 * 100



print(f"DALYs India 1990: {daly_1990/1e6:.1f}M")

print(f"DALYs India 2023: {daly_2023/1e6:.1f}M")

print(f"DALYs % increase: {daly_pct:.1f}%")

# 4. Premature (<70) death rate, India vs Global (Figure 4)

d4i = df[(df['location']=='India') & (df['measure']=='Deaths') &

        (df['metric']=='Rate') & (df['age']=='<70 years') &

        (df['sex']=='Both')].sort_values('year')

d4g = df[(df['location']=='Global') & (df['measure']=='Deaths') &

        (df['metric']=='Rate') & (df['age']=='<70 years') &

        (df['sex']=='Both')].sort_values('year')



prem_india_2023  = d4i[d4i['year']==2023]['val'].values[0]

prem_global_2023 = d4g[d4g['year']==2023]['val'].values[0]

excess_pct = (prem_india_2023 - prem_global_2023) / prem_global_2023 * 100
```

```
print(f"Premature death rate India 2023: {prem_india_2023:.1f} per 100k")
print(f"Premature death rate Global 2023: {prem_global_2023:.1f} per 100k")
print(f"India excess over Global: {excess_pct:.1f}%")
# 5. India's share of global CVD deaths (Figure 5)
d5i = df[(df['location']=='India') & (df['measure']=='Deaths') &
        (df['metric']=='Number') & (df['age']=='All ages') &
        (df['sex']=='Both')].sort_values('year')
d5g = df[(df['location']=='Global') & (df['measure']=='Deaths') &
        (df['metric']=='Number') & (df['age']=='All ages') &
        (df['sex']=='Both')].sort_values('year')

merged = pd.merge(d5i[['year','val']], d5g[['year','val']],
                  on='year', suffixes=('_india','_global'))
merged['share_pct'] = merged['val_india'] / merged['val_global'] * 100

share_1990 = merged[merged['year']==1990]['share_pct'].values[0]
share_2023 = merged[merged['year']==2023]['share_pct'].values[0]

print(f"India share of global CVD deaths 1990: {share_1990:.1f}%")
print(f"India share of global CVD deaths 2023: {share_2023:.1f}%")
```

A.5 Full Output Summary

Metric	1990	2023	Change
CVD deaths, India (millions)	1.31	3.12	+138.7%
CVD incidence, India (millions)	3.16	7.83	+148.0%
CVD DALYs, India (millions)	41.0	80.3	+96.0%
Age-standardised death rate, India (per 100,000)	317.7	279.1	–12.2%
Age-standardised death rate, Global (per 100,000)	375.5	214.9	–42.8%
Premature (<70) death rate, India (per 100,000)	103.4	111.0	+7.4%
Premature (<70) death rate, Global (per 100,000)	—	90.3	—
India's share of global CVD deaths	10.0%	16.3%	+6.3 pts