PERCEPTIONS OF HEALTH INSURERS TOWARDS PAY-FOR-PERFORMANCE AS A

COST CONTROL MODEL FOR HOSPITAL SERVICES

by

Mandlenkosi Moyo

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Dissertation

Submitted in Partial Fulfillment

of the Requirements for the Degree of

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Abstract

Hospital costs are the most significant portion of health-related costs incurred by non-profit health insurers registered as medical schemes in South Africa. Medical schemes continue to use retrospective reimbursement models for hospitals despite general acknowledgment that these models do not limit hospital costs and utilization. Although medical schemes are interested in implementing alternative reimbursement models, such as pay-for-performance (P4P), they are uncertain about which P4P models they can use to reduce hospital costs, resulting in their inability to make critical changes to their costs from traditional fee-for-service models. This qualitative exploratory multiple case study used 17 open-ended case interviews to explore the perceptions of seven South African medical schemes regarding P4P as a cost-control model. The participants confirmed they were not satisfied with how their current reimbursement models control hospital costs and outcomes. They perceived P4P could result in better cost-control and better-quality outcomes. The participants acknowledged P4P is a complex model with significant implementation barriers, and they were also concerned that hospitals could manipulate the model to their benefit. The participants described the enabling factors that could facilitate their selection of P4P as a cost-control model. The participants recommended a patient-centric P4P model that encompasses five broad principles: (1) Paying for measured outcomes, (2) paying specialists for the coordination of care, (3) rewarding hospitals for excellence by directing patient volumes, (4) measuring patient-reported outcomes, and (5) relegating the hospital's role to that of a supplier rather than a coordinator of care. The study provided a recommended framework that may assist medical schemes in selecting and implementing P4P models.

Key words: Pay-for-performance; cost-control; medical schemes; hospital costs; outcomes.

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Dedication

I dedicate this doctoral study to God above all, for whom and through whom all things were made. I thank and praise Yahweh for providing me this opportunity and for releasing His storehouses of time, energy, finance, and wisdom whenever I needed divine intervention – which was most of the time.

I also dedicate this study to my sons Zami and Landi, and I pray that this work will always inspire them to do 'hard things' and plant seeds that will create hundred-fold blessings in many lives. And to my wife Thandi for her support during three years of long hours.

Furthermore, I recognize my parents, Dorcas and Wilson Moyo, and my late grandparents' influence, who always inspired me to pursue education as the key to a life well-lived. My mother often sent me encouraging messages that inspired me to persevere. I am grateful for their lessons throughout my life – and I hope to pass on the lessons to future generations.

Acknowledgments

I am very grateful to my Dissertation Chair, Dr. Ronald Morgan, for being my steady and rock-solid pillar of support and encouragement, who was always there with a timely word of guidance and inspiration when I needed it. Dr. James Overstreet, my Dissertation Committee Member, was so helpful with his wise and accurate insights that helped me refine the study. Dr. Edward Moore, my DBA Program Director, played a unique role in helping me lay the right foundations for the study, helping me to define the key concepts in a way that made the entire study logical. I am also thankful to all the other Liberty University faculty, including the Institutional Review Board, for the fantastic learning journey they provided me, helping me reach new levels in my knowledge.

I also acknowledge all the research participants that took precious time out of their busy schedules. I researched when medical schemes were grappling with adjusting to COVID-19, and many participants were working from home. Despite these challenges, every participant did their best to provide me with rich, quality information, without which the results of this study would not have been possible at all.

I am also thankful to colleagues that supported me throughout the study. I particularly thank Dr. Reinder Nauta, who believed in my dream and was supportive in many ways, and Patrick Lubbe, who constantly cheered me on. Furthermore, I wish to acknowledge Tiffanie Clare for her patience and steadfastness in preparing professional transcripts and my editor Jeff Thomas for helping me refine the study's presentation.

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Section 1: Foundation of the Study

The prohibitive cost of health insurance is a significant cause of health care inequality, and the most significant driver of health insurance costs is the hospitalization expenses for insured patients (Xian et al., 2019). Hospital expenses escalate above inflation due to increased prices and higher utilization from more frequent and lengthier admissions (Erasmus & Kean, 2018). Song et al. (2017) found that increased hospital prices are a function of three factors: New treatment technologies or therapies that offer improved quality of care, increased labor costs, and increased utilization. This cost escalation means the current fee-for-service reimbursement models do not incentivize hospitals to minimize usage. The control of hospital costs is a dilemma for health insurers because there is significant uncertainty about whether cost-reduction initiatives could inadvertently create reduced health outcomes (Kang & Hong, 2017). According to Xian et al. (2019), health insurer spending on hospitalization does not correspond to hospital services utilization, which means that current reimbursement strategies fail to efficiently allocate financial resources. This market failure demonstrates an opportunity for incentive-based reimbursement that rewards hospitals for efficiently managing costs and quality of care (Kang & Hong, 2017).

Health insurance organizations have attempted various reimbursement approaches to manage the cost of care. Reimbursement models that emerged in the 1980s from managed care organizations were bundled-fee billing for groups of related patient diagnoses, capitation fees, case-based fees, and global fees (Jian et al., 2015). Subsequently, pay-for-performance ("P4P") emerged as an alternative and has increasingly elicited the interest of health insurance businesses because of its principle of rewarding results rather than rewarding the high usage of healthcare benefits (Bayley, 2006; Smoldt & Cortese, 2007). Other industries have applied P4P in their

supply chain processes. They have found it a useful mechanism for aligning buyers' and

suppliers' incentives to counteract conflicting goals in a principal-agent relationship (Selviaridis

& Spring, 2018). The study by Selviaridis and Spring (2018) also found that practical P4P

implementations require a gradual organizational change process for the buyer and supplier

involved because of the shared learning process required regarding the other party's attitudes,

goals, trustworthiness, flexibility, operating modalities, and risk-taking fairness. However, P4P

models in healthcare are not yet widely implemented, and there remains significant doubt about

which P4P models effectively control hospital costs (Shroff et al., 2018). This study explored the

perceptions of the executives of non-profit health insurers in South Africa concerning the

uncertainty about which P4P models may be successful for controlling hospital service costs.

Background of the Problem

Hospital costs are the most significant portion of health insurer expenses, which has

resulted in insurers attempting different types of reimbursement models to contain costs (Mathes

et al., 2019). Erdek (2018) observed that P4P models, which incentivize high-quality

interventions delivered at the least possible cost, have become an increasingly common tool for

managing hospital performance. However, evidence of cost-effectiveness is lacking. The

aspirations of creating effective P4P models and the concomitant difficulties in creating the

required cost-effectiveness are also issues within non-healthcare supply chains, which have often

experienced unintended consequences and failure to achieve buyer-supplier cost alignment

(Selviaridis & Spring, 2018). Although P4P models seek to enhance the value derived from

health care expenditure by incentivizing the achievement of agreed benchmarks, the selection of

effective models is challenging for healthcare insurers because of complex adaptive healthcare

systems that result in unpredictable implementation results (Kondo et al., 2018). The complex

adaptive nature of healthcare systems with fuzzy boundaries and unpredictable social reactions without linearly observable cause and effect interactions makes it difficult for P4P interventions to reduce costs sustainably (Sturmberg & Johannes, 2019).

For example, in 2004, the United Kingdom introduced a significant P4P model that incentivized 25% of general practitioners (Pandya et al., 2018). However, the 2018 study found that the program was only cost-effective in 18% of scenarios and suggested alternative uses for the incentives, such as buying more capitated care. A United States study on a Medicare P4P program controversially found that P4P surprisingly increased hospital healthcare costs after accounting for the costs of training, equipment, and amenities required to achieve the desired P4P metrics (Izón & Pardini, 2018). Other global studies that have compared P4P with traditional models, such as capitation, have found that there is very low certainty about whether P4P models reliably reduce hospital admissions' average costs (Mathes et al., 2019). Shroff et al. (2018) observed inconclusive results about provider contracting's cost-reduction efficacy in low-and-middle-income countries, such as South Africa. Existing research has emphasized the shortcomings of traditional fee-for-service outsourcing strategies rather than reducing the gaps in the knowledge about alternative contracting models such as incentive-based models.

A possible reason for the inconsistency in P4P outcomes is that healthcare funders often implement P4P models without enough information to evaluate the theoretical substantiation for the selected model (Ogundeji et al., 2018). As a result, the incorrect design characteristics nullify the behavioral changes required from provider bonuses in P4P models. However, the one aspect that many studies agree on is the effect of financial fines on provider behavior (Ogundeji et al., 2018). The challenge of selecting appropriate P4P designs demonstrates the importance of debates: Which types of incentives are relevant, whether incentives should focus on clinical

metrics or patient experience, which providers should receive incentivizes, whether the information collected for incentives is reliable, and how to manage the inherent risk of providers focusing on incentives to the neglect of non-incentivized interventions (Foskett-Tharby et al., 2017). This research reduced the gap in academic knowledge confirmed by Billings and de Weger (2015). They suggested further research to determine the cost-benefit of alternative provider payment and contracting models. Furthermore, the study reduced the healthcare management research gap regarding the cost management and financial incentive structures that could stimulate efficiencies in the cost of care (Alderwick et al., 2018).

Problem Statement

The general problem to be addressed is that there is uncertainty about which pay-for-performance models can be used to reduce hospital healthcare costs, which is resulting in the inability of health insurance organizations to make critical changes to their costs. Although health insurers have been increasing initiatives since the 1990s to introduce pay-for-performance (P4P) models to incentivize cost control, there remains significant uncertainty regarding the various P4P initiatives (Addicott, 2016). Despite some studies suggesting that health insurers could use P4P models to improve hospital healthcare costs and access, health insurers are uncertain about which P4P incentivization models have proven cost-effectiveness (Rao et al., 2018). The costly shortcomings of traditional fee-for-service outsourcing strategies are well understood. Still, there is mixed evidence about the impact of integrating P4P models into the contracting process with health providers (Shroff et al., 2018). The uncertainty about P4P models is particularly a challenge in South Africa because of the continued above-inflation increases in private hospital costs incurred by non-profit health insurers that trade as medical schemes (Erasmus & Kean, 2018; Mureithi et al., 2018). The specific problem to be addressed is the

uncertainty about which P4P models can be used by non-profit health insurance organizations in South Africa to reduce the costs from their hospital service providers, resulting in their inability to make critical changes to their costs from traditional fee-for-service payments.

Purpose Statement

The purpose of this qualitative exploratory multiple case study was to add to the body of knowledge by exploring the perceptions of non-profit South African health insurance organizations regarding P4P as a cost control model for hospital services. The findings may guide health insurance organizations in determining how best to select and introduce P4P models in their contracts with hospitals. A qualitative study was appropriate because the research goal was to provide a rich understanding of a business phenomenon with limited empirical data. The phenomenon has uncertain boundaries that interact with complex dilemmas and requires interaction with stakeholders in their natural environment to explore their perspectives based on their lived experiences (Basias & Pollalis, 2018). Furthermore, an exploratory case study design was appropriate because the research question requires an in-depth understanding of the meanings that research participants attach to the phenomenon, which will enable discovery of the thought processes needed to create value for businesses (Yasir et al., 2019). This research sought to interview a maximum of 30 healthcare executives from approximately seven organizations representing the population of non-profit health insurers in South Africa. The interviewees received semi-structured and open-ended questions to explain their perceptions about what influences the selection and use of P4P models. This researcher hoped to discover techniques to increase health insurers' ability to use P4P models to control costs and explore the factors that influence uncertainty about P4P models.

Nature of the Study

The nature of the study describes the rationale for the research method and design that I proposed for this study. The section describes flexible, fixed, and mixed methods and explains why I chose or did not choose these methods. Furthermore, the section discusses each flexible research design and concludes with a motivation for the research design that I chose for the study.

Discussion of Method

Flexible research methods are a qualitative approach that helps business researchers understand issues within their context, obtain a detailed description of participants' experiences, examine problems for which statistical data are not available, and develop new theories (Colorafi & Evans, 2016). Qualitative research is useful for business management problems because it is well-suited to examining processes, attributed meanings, and behaviors resulting from socially constructed phenomena (Berkovich, 2018). Qualitative research can create a rich understanding of a complicated issue, examine the multiple perspectives of participants dealing with a business issue with intricate interactions, and identify new variables that a quantitative study would not reveal (Creswell, 2013).

I chose a qualitative method for this research because the research question required an inductive process of investigating a phenomenon through flexible problem-solving with participants and exploring influencing factors to enable meaning and discovery (Basias & Pollalis, 2018). The qualitative method was relevant because it sought to examine perspectives of P4P models, based on the lived experiences of participants, which will assist in the understanding of approaches that could improve healthcare management (Rolfe et al., 2018).

Fixed research methods use a quantitative approach to investigate pre-determined variables that a researcher can examine using statistical data (Aspers & Corte, 2019). Quantitative methods use statistics and probability in studying management issues that researchers can extrapolate empirically based on generalizable rules or verifiable truth claims (Zyphur & Pierides, 2019). According to Aspers and Corte (2019), fixed method researchers do not seek to introduce new concepts during a study's progress. They maintain a pre-established focus on the statistical interactions within or between pre-determined variables. I did not choose a quantitative method for this research because there are insufficient cases to make statistical analysis feasible. The nature of the open-ended research questions requires an exploratory approach that existing measures do not address (Stolz, 2017). Furthermore, the research goal was not to analyze statistical information nor test cause and effect relationships, which means that the quantitative method is not relevant.

Mixed method research combines quantitative and qualitative inquiry within a single study, which helps validate the findings from fixed or flexible data, facilitating transdisciplinary research, developing and validating theories, and research projects that incorporate applied interventions (Creswell & Sinley, 2017). Venkatesh et al. (2016) observed that mixed methods researchers have a dual goal of describing research phenomena and quantifying their statistical incidence. I did not choose a mixed-methods approach for this study because of the lack of triangulating data that would be available from a structured survey instrument (Stolz, 2017).

Discussion of Design

The qualitative designs that the researcher considered for this study were the phenomenological, narrative, ethnographic, grounded theory, and case study research designs. Phenomenological researchers describe participants' lived experiences using in-depth interviews,

observation, and documentary examination to capture their first-hand feelings and perspectives (De Hart, 2020). Phenomenological research design typically focuses on participants' socio-cultural and emotional experiences (Matua & Van Der Wal, 2015). I did not choose the phenomenological design because the research goals were identifying factors that influence the use of P4P models, rather than their socio-cultural experiences.

Narrative research collates and examines stories, creating compelling narratives to help healthcare decision-making (Dohan et al., 2016). A researcher would use a narrative study to help policymakers understand a problem by listening to user anecdotes, which can have a more significant impact than quantitative data (Dohan et al., 2016). A narrative research design focuses on telling stories about a phenomenon (Carless & Douglas, 2017). I did not choose the narrative research design because this research did not seek to understand historical events.

Ethnographic research, which originated from anthropological methods, requires researchers to immerse themselves for extended periods in the lives of research participants to gather data about their social and cultural behaviors (Vindrola-Padros & Vindrola-Padros, 2018). Ethnographic research is appropriate if a researcher believes that their cultural immersion will understand a phenomenon within the participants' social context (Brown, 2014). I did not choose the ethnographic research design because it would have required a lengthy cultural study. The business phenomenon will not require an in-depth, immersive study of socio-cultural behaviors.

Grounded theory researchers collate data to construct new theories from the patterns observed, which is useful for explaining a phenomenon with limited research regarding its processes and interactions (Lewis-Pierre et al., 2017). Woods et al. (2016) stated that grounded theory research could generate frameworks that may demonstrate how to manage business issues. I did not choose a grounded theory design because it would require multiple years to

create and validate a theory, which would be outside the scope of this study's timeframe. Furthermore, the researcher anticipated existing theoretical propositions regarding the phenomenon of P4P, which means that the grounded theory research design was not useful for this study.

Researchers use the case study research design to analyze on-going business phenomena with complex, multifaceted relationships. Such complexity requires the understanding of real-life contexts to answer how a phenomenon works or why a phenomenon behaves as observed, or are interventions that may have multiple ranges of results (Larrinaga, 2017). Similarly, Phoenix et al. (2018) stated that a case study research design aims to create jointly constructed meaning by engaging with participants in semi-structured interviews. This meaning is achieved by listening to participants' perspectives, understanding their context, and establishing a trusted environment to ensure meaningful participation that will result in rich insight.

I chose a case study design approach because it would provide knowledge about the phenomenon, based on a real-life context that will explain the dynamics that affect the perceived cost-efficacy of P4P models (Ridder, 2017). An exploratory case study design is appropriate because of the potentially high number of dynamic variables that influence the perceived efficacy of the P4P phenomenon of interest (Carneiro, 2018). I collected multiple case studies to provide a detailed description, which I corroborated by cross-case analysis (Ridder, 2017) to understand health insurers' perspectives regarding P4P models.

The population that was studied was approximately 80 non-profit health insurance organizations that trade as medical schemes in South Africa, which are regulated by the Medical Schemes Act 131 of 1998 and are the leading organizations in South Africa that provide health insurance that includes hospitalization (Bronkhorst & Schmidt, 2017). A single-country focus

was appropriate because of the significant variation in regulations across different countries, which could distort meaning from the results. I analyzed multiple case studies to mask the identities of participants and achieve data saturation. Therefore, the cases were a maximum of seven health insurers in the scope of the South African non-profit health insurer population. The unit of analysis was to be a maximum of 30 individuals within those organizations.

According to Yazan (2015), a case study with an embedded design has an embedded unit of analysis, which will refer to the individuals within the health insurance organizations. The selected employees or consultants of the health insurers were executive or managerial individuals that have strategic roles in monitoring or managing hospital health service arrangements within health insurers, including directors, consulting actuaries, technical managers, health administrators, and managed care executives. I administered semi-structured interviews with open-ended questions to the selected participants, and I supplemented this by document analysis and comparison to theoretical concepts to achieve triangulation. I applied the maximum variation method, a heterogeneous sampling method that is a purposive sampling technique described by Creswell (2013), to provide a diverse and comprehensive view of P4P perspectives.

Summary of the Nature of the Study

The nature of the study section discussed the research methods that I considered for the study, which were fixed, flexible, and mixed methods. I selected a flexible, qualitative method for investigating the phenomenon because it would develop a rich understanding of a complicated business dilemma with limited empirical data. The section also discussed all the flexible research designs that I could have chosen for the study: The phenomenological, narrative, ethnographic, grounded theory, and case study research designs.

I chose the case study research design because it is best suited for investigating the complex issues that affect the business phenomenon in a real-life context. The multiple case study design approach explored the perceptions of approximately seven non-profit health insurance organizations in South Africa, based on an embedded unit of analysis that would comprise up to 30 individuals across those organizations. I planned to collect data using semi-structured interviews, supplemented by document analysis and theoretical triangulation concepts.

Research Questions

This study used open-ended research questions to gather rich data about non-profit South African health insurance organizations' perceptions, based on their lived experiences, regarding their uncertainty about which P4P models may be successful for controlling hospital service costs. Accordingly, the first research question elicits information about the characteristics of P4P models that health insurance organizations perceive may be successful in improving the control of hospital service costs. This question helped determine the factors that may reduce uncertainty about P4P models. Sub-questions supplemented the inquiry by examining the motivations and knowledge that may influence health insurance organizations in selecting P4P models.

The second research question seeks to discover the external and environmental factors that influence health insurance organizations' ability or inability to select their preferred P4P models. The sub-questions to the second research question extract information about how those factors manifest in increased or decreased uncertainty about the perceived efficacy of the P4P models. The sub-questions also ascertain the challenges of traditional reimbursement models that may influence the adoption of P4P. The research questions, which were pre-tested with a pilot participant to ensure clarity and understanding, are detailed below.

RQ1. What are the characteristics of P4P models that health insurance organizations perceive

may be successful regarding the control of hospital service costs?

RQ1a. Why are those characteristics perceived to affect the ability to control hospital

service costs?

RQ1b. How do health insurance organizations interpret the advantages and disadvantages

of using P4P models?

RQ1c. How do health insurance organizations determine if a P4P model is perceived to

be successful in controlling hospital service costs?

RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P

model to influence their reward?

RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting

P4P models for managing hospital service costs in South Africa?

RQ2a. What reimbursement models do health insurance organizations currently use, and

what factors of those models would influence the adoption of P4P as an alternative model?

RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models?

RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?

RQ2d. What is the basis for the perceptions of health insurance organizations regarding

P4P models?

Conceptual Framework

This study's conceptual framework is the complex adaptive systems framework supported

by agency, resource dependency, and contracts theories. Traditional empirical approaches to

researching complex healthcare systems that seek to identify rules that regulate agents' behaviors

within a system have not been significantly effective in creating models. This ineffectiveness has

resulted in the increased use of qualitative designs, such as case studies that apply complexity theory to healthcare (Long et al., 2018).

Complex Adaptive Systems Theory

According to the seminal work by Gell-Mann (1992), complex adaptive systems consist of adaptive agents that evolve patterns of behavior by responding to internal and external information in a non-linear manner. Complexity is relevant to healthcare reimbursement innovations because of the uncertainty in how hospitals may react to reimbursement model changes by health insurers. Stacey (1995) observed that the reactions between agents in a system are non-linear because of feedback loops that mean agents can vary or ignore an intervention, resulting in the disappearance of cause-and-effect linkages.

Complex adaptive systems typically have an emergent property that their participating agents believe is essential for survival and respond to newly perceived regularities. In some instances, they can ignore relevant information as random (Gell-Mann, 1992). Although revenue-maximization and cost-minimization are opposing emergent properties for hospitals and health funders, respectively, an article by Kristensen et al. (2016) demonstrated that it is difficult to predict the impact of P4P design choices. The difficulty is the unintended consequence of hospitals' complex sub-systems with their internal agents, such as specialist doctors. The lack of predictability means that agents within the health funder-hospital system have uncertainty about the effect of their actions since the complexity of subsequent interactions and feedback loops results in unpredictable long-term outcomes (Stacey, 1995).

Sturmberg et al. (2010) explained that the complex adaptive system nature of healthcare has created uncertainty about system changes and cited the example of new general practitioner funding models in the United Kingdom that resulted in higher costs instead of the expected

savings. Complexity theory is relevant because healthcare managers tend to make poor cost-control decisions based on linear, empirical information, without considering complex reactions: The adaptive responses of stakeholders with vested interests, the nested sub-systems of providers that exist within hospitals, and the self-organizing systems and emergent behaviors that can revert to an original order despite implementing a new payment incentive (Baghbanian & Torkfar, 2012). Sturmberg and Johannes (2019) posited that health provider incentives that purported to reduce costs had ignored the complex adaptive system nature of healthcare organizations, which has not only resulted in the long-term failure to reduce costs but has caused reduced access to healthcare and worse health outcomes for patients. The highest quality at the least possible cost can be enabled by initiatives that provide flexibility in responding to healthcare quality and cost constraints (Sturmberg & Johannes, 2019). Value-based payments, such as P4P that recognize the complex adaptive system framework, should consider metrics that identify patient care and cost-control as equally important emergent properties (Johannes & Hahn, 2017).

Agency Theory

According to early agency theories, a rational principal will only divert resources to incentivize and measure an agent if the principal anticipates a net positive return (Mitnick, 1975). In this study, the non-profit health insurer is the principal, and the agent is the hospital. Mitnick (1975) cautioned that the risk of incentives is that agents may divert their resources to the incentivized elements, resulting in an overall reduction of the output they provide to the principal. For example, a hospital may produce the reports required for earning incentives without improving the underlying issue. Agency is a fundamental aspect of complex adaptive systems and recognizes that agents, such as hospitals, will interpret rules to ensure their

economic survival (Long et al., 2018). Holmstrom and Milgrom (1991) recognized that the

incentivization of agents is necessary to obtain optimal outcomes. Still, payment incentives

exacerbate the risk of not including essential activities in rewarded measures and trigger highly

variable agent responses to the offered stimuli.

Resource Dependency and Contract Theories

Another relevant theory is resource dependency, which is appropriate because hospitals

are dependent on the financial resources that health insurers provide to them. An early

description of resource dependency theory was by Pfeffer and Salancik's 1978 "The External

Control of Organizations" that stated the actions of organizations are related to their extent of

dependence on resources and also that organizations will aim to reduce their uncertainty about

accessing resources (Bryant & Davis, 2012). Resource dependency means that hospitals are more

likely to participate in alternative payment models only if they reduce their uncertainty about

securing economic resources (Yeager et al., 2015). Furthermore, contract theory is also relevant

because the incentive arrangement between the health insurer principal and the hospital agent

should evaluate potential results of the agreement: The likelihood of success, the moral hazard

that results from the hospital bearing no risk of costly over-treatment, and adverse or propitious

selection of cases that could be a consequence of the incentive measures selected (Marechal &

Thomas, 2018).

Value-Based Payment Models

Value-based payments, such as P4P, shift the accountability for health outcomes and care

costs to health providers such as hospitals and allocate bonuses and penalties related to targets'

achievement (Francavilla, 2019). P4P models represent a change from volume-based fee-for-

service reimbursement, and they increase the focus on measuring outcomes and total cost of care

(Lansky et al., 2012). This study examines health insurers' perceptions regarding P4P, which is

relevant to the study's purpose because decision-makers' perceptual experiences typically

correlate to the evidence that they have accumulated regarding a phenomenon (Tagliabue et al.,

2019). The correlation mentioned above means that the health insurers' perception of P4P

determines if they are potentially relevant to improving healthcare cost-effectiveness.

Discussion of Relationships Between Concepts

Figure 1 below illustrates the relationships between concepts. Health insurers connect to

hospitals through a principal-agent relationship, and therefore agency and contract theories apply

to their relationship. Furthermore, hospitals are dependent on the resources that health insurers

provide. Health insurers may perceive that P4P may result in improved cost control of their fee-

for-service hospital expenses. However, health insurers have uncertainty about implementing

P4P because any attempts to change the complex adaptive system within which the health insurer

and the hospital operate are subject to complexity theory.

Figure 1

Relationships Between Concepts

Complex Adaptive System

Resource Dependency Theory

Health Insurer   Hospital

Principal   Agency Theory   Agent
- Cost minimization   Contract Theory
- Highest quality at least possible cost
- Perception that pay for performance is a potential solution

Agent
- Revenue maximization
- Moral hazard
- Adverse selection
- Propitious selection
- Over-servicing risk

Health insurer allocates bonuses and penalties to the hospital based on achievement of targets

Complexity Theory:
- **Non-linear responses**
- **Positive/negative feedback loops**
- **Conflicting emergent properties**
- **No observable cause-and-effect**
- **Interactions within sub-systems**
- **Unpredictable and unintended consequences**
- **Uncertainty regarding outcomes**

Hospital receives accountability for health outcomes and care costs

Complex Adaptive System

Summary of the Conceptual Framework

The main conceptual framework adopted for the study was the complex adaptive systems framework, which is relevant because non-linear, self-organizing, stakeholder-influenced reactions influence the phenomenon of P4P. Complexity theory means that the ability to predict the outcomes of homogeneous cost control interventions is limited, which means that adaptive solutions are more likely to be successful. The supporting theories for value-based payment models are agency theory, resource dependency theory, and contract theory.

Definition of Terms

Health insurance organizations / health insurers. Organizations that sell health insurance contracts to policyholders that receive a pre-agreed set of healthcare benefits if they have a health event (Baranes & Bardey, 2015). Therefore, health insurance organizations assume the policyholder risk of a health event and purchase healthcare providers' required healthcare benefits.

Medical Schemes. Non-profit health insurance organizations that provide voluntary private health insurance in South Africa and are regulated by the Council for Medical Schemes (Govender et al., 2014).

Medical Schemes Act. The Medical Schemes Act 131 of 1998 is a South African law regulating medical schemes by registering them, controlling their activities, and protecting consumers' rights who are members of medical schemes (Mpanza et al., 2019).

Pay-for-performance (P4P). Payment systems used by healthcare funders that remunerate healthcare providers for achieving quality and cost of care metrics (Gondi et al., 2019).

Prospective reimbursement. Payment systems with fixed pre-determinable fees, such as capitation, which reimburse healthcare providers a regular fee for each patient in the cohort, regardless of the number of times that the patient receives treatment (Guccio et al., 2016).

Retrospective reimbursement. Payment systems with no risk-sharing, such as fee-for-service that reimburses healthcare providers for all costs incurred without any incentives for managing costs or quality (Guccio et al., 2016).

Value-based purchasing (VBP). Systems that provide rewards or penalties to healthcare providers for their quality, patient experience, and cost of care performance (Figueroa et al., 2016). VBP is a term that is used interchangeably with P4P.

Assumptions, Limitations, Delimitations

The following section summarizes the assumptions, limitations, and delimitations of the research. Assumptions reflect a researcher's explicit or implicit ontological beliefs about the nature of the world they are studying (Palagolla, 2016). The limitations of a study are the factors that are not within the researcher's control due to constraints imposed by the study design,

statistical methods, the time available for the research, and other restrictions (Theofanidis &

Fountouki, 2019). Furthermore, Theofanidis and Fountouki (2019) explained that a study's

delimitations are boundaries set by a researcher to narrow the scope based on the specific

research problem and questions that the researcher is examining.

Assumptions

The study used a constructivist assumption that the phenomena of P4P and cost control

relate to context-specific knowledge derived from actors such as health insurance organizations

and hospitals. According to Rechberg (2018), constructivism's epistemology assumes that

interaction with actors' practices and cultures creates knowledge. Researchers create this

knowledge and meaning from fuzzy social constructs. A purposive sampling method selected a

diverse population, which means that the study assumed that the population selected had

maximum variation and is representative of non-profit health insurers. The study assumed that

the concept of P4P will be increasingly relevant, as demonstrated by recent research about the

need for an increased base of evidence (Cattel et al., 2020). The researcher assumed that the

participants were truthful in their responses to interview questions and that they had appropriate

expertise to contribute to the research goals. Finally, the researcher thought that the case study

method would sufficiently explain the complex dynamics relating to P4P, health insurers, and

hospitals.

Limitations

The study population was non-profit health insurers in South Africa, which means that

the results are not generalizable to other health insurers in South Africa or health insurers in

different geographies. There are inherent limitations in the purposive sampling method, as it may

exclude other results that could influence the research outcome. The study method relied on

semi-structured interviews rather than empirical data analysis, which means that participants' opinions may not correspond to quantitative evidence (Theofanidis & Fountouki, 2019).

The open-ended nature of interview questions can create an inherent bias by the researcher, who is the research instrument, towards qualitative data that corresponds with a prior cognitive expectation (Dodgson, 2019). I addressed this limitation by documenting my reflexivity process within the study, journaling, and member checking during the study. A further limitation is that P4P models in South Africa are not extensively used by health insurance organizations, unlike traditional reimbursement methods (Mureithi et al., 2018), which limited the extent of empirical evidence available to explore this phenomenon. The open-ended participant interviews provided rich contextual information that mitigated the lack of empirical data, and the researcher requested participants to explain the basis for their opinions.

Delimitations

The research focused only on non-profit health insurers and did not consider other health funders. Similarly, the study solely focused on private hospitals and did not explore P4P arrangements with other healthcare providers. Although P4P programs can have multiple intended outcomes (Ogundeji et al., 2018), the study did not explicitly consider the quality and health outcomes of P4P because the research problem is related to the control of costs. Furthermore, the study did not consider the quantum of funds required for P4P incentives, the implementation process of P4P, the information technology requirements of P4P models, and the data sources that may be necessary to populate the metrics used for P4P models. The study only investigated factors relating to P4P as a method of controlling costs and was limited to the population of medical schemes in South Africa.

Significance of the Study

Healthcare costs have been escalating at levels that are significantly above inflation. There has been an insignificant improvement in the ratio of healthcare quality to costs, which has resulted in higher interest in P4P models (Jackson & Urick, 2019). There is increased attention to innovative alternative payment models that stimulate improved healthcare and delivery system efficiencies while reducing the total cost of care (Smith et al., 2017). Socio-economic factors have encouraged the trend in P4P models: The increased impetus to ensure that value is optimal for each dollar spent on healthcare, the increased unpopularity of fee-for-service arrangements that do not promote efficiency, and the greater emphasis on measuring quality by healthcare funders (Heller et al., 2017).

Capitation models have also not demonstrated advantages over fee-for-service because they incentivize enrolment rather than cost-effective care (Jackson & Urick, 2019). Health insurance organizations believe that P4P models are a potential solution for replacing the current volume incentives inherent in hospital fee-for-service payments with incentives that hold hospitals accountable for quality and costs (Jain et al., 2019). However, recent studies show that the evidence of how P4P models significantly improve quality and cost-control by hospitals is not consistent (Jain et al., 2019). Cattel et al. (2020) found that the current research on P4P is fragmented and does not emphasize promoting cost-conscious behavior, the cost-effectiveness of health innovations, and the avoidance of costly worsening of in-hospital problems.

Reduction of Gaps

The study aimed to help reduce the healthcare management research gap regarding the financial incentive structures that health insurers could introduce to reduce the total cost of hospital care and increase efficiencies in delivering care (Alderwick et al., 2018). The study

intended to increase the robustness of previous studies that have provided preliminary evidence

that P4P may, in some cases, reduce the utilization of more expensive hospital services (Feldhaus

& Mathauer, 2018). Feldhaus and Mathauer (2018) found that studies that assess the potential

cost-efficiency of P4P arrangements are limited, which makes it difficult for health insurers to

decide which P4P models can improve efficiency.

The findings reduce the gap in research that considers the transferable principles of P4P

models that could support the implementation of new contracting models (Billings & de Weger,

2015). According to Billings and de Weger (2015), previous studies have helped define P4P

models but have not addressed the uncertainties in implementing P4P within a complex

healthcare system. Therefore, this study reduces the gap for P4P principles that enable

contracting according to healthcare funders' local knowledge and context.

Implications for Biblical Integration

According to De la Porte (2016), the healthcare funding crisis in South Africa should not

be ignored by Christian leaders because health and well-being are a practical expression of

Biblical faith within business and society. Therefore, the study of alternative approaches to

increase care cost-effectiveness is a practical theology that explores how health funders can

increase healthcare access. The Bible provides numerous examples that physicians and

medication are God-enabled instruments for improving the human condition (Culpepper, 2016).

Illness is a challenge to the human state that requires fostering a healthcare funding environment

that enables accessible healthcare (De la Porte, 2016). The Biblical worldview that promotes

provider contracting models' improvement is evident in 3 John 1:2, which encourages Christians

to seek humans' physical and spiritual healing (Amplified Bible). Furthermore, cost-control is an

expression of stewardship of resources, which was mandated in Genesis 2:15, "The Lord God

took the man and put him in the Garden of Eden to work it and take care of it" (New

International Version).

Relationship to the Field of Study

The business problem in this research concerns the uncertainty faced by health insurance

organizations about which P4P contracting models could reduce their costs, which is related to

the study of healthcare management because it explores the potential for healthcare

administration innovation. The research contributes to a greater understanding of how health

insurers can manage their costs, which is integral to business performance because health insurer

payment systems are integral to their financial success (Erlangga et al., 2019). Furthermore, this

research increases the evidence-base for alternative payment strategies, which will help reduce

the health insurer dependence on hospital supplier-driven billing that is fraught with perverse

incentives for over-provision of costly services (Cattel et al., 2020). The research also contributes

to reducing the persistence of the high hospital costs incurred by health insurance organizations.

Summary of the Significance of the Study

The escalation of healthcare costs, particularly for hospital services, is a significant issue

for health insurers and requires research into alternative payment models. There is increasing

interest in P4P models, which are a potential solution that can replace fee-for-service and

capitation models that do not encourage cost-efficiency. This study intended to reduce the gap

regarding how P4P models could be selected and implemented to improve cost-control in

contracting with hospitals. The study helps reduce the uncertainty faced by health insurance

organizations regarding P4P contracting models for reducing costs, which addresses a significant

problem to business performance and sustainability.

A Review of the Professional and Academic Literature

Chapter 2 begins with a history of provider payment methods and introduces P4P's

evolution in the context of traditional reimbursement methods that health insurers use for

controlling hospital costs. The chapter documents the results of previous studies relating to P4P

and its effects on cost-control. The chapter proceeds to explore the critical characteristics of P4P

models, such as P4P design types and how incentives are structured. Chapter 2 revisits the

conceptual framework that was briefly introduced in Chapter 1 and expands on its application.

Finally, the chapter concludes with a description of the researcher's potential themes and

perceptions anticipated from the case study research.

Literature Search Strategy and Methods

The researcher used the following databases to review literature: Academic Search

Ultimate, Business Source Complete, Cinahl Plus, Ebsco Host, Emerald Insight, Health Business

Elite, Nursing and Allied Health, Proquest Central, and Pubmed Central. The search terms were

a combination of the following words and phrases: pay for performance, P4P, value-based

payment, cost, reimbursement, healthcare, hospital, insurer, insurance, South Africa, medical

schemes, complex adaptive systems, agency theory, resource dependency theory, and contract

theory.

The selected databases were searched, based on the search terms, to identify articles that

are relevant to the research objectives of pay-for-performance, hospitals, and cost-control. The

researcher reviewed relevance by reviewing the title and abstract of search findings and then

perusing journal articles that appeared relevant to the subject matter. The review included 75

relevant scholarly journal articles, of which 79% were less than five years old at the time of the

study. The 21% of papers that were more than five years old contributed towards outlining a

history of the subject matter.

The History of Insurer Provider Payment Methods for Hospitals.

The Emergence of P4P

The factors that stimulated the emergence of P4P emerged as far back as the 1970s and

1980s (Kane & Manoukian, 1989; Walker, 1977). During the 1970s, a consensus began

appearing that the practice of insurers paying for hospital services using fee-for-service was

leading to overtreatment, the unnecessary selection of expensive procedures, and hospital stays

that were longer than required (Walker, 1977). Walker (1977) observed that hospitals did not

have an active interest in controlling the escalating costs of human resources and new

technologies since they could easily recover patient costs from insurers.

In the 1980s, prospective payment systems such as diagnosis-related groups (DRGs),

which pay a fixed price for a treatment package, developed as a response to fee-for-service

shortcomings. Through a case study, Kane and Manoukian (1989) examined the impact of DRGs

in hospital selection of cochlear implantation treatments. The study reviewed Medicare billing

statistics for 1984 and found that hospitals avoided a new, better quality, cochlear implant

technology because the DRG did not cover it. The study recommended that payment methods

that imposed arbitrary financial limits increased the perception of hospitals' uncertainty and risk,

which resulted in unintended consequences. (Kane & Manoukian, 1989).

Pay for performance eventually emerged in the 2000s, with an early example being the

United Kingdom's quality and outcomes framework. Millett et al. (2009) conducted a

longitudinal study of 1,968 patients with diabetes and observed improved blood glucose and

blood pressure outcomes after the introduction of P4P. The use of P4P rapidly escalated in the

2000s, as demonstrated by a 2005 study of 252 health maintenance organizations in the United States, which revealed that 38% had implemented P4P models for hospitals (Rosenthal et al., 2007). According to Rosenthal et al. (2007), the emergence of P4P was encouraged by the Institute of Medicine and the Centers for Medicare and Medicaid Services. They viewed value-based care as an incentive for improving the quality of care.

Although P4P initially focused on quality outcomes, a study by Curtin et al. (2006) was among the first to evaluate the effect of P4P on cost control. The study examined a diabetes care P4P program that a health insurance organization implemented with a physician practitioner organization with 3,700 practitioners. Curtin et al. (2006) determined that the program achieved savings of an average of $2.4 million annually in the first two years, compared to an annual intervention cost of $1.1 million. Similarly, a follow-up study by Rosenthal et al. (2007) interviewed 27 early adopters of P4P and determined that 92% focused on achieving cost-control with their programs, compared to 60% four years earlier. However, insurers applied P4P to only 2.3% of total hospital provider reimbursements because of the challenges in demonstrating net cost reduction from the P4P initiatives (Rosenthal et al., 2007).

Werner et al. (2011) explained that the Affordable Care Act of 2010 stimulated P4P to replace the fee-for-service model that reimbursed hospitals for the extent, period, and method of care. Werner et al. recommended further developments to tailor P4P for individual hospitals after comparing the performance of 260 hospitals that applied P4P in 2004; to 780 control hospitals that had not used P4P. The five-year study demonstrated that P4P hospitals had better performance after two years, but the differences diminished after five years, which suggested that the P4P incentives measured short-term targets (Werner et al., 2011).

How P4P Became Perceived as an Alternative Reimbursement Model

Numerous studies have documented traditional reimbursement models' failures that have stimulated the academic and practitioner search for alternative reimbursement models (Bayley, 2006; Feldhaus & Mathauer, 2018). P4P became perceived as an alternative to the 'managed care' and 'diagnostic related group' movements of the 1980s, which controlled costs but were criticized by funders for under-servicing patients (Bayley, 2006). P4P models attempt to eliminate the inherent tendency of retrospective fee-for-service models in encouraging over-provision and the under-provision that is motivated by prospective capitation models (Cattel et al., 2020). P4P emerged after traditional reimbursement models failed in cost-control by paying hospitals for the number of processes rather than for the value delivered per patient, which the Mayo Clinic suggested was the sum of patient health outcomes and patient-reported experience, divided by the cost per patient (Smoldt & Cortese, 2007).

Norton (2018) was significantly critical of retrospective reimbursement models because they do not reward quality or cost control, which has incentivized hospitals to maximize the quantity of care rather than minimizing costly readmissions. Feldhaus and Mathauer (2018) explained that retrospective payments, such as fee-for-service, result in providers increasing services volume. In contrast, prospective payments, such as capitation, diagnosis-related groups, disease-based payments, and clinical-episode payment, result in providers expanding the volume of patients and their delivery efficiency. However, P4P models can stimulate the achievement of performance metrics, such as care coordination, which can reduce the low utilization of services (Feldhaus & Mathauer, 2018). In 2016, the US Centers for Medicare and Medicaid Services introduced a cost-control quadrant to the Merit-Based Incentive Payment System (MIPS) to replace the retrospective fee-for-service model (Spilberg et al., 2018).

The Applicability of P4P to Hospital Cost-Control for Health Insurers

The significant historical pressures and the projected hospital cost escalations drove the interest of health insurers in P4P because hospital costs are often the most significant portion of health insurance spend (Esposti & Banfi, 2020; Wu et al., 2018). Projected healthcare costs are likely to reach 20% of the United States gross domestic product by 2022, which has resulted in an interest in alternative reimbursement models and new supply chain management practices within healthcare to reduce healthcare costs per capita (York et al., 2017).

The drivers for cost-efficiency in the healthcare industry are stimulating P4P models: Healthcare inflation that exceeds the economic growth of the 36 Organization for Economic Co-operation and Development countries, aging populations with higher chronic disease, new health technologies, and variable cost and quality outcomes between hospitals (Esposti & Banfi, 2020). Esposti and Banfi (2020) observed that service and manufacturing industries have managed to increase cost-efficiencies by up to 85% since 1990, whereas healthcare has only managed a 6% increase.

Health insurers appear to incur higher costs from hospitals than uninsured patients because of their perceived ability to pay. Wu et al. (2018) examined the records of 1,321 cervical cancer patients admitted to a Beijing hospital between 2011 and 2016 to establish whether the medical payment mode (health insured or non-insured) influenced the hospitalization costs. After accounting for confounding variables such as age, health insurance organizations incurred a premium of 14.9% above uninsured patients, including higher cost treatment, drug, diagnostic, surgery, bed, and nursing costs (Wu et al., 2018). Previous studies of P4P have not been conclusive about whether P4P is effective in low- and middle-income countries, which means that health insurance organizations are not sure about whether to maintain current hospital

reimbursement models or implement P4P for improved cost-control (Turcotte-Tremblay et al.,

2016).

The Interest in Alternative Reimbursement by South African Health Insurers

P4P emerged in countries such as the United States and the United Kingdom and is

increasingly being considered globally, including in countries such as South Africa with private-

sector health insurance models (Ataguba & McIntyre, 2018; Katuu, 2018). Several African

countries have begun implementing P4P, but with inconclusive cost-control results, as

demonstrated by a 2013 before-and-after study of seven Tanzania facilities (Binyaruka et al.,

2015). South Africa has a hospital-centric health insurance system that is biased towards high-

cost fee-for-service reimbursement for the hospitals that serve the relatively limited medically

insured population (Katuu, 2018).

Katuu (2018), using the 1970s Roemer and the 1990s Cockerham-Stevens health

classification framework models, concluded that South Africa's healthcare system is similar to

the USA because it has a two-track system that has a private sector-lead/health insurance funded

track and a state-supported welfare-based track. South Africa differs from the universal and

centrally planned systems of Great Britain, India, Canada, and Russia. The USA-South Africa

similarity means that the USA's reimbursement model learnings can be applied to South Africa,

even though the USA is more affluent than South Africa's developing economy (Katuu, 2018).

A study on health financing in South Africa observed that South Africa has a significant

private-sector provided health sector primarily financed by not-for-profit health insurance

organizations (medical schemes), which is similar to the USA prevalence of voluntary medical

insurance (Ataguba & McIntyre, 2018). However, the study concluded that it is predominantly

the wealthiest 20% of the South African population that can afford medical scheme cover, which

means there is significant pressure to reduce health insurance prices by lowering hospital cover

costs. South Africa has inter-related cost-control and health equity challenges because only 15%

of the population have health insurance cover from non-profit medical schemes. These medical

schemes' health care expenditures consume 46% of national healthcare spending (Coovadia et

al., 2009).

According to a thematic analysis study of 11 South African general practitioners, hospital

costs have escalated because of the prescribed minimum benefits legislation for medical

schemes. This legislation means that hospitals can bill significant fee-for-service amounts for

270 health conditions that are medical schemes are legally required to insure (Mathew & Mash,

2019). Mathew and Mash (2019) found that there was a consensus that healthcare reform would

require a significant change in the retrospective fee-for-service model that South Africa

predominantly applies. In a 2006-2014 study commissioned by the Hospital Association of South

Africa, Erasmus and Kean (2018) analyzed South Africa's three largest hospital groups'

admission data to determine the factors affecting the above-inflation increase costs incurred by

medical schemes. The 8-year retrospective study determined that admissions per 1,000

beneficiaries had increased by 3.5%, patient days had increased by 13.2% per 1,000

beneficiaries, and admitted patient days for the 35 to 65+ age groups increased by an average of

12%, which resulted in a cumulative inflation-adjusted increase of 21% in hospital costs per

1,000 beneficiaries.

Therefore, Erasmus and Kean (2018) concluded that the key cost drivers that stimulate

South African hospital costs are provider utilization factors, rather than price increases. The

factors that influence utilization are the aging member profiles of medical schemes, the increase

in chronic disease, new technologies that stimulate demand for treatment, and patient moral

hazard exacerbated by the hospital-centric nature of legislated prescribed minimum benefits.

Ruff et al. (2011) analyzed the supply-side management of health insurance in South Africa and

concluded that there was significant scope to improve cost-control by re-engineering

retrospective reimbursement models that are limiting efficiency and productivity.

Previous Studies Relating to P4P and its Effects on Cost-Control

Although there are limited studies of the actual or perceived effects of P4P on cost

control, the researcher identified 17 relevant studies within the last five years. Ten of the studies

concluded that P4P is effective as a cost-control measure. Two studies provided an inconclusive

result, and five studies found that P4P is not adequate for cost-control. These mixed results

demonstrate the uncertainty faced by health insurance organizations in deciding whether to adopt

P4P and what the optimal P4P designs are. Table 1 and the subsequent analysis describe the

results of the previous studies.

Table 1

Summary of Previous Studies related to P4P and Cost Control

Authors	Type of Study	Country	Years Studied	Conclusion
Garner et al., 2018	Randomized trial	USA	2006 - 2010	Effective
Cox et al., 2016	Experimental	USA	2016	Effective
Kessels et al., 2015	Discrete choice experiment	Canada, Europe, Oceania, USA	2015	Effective
Lorente et al., 2019	Perception	Spain	2019	Effective
Fleming, 2018	Case study	USA	2018	Effective
Rosenthal et al., 2016	Retrospective cohort	USA	2002 - 2007	Effective

Authors	Type of Study	Country	Years Studied	Conclusion
Rocque et al. 2018	Retrospective cohort	USA	2012 - 2014	Effective
Hsieh et al., 2016	Retrospective cohort	Taiwan	2002 - 2008	Effective
Parasrampuria et al., 2018	Monte Carlo simulation	USA	2016	Effective
Andritsos and Tang, 2018	Stackelberg economic simulation	USA	2018	Effective
Das et al., 2016	Retrospective cohort	USA	2014 - 2015	Inconclusive
Roberts et al., 2018	Cross-sectional observational	USA	2014 - 2015	Inconclusive
Izón and Pardini, 2018	Retrospective cohort	USA	2012 - 2015	Ineffective
Grabowski et al., 2017	Retrospective cohort	USA	2008 - 2012	Ineffective
Jain et al., 2019	Retrospective cohort	USA	2013 - 2014	Ineffective
Hamadi et al., 2019	Retrospective cohort	USA	2013 - 2014	Ineffective
Pandya et al., 2018	Simulation	UK	2004 - 2011	Ineffective

Table 1 demonstrates that 13 of the 17 studies identified were in the United States of America, which is presumably because of the Affordable Care Act (2010) and subsequent interventions from the Centers for Medicare and Medicaid that encouraged the development of P4P models. The most popular research method used was retrospective cohorts, primarily of hospital claims data, which featured in 47% of the studies identified. Experimental and simulation studies were evident in 23% of studies, and there was only one randomized trial study. Two of the more recent studies were perception and case studies, and there were no survey instruments in any of the studies, which supports the perception case study design of this research study in South Africa, mainly because there is no retrospective cohort data yet in the country selected for research.

Studies That Found P4P to be Effective and Used Experimental or Randomized Trial Methods

Garner et al. (2018) conducted a randomized trial to determine whether P4P was more cost-effective than traditional reimbursement for adolescent substance use disorders. The study contrasted 15 control organizations with 14 organizations implementing P4P, using the same evidence-based treatment for all the organizations. The results concluded that the P4P organizations had 24.6% higher implementation costs than the control organizations because of training, coaching, and provider bonus expenses. However, the treatment costs of P4P organizations were 10% lower, and most importantly, demonstrated a 325% better cost-effectiveness as determined by the quantity and extent of successful treatment (Garner et al., 2018).

Cox et al. (2016) reached a similar conclusion with their study that used an experimental approach to determine if P4P models would incentivize more cost-effective discharge decisions. One hundred medical students were provided 30 representative patient charts and requested to make discharge decisions under P4P and fee-for-service conditions. The test conditions were that medical students would only receive a payment if the discharge decisions were correct. The P4P-based decisions resulted in shorter hospital stays without increasing the readmission risk, which simulated a cost-saving compared to the fee-for-service conditions (Cox et al., 2016).

Studies That Found P4P to be Effective and Used Perception and Case Study Methods

A discrete choice experiment presented alternative outcomes to an international cohort of 547 healthcare executives and physicians to determine their perceptions regarding alternative payment models (Kessels et al., 2015). The discrete choice experiment revealed that short-term cost-control ranked last in importance. Still, there was a high consensus that effectiveness and

long-term cost-control are the essential features of alternative reimbursement models (Kessels et al., 2015).

A similar study on perceptions of 80 hospital pharmacists determined the health variables that they perceived would be important for their reimbursement models (Lorente et al., 2019). The study compared hospitals with price-volume agreements to those with P4P arrangements, which were payment-for-efficacy and payment-for-efficiency. Hospitals with price-volume contracts emphasized variables relevant to their financial success, such as the number of medication packages (94.1%), cost per dose, treatment duration, and budget (50%). Hospitals with P4P contracts, which emphasized payment-for-efficacy, placed more importance on best-in-class drugs (56.5%) and limitation of adverse events (53.1%). However, hospitals with payment-for-efficiency P4P contracts recognized the importance of treatment efficiency (59.2%). This study, therefore, suggested that hospitals positively respond to cost-control incentives in P4P contracts (Lorente et al., 2019).

Fleming (2018) adopted a different approach with a quantitative case study of Community Care of North Carolina (CCNC), a provider to the United States Medicaid health insurance. The quantitative case study determined if value-based payment care teams that integrate hospitals and primary care physicians would improve Medicaid patients' cost and quality outcomes. The results demonstrated that the program achieved a 15% lower cost per patient than patients who were not enrolled. Patients that were enrolled had a 37% lower hospital admission rate than those that were not (Fleming, 2018).

Studies That Found P4P to be Effective and Used Retrospective Cohort and Longitudinal

Methods

Rosenthal et al.'s (2016) research was a natural experiment to evaluate P4P's impact on utilization by comparing P4P associated insurance claims data of hospitals in Pennsylvania, Minnesota, and Alabama, to control-group states. The study observed statistically significant decreases in claims for doctor and hospital visits in two of the three states: Pennsylvania and Minnesota. However, there were mixed results for Alabama, presumably because of a 2-year delay in paying health providers' incentives (Rosenthal et al., 2016). The reduction in hospital claims data revealed effective cost-control in health insurance organizations.

Rocque et al. (2018) utilized a similar claims data approach when they analyzed 2012 - 2014 Medicare claims data of 12 cancer centers to determine the addressable cost-control factors that could be realized from a P4P model to reduce the average patient episode cost of $25,630. The study resolved that there were realizable opportunities for cost reduction if providers received appropriate incentive measures in a P4P: Correct treatment choices in the last 30 days of life (4%), the use of generic biosimilar drugs (20%), the use of coordinated care treatment pathways (10%), avoiding unnecessary diagnostics, and promoting a conservative surgical treatment that has fewer readmission complications.

A Taiwanese study by Hsieh et al. (2016) demonstrated equally promising results. The research was a longitudinal examination that compared P4P diabetes patients with traditional reimbursement diabetes patients within a Taiwanese national health insurance program launched in 2001. The P4P program cohort was more cost-effective than the conventional reimbursement group, and it realized an average return on investment of 1.9:1 as a result of outcome and process incentives (Hsieh et al., 2016).

Studies That Found P4P to be Effective And Used Simulation Methods

A 2016 Monte Carlo Simulation projected the long-term 10-year savings of 480

Accountable Care Organizations (ACOs), with 9 million beneficiaries that had applied P4P

principles (Parasrampuria et al., 2018). The ACOs in the study were multi-disciplinary

organizations that included hospitals, clinics, and practices. The study estimated that the ACOs

would save an average of US$588 per beneficiary per year. A positive relationship was apparent

between the quality of P4P interventions and the savings generated (Parasrampuria et al., 2018).

Andritsos and Tang (2018) also conducted a simulation study but broadened the

comparison groups by including bundled payments as an alternative to P4P. Their research was a

health economics Stackelberg model to determine the equilibrium conditions that result from

P4P, fee-for-service (FFS), and bundled payment (BP) reimbursement models for hospitals, to

establish the optimal design for a health insurance organization's cost-control purposes. The

study showed that FFS was not effective in motivating hospitals to reduce readmission costs,

unlike P4P and BP. P4P was more effective than BP in reducing hospital costs if the incentive

thresholds were significant, and the insurer-hospital relationship was collaborative. However, BP

was more effective than P4P in cost control if hospital costs were above market thresholds, and

there was no collaborative insurer-hospital relationship (Andritsos & Tang, 2018).

Studies That Found P4P to be Inconclusive

Das et al. (2016) studied the effect of adding an episode-based spending metric, in 2015,

to 2,679 US hospitals that participated in the 2014 Centers for Medicare and Medicaid Services

(CMS) P4P program. The four hospital classifications were the quadrants of low-quality, high-

quality, low-spending, and high-spending. Seventeen percent of hospitals that were classified as

low-quality in 2014, but were also low spending, became eligible for P4P bonuses in 2015,

which was an unintended consequence and wasteful spending because only high-quality

hospitals should have earned P4P rewards. However, the low-quality and high-spending

hospitals received the highest bonuses of up to 1.77% (Das et al., 2016).

Roberts et al. (2018) presented another inconclusive study. The researchers analyzed

2014 and 2015 Medicare insurance claims and enrolment data to examine the association

between health providers that participated in P4P models and Medicare spending measures.

Their study concluded that there was no statistically significant difference in hospitalization

between the spending measures of P4P health providers and health providers that did not use P4P

(Roberts et al., 2018). The value of P4P incentives, and the weighting assigned to cost-control,

were not financially significant, resulting in the inconclusive result.

Studies That Found P4P to be Ineffective and Used Retrospective Cohort and Longitudinal Methods

There were four retrospective cohort studies that found P4P to be ineffective. The

Medicaid and Medicare population studies contradicted the results of the studies mentioned in

this literature review that found P4P to be effective in cost-control. For example, Izón and

Pardini (2018) used a stochastic frontier analysis to demonstrate that hospitals that participated in

a value-based payment program were associated with higher operating expenses and decreased

cost efficiency. The study had measured the effects of a Medicare value-based payment program

on the cost-efficiency of California community hospitals between the 2012 and 2015 years (Izón

& Pardini, 2018). Izón and Pardini (2018) had observed that the hospitals that participated in the

P4P were more cost-inefficient than hospitals that did not participate in the P4P. The improved

quality realized from the P4P was not cost-effective, which resulted from an inadequate

emphasis on cost-control in the design of the P4P.

Similarly, the study by Grabowski et al. (2017) concluded that a P4P intervention did not affect cost-control, despite the incentives offered to healthcare providers. The study had compared pre-post differences of a P4P treatment group of New York health facilities to comparison groups in Arizona and Wisconsin over three years. The New York P4P facilities had a worse Medicare spending outcome than the Arizona and Wisconsin comparison groups (Grabowski et al., 2017).

Another Medicare study examined the effect of value-based payment arrangements on hospital performance: The study compared the level of value-based payment characteristics implemented according to a 2014 American Hospital Association dataset to the performance scores obtained from a Hospital Compare dataset of 4,000 Medicare-certified hospitals (Jain et al., 2019). Regression analysis suggested that hospitals that adopted VBP practices had a modest improvement in performance but were associated with increased costs of delivering care due to the incremental cost of new quality measures (Jain et al., 2019).

Hamadi et al. (2019) also used data from the American Hospital Association and the Centers for Medicare and Medicaid, between 2013 and 2014, to evaluate the effect of Medicare value-based purchasing on the volume of inpatient and outpatient services in 1168 hospitals. The results found that hospitals with a high-volume of inpatient services were more likely to have a high P4P performance score, which means that they responded artificially to incentives by ensuring that they preserved their inpatient remuneration. However, high-outpatient service hospitals were less likely to have a high P4P performance score. Therefore, it appears that, based on their internal evaluation of transaction cost economics, the hospitals only engaged in P4P models if that would maintain their profitability, which was detrimental to insurer cost-control objectives (Hamadi et al., 2019).

Studies That Found P4P to be Ineffective and Used Simulation Studies

There was only one ineffective study that used simulation methods. Pandya et al. (2018) developed a simulation model to estimate the cost-effectiveness of a cohort of £27,1 million patients that participated in the United Kingdom's Quality and Outcomes Framework P4P program, as compared to a hypothetical cessation of the program. Despite the incentive payments disbursed of £9,7 billion between 2004 and 2011, the program only had an 18% probability of cost-effectiveness. The program cost £49,362 for each quality-adjusted life-year (QALY) gained, which was costlier than the UK recommended threshold of £30,000 per QALY gained, which means the UK could have instead redirected the funds to other lower-cost interventions (Pandya et al., 2018).

Challenges Relating to P4P as a Cost-Control Method

The literature review identified four categories of challenges that make P4P implementations ineffective from a cost-control perspective. These challenges are related to the administrative and regulatory barriers, implementation costs, and the uncertainty about how to design incentives (Haviari et al., 2019; Izón & Pardini, 2018; Maddox et al., 2017; Slotkin et al., 2017). Furthermore, unintended consequences were manifested by P4Ps, which reduced the desired cost-saving effects (Osterloh, 2014).

Administrative and Regulatory Challenges

According to Mendelson et al. (2017), administrative inefficiencies of P4P programs create the highest cost of these alternative reimbursement models, with providers requiring up to 15 hours weekly managing measurement data. These administrative costs mean that the transaction cost economics of labor-intensive P4P programs undermine the benefits realized from reduced healthcare utilization. Lorente et al. (2019) agreed that P4P models might be

costly, based on a study of 80 Spanish hospitals. The study concluded that a barrier to P4P

agreements is the administrative effort required for compiling contracts, the uncertain thresholds

for incentives, the challenges of ensuring adherence, and the complexity of information systems

that hospitals require to measure the agreed targets.

The existing regulatory frameworks in most countries are designed for price-volume

agreements and represent a barrier to implementing non-linear contracts (Lorente et al., 2019).

The US Employers Centers of Excellence Network has piloted hip and knee replacement surgery

P4Ps since 2014, and they observed that the barriers to adoption included regulatory restrictions,

the detailed compliance knowledge required of hospital workflows, and the additional nurse and

administrative time required for participation (Slotkin et al., 2017). These barriers mean that

insurers may incur additional costs in retrofitting alternative reimbursement models to regulatory

frameworks and compliance structures that promote retrospective reimbursement.

Implementation Cost Challenges

Several studies confirm that implementing a new reimbursement model results in

adaptation costs that reduce programs' cost-effectiveness (Izón & Pardini, 2018; Jain et al., 2019.

A study of US hospitals that adopted P4P practices between 2013 and 2014 revealed that

implementation costs negated the anticipated cost-control outcomes, which was exacerbated by

the inability of hospital leaders to convince clinicians of the need to change and clinician

concerns that changes in practices could result in malpractice claims (Jain et al., 2019). Izón and

Pardini (2018) explained that they associated hospitals that implemented P4P with higher costs

because of training expenses, improving equipment and enhancing the patient experience. These

costs mean that P4P implementations should place increased emphasis on the financial outcomes

of P4P interventions, instead of the focus on quality outcomes that ignores the set-up and maintenance costs (Izón & Pardini, 2018).

Incentive Design Challenges

Health insurance organizations have experienced cost leakage because of incentives quantified too minimally to affect performance and are therefore irrelevant, and because of paying incentives that are not evidence-based (Haviari et al., 2019; Kruse et al., 2012). Kruse et al. (2012) analyzed over 420,000 P4P-associated Medicare admissions between 2002 and 2005 and found no statistically significant effect of P4P because of the weak provider incentives of 0.2 percent per admission cost. Grabowski et al. (2017) agreed and expanded on this challenge with a study that observed that the incentives' ineffectiveness was compounded by small gainsharing bonuses that were less than two percent of the base reimbursement and an 18-month lag between performance and incentive payment (Grabowski et al.). Haviari et al. (2019) conducted a simulation study of twenty-four French hospitals to establish whether variations in hospital coding would influence P4P measures, which was done by re-coding hospitals' discharge data and comparing the recoded data to hospital-generated records. The study demonstrated a coding error rate of 7%, which means that insurers could waste substantial P4P reimbursements on hospitals that do not deserve incentives or hospitals that have manipulated coding to increase their incentives (Haviari et al., 2019).

Maddox et al. (2017) observed that despite the US goal of achieving 50% penetration of value-based payment models within Medicare by 2018, there was limited information about which models were effective. Their examination of seven Medicare programs revealed that only two had cost measures embedded and that incentives were either penalties or bonuses ranging between only 1% and 9% of the base payment. Only two programs set targets according to

absolute performance instead of relative performance (Maddox et al., 2017). Norton (2018)

agreed with (Maddox et al., 2017) about the difficulty of setting appropriate incentive thresholds.

In a study of a Michigan P4P program implemented by Blue Cross insurance, Norton

(2018) described the challenges of P4P. These challenges included setting incentive thresholds

that are relevant for low and high-performing hospitals and the variation of same-procedure

hospital costs as a result of confounding patient risk variables. Insurers also battle to determine

the value of incentives that are significant enough to alter hospital cost-control behavior.

Furthermore, the provider risk-selection tendencies of choosing patients that will enable them to

achieve stipulated outcomes more easily was also a challenge (Norton, 2018). Although

providers can manipulate uncomplicated incentives, complex incentives are also detrimental to

cost control. Grabowski et al. (2017) analyzed a Medicare P4P implementation of New York

facilities, between 2009 and 2012, that failed to achieve cost-control objectives and concluded

that the incentivized measures were too complicated for the facilities to understand.

Challenges Resulting from Unintended Consequences

Studies have observed costly and harmful unintended consequences from P4P, such as

excluding high-risk patients to protect incentives, the multi-tasking effects created by P4P, and

short-termism that results in expensive long-term implications for health insurance organizations

(Das et al., 2016; Osterloh, 2014).

Multi-Tasking Effects and Provider Manipulation. Das et al. (2016) studied the P4P

program of the Centers for Medicare and Medicaid Services in 2015. They concluded that the

addition of a cost-control metric had the effect of rewarding hospitals that were in the low-

quality and low-spending quadrants. Das et al. recommended that cost-control P4P programs

have a minimum quality baseline to prevent rewarding hospitals for low quality, even if the

hospitals delivered low-cost services, to protect insurers from incurring the costly long-term effects of poor-quality services. Osterloh (2014) argued that the unintended consequences of P4P are so significant that this method of reimbursement should be discouraged and provided an example of P4P's multi-tasking effects that result in providers focusing only on the tasks that are rewarded and neglecting quality care. Sherry (2016) also cautioned that the typical P4P design that rewards the perceived desired activities is a blunt instrument that results in a multitasking problem because of the health provider's subsequent neglect of non-rewarded activities, resulting in the elimination of any cost savings.

Behavioral Economics and Social Capital. A typical design flaw of P4Ps is the assumption that financial outcomes should only be incentivized by financial targets, which ignores the principles of behavioral economics and social capital. Osterloh (2014) warned that the P4P focus on economic measures results in self-selection that attracts providers who are significantly financially motivated and crowds out the inherently intrinsic factors that motivate the natural inclination to care for patients. Gondi et al. (2019) agreed that P4P models limit the inherent motivation and the non-financial capital of health providers, such as damaging symbolic capital structures. This social damage can result from funders applying penalties to senior providers, creating disgruntlement because of neglecting unmeasured tasks, and fracturing the teams' social and cultural capital if they use bonuses at an incorrect organizational level. According to behavioral economics, the risks of P4P include incentivizing providers who have an unconscious self-serving bias that can result in manipulation: (1) Improper treatment with long-term cost effects, and (2) providers that "game" the system by excluding high-risk patients from treatment so that they can demonstrate better outcomes (Osterloh, 2014).

Theoretically Preferred Characteristics of P4P as a Cost-Control Method

The literature review revealed the theoretically preferred characteristics of P4P for controlling costs. These characteristics included categories relating to the design principles of P4P, the determination of base fees, payment for co-ordination, payment for centers of excellence, risk-adjustment of base fees, and the setting of reimbursement rules (De Meester et al., 2017; Gabriel et al., 2019; Spilberg et al., 2018). Cattel et al. (2020) synthesized multidisciplinary studies to propose a theoretical concept for cost-controlling P4P models. They identified five characteristics: (1) Rewarding coordinated accountable care groups that accept responsibility for a full continuum of care (2) a risk-adjusted base payment, (3) flexible multi-year contracts that enable hospitals to invest in innovation, (4) risk mitigation by the health insurer for outlier incidents incurred by the hospital (5) risk-sharing between hospitals and health insurers for either the up-side or down-side financial results.

Characteristics Related to Design Complexity

According to the literature review, intricate P4P designs undermine the cost-efficacy of P4P programs. Pandya et al. (2018) reviewed a 7-year P4P program in the UK, which exceeded cost-effective parameters by 43%. They recommended that the program focus on a limited set of critical indicators instead of the 123 indicators. However, this does not mean that limiting indicators should exclude essential indicators relating to cost control. P4P arrangements that focus only on quality indicators are "narrow" models and result in increased costs rather than cost savings (Vlaanderen et al., 2019). Vlaanderen et al. (2019) concluded P4P models should have simple outcome-based models that focus on the most economic characteristics of P4P arrangements for cost-control, such as global budgets, risk-sharing, gainsharing for achieving specific indicators, and payment for coordinated care.

Despite the promise that P4P offered as an intervention for improving quality and cost outcomes, it was increasingly criticized for complexity and not selecting measures that adequately reflect real-world scenarios (Hirose et al., 2011). Cattel et al. (2020) proposed that a useful P4P model that promotes cost-control should incentivize behavior that is mindful of the use of scarce resources, coordination of care to avoid duplication, the pursuit of cost-effective innovations, and the proactive prevention of readmissions that require additional care. In a study to evaluate how P4P models can ignore real-world population scenarios, Hirose et al. studied 30,502 patients in an insurance claims database between 2002 and 2008 that underwent common hospital surgeries. The study compared the 30-day health and cost outcomes of obese and non-obese patients. The study demonstrated that the obese group had a statistically significantly higher likelihood of complications and increased costs. The study revealed that P4P measures that rewarded hospitals for low complication rates did not reflect real-world populations. These P4P measures ignored underlying population risks, which can improperly penalize providers or incentivize providers to avoid treating high-risk populations (Hirose et al., 2011).

Characteristics Related to Base-Pay Design

The base-pay refers to the initial fee that hospitals are paid before earning incentives and may reflect the value-based principles of the overall P4P model (Cattel et al., 2020).

Reference-Based Pricing. Zhang et al. (2017) proposed that reference-based pricing is an effective mechanism for determining P4P base payments. This assertion was demonstrated by their 2011 to 2014 pre-test post-test California study that compared three health plans: Anthem Blue Cross's reference pricing, Blue Shield's centers-of-excellence, and Kaiser Permanente's traditional health maintenance organization plan. The reference-based pricing design paid providers by referring to an agreed benchmark and resulted in a post-test cost saving of 26.7%

for hip and knee replacements because of controlling price variation. In their cost-minimization analysis study of 480 United States accountable care organizations, Parasrampuria et al. (2018) identified three characteristics of cost-saving models: Reference-based pricing, risk-adjustments to reference-based fees according to the treatment population, and shared savings or losses with the health insurer depending on the difference between reference-based prices and actual expenditures.

Activity-Costing Derived Base Prices. Gabriel et al. (2019) recommended that time-driven activity-based costing (TDABC) could be useful for computing base costs because funders can accurately use the cost-per-minute of processes to reward providers for using a coordinated pathway without endangering clinical outcomes. Cattel et al. (2020) agreed with this approach and recommended a risk-adjusted base payment derived from activity periods rather than the volume of processes.

Risk-Adjusted Base Prices. The Merit-Based Incentive Payment System of the US Centers for Medicare and Medicaid Services includes a risk-adjusted reference-based price for treatment episodes to determine provider efficiency, calculated using the expected costs for a population and adjusting this for outliers and risk characteristics (Spilberg et al., 2018). Such risk adjustments avoid the criticism of P4P unfairly rewarding or penalizing providers because of patient characteristics that they cannot control. Damberg et al. (2015) responded to the criticism of P4P by a simulation test of a new P4P model on 153 organizations in California that adjusted typical P4P rewards for case-mix. This case-mix adjustment increased the P4P incentive for higher-risk or lower socioeconomic status patients, which avoided over-compensating providers that have inherently high-performing patient groups (Damberg et al., 2015).

Characteristics Related to Reimbursement Rules

The studies identified in the literature review outlined P4P reimbursement rules that can influence cost control, such as the size and frequency of incentive payments and the health insurer choices between bonuses, penalties, shared savings, and gainsharing (Garner et al., 2018; Ogundeji et al., 2018). Ogundeji et al. (2018) developed a P4P typology and piloted it using independent raters that categorized previous P4P reports. The understanding of P4P typology is relevant to determining the reimbursement rule design features that can affect the effectiveness of P4P interventions in controlling costs (Ogundeji et al., 2018).

High-Value Incentive Pools. A study of a 2009-2012 P4P Medicare demonstration program in New York concluded on the required features of effective P4Ps. These features were simple-to-understand reimbursement rules, large incentive pools with base payments, the exclusion of factors that hospitals cannot control, best-practice educational support, and timely feedback loops between performance and reward (Grabowski et al., 2017). However, Mendelson et al. (2017) disagreed and said there is insufficient behavioral economics guidance to ascertain the P4P incentive characteristics that create tangible cost outcomes because of the lack of research into the effects of reimbursement values and the scheduling of payments.

Nevertheless, other studies provide evidence that the consideration of reimbursement rules, such as the large incentive pools posited by Grabowski et al. (2017), significantly affect cost-control outcomes. For example, a 2014 South Korean retrospective observational study of P4P-associated claims data for 535,289 hospitalizations found that P4P was effective in reducing medical costs because the insurer set a high threshold to earn payment (Kim et al., 2017). Ogundeji et al. (2018) agreed that the size of incentive pools is a material consideration and

differentiated between small incentives that are less than five percent of base-payment and

substantial incentives greater than 10% of base-payment.

       Frequency of Incentives and Choosing Whom to Reward. Garner et al. (2018)

conducted a randomized trial study. They found that P4P designs were effective, subject to three

characteristics: (1) The strategic choice of incentivizing individuals rather than organizations, (2)

frequent incentives to reinforce behavior, such as a fixed amount per patient that received the

required treatments, and (3) a focus on a few relevant performance measures. Similarly, a study

by Ogundeji et al. (2018) identified the importance of deciding whether individual doctors earn

the P4P incentives or hospital groups receive the incentives for team sharing.

       Risk and Gain Sharing. The structure of reimbursement rules determines the

apportionment of risks and gains between health insurers and hospitals. Feldhaus and Mathauer

(2018) identified two types of P4P arrangements that deal specifically with cost-control: Shared

savings methods that share an agreed percentage of savings between the health insurer and the

hospital, and gainsharing methods incentivize for improved efficiency in the management of

expensive hospital services. However, Ogundeji et al. (2018) adopted a risk-based approach.

They associated cost-control with the level of incentive earning risk that is subject to dependency

on others, the control over outcomes, and the time that elapses after the measured performance

event.

       Furthermore, bonus-based or fine-based incentives, even if they have the same value,

achieve different outcomes because of a hospital's appetite for risk (Ogundeji et al., 2018).

Health insurers can use a combination of bonuses and penalties, as illustrated by the example of

the Employers Centers of Excellence Network (ECEN), which applied a net payment

reconciliation. This net payment reconciliation is a bonus or penalty for a hospital that performs

better than the reference price and is only payable three months after the episode's post-acute

observation (Slotkin et al., 2017).

        Payment for Co-Ordination, Efficacy, and Patient-Centered Care. Numerous studies

demonstrated a preference to paying for effectiveness rather than paying for efficiency, to avoid

the long-term costs of health providers "gaming" the system by pursuing efficiency targets at the

expense of patient outcomes (Andritsos & Tang, 2018; Lorente et al., 2019). Jain et al. (2019)

posited that P4P might improve cost performance if it rewards care co-ordination (pay-for-

coordination), such as the integration of hospital services with primary and post-discharge

services, and suggested the reward of care management impact metrics. Gabriel et al. (2019)

retrospectively assessed 50 patients who had hip surgery to determine the P4P characteristics that

could minimize the intervention's cost. The findings confirmed the results of other studies

because Gabriel et al. observed that paying for care coordination among multi-disciplinary teams

resulted in an 11.8% lower reimbursement.

        Andritsos and Tang's (2018) game theory model demonstrated that outcomes-based P4P

models that co-produce patient-centered care, rather than measuring effort, are more effective in

reducing cost. Similarly, in a study that included 80 hospital pharmacists, only 20% claimed to

have P4P agreements, which were payment-for-efficacy models, and just 1% was a payment-for-

efficiency model (Lorente et al., 2019).

        De Meester et al. (2017) reviewed data from 40 healthcare provider funding applications

submitted to the Robert Wood Johnson Foundation's "Payment and Delivery System Reform

Program" in 2013 to establish the characteristics of models perceived to be successful. The study

concluded that the 7.5% of successful applicants had the following elements: (1) Integration of

the extrinsic motivation features of P4P with intrinsic motivation characteristics such as provider

training and teamwork, (2) coordination with multi-disciplinary accountable care groups, (3)

base payments that included risk-based capitation fees. Parasrampuria et al. (2018) also

concluded that paying for the co-ordination of care was associated with cost savings because of

the efficiencies realized within the healthcare system, eliminating duplicate diagnostics, and

improved condition management, reduced hospital admissions, and reduced readmissions post-

surgery.

Payment for Recognized Excellence. Slotkin et al. (2017) described a single case study

of the Pacific Business Group on Health, which includes Fortune 100 companies that purchase

health insurance for over 10 million American employees, and has introduced P4P arrangements

through its Employers Centers of Excellence Network (ECEN). This ECEN model's

characteristics include a center-of-excellence approach, which reduced unnecessary utilization by

at least 30% by recommending alternative treatments and care coordination. Zhang et al. (2017)

also concluded that a centers-of-excellence design, which only paid providers that met specific

expertise criteria, resulted in a 29.2% cost saving because of reduced utilization from avoiding

unnecessary hip and knee replacements (Zhang et al., 2017).

Application of the Conceptual Framework to P4P as a Cost-Control Method

The conceptual framework that Chapter One identified for this research study is the

complex adaptive systems framework. This framework supports the qualitative case study design

used for the research because a quantitative approach is not appropriate for understanding agents'

complicated behaviors within the complex healthcare system that hospitals and health insurers

operate within (Long et al., 2018). Theories relating to agency, resource dependency, and

contracts will support the complex adaptive systems framework. The framework recognizes the

oppositional revenue-maximization and cost-minimization forces between hospitals and health

insurers, which has created a lack of empirical predictability about how P4P can affect cost-control for health insurers.

This uncertainty was evident in the review of previous studies earlier in Chapter Two, which demonstrated the conflicting conclusions about P4P's effectiveness in the USA. The understanding of complexity theory is essential to healthcare reimbursement decision-making because hospitals' responses to health insurers are difficult to predict within the complex adaptive system within which they operate (Baghbanian & Torkfar, 2012; Kristensen et al., 2016).

Complex Adaptive Systems and Complexity Theory

Braithwaite (2018) proposed that cost-efficiency requires focus because of the 30% level of waste in the healthcare sector. However, the non-linear nature of a complex adaptive system cannot be regulated by deterministic reimbursement models that often result in unintended consequences and provider gaming to achieve incentives (Braithwaite, 2018). Therefore, this research study will use a qualitative approach that seeks to understand how cost-control results may emerge from agents' interaction in the health insurance-hospital system. Complex adaptive system (CAS) theory recognizes researchers should study real-life healthcare systems' cost-effectiveness through inductive reasoning, rather than reductionist approaches (Sabzian et al., 2018). Researchers should use agent-based modeling rather than equation-based models that control variables (Sabzian et al., 2018).

Agent-Based Modeling (ABM). Because ABM is a concept for reducing behavior-dependent costs in consumer goods industries, Sabzian et al. (2018) agreed with Sturmberg and Johannes (2019) that the relevant properties to consider are a bottom-up emergence of problem-solving approaches and making decisions based on statistical probability rather than certainty.

Therefore, this study may not reduce the uncertainty that health insurers face in applying P4P as a reimbursement model to control costs, but will instead provide a range of future states informed by the perception of agents operating within the health insurance-hospital system.

The exploration of health insurer perceptions will stimulate an integrative thinking approach that may predict the cost-control properties that can emerge from applying P4P to the health insurer-hospital CAS. Based on Sabzian et al.'s (2018) theoretical proposition, using agent-based modeling in the health insurer and hospital CAS reveals several characteristics for designing a P4P model for cost control.

Firstly, P4P innovations that influence hospital survival will diffuse naturally within the CAS because of network effects. Secondly, Social learning should accompany P4P models by recognizing the relationships between agents. Thirdly, hospitals are stationary agents, which means it is essential to consider the potential properties and behaviors of the mobile and connecting agents within hospitals, such as specialists and nurses. Fourthly, hospitals are utility-based agents that always seek to maximize their revenue. Fifthly, the doctors, nurses, and specialists within hospitals are goal-based agents that not only seek to maximize revenue utility but have a goal of optimizing patient health, which influences their actions. Lastly, hospitals and their health professionals are adaptive agents, which means that if they lose a payoff because of a P4P model, they will seek to establish a new action that restores their financial yield (Sabzian et al., 2018).

Patient-Centered Care and Flexibility. York et al. (2017) proposed that the driver of healthcare CAS should be the Triple Aim objectives of the Institute of Healthcare Improvement, relating to optimizing the patient experience, population health, and cost-control, which requires a value co-creation approach between health insurers and hospitals. However, the macro-level

value creation objectives of a health insurance organization may oppose a hospital's because of

the insurer's cost-control goals of reducing the monthly cost per member and minimizing the

hospital utilization and cost (York et al., 2017). Therefore, York et al. suggested a service-

dominant approach to the CAS that focuses on creating Triple-Aim outcomes at each patient care

episode.

York et al. agreed with Sabzian et al. (2018) that complexity requires a reimbursement

approach that permits flexibility because of the CAS's uncertainties that a deterministic payment

model cannot resolve. The uncertainties relating to the patient encounter pertain to the

complexity of treatment, the products and services that the patient will consume, the duration of

the treatment, and supply-demand characteristics (York et al., 2017). These service uncertainties

demonstrate why previous approaches to reimbursement have not solved the cost-control issues

in healthcare.

Sturmberg and Johannes (2019) analyzed the examples of complex adaptive systems,

such as the Mayo Clinic, the American Indian Health Service, and the Netherlands 'Buurtzorg'

community care model. The case studies demonstrated that better healthcare cost control resulted

from a single, clearly articulated driver relating to the required emergent output, using a bottom-

up model that allowed self-organization, relational commitment, problem-focus, and outcomes-

based approaches. Complex adaptive systems do not respond to traditional governance

arrangements that rely on contractual, hierarchical, activity-based, command structures to realize

efficiency because this has the counteracting impact of increasing administrative costs

(Sturmberg & Johannes, 2019).

Johannes and Hahn (2017) expressed a more radical perspective that the current

retrospective, prospective, and value-based reimbursement models do not recognize the CAS

nature of health insurer-hospital systems. Deterministic reimbursement models falsely assume that funders can apply Newtonian cause-effect science to healthcare. In contrast, a person-centered approach should instead reward health providers for improving the personally acquired potential of their patients instead of their uncertain biological outcomes (Johannes & Hahn, 2017).

Agency Theory

Research studies of agency theory have demonstrated that the health insurer's ability to control hospital costs is a product of principal-agent risks such as information asymmetry, an inherent bias towards the status quo, and hospital self-interest (Conrad, 2015; Kipo-Sunyehzi, 2018). These principal-agent risks mean that a study of cost-control should consider how agency theories may affect the design uncertainties relating to P4P models. Several studies advocate a flexible approach to managing principal-agent problems in complex adaptive systems (Long et al., 2018).

Agency incentivization is essential to successful reimbursement models in complex adaptive systems because hospitals will seek to maximize their survival in the principal-agent relationship (Holmstrom & Milgrom, 1991; Long et al., 2018). The agency theory application is relevant for determining whether a P4P contract with a hospital can influence behavior, risk management, and cost-control, based on the assumption that hospitals are self-interested and seek to minimize their risk (Dadich & Doloswala, 2018). Dadich and Doloswala (2018) interviewed 21 doctors and confirmed the continued importance of incentives in managing healthcare providers' self-interest. However, the social aspects of complex adaptive systems reduced the impact of incentives, which means that agency theory alone cannot guide P4P incentive structures' design.

Information Asymmetry, Bias, and Hospital Self-Interest. According to agency theory, hospitals have asymmetrical information in their favor, which they are likely to exploit to maximize their financial success at the expense of health insurance organizations (Cattel et al., 2020). Agency theory is relevant for designing financial incentives that align hospital interests with patients and health insurance organizations (Cattel et al., 2020). Other studies agreed that hospitals' health insurer reimbursement models are subject to the principal-agent risks of asymmetrical information, self-interest, perverse incentives, and moral hazard, which can cause the failure to manage costs within required parameters (Kipo-Sunyehzi, 2018).

Kipo-Sunyehzi (2018) conducted a qualitative study of principal-agent issues between the National Health Insurance Agency of Ghana and health service providers, which concluded that fee-for-service health providers over-serviced health insurance patients to maximize their financial reward. A contextual analysis study by Conrad (2015), which applied agency and behavioral economics theories, suggested that P4P models that employ shared savings techniques, with an existing fee-for-service base payment, are unlikely to result in changed hospital behavior. This failure is because of the hospital status quo bias that assumes any changes from the existing reference fee to be a loss.

Flexible Approaches to Principal-Agent Issues. Long et al. (2018) proposed a social complexity theory approach to counteract agency theory's traditional shortcomings. Social complexity theory supplements rule-based agency by considering the intrinsic motivation and collective survival behaviors of hospitals. This social complexity means that a flexible and pragmatic approach is appropriate for researching P4P models because of the unpredictable emergent outcomes resulting from non-linear agent interactions, nested sub-systems within CAS environments, and self-organizing patterns with fuzzy boundaries (Long et al., 2018). Carter

(2018) agreed that a flexible approach is appropriate to CAS environments and recommended that healthcare improvements, such as P4P models, should not impose a uniform standard on health providers but should recognize individual variability, social norms, and values.

Resource Dependency and Contracting Theories

Resource dependency theories are relevant to understanding how a hospital will react to a health insurer's P4P contract. Hospitals are significantly dependent on the revenue they earn from health insurers, but they seek agreements that preserve their autonomy and the certainty in how they will reach their remuneration goals (Birken et al., 2017; Büchner et al., 2016). This resource dependency means that hospitals tend to circumvent cost-control measures if health insurers significantly threaten their autonomy.

Resource dependency theory is relevant to explaining how hospitals create beneficial relationships with health insurers while enhancing their power and profitability (Büchner et al., 2016). However, this means that the actions resulting from resource-dependency can result in moral hazards for health insurers. The moral dangers of different reimbursement models can result in under-servicing or over-servicing of insured patients, which can be managed contractually by incentive arrangements between health insurers and hospitals that stipulate the required metrics for success (Jian et al., 2015; Marechal & Thomas, 2018).

Other studies agreed that, according to resource-dependency theory, healthcare providers depend on the resources provided by health insurers for their continued functioning but are averse to heavy dependence because that increases their financial uncertainty (Birken et al., 2017). This dependency can influence them to "game" P4P models to increase their payments. Therefore, Birken et al. recommended that the design of P4P models should ensure that transaction costs between hospitals and insurers are minimized by adapting to hospital contexts

and providing enough cost predictability to ensure that benefits exceed the implementation costs. Furthermore, resource-dependency theory means that P4P innovations are unlikely to be implemented if they do not impact hospitals' survival (Birken et al., 2017).

Therefore, P4P incentives should be financially significant, compared to the base reimbursement. In contrast, Zhu et al. (2019) did not express concern about the financial size of P4P incentives when they studied two cases of health insurer-hospital relationships in China. Zhu et al. (2019) were more concerned about the quality of the contracting relationship. They concluded that the optimal contracting relationships featured limited contractual external control by the health insurer; the facilitation of an internal mechanism within the hospital to align its interests with the insurer; low standardization of the resources required for treatment; and a strong understanding of the required effectiveness outcomes.

Potential Themes and Perceptions

This section discusses the potential themes and perceptions that I expected to identify in the multiple case study, based on the literature review results.

Potential Themes Related to P4Ps on Cost Control

Features of Successful P4Ps on Cost Control. The literature review identified the following theoretically preferred features of successful P4Ps (De Meester et al., 2017; Gabriel et al., 2019; Spilberg et al., 2018). The theoretically-preferred features included rewarding coordinated care for accountable care groups that include hospitals, specialists, and general practitioners. Previous studies also preferred to reward centers of excellence that have a proven ability to make cost-effective healthcare decisions. From the theory, I identified a preference for base payments determined according to a reference price and adjusted to reflect the time required

to service patients, such as time-driven activity-based costing and the patient population's risk characteristics.

Previous studies also suggested a theme that high-value incentives or penalties would be significant enough to cause hospitals to modify their behavior. Periodic incentive payments will reinforce behavior change, and shared savings and gain-sharing methods with hospitals could be popular with medical schemes. According to the literature review, I expected a theme about whether health insurers should reward hospitals, the service providers within hospitals, or both parties. I also expected a theme that limited reimbursement rules will enable the simplicity of application.

The literature review updated the conceptual framework of Chapter One, and Figure 2 illustrates the revised framework. The study confirmed that a complex adaptive system framework is appropriate for understanding principals and agents' cost-related behaviors within the healthcare environment.

Figure 2. Relationships Between Concepts (revisited)
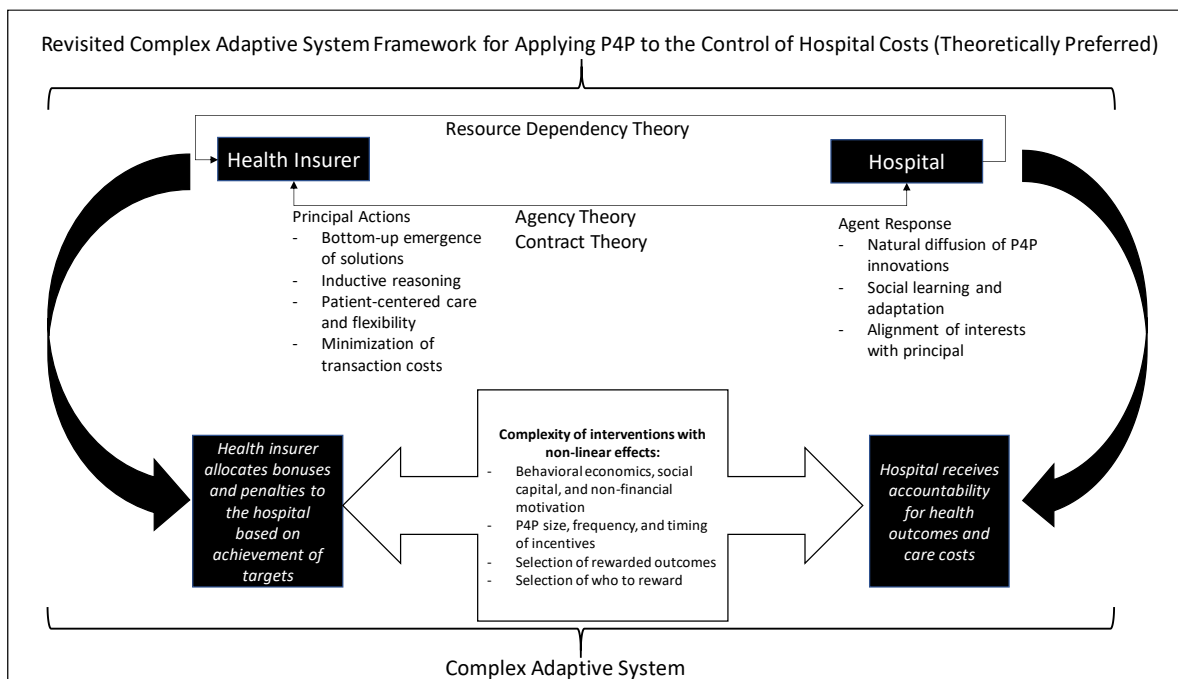
Features of Unsuccessful P4Ps on Cost Control. The literature review demonstrated that P4Ps that were unsuccessful had low incentive pools, base payments that reverted to fee-for-service models, rewarding efforts rather than outcomes, and non-inclusion of cost-related outcomes. Unsuccessful P4Ps had high administration and implementation costs that sometimes improved quality but were costlier than retrospective and prospective reimbursement models. The poorly designed P4Ps failed to adapt to the complex adaptive systems within healthcare and applied cause-effect rules that had unintended consequences in real-world settings.

Potential Perceptions Related to P4Ps on Cost Control

Positive Perceptions of P4Ps on Cost Control. The literature review found that 58% of studies identified within the last five years concluded that P4P was effective, which means that there may be a marginal majority of health insurance organization participants in favor of exploring P4P as a reimbursement model. In some instances, P4P programs may effectively control costs because of the potential reduction in hospital stays, the risks of readmission, and the potentially lower costs per patient admitted (Cox et al., 2016; Fleming, 2018; Garner et al., 2018). P4Ps could be ideal for their ability to reduce unnecessary tests, promote lower-cost conservative treatment, and motivate hospitals to identify cost-saving initiatives (Andritsos & Tang, 2018; Hsieh et al., 2016).

Negative Perceptions of Unsuccessful P4Ps on Cost Control. The literature review of 17 previous studies found that there were inconsistent results about the efficacy of P4P as a cost-control model. The literature review demonstrated that P4P was not successful in 41% of studies identified within the last five years, suggesting that study participants may have mixed perceptions about whether P4P is ready to be used as a reimbursement model. There may be

distrust of P4P models because of previous evidence of how hospitals have manipulated new models to maximize their profitability by "gaming" the system (Hamadi et al., 2019).

P4Ps may be challenging to implement cost-effectively because of high administration costs, regulatory barriers, and adaptation costs (Izón & Pardini, 2018; Maddox et al., 2017; Slotkin et al., 2017). The incentives within P4Ps are challenging to design with certainty that they will achieve the intended cost-control outcomes. Literature studies have documented numerous examples of how P4Ps have resulted in unintended consequences that are not only costly but may be harmful to health insurance patients (Das et al., 2016; Haviari et al., 2019; Kruse et al., 2012; Osterloh, 2014). Furthermore, poorly designed P4Ps can result in multi-tasking effects that result in providers neglecting unrewarded tasks (Osterloh, 2014; Sherry, 2016).

Summary of the Literature Review

The literature review was based on 75 scholarly journal articles from a search of nine databases relevant to P4Ps, cost control, health insurance organizations, and hospitals. The literature review commenced with introducing the factors that stimulated the emergence of P4P and explored how P4P became an increasingly accepted alternative reimbursement model to retrospective and prospective models. The review investigated the results of studies investigating the effectiveness of P4P models within the last five years. The review proceeded to explore the challenges of P4P models and the critical characteristics of P4Ps. I revisited the conceptual framework that I introduced in Chapter 1, and the review concluded with a description of the potential themes and perceptions that the researcher anticipates in the study.

Transition and Summary of Section 1

Section 1 was the study's foundation. It has outlined the significance of hospital costs to health insurers and demonstrated the general business problem of uncertainty about which pay-for-performance models health insurers can use to reduce hospital healthcare costs. This uncertainty has resulted in health insurance organizations' inability to make critical changes to their costs from traditional fee-for-service payments. The researcher delimited the business problem's scope to non-profit health insurance organizations in South Africa that operate as medical schemes. This study adds to the body of knowledge by exploring non-profit South African health insurance organizations' perceptions regarding P4P as a cost control model for hospital services. The section proposed using a qualitative multiple case study exploratory design and outlined the research questions for the study. This study's conceptual framework is the complex adaptive systems framework, supported by theories related to agency, resource dependency, and contracts. The section proceeded to discuss the key terms, the assumptions, limitations, and delimitations, and the significance of the study. Section 1 ended with a summary of the literature review that substantiated the business problem and evaluated the potential themes and perceptions relating to P4P. The following section will describe the research project. It will include subsections relating to the purpose statement, the researcher's role, the participants' selection, the research methodology, sampling, data collection, and data analysis.

Section 2: The Project

This study examines health insurers' perceptions of pay-for-performance (P4P) programs with a specific focus on reducing the uncertainty regarding the use of P4P contracting models for controlling hospital costs. The literature review in Section 1 substantiated the general business problem of uncertainty about which P4P models health insurers can use to reduce hospital healthcare costs. This uncertainty has resulted in health insurers' inability to make critical changes to their costs from traditional fee-for-service payments. Section 2 describes the methodology and approach to address the research questions and sub-questions for this study.

This section begins by restating the purpose statement that I outlined in Section 1. It then continues by describing the researcher's roles, how the study would access participants and protect them ethically, the relevance of the research method and design that are appropriate to the purpose of the study, the study population, and the sampling methodology. Furthermore, the section describes the data collection instruments and techniques that the study used to address the research questions, followed by the data organization and data analysis methods that the study applied to extract themes and perceptions relating to the phenomenon of P4P. Finally, the section concludes by explaining how the study assured reliability and validity, including triangulation and data saturation.

Purpose Statement

The purpose of this qualitative exploratory multiple case study was to add to the body of knowledge by exploring the perceptions of non-profit South African health insurance organizations regarding P4P as a cost control model for hospital services. The findings may guide health insurance organizations in determining how best to select and introduce P4P models in their contracts with hospitals. A qualitative study was appropriate because the research goal

was to provide a rich understanding of a business phenomenon with limited empirical data. The

phenomenon has uncertain boundaries that interact with complex dilemmas and requires

interaction with stakeholders in their natural environment to explore their perspectives based on

their lived experiences (Basias & Pollalis, 2018). Furthermore, an exploratory case study design

was appropriate because the research question requires an in-depth understanding of the

meanings that research participants attach to the phenomenon, which will enable discovery of the

thought processes needed to create value for businesses (Yasir et al., 2019). This research sought

to interview a maximum of 30 healthcare executives from approximately seven organizations

representing the population of non-profit health insurers in South Africa. The interviewees

received semi-structured and open-ended questions to explain their perceptions about what

influences the selection and use of P4P models. This researcher hoped to discover techniques to

increase health insurers' ability to use P4P models to control costs and explore the factors that

influence uncertainty about P4P models.

Research Questions

This study used open-ended research questions to gather rich data about non-profit South

African health insurance organizations' perceptions, based on their lived experiences, regarding

their uncertainty about which P4P models may be successful for controlling hospital service

costs. Accordingly, the first research question elicits information about the characteristics of P4P

models that health insurance organizations perceive may be successful in improving the control

of hospital service costs. This question helped determine the factors that may reduce uncertainty

about P4P models. Sub-questions supplemented the inquiry by examining the motivations and

knowledge that may influence health insurance organizations in selecting P4P models.

The second research question seeks to discover the external and environmental factors that influence health insurance organizations' ability or inability to select their preferred P4P models. The sub-questions to the second research question extract information about how those factors manifest in increased or decreased uncertainty about the perceived efficacy of the P4P models. The sub-questions also ascertain the challenges of traditional reimbursement models that may influence the adoption of P4P. The research questions, which were pre-tested with a pilot participant to ensure clarity and understanding, are detailed below.

RQ1. What are the characteristics of P4P models that health insurance organizations perceive may be successful regarding the control of hospital service costs?

RQ1a. Why are those characteristics perceived to affect the ability to control hospital service costs?

RQ1b. How do health insurance organizations interpret the advantages and disadvantages of using P4P models?

RQ1c. How do health insurance organizations determine if a P4P model is perceived to be successful in controlling hospital service costs?

RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P model to influence their reward?

RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting P4P models for managing hospital service costs in South Africa?

RQ2a. What reimbursement models do health insurance organizations currently use, and what factors of those models would influence the adoption of P4P as an alternative model?

RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models?

RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?

RQ2d. What is the basis for the perceptions of health insurance organizations regarding P4P models? Role of the Researcher and Participants

Role of the Researcher

My role as the researcher was to define the research questions and establish an appropriate theoretical framework to guide the research. My role also included deciding on a sampling strategy, collecting data using in-depth interviews, inductively coding and analyzing data, and reporting on the research findings in a trustworthy and credible manner (Rendle et al., 2019). I am familiar with non-profit health insurers' business, but I am not familiar with how P4P models may affect their success in controlling hospital service costs. My role was to interpret the data received from participants regarding P4P and deduce themes that will help create knowledge relevant to the research question (Chimentão & Reis, 2019). Ultimately, my role was to add to the body of knowledge about strategies that can reduce the uncertainty that health insurers have regarding P4P as a cost-control model.

I was the primary instrument for interviewing participants by collecting raw data that I used for creating new insight into the phenomenon of P4P. The factors that facilitated my ability to obtain the data include my twenty years' experience within healthcare and consulting, my reputation within the healthcare administration field, my longstanding interest in the topic of reimbursement models, and my ability to communicate and engage with participants. My role was to create a relationship with research participants that enabled me to collect data from them objectively while maintaining reflexivity to avoid distorting participants' inputs and research results (Thurairajah, 2019). I used open-ended interviews to collect data from participants relating to the phenomenon of P4P as a method of cost control for hospital services. According to Rendle et al. (2019), an exploratory study uses semi-structured interviews with open-ended

questions to inductively discover what participants' perceptions are regarding a phenomenon that other researchers have not thoroughly examined before.

Reflexivity. In qualitative research, a researcher is inseparable from the research data collection process, making reflexivity necessary to eliminate researcher bias (Busetto et al., 2020). Rendle et al. (2019) also believe it is essential for the researcher to maintain reflexivity by declaring and addressing bias. I did not think I would be biased towards any participant or their views because I did not have a working relationship with the potential participants or a position of authority over them. I have no personal preference or assumptions regarding the possible outcomes of the research questions. I work in the healthcare profession. My work experiences have caused me to believe that fee-for-service reimbursement models are not beneficial for controlling costs, which may inherently lead me to bias in favor of alternative reimbursement models, such as P4P. Accordingly, I have set aside (bracket) my personal preferences and previous research findings by devising neutral interview questions and requesting my dissertation committee to perform an independent check of my interpretations. Furthermore, I planned to compare data across cases, maintain an audit trail, and self-monitor that I did not ignore claims that contradict my worldview. The broad, heterogeneous sample of subjects I interviewed ensured that I considered a diverse range of perceptions regarding P4P.

Role of the Participants

The participants' role is to share their perceptions and insight into the business problem of uncertainty regarding the cost-control efficacy of P4P models, which results in rich interview data that a researcher can analyze to deduce themes that will help answer the research question (Anderson & Henry, 2020). I expected participants to provide their perceptions of P4P that are neutral from my opinions. They may benefit professionally from the subsequent interpretations

that I will share with them after the research data analysis (Daniel, 2019). A further role of

participants was that of member checking, whereby they had the opportunity to review and

validate the interview transcripts from their interviews (Chimentão & Reis, 2019).

Participants

I selected the participants from non-profit health insurers in South Africa that trade as

registered medical schemes according to the Medical Schemes Act 131 of 1998. The cases

selected were approximately seven medical schemes. I identified a maximum of 30 participants

for in-depth interviews and review of any documentary evidence that they were willing to

provide. The units of analysis for the case study were approximately 15 to 30 participants across

the seven medical schemes. According to Boddy (2016), 15 to 30 interviews are appropriate for

case studies that adopt a positivist epistemology. This number enables saturation and

generalizability of results. The multiple cases selected allowed me to explore a broad set of

healthcare executives' perceptions across different organizations.

According to Boyle and Mervyn (2019), healthcare executives are concerned with

discovering business models that can reduce the cost of care, which means that they are relevant

research participants for exploring the uncertainty regarding P4P as a cost-control model for

hospital services. Healthcare executives include administrators, senior clinicians, department

heads responsible for operations and for procuring healthcare services (Boyle & Mervyn, 2019).

The healthcare executives within medical schemes that were eligible for participation were those

with decision-making, oversight, measurement, or reporting responsibilities regarding hospital

services. The health insurers' selected individuals were executive or managerial individuals who

have strategic roles in monitoring or managing hospital health service arrangements within

health insurers, including directors, consulting actuaries, technical managers, health administrators, and managed care executives.

Process for Gaining Access to Potential Participants. I accessed the list of registered non-profit health insurers, their demographic details, and their chief executive officers' contact details from the website address www.medicalschemes.com. I purposively selected seven non-profit health insurers to ensure a population with maximum variation based on characteristics such as organization size and revenues. According to Rolfe et al. (2018), participant representativity is essential for obtaining data that reflects diverse perceptions to enhance research findings' appropriateness.

Should any organizations choose not to participate, I planned to identify alternative organizations for participation. I requested the consenting organizations to identify four to five participants, within or associated with their organization, for an interview, according to the specified participant criteria. I planned to send the chief executive officers of the identified medical schemes an e-mail explaining the proposed study and requesting their organizations to participate in a study that will not disclose their organizational identities.

After this permission is received and the chief executive officers have identified the appropriate participants, I planned to send an invite to the potential participants or recruit the participants telephonically. This invite included an introductory letter, an informed consent form, and a calendar link to choose likely dates for an interview. I planned to send reminder e-mails to invited participants within five days after the initial e-mail to them. I used an online calendar, without disclosing other participants' names that would enable participants to select convenient slots for the interviews. I requested participants to return the signed consent form before their scheduled interviews.

Establishing a Working Relationship with Participants. In private settings with participants, I intended to schedule interpersonal interviews that would create a working relationship with participants, and I conducted online conferencing or telephonic interviews, depending on practical scheduling constraints. Although in-person face-to-face interviews are ideal for building rapport and for non-verbal cues, I decided to use audio or video conferencing technology because of accessibility considerations, the advantage of allowing participants to engage from a convenient location of their choice, the diverse locations of potential research participants, and country health and safety COVID-19 restrictions that require social distancing (AlKhateeb, 2018). I provided participants the flexibility of audio or video connections, depending on their preference and bandwidth. I obtained their consent to use the audio recording features of the audio or video conferencing technology. I intended to only conduct face-to-face interview formats in limited cases, should this be the only viable alternative.

I prepared for the interviews to ensure that I could create rapport and rich information sharing with participants. According to Anderson and Henry (2020), an effective qualitative interviewer can obtain rich interview data by building rapport and being non-judgmental. Furthermore, the interviewer should create a comfortable setting for disclosure, demonstrate verbal and non-verbal empathy for the received information, and use active listening techniques (Anderson & Henry, 2020). I intended to conduct the semi-structured interviews over four weeks, and each interview, which was audio-recorded for transcription purposes, would be approximately one-hour long. According to Busetto et al. (2020), open-ended interviews are useful for obtaining data regarding research participants' perceptions and experiences. The audio-recording and subsequent verbatim transcribing of the interviews enabled the raw data to be analyzed using qualitative data management software (Busetto et al., 2020). I also invited

participants to share any relevant documents that they feel may help augment their interview evidence.

Ethical Protection of Participants. Ethical principles regarding research, such as the Belmont Report of 1976, emerged after the mid-twentieth century research excesses when research participants sometimes suffered exposure to significant physical and mental harm (Roth & Von Unger, 2018). Research that involves human beings now requires the approval of a university's Institutional Review Board before data are collected. The review boards consider the risks and benefits of the research, the safeguards to protect research participants from harm, the prevention of unwarranted disclosure of their confidential information, and measures to ensure informed consent (Chimentão & Reis, 2019).

Ethical Approval for the use of Human Research Participants. I obtained Institutional Review Board approval or exemption from Liberty University before the data collection process in October 2020. The study was not externally funded and is not subject to potential conflicts of interest resulting from funding. There was no more than minimal risk, psychological distress, or costs for participants, and I did not require them to disclose protected health information. The participants were not be compensated for their participation because many organizations in South Africa have gift-receiving policies that might create complications for participants. I assured participants' confidentiality by not revealing their identity and by anonymizing the cases by removing data that identify their identifiable details, organizations, and locations (Roth & Von Unger, 2018).

I ensured participants' ethical protection by obtaining organizational permission to interview and collect information by using informed consent forms, masking participant identities, and explaining the nature of the study and how I selected them. The study participants

were normal mid-to-upper career working professionals between 18 and 65 who can provide

consent. The study did not require any medical, exercise, drug, human material, pregnant

women, minor populations, health patients, the use of deception, or special population

interventions.

Research Method and Design

This subsection describes the research method and design that I chose and why they are

appropriate to the research problem and purpose. The subsection begins with a description of the

research method selected and then proceeds to explain the research design choice. I chose the

qualitative research method and an exploratory multiple-case study research design. This

subsection describes the motivation for the selection.

Discussion of Method

Appropriateness to the Research Problem. I chose a qualitative method because the

research problem requires an inductive approach to exploring emerging themes relating to the

uncertainty that medical schemes face about which P4P models they could use to reduce hospital

service costs. According to Creswell (2013), qualitative research is appropriate for research

problems that require a flexible approach to interpretation, such as:

(1) Interacting with participants in their natural context,

(2) active participation by researchers in collecting information,

(3) inductive and deductive analysis of the themes that emerge, and

(4) reflection on the multiple perspectives and meanings that participants describe.

Accordingly, the qualitative method enables researcher-interaction with medical schemes in their

natural context to understand their perspectives about P4P models and how such models could

affect their ability to control costs. Aspers and Corte (2019) agreed that qualitative research's

strength is its flexible approach that can help reveal previously unknown characteristics that may assist in the understanding of a business problem. This flexibility means that the qualitative approach may show cost-control features about traditional and alternative hospital reimbursement models, which were not known before.

Similarly, Busetto et al. (2020) observed that qualitative research is ideal for research problems within complex and changing situations affected by the actions of multiple organizations and people. Research problems suited to qualitative research have no readily determinable cause and effect variables (Busetto et al., 2020). Health insurers operate in complex business eco-systems that do not respond predictably to cost-control interventions because of unknown feedback loops (Ogundeji et al., 2018). For example, the literature review in Section 1 explained hospitals' risk of attempting to 'game' a rules-based reimbursement model. This complexity will benefit from a qualitative inquiry to understand how hospitals and their constituents may respond to alternative cost-control models.

Appropriateness to the Purpose of the Study. The use of qualitative research within healthcare management provides a dense description of participants' socio-economic context, which helps incorporate their perspectives within the design of healthcare management interventions (Rolfe et al., 2018). Ngenye and Kreps (2020) agreed that qualitative inquiry is beneficial to research goals that require rich data to understand complex processes within healthcare systems, helping develop solutions that practically help healthcare administrators improve outcomes. Since the study's purpose is to provide a detailed description of the P4P cost-control phenomenon to reduce the uncertainty that medical schemes face, the qualitative approach will best provide the required in-depth understanding.

Furthermore, Aspers and Corte (2019) postulated that research that intends to increase understanding of a concept, rather than only observing correlations, requires a qualitative approach. Such a qualitative approach iteratively searches for meaning within the context of social behaviors. Therefore, the qualitative approach best suits this research's purpose by exploring participants' perceptions within medical schemes in the context of their lived environments.

Philosophical Assumptions About Qualitative Research. Creswell (2013) postulated that with a constructivist epistemology, a researcher's worldview about how people create meaning, recognizes that meaning is subjective and that people form it through social interactions that require a qualitative approach to research. In this qualitative study, I will deduce meaning from interactions with case study participants. As a result, qualitative researchers do not study statistically normal conditions that reflect an average experience but rather examine data that may represent outliers that signify innovations and social change (Roger et al., 2018). The P4P model is an alternative model for reimbursement that is not yet mainstream in South African medical schemes. This newness means that a qualitative approach is appropriate because of the absence of significant historical data.

Constructivism derives from an ontology (the assumption of whether there is one version or multiple versions of truth) that individuals create complex realities with numerous perspectives (Creswell, 2013). This qualitative study's conceptual framework recognizes that medical schemes and hospitals are part of a complex adaptive system, with participating agents whose behaviors cannot reduce to cause-and-effect rules (Long et al., 2018; Sturmberg et al., 2010). This constructivist research will actively create an interpersonal connection with research participants. It will enable the collection of data about their lived experiences and will create new

knowledge to address a business problem based on their informed perceptions as practitioners (Roger et al., 2018). The constructivist worldview is suited to this qualitative research because its goal is to interpret meaning and establish patterns from a volatile world. This goal will require the use of qualitative research tools, such as open-ended interviews, to elicit the axiology (the values and beliefs) of research participants (Creswell, 2013).

Discussion of Design

Appropriateness to the Research Problem. A case study is a research about a present-day phenomenon within real-world settings, which requires identifying a case, or multiple cases, such as organizations, people, or events (Yin, 2012). Ridder (2017) explained that contextual conditions are not controlled or bounded in a case study but are integral to understanding a phenomenon that is new, unusual, or not fully understood. I chose case study design for this research because the cases, which are the selected medical schemes, operate within a healthcare context with no bounds and are subject to the actions of parties such as hospitals, doctors, regulators, and patients.

Yin (2012) proposed that the case study design is appropriate for the formative evaluation of innovations at an initial stage of implementation. This design allows an understanding of emerging experiences or perceptions that researchers cannot yet examine through survey-based methods. The phenomenon of P4P is at an initial stage of implementation in South Africa, and its cost-control effects are not fully understood. This formative nature means that a case study design will be appropriate for creating an understanding that will reduce the uncertainty that decision-makers face. Larrinaga (2017) agreed that the case study design is suitable for exploring issues that do not have a theory that can sufficiently predict phenomena. Shiva and Moghadam (2018) also explained that case study design has a well-established record in the operations

management sciences, particularly for reducing the gaps between existing theories and the

practical dilemmas that business managers face when optimizing efficiency. Therefore, the case

study design reduces the gap between the theoretically preferred characteristics of P4P models

and the real-world implementation difficulties of medical schemes.

       Appropriateness to the Purpose of the Study. The purpose of this study was to answer

'how' and 'what' questions regarding the perceived characteristics of P4P models that could

assist medical schemes in South Africa in deciding on the application of this model. This purpose

means that an exploratory study contributes to achieving the research objectives. According to

Yin (2012), there are three types of case study:

    (1) Exploratory studies that answer 'how' and 'what' research questions that are suited to

    phenomena that do not have a pre-determinable outcome,

    (2) descriptive studies that do not answer 'how' and 'why' questions but describe a

    unique case to elicit learnings, and

    (3) explanatory studies that seek to explain pre-determined potential links within a case.

The exploratory approach is appropriate for this research because it proposes to create or

improve theoretical frameworks, unlike the explanatory approach that presumes an existing

theoretical structure (Larrinaga, 2017). Shiva and Moghadam (2018) also confirmed that

exploratory case studies are relevant for building a hypothesis, mainly if the case context is

essential to developing new understanding.

       Yin (2012) explained that cases could be single, multiple, or even contain embedded

subcases as part of a primary case. Although single cases can provide deep insight into a unique

phenomenon that researchers do not replicate across different cases, such as the success of a new

product, multiple cases provide more persuasive evidence because of the cross-case synthesis

and analytic generalizability they allow (Yin, 2012). Ridder (2017) also believed that multiple

case studies enable researchers to corroborate information across cases, which substantiates

researchers in advancing new concepts. Analytic generalizability is not the same as statistical

generalizability: It creates a logical framework relevant to other situations with similar

contextual conditions (Yin, 2012). I chose a multiple case study design for this study because

P4P is variedly understood and applied. Furthermore, I chose the multiple case approach because

analytic generalizability is likely to be derived from the approximately seven medical scheme

cases, with a maximum of 30 individuals embedded as units of analysis across the medical

schemes.

Summary of Research Method and Design

This subsection described how the study uses a qualitative, exploratory, multiple-case

study approach for addressing the research problem and purpose. I chose a qualitative research

method because the research will require interactive interaction with participants in their natural

environment to increase the understanding of a phenomenon whose variables are not well

understood or statistically analyzable. I chose the case study research design, and I used an

exploratory, multiple-case approach with embedded units of analysis. The case study research

design provides a rich, detailed description of the phenomenon within its natural context. The

research uses exploratory techniques because there are no pre-determined outcomes, and it uses

multiple case studies to corroborate research findings through cross-case synthesis.

Population and Sampling

This subsection describes the population and sampling methods that I chose and why they

will be relevant. The subsection begins with a discussion of the population and then explains

sampling strategies that I will use for this population. The sampling strategy that I will use,

which is motivated in this subsection, is a purposive sampling method, with seven multiple cases and 30 embedded units of analysis.

Discussion of Population

The population for this study is non-profit health insurers in South Africa that are registered medical schemes according to the Medical Schemes Act. According to the South African Council of Medical Schemes website https://www.medicalschemes.com/MedicalSchemes.aspx, there were 76 registered medical schemes in South Africa as of 19 June 2020. The medical schemes all offer hospital benefits as part of their packages to members and are all be part of this research study population. Therefore, the population is the 76 registered medical schemes in South Africa. This population excludes health insurers that are not trading as medical schemes.

The registered medical schemes provide insured health benefits to approximately 8.9 million beneficiaries in South Africa. The 2018 annual report of the Council for Medical Schemes (2019) revealed that medical schemes spend an average of 41% of health benefits on hospital services. This average hospital expenditure demonstrates that hospital costs are a significant portion of medical scheme expenditure and are therefore relevant. Furthermore, medical schemes only pay 10.1% of healthcare expenditure using alternative reimbursement models. The balance of 90.9% paid predominantly using fee-for-service models, with limited variations such as fixed fees, global fees, and per diem fees (Council for Medical Schemes, 2019). The low prevalence of alternative reimbursement models, such as P4P, confirms the importance of a qualitative, interview-based approach for studying the perceptions of P4P within this population.

Discussion of Sampling

Sampling Method and Sampling Frame. The choice of a sampling method within

qualitative research is vital for ensuring that data interpretation results in legitimate, confirmable

findings (Onwuegbuzie & Collins, 2017). Onwuegbuzie and Collins (2017) surmised that

purposive sampling is appropriate for identifying cases that could contribute to a detailed

description of the phenomenon. Patton (2015), a seminal author on purposive sampling, also

believed that purposive sampling could generate more information-rich cases than would be

identified from randomly selected cases. Therefore, the study adopted a purposive sampling

method. The sampling frame is 100% of the population because all medical schemes incur

hospital services costs, and there is no justification for excluding any medical scheme from the

sample. Patton's (2015) sampling typology described 40 purposive sampling types, and the most

relevant type to this study is maximum variation sampling. Maximum variation sampling selects

cases that differ to understand how a heterogeneous group of cases perceives a phenomenon

(Patton, 2015).

Sample Size and Type. According to Boddy (2016), 15 to 30 interviews are suitable for

case studies that seek to enable saturation of insights gleaned from data collection and the

generalizability of results. Research by Guest et al. (2020) analyzed 60 interviews of a 2006

qualitative study and found that the researchers achieved 92% saturation of themes within the

first 12 to 16 interviews. Guest et al. (2020) also observed that a sample of six cases has a 99%

probability of identifying a theme that is present in more than 55% of a population. Therefore,

the sample size is seven medical schemes. I selected approximately 30 participants, from the

sampled cases, for in-depth interviews and review of any documentary evidence that they were

willing to provide. I purposively selected the seven medical schemes to ensure a maximum

variation population, based on characteristics such as medical scheme size and type. In other words, the study sampled seven cases, which contain up to 30 embedded units of analysis that are the healthcare executives within the seven cases. Depending on the number of responses I receive from the approximately 30 selected research participants, I planned to conduct interviews on all respondents or until saturation is achieved.

This study has a generalization goal of creating analytic generalizability and case-to-case transfer regarding the phenomenon of P4P models, which requires multiple cases to be sampled (Onwuegbuzie & Collins, 2017). The study adopted an instrumental approach whereby each case selected contributed to increasing the knowledge related to P4P models, which means that multiple cases established research legitimacy. Yin (2012) explained that selecting multiple cases with different features allows the use of replication logic and cross-case analysis, which enable a researcher to assess whether results are theoretically generalizable.

Eligibility Criteria for Study Participants. All 76 registered medical schemes were eligible to participate in the study. I purposively sampled seven medical scheme cases according to characteristics that will help identify a maximum variation sample. The medical scheme population's identifiable variations are the size of the medical scheme and the restrictiveness of the scheme's market. Medical scheme sizes in South Africa range from 2,000 beneficiaries to 2,7 million beneficiaries. About 30% of medical schemes are 'open' schemes that can provide health insurance to any South African nationally. Approximately 70% are 'restricted' medical schemes that can only insure target populations, such as employee-only groups (Council for Medical Schemes, 2019). The criteria for participant selection will consider these size and restriction variations.

The embedded unit of analysis is the maximum of 30 healthcare executives employed by the seven medical schemes selected. They were eligible to participate according to whether the medical scheme leadership judgmentally identifies them as potential key informants with significant knowledge regarding the oversight, procurement, and hospital services management. I decided to select healthcare executives based on any of the following four criteria. Firstly, I targeted executive, director, or managerial level people within the organization with decision-making, oversight, measurement, or reporting responsibilities regarding hospital services and reimbursement models. If the organization did not employ the healthcare executives, they were eligible if they provided outsourced administration, managed care, and actuarial services to the medical scheme. Thirdly, I required healthcare executives to have a strategic, clinical, or operational management role in monitoring or managing hospital health service arrangements. Lastly, I selected healthcare executives with a minimum of two-year experience with the medical scheme to demonstrate that they sufficiently understand the scheme's perceptions regarding hospital reimbursement arrangements.

Relevance of Characteristics of the Selected Sample. Ridder (2017) posited that for exploratory case studies that do not start with an established theory about a phenomenon, researchers should choose cases based on characteristics that reveal information that provides a new understanding of a phenomenon. Similarly, Yin (2012) surmised that theory-building requires a mixture of revelatory cases that describe information that is not ordinarily accessible, typical cases that demonstrate normal conditions, and rival cases that exclude alternative reasons for a phenomenon. The selected sample is relevant because it provided information-rich data from diverse and informed perspectives regarding the phenomenon of P4P.

Summary of Population and Sampling

The study population was 76 registered medical schemes in South Africa. All the medical schemes constitute the sampling frame, and a purposive sampling method selected seven medical schemes, based on maximum variation, as the research cases. The embedded units of analysis were a maximum of 30 healthcare executives of the medical schemes, who were eligible based on their key-informant expertise regarding hospital services and reimbursement models.

Data Collection

This subsection describes the data collection processes that I planned to use for the study. The data collection subsection includes details relating to the data collection instruments, the data collection techniques, and the data organization techniques. The data collection subsection also includes relevant appendices that provide further details as appropriate.

Instruments

The first instrument of qualitative research is the researcher because of their immersive role in interacting with participants and interpreting meaning while engaging in reflexivity to remain objective (Aspers & Corte, 2019). Aspers and Corte explained that qualitative researchers are an instrument that enables collecting data from participants using their expertise, empathy, and interest in the study matter. Thurairajah (2019) cautioned that reflexivity and objectivity do not mean the qualitative researcher should be distant from the research participant. As an instrument, I planned to carefully create a trusting interview environment that allowed participants to feel safe, sharing their perspectives openly (Thurairajah, 2019).

I used semi-structured interviews, with open-ended questions, as the primary instrument of data collection. My secondary data collection instruments were any notes that participants were willing to share during or after interviews. Open-ended interviews provide rich descriptive

data for exploring a phenomenon. Ideally, a researcher should triangulate such interviews with

other evidence sources such as archival records, document review, and participant observation to

prove construct validity (Yin, 2012). Cunningham et al. (2017) reviewed 107 case method

studies between 1996 and 2015 and found that interviews were the most frequently used form of

primary data collection method, followed by secondary data collection methods that included the

review of archival documents, reports, and websites. Appendix A is the complete interview

guide. It consists of an introductory statement that I will present to each interviewee, nine main

interview questions that I have developed from the research questions, and a closing statement

that will thank participants and advise them of the next steps. The interview guide in Appendix A

also includes clarification and follow-up questions.

I anticipated that the open-ended questions, particularly regarding the advantages,

disadvantages, facilitators, and barriers relating to P4P, would reveal the positive and negative

health-insurer perceptions of P4P. I identified some of those characteristics in the literature

review within Section 1 of this document, such as how hospital providers could manipulate a

P4P system by "gaming the system" by only treating patients that attract better incentives for the

hospital. Other theoretically preferred characteristics, including P4P design complexity, the

design of P4P base-pay, reimbursement rules, and risk-sharing, may emerge from the open-

ended questions. However, I anticipated that participants' open-ended responses would be

broader and more country-relevant than the literature review's characteristics. This open-ended

result is appropriate to the exploratory nature of the study.

I used a logic model to ensure that I aligned the interview questions with the central

research questions. Yin (2012) stated that a logic model is an essential tool for determining the

conceptual validity of the sequence of information collected in a case study. Logic models use

process-based steps to analyze the sequence of problem-solving processes from the problem-

stage to the solution-stage (Kalu & Norman, 2018). Therefore, a logic model helps translate

research questions into a set of interview questions that identify the changes required to address a

phenomenon. Kalu and Norman (2018) explained that the stages of a logic model are:

（1) Contextual factors that help identify the characteristics of the problem,

(2) input processes that designate the initial considerations,

(3) activity processes that translate the features of the problem into output solutions,

(4) outputs that are the desired solution, and

(5) outcomes that signify the benefits stemming from the outputs.

Table 2

Logic Model Showing How Interview and Research Questions Correspond

Logic model components	Description of perceptive stage	Research Question	Interview Question
1. Contextual factors	Factors influencing change	RQ2a. What reimbursement models do health insurance organizations currently use, and what factors of those models would influence the adoption of P4P as an alternative model?	Q1. What reimbursement models does your medical scheme currently use for hospital services? Q1a. Are you satisfied with how your reimbursement model helps in controlling costs? Q1b. Explain why or why not?

Logic model components	Description of perceptive stage	Research Question	Interview Question
			Q2. What would make you consider or avoid adopting alternative reimbursement models?
			Q3. Does your organization currently use pay-for-performance as a reimbursement model?
2. Input	Consideration of P4P as a potential solution	RQ1b. How do health insurance organizations interpret the advantages and disadvantages of using P4P models?	Q4. What do you think are the advantages of pay-for-performance?
			Q4a. Why do you believe P4P has these advantages?
		RQ2d. What is the basis for the perceptions of health insurance organizations regarding P4P models?	Q5. What do you think are the disadvantages of pay-for-performance?
			Q5b. Why do you believe P4P has these disadvantages?

Logic model components	Description of perceptive stage	Research Question	Interview Question
		RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P model to influence their reward?	Q6. How do you think a hospital service provider could manipulate a payment model that rewards performance?
3. Activities	Consideration of uncertainty characteristics	RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting P4P models for managing hospital service costs in South Africa?	Q7. If you had to choose pay-for-performance, what would make you uncertain about using it as a reimbursement model? Q7a. What currently deters you from selecting pay-for-performance as a reimbursement model?
		RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models?	Q7b. What would help you in selecting pay-for-performance as a reimbursement model?

Logic model components	Description of perceptive stage	Research Question	Interview Question
		RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?	
4. Output	Defining preferred characteristics	RQ1. What are the characteristics of P4P models that health insurance organizations perceive may be successful regarding the control of hospital service costs?	Q8. How do you believe a pay-for-performance model should be structured if it is to help you better manage hospital costs?
5. Short term outcome	Evaluation of expected changes	RQ1a. Why are those characteristics perceived to affect the ability to control hospital service costs?	Q9. Why do you believe the structure you described would help manage hospital costs?
6. Long term outcome	Evaluation of indicators of success	RQ1c. How do health insurance organizations determine if a P4P model is perceived to be successful	Q10. How would you know if a pay-for-performance model was successful, after implementation?

Logic model components	Description of perceptive stage	Research Question	Interview Question
		in controlling hospital service costs?	

Data Collection Techniques

Semi-structured interviews in qualitative studies typically use a list of open-ended questions to guide an interactive verbal interview, which the researcher typically records for transcription purposes (Busetto et al., 2020). Rendle et al. (2019) agreed that researchers should preferably record interviews and, after that, transcribe them verbatim. The semi-structured interview limits researcher bias by allowing participants to provide rich information not pre-scripted by the researcher (Busetto et al., 2020).

After receiving approval from Liberty University's Institutional Review Board, I planned to commence the data collection process by conducting a field test of the interview guide to ensure that the questions are understandable and dependable for collecting information. Before arranging the semi-structured interviews, I obtained permission from the principal executives or CEOs of the selected cases for their medical schemes to participate in the study. After obtaining organizational permission and the details of the selected healthcare executives within each of the seven medical schemes, I planned to recruit a maximum of 30 participants by e-mail or phone. I described the interview's purpose and explained how I would ethically protect the participants for their voluntary participation. I informed the participants that the interview would comprise of nine open-ended questions regarding their perceptions on P4P. After that, I sent the participants

an e-mail that will include an informed consent form to sign and return and a calendar link with a

selection of interview timeslots.

I planned to collect data from multiple sources of evidence, including interviews and any

documents or notes shared by participants. Before the interviews, I reviewed publicly accessible

information on each case to form an initial understanding of their relevant characteristics. The

multiple data sources assisted me in triangulating the evidence collected.

On the days scheduled for interviews, I accessed the online conferencing facility at least

10 minutes before each scheduled interview. I began each interview by ensuring that each

participant was comfortable and is in a discreet private location. I introduced the purpose of the

interview, according to the introductory statement in the interview guide (Appendix A). I

allowed participants to pose any questions or concerns regarding the process. I reminded the

participants that I would record the interview, and I asked if they were comfortable. I then

administered the main interview questions in an interview of approximately 1 hour, supported by

any documents shared by the participants. During each interview, I documented field notes, my

observations, and my reflections. Appendix C is the template for the Reflective Journal and

Interview Notes Instrument. After the interviews, I also reviewed any documents that the

participants supplied. Appendix D is the template for the Document Review Instrument.

Data Organization Techniques

A case study protocol is essential for organizing data collection, and it contains questions

that a researcher should consider while gathering data from interviews and documentary sources

(Yin, 2012). The case study protocol presents questions to the researcher, and not to participants,

to ensure that the researcher collects and organizes all relevant data that the study requires (Kalu

& Norman, 2018). Appendix B is the Case Study Protocol for data collection.

According to Creswell (2013), a case study's data structures should reside in a data collection matrix that forms a readily accessible filing system or catalog of all information and has a research log of all the data collected. The researcher should store the complete set of data in a secured computer database. The research data collection includes reflective journals and interview notes, audio transcripts, field notes, and analyzed documents (Creswell, 2013).

I filed the research data in a password-protected computer, which I securely backed up daily to avoid data loss. I prepared a data collection matrix within a Microsoft Excel spreadsheet, and I used it to sequentially number, anonymize, and catalog all data that I collected. The anonymized information that I organized within a research database included interview transcripts, archival records, documents for review, reflective journals, and field notes. The Liberty University assigned Administration, the Dissertation Chair, and the Committee have access to the data. I will destroy data at the end of December 2023 after the expiry of the three-year retention period required by federal regulations.

Summary of Data Collection

The data collection subsection provided a discussion of the study's data collection processes, which included data collection instruments, data collection techniques, and data organization techniques. The subsection explained that a researcher is the main instrument in qualitative research that uses interviews as the primary form of data collection. Other secondary data collection techniques will be the review of documents shared by participants. I presented a logic model to align the research questions to the interview questions. The subsection explained the data collection techniques and referenced four appendices related to the interview guide, the case study protocol, the reflective journal and interview notes instrument, and the document review instrument. Finally, the subsection explained the data organization techniques, including

a case study protocol, a data collection matrix for cataloging all research information, and reflective journals.

Data Analysis

This subsection describes the coding process that I used to analyze the data collected in the preceding phase. The subsection explains how I generated codes, categories, and themes from the data collected. It proceeds to explain the analytic techniques that the research study used and concludes with an example of how I will present the data analysis.

Coding Process

Codes. The coding process is the initial phase of data analysis after the data collection phase of the research. The purpose of the coding process is to enable data analysis by grouping numerous interview data fragments into segments that have related meanings (Belotto, 2018). Qualitative researchers develop categories from codes by grouping codes that have similar characteristics (Roller, 2019). Coding is a process of grouping and synthesizing raw qualitative data to make analysis possible. Researchers use commercially sourced computer-assisted qualitative data analysis software (CAQDAS) to facilitate the process, such as NVivo and ATLAS.ti (Busetto et al., 2020). I used NVivo software to assist in the coding process.

Software Tools. A CAQDAS solution such as NVivo reduces the manual time required for coding textual data, enables data visualization for categorization, and increases coding accuracy (Feng & Behar-Horenstein, 2019). According to the procedure outlined by Feng and Behar-Horenstein (2019), I used these five overall steps for coding within NVivo:

(1) Prepare data for import by converting it into documents that match the relevant anonymized case numbers, research questions, and participants,

(2) import the prepared interview data and case reference information,

(3) perform an initial investigation of data characteristics, such as identifying frequently

used words with five or more letters, to obtain a sense of interviewee perspectives,

(4) allocate codes to the words or sentences that can converge according to similar

characteristics, and

(5) categorize codes into 'nodes' by comparing codes across cases.

Coding Methods. Williams and Moser (2019) posited that open coding should be the

first phase of coding because it allows participants' perspectives to emerge naturally from data.

After open coding, axial coding is the next step a researcher uses to categorize open codes

related by similar characteristics such as data contexts and conditions. The third phase of coding

is selective coding, which reduces categories to themes based on researchers' perceived meanings

(Williams & Moser, 2019). Belotto (2018) supported the use of structural coding rather than

open coding because it facilitates coding of interview data according to the labels implied in

research questions, rather than open coding, creating numerous labels that do not relate to a

study's purpose.

However, Van den Berg and Struwig (2017) proposed that structural coding, which codes

data according to the themes identified in the literature review, should be supplemented by open

coding based on the characteristics that emerge from each case. Elliott (2018) advocated that

pragmatic researchers should code data by multiple methods, including open and structured

coding, to consider participants' emerging voices and use pre-determined codes to focus the

analysis on the research questions. I used open coding as the primary method of coding for the

research because of this study's exploratory nature. This open coding means no pre-set codes, as

would be the case in an explanatory case study.

Development of Categories and Themes. After the open coding process, I progressed data analysis by classifying codes into relevant categories, summarizing the categories that demonstrate recurring patterns into themes, and then interpreting the results to create research findings (Roller, 2019). Belotto (2018) added that researchers should include a selection of direct quotes from interviewees in the research study to provide context and meaning to the identified themes. Elliott (2018) reviewed previous studies and concluded that a typical study has 50 to 100 codes, which researchers can group into approximately 20 categories and then synthesize into between 5 and 7 significant themes. The findings will present the themes identified related to each research question and the observed deviations related to the themes identified for each research question (Van den Berg & Struwig, 2017). Figure 1 summarizes the coding process.

Figure 3

Coding Process

Data Analysis Process: Health Insurer Perceptions of P4P

Completion of data collection phase → Import prepared interview data into Nvivo → Frequency analysis to identify participant perspectives → Open coding to inductively identify participant's perspectives

Explanation-building ← Cross-case synthesis ← Selective coding to identify themes ← Axial coding to identify categories

Rival explanations / discussion of deviant cases → Logic model and presentation of themes → Comparison of findings to the conceptual framework and literature review → Research findings

Data Analytic Techniques

Kalu and Norman (2018) described four data analysis techniques: Logic models to link research outcomes to research questions, pattern matching to identify if a researcher found pre-determined categories during data collection, explanation building to develop on an initial conceptual framework according to the interview data collected, and cross-case synthesis. Yin (2012) similarly found the five case-study data analysis techniques are: Pattern matching, explanation building, logic models, time-series analysis, logic models, and cross-case synthesis.

I used an explanation-building technique to refine the conceptual framework that I suggested in Section One of this study. I also used the logic model and cross-case synthesis techniques. I did not use pattern matching because of the study's exploratory nature, and I did not use time-series analysis because the case study is not a descriptive, event-based study. Logic models identify the sequential interdependencies between codes representing inputs, activities, interventions, and outcomes (Yin, 2012). Cross-case synthesis involves comparing coded data between cases and reporting the cases that either correspond or deviate from shared data categories (Van den Berg & Struwig, 2017).

A further analytic technique that I used, related to explanation building, is the consideration of 'rival explanations' that are alternative explanations for a phenomenon (Kalu & Norman, 2018). Roller (2019) proposed that identifying themes should not overlook deviant cases that rival the typical themes because the consideration of deviant cases provides credibility to research findings. Yin (2012) was a proponent of exploring rival explanations during qualitative data analysis because eliminating rivals provides research plausibility to conclusions in the same manner that quantitative methods test a null hypothesis to ensure that there are no other possible explanations for a phenomenon. A substantive rival explanation could be that the

observed phenomenon occurred because of another intervention, another theory, unexpected

processes, or broader social trends (Yin, 2012). Table 3 illustrates the proposed presentation of

data analysis.

Table 3

Logic Model Showing How Data Analysis will be Presented

Logic model components	Description of perceptive stage	Research Question	Data Analysis
1. Contextual factors	Factors influencing change	RQ2a. What reimbursement models do health insurance organizations currently use, and what factors of those models would influence the adoption of P4P as an alternative model?	Theme 1 identified related to the research question Selected quotes Deviations from themes Comparison to the conceptual framework and literature review
2. Input	Consideration of P4P as a potential solution	RQ1b. How do health insurance organizations interpret the advantages and disadvantages of using P4P models? RQ2d. What is the basis for the perceptions of health	Theme 2 identified related to the research question Theme 3 identified related to the research question Selected quotes Deviations from themes Comparison to the conceptual framework and literature review

Logic model components	Description of perceptive stage	Research Question	Data Analysis
		insurance organizations regarding P4P models?	
3. Activities	Consideration of uncertainty characteristics	RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting P4P models for managing hospital service costs in South Africa? RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models? RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?	Theme 4 identified related to the research question Selected quotes Deviations from themes Comparison to the conceptual framework and literature review

Logic model components	Description of perceptive stage	Research Question	Data Analysis
4. Output	Defining preferred characteristics	RQ1. What are the characteristics of P4P models that health insurance organizations perceive may be successful regarding the control of hospital service costs?	Theme 5 identified related to the research question Selected quotes Deviations from themes Comparison to the conceptual framework and literature review
5. Short term outcome	Evaluation of expected changes	RQ1a. Why are those characteristics perceived to affect the ability to control hospital service costs?	Theme 6 identified related to the research question Theme 7 identified related to the research question
6. Long term outcome	Evaluation of indicators of success	RQ1c. How do health insurance organizations determine if a P4P model is perceived to be successful in controlling hospital service costs?	Selected quotes Deviations from themes Comparison to the conceptual framework and literature review
Other information			Additional insights not related to the initial research questions Updated conceptual framework

Summary of Data Analysis

The data analysis subsection provided a discussion of the data analysis processes for the study. The process used open coding within NVivo software to analyze raw data and then develop categories and themes to derive meaning from the data. The study also used explanation building, rival explanations, cross-case synthesis, and logic model techniques to interpret the findings.

Reliability and Validity

The reliability and validity subsection outlines the techniques to ensure that the research study's results are trustworthy, dependable, transferable, and confirmable. The subsection discusses how reliability is assured, particularly for interview-based research, and the standards that a researcher can apply to ensure replicability. The subsection proceeds to discuss the critical elements of validity, including data saturation, triangulation, and generalizability.

Reliability

A study's reliability depends on whether it is repeatable and reproducible, which means that different researchers or raters would achieve similar results if they reperformed the study in similar conditions (Crepaz & Chari, 2018). Reliability means that the research findings are dependable: The findings are consistent with the raw data that the researcher collected, they demonstrate a clear trail from data collection to data analysis that is confirmable by a third-party, and are free of researcher bias (Lemon & Hayes, 2020). Dependability strategies include the precise documentation of study protocols, an audit trail of the data collection process, and a documented codebook (Forero et al., 2018).

Forero et al. (2018) said that the researcher's reflexivity, and their use of triangulation processes, demonstrate confirmability. Creswell (2013) agreed that the reliability precepts are

dependability and confirmability, and researchers show these by an auditable research process. I maintained a clear trail by following a case study protocol, documenting the audit trail for data collection, and using a reflective journal to record my reflections and potential biases during the interview process.

How Interview-Based Research Addresses Reliability. According to Crepaz and Chari (2018), interviews and the subsequent coding procedures should not be ambiguous or arbitrary. Hamilton (2020) believed that interviews are credible if the researcher dedicates sufficiently in-depth quality time with participants to elicit trust and the sharing of relevant information. Researchers should also obtain peer reviews of their interview questions to ensure that questions are not suggestive or likely to lead to biased answers (Hamilton, 2020). From the dissertation committee and research chair, I obtained peer examination to ensure that the interview guide was not biased or suggestive. The interviews were approximately one hour in duration, and I believe the prolonged engagement enhanced reliability and produced thick descriptions that are transferable.

Tong et al. (2007) developed standards that can assist the replicability and trustworthiness of qualitative studies that use in-depth interviews: Consolidated Criteria for Reporting Qualitative Research (COREQ). According to Tong et al. (2007, p. 352), COREQ is a 32-item checklist that requires researchers to report on three domains. These domains relate to the research team and reflexivity (personal characteristics and relationship with participants), the study's design (theoretical framework, participant selection, interview setting, and data collection), and the approach used for data analysis and findings (data analysis and reporting). Appendix E provides a complete outline of how I applied COREQ to this study.

Validity

According to Yin (2012), there are three forms of validity in qualitative research. Construct validity confirms that the data that a researcher will measure is appropriate for the research purpose. Internal validity demonstrates the truthfulness of research outcomes. External validity establishes the analytical generalizability of the findings to other contexts (Yin, 2012).

Construct Validity. Researchers can establish construct validity by basing the constructs of a qualitative study on previous theories and by ensuring that data are collected and analyzed in a logically consistent manner (McLane & Chan, 2018). Belotto (2018) postulated that researchers should construct interview questions in alignment with research questions to ensure content validity. Content validation confirms that data, such as from interviews, is not omitted or inappropriately included to distort findings (Crepaz & Chari, 2018). I have developed a logic model to align interview questions with the research questions. I also used the literature-review based conceptual framework that I created in Section One to review the coherence of the study's findings.

Belotto (2018) postulated that open-ended coding should be sufficiently descriptive to ensure that codes are coherent with participants' perspectives. Lemon and Hayes (2020) asserted that computer-assisted qualitative data analysis software (CAQDAS), such as NVivo, provides a credible record of the methods that a researcher used to derive themes and rival explanations. I used the NVivo CAQDAS program to produce consistent coding. I will explain the process I will use for interpreting the emerging themes, which means that I will include selected participant quotes in Section 3 to support my selection of codes and themes (Belotto, 2018).

Internal Validity. In qualitative research, internal validity corresponds to the credibility concept, which is assured by a researcher truthfully examining participants' lived experiences

using in-depth and robust interviews (Lemon & Hayes, 2020). McLane and Chan (2018)

explained that credibility requires appropriate sample sizes, sufficient depth of interview data

collection, reflexivity, triangulation, and reporting on rival explanations. I have justified, in the

Population and Sampling sub-section, that my sample size of 15 to 30 participants would support

internal validity.

Data saturation means that the researcher interviews additional participants until the

researcher can obtain no new perspectives, resulting in a qualitative study's analytical

generalizability, particularly if the participants represent a complete range of possible variables

in the population (Hamilton, 2020). Forero et al. (2018) posited that a researcher could confirm

data saturation by quantifying the decreasing number of new codes identified from successive

interviews. I have documented how I achieved data saturation during the data analysis phase of

the study.

Hamilton (2020) postulated that triangulation improves research validity and requires a

researcher to compare interview findings to other information sources, such as theories from the

literature review. Lemon and Hayes (2020) agreed that triangulation requires the researcher to

collect data from different sources, compare data to various theories, use alternative methods to

analyze data, and compare multiple cases that identify convergence or divergence. Johnson et al.

(2017) similarly suggested that triangulation requires various data collection methods, multiple

sources, and multiple investigators.

I applied the triangulation methods mentioned above, except for the multiple

investigators' method, which is not feasible for this dissertation study's nature. Specifically, I

collected interview and documentary data from multiple cases, compared my findings to the

literature review concepts, and examined multiple case studies. I also examined rival, deviant, or

negative cases to establish if there were alternative explanations for a phenomenon, which will substantiate the rigor of findings (Hamilton, 2020).

Member checking and reviewing a researcher's findings reduce the likelihood of biased conclusions resulting from a researcher's lack of reflexivity (Hamilton, 2020). I submitted my verbatim interview transcripts to the study's participants to verify that the transcription and the data analysis appropriately considered their input. I also presented my research findings to the dissertation committee for peer review.

After completing the data collection and analysis, I will provide participating organizations with an executive summary of my findings. The participants' identities will remain confidential, and therefore the participating medical schemes will only receive results at an aggregated and overall level. This anonymization means that the participating medical schemes will not receive any participant-level or scheme-level findings.

External Validity. External validity in qualitative research means that research findings have generalizability and transferability (Lemon & Hayes, 2020). The research study is analytically generalizable because of the purposive sampling used to obtain a maximum variation of multiple cases. Convergent validation, or cross-case analysis, compares multiple cases to establish the similarities or differences between cases that indicate consistency and validity (Crepaz & Chari, 2018). Furthermore, I prove transferability by using detailed descriptions, analyzing verbatim transcripts, and detailed data analysis steps to enable other researchers to replicate my findings (Lemon & Hayes, 2020). I documented any circumstances that could affect the results' external validity. These circumstances included collecting data during the global coronavirus pandemic of 2020, which could affect the utilization and perception of hospital services.

Summary of Reliability and Validity

The sub-section provided a complete description of the reliability and validity techniques I used in the study. The strategies that I adopted for ensuring reliability were a case study protocol, an audit trail, a reflective journal, prolonged interview engagement with participants, an interview guide, and peer examination. Significantly, I applied the COREQ standards that assist the replicability and trustworthiness of open-ended interview-based studies. I assured construct validity by using a logic model to align interview questions to the study's research questions. I also used the NVivo CAQDAS program to document a clear trail of my coding process.

The sub-section explained how I justify internal validity by the appropriateness of my sample size, purposive sampling, data saturation, triangulation methods, participant checking, and peer review. I demonstrated external validity by a multiple-case approach that justifies analytical generalizability. I also detailed the data analysis steps that I used, including reporting selected participants' quotes to explain the themes that emerged.

Transition and Summary of Section 2

Section 2 described the methodology that I proposed to use for the study. The section commenced by restating the purpose statement and research questions from Section 1, regarding the qualitative exploratory multiple case study that I propose, to explore the perceptions of non-profit South African health insurance organizations (medical schemes) regarding P4P as a cost control model for hospital services. I then described my role as the researcher that was the interview instrument, how I maintained reflexivity, how I protected participants ethically, and the role that I expected from participants in sharing their perceptions and insight into the business problem of uncertainty regarding the cost-control efficacy of P4P models. I described

the potential participants and units of analysis, who were a maximum of 30 participants across seven medical scheme cases.

The section explained why I chose the qualitative research method and the case study research designs and how I used exploratory techniques because there are no pre-determined outcomes. I used multiple case studies to corroborate research findings through cross-case synthesis. The proposed study population was 76 registered medical schemes in South Africa. The embedded units of analysis were 15 to 30 healthcare executives of seven purposively selected medical schemes, who were eligible based on their key-informant expertise regarding hospital services reimbursement models. I then explained the data collection and organization techniques, which included a logic model for aligning research questions to the proposed interview questions, an interview guide, a case study protocol, a reflective journal, and a data collection matrix for cataloging all research information.

I discussed the data analysis process, and I explained that I would use open coding to analyze raw data and develop categories and themes to derive meaning. I decided to use NVivo software to assist the data analysis. I will use explanation building, rival explanations, cross-case synthesis, and logic model techniques to interpret the findings. Finally, the reliability and validity subsection outlined the methods I used to ensure that the research study's findings will be trustworthy, dependable, transferable, and confirmable. I demonstrated how the multiple-case study's internal and external validity will result in data saturation, triangulation, and analytical generalizability.

Section 3 is the next and final section of this research study. I presented this section after completing the field study based on the methodology that I proposed in Section 2. In Section 3, I will present and analyze the findings from field research, including the categories and themes

that emerge from my data analysis. I will develop the applications for professional practice, and I

will propose recommendations for action. I will conclude Section 3 with my reflections,

recommendations for further study, and a summary of the research.

Section 3: Application to Professional Practice and Implications for Change

This study explored the perceptions of non-profit South African health insurance organizations (medical schemes) regarding P4P as a cost control model for hospital services. I described the research problem and literature review in Section 1 and the study methodology in Section 2. Section 3 commences with an overview of the study and then briefly explains why and how I performed it. The section proceeds to present the summary of key themes identified, which I then outline in further detail. The section concludes with an explanation of the applications to professional practice, recommendations for action, recommendations for further study, and reflections.

The study found that medical schemes have significant concerns regarding their current reimbursement models' abilities to control costs and outcomes. The participants believed that there were benefits to implementing a variation of a P4P model, which will translate to better cost-control and better outcomes for their medical scheme members. However, the participants were aware of significant barriers and disadvantages relating to the P4P model. As a result, the participants recommended a patient-centric P4P model that encompasses the principles of paying for measured outcomes, paying specialists for the coordination of care, paying for excellence, measuring patient's perceived outcomes, and relegating the hospital's role to that of a supplier rather than a coordinator of care.

Overview of the Study

Why the Study was Done

The purpose of this qualitative exploratory multiple case study was to add to the body of knowledge by exploring the perceptions of non-profit South African health insurance organizations (medical schemes) regarding P4P as a cost control model for hospital services. The

study intended to guide medical schemes in determining how best to select and introduce P4P

models in their contracts with hospitals. The specific problem that the study addressed was the

uncertainty about which P4P models medical schemes could use in South Africa to reduce their

hospital costs. This uncertainty has resulted in their inability to make critical changes to the costs

they incur from traditional fee-for-service payments. I designed the research questions to address

the research problem and the purpose of the study, and the research questions were:

RQ1. What are the characteristics of P4P models that health insurance organizations perceive

may be successful regarding the control of hospital service costs?

RQ1a. Why are those characteristics perceived to affect the ability to control hospital

service costs?

RQ1b. How do health insurance organizations interpret the advantages and disadvantages

of using P4P models?

RQ1c. How do health insurance organizations determine if a P4P model is perceived to

be successful in controlling hospital service costs?

RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P

model to influence their reward?

RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting

P4P models for managing hospital service costs in South Africa?

RQ2a. What reimbursement models do health insurance organizations currently use, and

what factors of those models would influence the adoption of P4P as an alternative model?

RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models?

RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?

RQ2d. What is the basis for the perceptions of health insurance organizations regarding P4P models?

How the Study was Done

Study Method and Population. I used a qualitative, exploratory, multiple-case study approach for addressing the research problem and purpose. I used case interviews to collect data, and I designed an open-ended semi-structured interview guide, which aligned with the research questions. The interview guide is in Appendix A of this study. The study population was the 76 registered medical schemes in South Africa identified on 19 June 2020, and all were eligible to participate in the study. My sample size was seven medical schemes, and my analysis units, for the case interviews, were the healthcare executives that the seven medical schemes employed or contracted. I aimed to conduct a maximum of 30 case interviews.

I purposively selected seven medical scheme cases according to characteristics that would help me identify a maximum variation sample. I chose the samples by ranking all the medical schemes according to the number of beneficiaries that they serve. I then divided the ranked list into seven medical scheme segments, and I then purposively selected one medical scheme from each of the segments. I sent a permission request letter to each medical scheme's leadership to obtain permission for their participation and to allow me to contact their employed or contracted healthcare executives that have oversight, measurement, or reporting responsibilities regarding hospital services and reimbursement models.

Case Interview Participants. The healthcare executives were either employed by the organizations or, if not employed by the organization, they provided outsourced administration, managed care, and actuarial services to the medical scheme. I described the complete criteria for participation in Section 2 of this study. After obtaining organizational consent, I then recruited

participants. In most cases, each medical scheme's head volunteered to be the first participant, and they then assisted me in identifying other eligible potential participants. I provided the participants with informed consent forms for their review and electronic or email signature confirmation.

Two out of the seven contacted medical schemes were not available to participate, and they cited limited knowledge in the subject matter. They were, however, interested in receiving the results of the study after completion. I replaced those sample cases by selecting other medical schemes within a similar size segment. I, therefore, had a 100% case participation rate. Scheme 1 and Scheme 6 were small medical schemes (up to 50,000 beneficiaries), Scheme 4 and Scheme 5 were medium-sized medical schemes (50,001 to 150,000 beneficiaries), and Schemes 2, 3, and 7 were large medical schemes (over 150,000 beneficiaries). Although my embedded unit of analysis was a maximum of 30 participants for the case interviews, my actual number was 17 (56%).

The number of participants was less than the study maximum of 30 because the seven medical schemes had a range of one to four eligible participants. In some cases, one or two participants represented their medical schemes' perceptions because of the limited number of executives who oversee hospital reimbursement models. Some medical scheme heads indicated that I would not obtain different perspectives by adding their less-experienced junior employees to the study sample. I did not ask for permission to interview junior employees because they were outside of my eligibility criteria that required participants to have an executive, oversight, and responsibility role so that they could adequately represent the perceptions of each medical schemes. According to Cosgrove (2018), sample response rates for non-incentivized studies have

a response rate of 25% to 40%, which means that my response rate was higher than the typical average.

Case Interviews. Before I interviewed the participants, I conducted one pilot interview on 21 October 2020 with a healthcare industry colleague who was knowledgeable of the subject matter. The pilot interview confirmed that the questions in the interview guide were viable and understandable. The pilot interview participant recommended that I use more straightforward language in administering the interview questions and confirm whether participants understand different reimbursement models at the start of each interview to ensure their comprehension. The pilot interview participant also suggested that I end each interview by requesting participants to add any other relevant information that they forgot to mention during the interview.

I conducted the interviews online, using Microsoft Teams and similar software, between 21 October 2020 and 6 November 2020. Most participants permitted me to record the interviews, but I made detailed notes during the interviews if they did not. A transcriber prepared verbatim interview transcripts from each interview. I anonymized all interview transcripts by removing identifiable information and referring to each participant or case using an anonymous number.

I performed member-checking by requesting participants to review their interview transcripts prepared from their audio recordings. Only one participant had minor amendments to their transcript. I also asked participants to share any notes that they were willing to share. One participant shared their notes with me, based on a previously prepared report regarding value-based reimbursement. One participant showed me PowerPoint slides that they had previously developed regarding the topic.

Data Analysis. I used NVivo 12 qualitative data analysis software to analyze all the data collected in the transcripts. The transcripts resulted in 63,112 words from the interviews

conducted, representing 3,070 text references that were paragraphs and sentences. I used open

coding because of the exploratory nature of this study. My data analysis distilled the data into

910 coded reference statements, 170 codes, 19 categories, and seven overall themes.

Saturation. According to Guest et al. (2020), a qualitative study typically achieves 92%

saturation of themes within the first 12 to 16 interviews. A sample of six cases has a 99%

probability of identifying a theme that is present in more than 55% of a population. I observed a

consistent pattern of themes from my first 12 interviews. I was confident that my seven-case

sample was highly likely to have identified themes present in most South African medical

schemes. This view was mainly because the large and medium-sized medical schemes insure a

significant portion of medical scheme members in South Africa. Most of the themes I identified

were present in 100% of the study participants.

Triangulation. According to Hamilton (2020), triangulation confirms the validity of the

research. The main triangulation methods I used were collecting and comparing interview data

from multiple participants and conducting a cross-case analysis by comparing interview data

across multiple medical schemes. I reviewed the themes identified for any rival, deviant, or

negative cases, and I commented on these within the cross-case analysis. I also compared my

field study themes to the literature review findings and the conceptual framework. I used

multiple data collection methods by inviting participants to share personal notes for analysis.

Furthermore, I performed member checking by requesting participants to review their interview

transcripts. Finally, I submitted my research findings to the dissertation committee for peer

review.

Anticipated Themes/Perceptions

Based on the literature review, which demonstrated that 58% of studies within the last five years concluded that P4P was effective, I had anticipated that the majority of medical schemes would be in favor of exploring P4P as a reimbursement model. However, my literature review had also revealed that 41% of studies within the last five years had significant concerns about whether P4P could achieve cost-control outcomes and avoid unintended consequences. I, therefore, anticipated that the participants would describe significant barriers and disadvantages regarding P4P.

I had anticipated approximately eight themes from the literature review. The literature demonstrated that medical schemes would prefer to provide rewards for coordinated care to accountable care groups that include hospitals, specialists, and general practitioners. I expected that medical schemes would reward centers of excellence that have a proven ability to make cost-effective healthcare decisions. I also thought that base payments would be determined according to a reference price and adjusted to reflect the time required to service patients, such as time-driven activity-based costing and the patient population's risk characteristics.

Furthermore, the literature review suggested that high-value incentives or penalties would cause hospitals to modify their behavior, and that frequent incentive payments would reinforce behavior change. The literature review resolved that there should be careful consideration of whether insurers reward hospitals, the service providers within hospitals, or both. I also anticipated themes relating to shared savings and gain sharing methods with hospitals, and that limited reimbursement rules would enable the simplicity of P4P application.

The results of the study identified some similarities and differences with the themes that I had anticipated. The themes I determined from the case interviews are outlined below, including the number of coded references for each theme:

1. Concern about current costs and outcomes (236 coded references)

2. P4P results in better cost-control and quality outcomes (60 coded references)

3. P4P has complex measures and can be manipulated by hospitals (104 coded references)

4. Enabling factors and barriers (70 coded references for facilitating factors and 200 coded references for barrier factors)

5. Specialist-driven pay for outcomes and pay for excellence (171 coded references)

6. Trust, transparency and purpose are essential to cost-control (43 coded references)

7. Establish baselines and measure regularly (26 coded references)

Presentation of the Findings

Theme 1: Concern About Current Costs and Outcomes

Most participants reported that they used fee-for-service as their primary reimbursement model and were not satisfied with how their reimbursement models control costs. Participant 11 summed this up in stating, "I think the general view or consensus on fee for service and reimbursement models, especially from the funder's point of view, is that it doesn't really have a strong incentive in terms of controlling costs, I think in particular, annual inflationary pressures on costs." Similarly, Participant 12 explained that "The fee for service model is based obviously, on volume. So, the more you do, the more you earn, and it's not aligned to clinical outcomes and clinical performance as such." The sub-themes that emerged related to dissatisfaction with current models, concerns regarding cost, utilization, and risk management, a consensus that

effective treatment and health outcomes are drivers of cost-control, and that the current reimbursement models are skewed in favor of hospitals.

Theme 1's findings corroborated the literature review that I did before the field study because numerous studies have demonstrated that the current reimbursement models do not efficiently allocate financial resources (Xian et al., 2019). According to the literature review, health insurers are interested in considering alternative reimbursement models to reward hospitals for cost and quality outcomes (Kang & Hong, 2017).

Sub-Theme 1a: Dissatisfaction With Current Models. The participants explained that their medical schemes use fee-for-service. Still, there is increasing use of alternative reimbursement models such as fixed fees, global fees, per diem fees, diagnosis-related group fees, and hospital network discounts. Similarly, the literature review found that health insurers have been exploring alternative reimbursement models, such as fixed fees and global fees since the 1980s to find better alternatives to fee-for-service models (Jian et al., 2015). Participant 1 explained that "We use fee for service mainly. However, there are certain procedures that we pay on a fixed fee. And that agreement is with some individual hospitals."

Participant 15 shared statistics regarding the use of fee-for-service, "In our environment, it's mainly fee for service, probably 95% to 98% of what we do is on a fee for service. Within the fee for service environment, we have a setup where we've got discounts with different hospital groups and different individual hospitals." Only two participants were satisfied with how their reimbursement models control costs, and 13 participants were dissatisfied. Every participant that referred to fee-for-service was disappointed with it, even though all the medical schemes predominantly use it.

There were more positive sentiments regarding the alternative reimbursement models, but there were still concerns that these models have not succeeded in reducing utilization or improving quality.

Figure 4

Dissatisfaction with Current Reimbursement Models
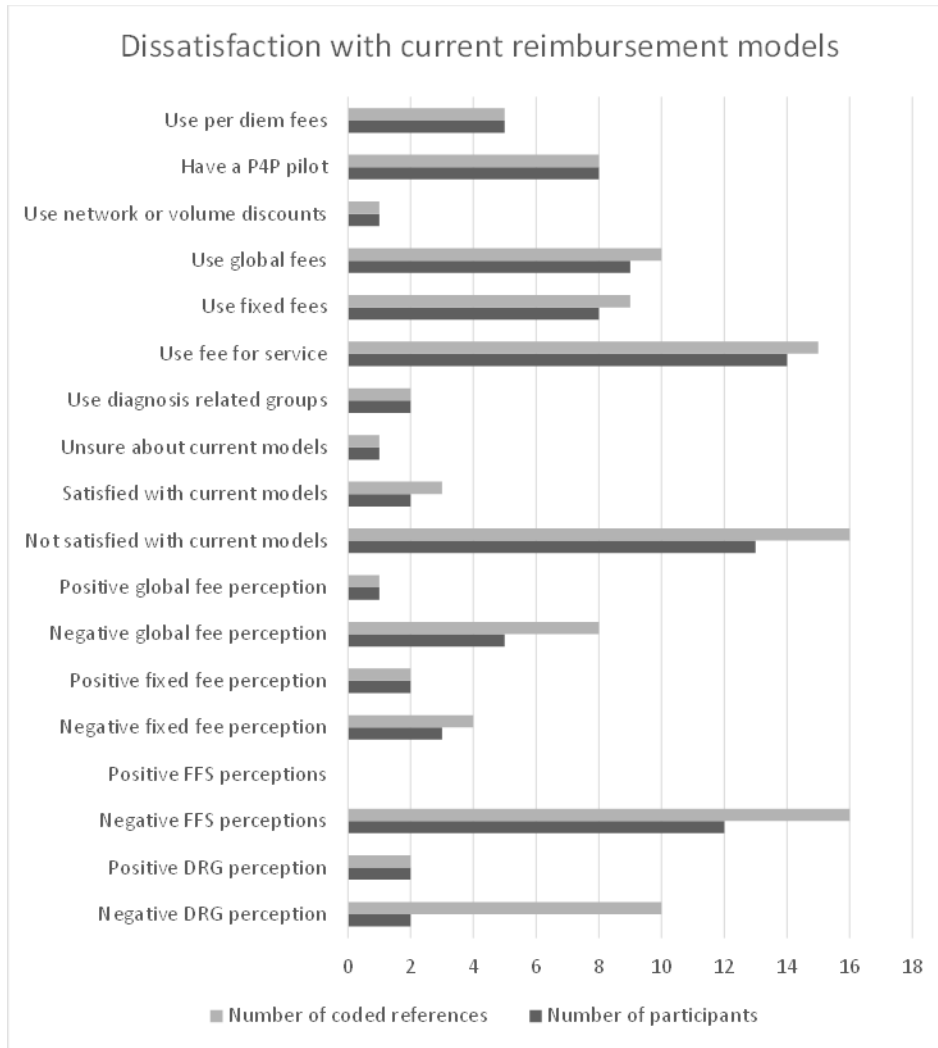
Participant 1 explained their interest in alternative models this way:

One would obviously benefit from an alternative reimbursement model where there is a global fee. The hospital fee, specialist fees, and all of those are given to a hospital. They would control all services, and attached to it would then be quality because right now, I

am not sure if any of the medical schemes are managing quality to the tee if you

understand. We all are measuring it, but the measurement is removed slightly from the

fee that we pay. So, in other words, your question is, am I satisfied? The answer is no.

We can do more with an alternative reimbursement model that is quality driven.

Participant 10 was particularly critical about how hospitals manage to maintain high fees

by using carve-outs even after they implement an alternative reimbursement model,

Although there were so many carve-outs and exceptions that, in fact, they didn't really

take a whole lot of risk. So the default with a hospital group was a kind of strange per

diem, that really, the hospital took a minor amount of risk on the items per day, but

nothing more than that, certainly not on the length of stay, there were all kinds of carve-

outs.

Furthermore, Participant 10 explained that diagnosis-related group fees were "a little bit

of a farce, an irritation that was different to fee for service." According to Participant 10, this

model is used more as a management tool by hospital head offices to report to medical schemes,

rather than a reimbursement tool embedded in the hospital billing consciousness at an

operational level.

The current reimbursement models were unpopular for rewarding exceptional and bad

hospitals alike, even though they might have different readmission rates. Participant 8 was

forthright in explaining that cost-based reimbursement models incentivize poor-outcome doctors,

who are more profitable for hospitals because of their higher readmission and length of stay

statistics.

Some participants mentioned that they had begun piloting pay-for-performance as a

reimbursement model. For example, Participant 11 said,

At the moment, some pilots have been put in place with some schemes and some hospital

groups, but it's very much in, and it's been like this for a long time, it's very much in an

exploratory phase. Hospital groups are very happy to engage in almost like a shadow

implementation process.

Sub-Theme 1b: Cost, Utilization, and Risk Concerns. Participants were concerned that

existing reimbursement models do not control cost or limit the hospital utilization that drives

price. This concern reiterated the literature review's findings that existing reimbursement models

have failed to contain hospital costs at a level within desired cost parameters for health insurers

(Alderwick et al., 2018; Mathes et al., 2019). Furthermore, cost-based reimbursement models do

not engender provider accountability for outcomes, which creates a risk for patients and their

medical schemes. This perception was demonstrated by Participant 12, who explained, "it's also

perpetuating the sort of healthcare behaviours and economic behaviours that are not aligned to

achieving outcomes." Participant 10's response encapsulated these concerns in stating that:

So, the more services that you do, the more money you earn. Whether you kill the patient

or not, the outcomes are not relevant in fee for service. They don't play an influence. The

complexity of the clinical problem and how sick the patient is, essentially, is not evident.

We just do whatever you want. Therefore, fee-for-service is terribly problematic because

it incentivizes over-servicing, and it in no way brings any form of accountability into the

picture. So, neither the scheme nor the patient has any control over what the clinician or

the hospital does. The more services the hospital does, they're not accountable to anybody

except their accountant, who is delighted. So, it's an income driving model, not an

accountable model, and therefore it's very problematic.

Figure 5

Cost, Utilization, and Risk Concerns
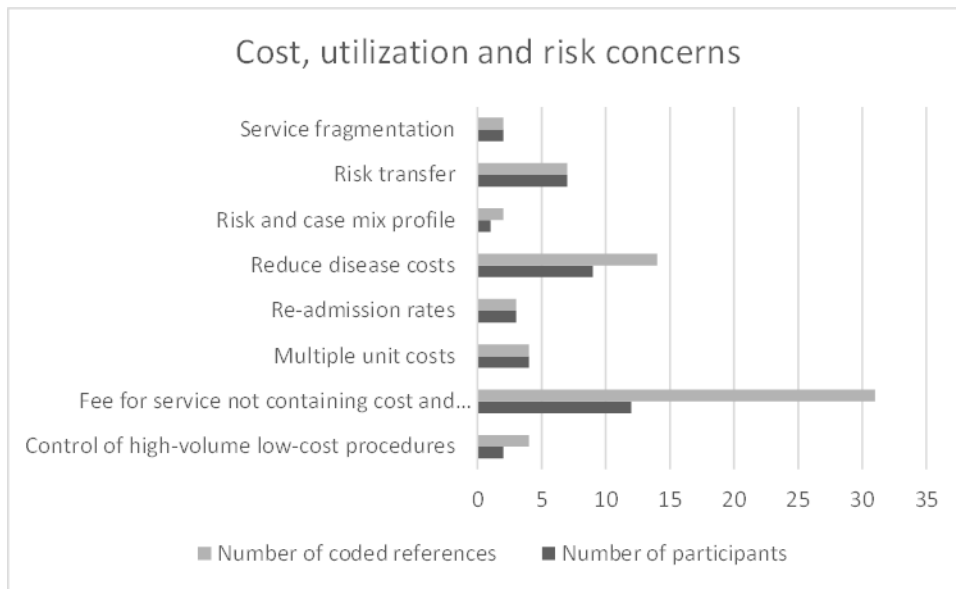
The leading sentiment from participants was that fee-for-service models do not contain cost and utilization. Participant 10 described that fee-for-service

achieves nothing because it is getting worse at a macroeconomic level - Scheme premiums are going up driven by this behaviour, less and less people have access, it's a failure. So yes, it's a failure at the macroeconomic level.

Participant 3 explained that it would be beneficial to stop using fee-for-service, "You are able to control utilization more if you move into an alternative reimbursement model environment because then you are not only managing the areas of cost and quality, you are also managing utilization at the same time."

Participant 7 was fearful that the healthcare industry could eventually face financial collapse because of unsustainable reimbursement models,

our medical scheme model is not working, and something's got to change. And it's got to change quickly. That's really where we are coming from by saying this model is not

working. People are hanging in there by 'the skin of their teeth.' And that applies to

everybody. So, the model's got to change because healthcare cannot continue.

A second leading pattern identified was the concern over an increasingly costlier

customer profile, which requires alternative reimbursement models to counter the effects.

Participant 12 explained that "the practice behaviour, combined with disease burdens makes it

inefficient for clients." Participant 13 added,

considering the demographic, and we are worried about the age of our demographic, and

perhaps trying to capture some of that future risk into an existing model, I think what

would be effective is that schemes would consider an alternative model.

Cost-based reimbursement models are perceived to encourage high re-admission rates

and create multiple hospitalization events. This perception was described by Participant 12,

In the current fee for service model, if you fail with one hip transplant, and you do a

second one, then you get paid for both, and that's not how it should be. In fact, if you fail

on one, you shouldn't be paid for the second one, if it's from your error.

Participant 8 reiterated this,

The incentives are exactly the wrong way around at the moment. It's actually that a

patient who gets a hospital-acquired infection will result in more money for the hospital.

A specialist who does a poor hip replacement and the patient has to go back six months

later to redo the procedure, that specialist gets paid twice, and the hospital gets paid

twice.

Medical schemes were interested in better managing the risks related to hospital care with

hospitals. Participant 4 described it this way,

We obviously know the benefits of alternative reimbursement models for both ourselves as a scheme and the hospital group in terms of risk transfer, but also in giving the hospital groups opportunities for making savings. So that's not being questioned. It's just a matter of how we go about as best as possible so that everybody benefits.

Risk transfer in reimbursement models should consider the illness profile of members, and, according to Participant 4,

there's multiple considerations, it's the member consideration, it's your membership profile, the membership demographics, and the types of hospital admissions that you are incurring. And that speaks to your hospital cost because that would influence the types of alternative reimbursement models you have in place.

Another factor that participants believed inflates utilization is the fragmentation of services, which means that health providers do not share patient diagnostic information to avoid duplication of effort. According to Participant 11,

The fragmentation leads to inefficient delivery of care, as well as duplication of care. You might find patients go to one particular hospital; they get a bunch of diagnostic tests done. Then, later on, they might be admitted to a different hospital, and some of those tests get repeated because there isn't a mechanism for sharing information across providers.

Sub-Theme 1c: Treatment and Health Outcomes Affect Cost-Control. The interviews revealed a strong perception that hospital services' clinical results should confirm value-for-money and that good outcomes will lead to reduced costs because of lower recall rates. Although the field study participants perceived a definitive relationship between better patient outcomes and lower healthcare costs, the literature review demonstrated mixed results. Some studies, such

as the Pandya et al. (2018) research on the United Kingdom's Quality and Outcomes Framework

P4P program, found a low probability of outcomes-based models resulting in cost reduction.

Conversely, other studies found that health insurers could incentivize healthcare providers to

deliver better outcomes at a lower cost than fee-for-service (Cox et al., 2016; Garner et al., 2018;

Kessels et al., 2015).

Figure 6

Treatment and Health Outcomes Affect Cost-Control
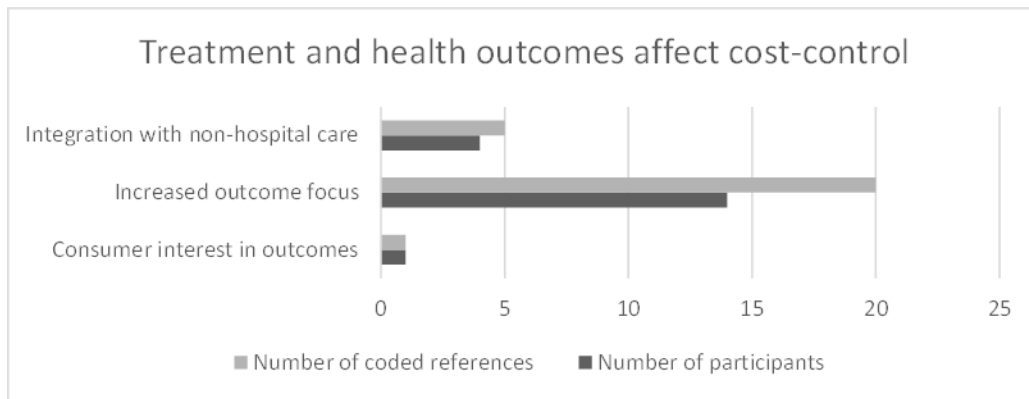
Participant 14 described the outcomes focus succinctly in stating:

While cost has been the biggest thing that administrators and managed care organizations

have been doing over time, it got to a point to say now that we know what we are paying,

are we able to measure if we are getting what we are paying for? schemes want to know

that they're paying for good outcomes and also that they are paying for the right people,

so you want to know that you are paying for the right care and not paying for low-quality

care or unnecessary care.

Participant 11 explained that alternative reimbursement models have been slow in

incorporating quality and patient satisfaction outcomes. Participant 15 described that an initial

outcome metric that they had recently begun tracking was the re-admission rates because that is a

proxy indicator for tracking hospital outcomes. In describing the relationship between clinical

outcomes and cost-control, Participant 16 mentioned that "You buy a medical aid because you either want to maintain the health you have or improve it. Therefore, our focus really should be on clinical outcomes and as a by-product, reduce costs."

According to Participant 17, effective cost-control is not possible in the absence of information regarding outcomes. The participant explained, "The reporting of quality measures of hospitals could reduce information asymmetry, which could empower medical schemes to achieve more cost-effective decision-making in their purchasing arrangements with hospitals." Therefore, most participants understood a relationship between the clinical appropriateness of hospital care and the control of cost-effectiveness. Participant 14 extended the outcomes conversation to consumer choice and safety,

> Consumers now want to know that what they're paying for is worth its while, and at some level, they want to know that 'If it is the right doctor, does this doctor have good quality outcomes? Am I safe in this hospital?'

Furthermore, four participants reflected that hospitals should not be considered in isolation but should integrate into out-of-hospital care. Participant 4 explained this link by describing how an alternative reimbursement model would be incomplete if it only rewarded the hospital setting:

> If a provider is then not able to manage the patient adequately in the out of hospital setting and they land up being admitted into a hospital, for example, a diabetic that is being controlled out of the hospital, they complicate, then they go into hospital. That also speaks to the integration of alternative reimbursement models between the in-hospital and out-of-hospital setting.

Sub-Theme 1d: Hospital-Skewness of Current Models. A common belief among the

participants interviewed was that traditional and alternative reimbursement models are skewed in

favor of hospitals. This perception is a finding that I had expected after conducting the literature

review because of the prescribed minimum benefits legislation in South Africa that compels

medical schemes to fully reimburse hospitals for 270 defined health conditions (Mathew &

Mash, 2019). According to Participant 13, "the hospitals are in the driving seat, but they should

be just a supplier of service. But they are in the driving seat and driving how all the commercial

models are picked up."

Figure 7

Hospital-Skewness of Current Models
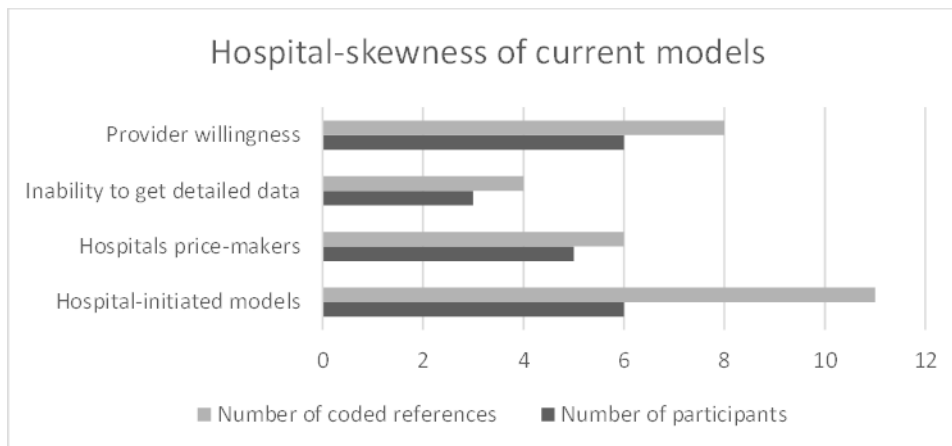
Participants perceived that the alternative reimbursement models that hospitals

introduced benefitted hospitals more than medical schemes. Participant 16 confirmed this trend,

"In fact, we haven't created our own ones; we tend to use the ones that are available in the

industry. So whichever hospital group has come up with a bundled package, we use those."

Paradoxically, six participants complained that hospitals are less willing to engage in a medical

scheme-initiated reimbursement model. Participant 5 described the skepticism that now exists

among medical schemes regarding these hospital-initiated reimbursement models:

Look, typically, the hospital group would approach them with a proposal. They would say, we've got this fixed fee arrangement for cardiac surgery, this is how it works, these are the carve-outs, this is why we think it makes sense, etc. I think the medical schemes generally would listen to proposals from the hospital groups. I think hospital groups often have a way of increasing their margin. What they're doing with the alternative reimbursement arrangements is they are capping their inefficiencies and then working their inefficiencies out of the system. If that makes sense?

The participants perceived that hospitals have historically been price-makers and will not enter into reimbursement models that do not benefit them. Participant 5 explained this unevenly balanced dynamic,

I think where an alternative reimbursement model falls is if it doesn't work, the hospital closes it down. Do you know what I mean? It does not offer it. So, it's a bit of a one way, kind of a one-way bet.

Participant 8 described hospitals as being particularly aggressive with their pricing historically:

It wasn't uncommon in the negotiation environment between a scheme and the hospital that a hospital would march into the negotiation room and say look, we're going to take a 12% increase, take it or leave it, and they get up and walk out. In turn, the consequences would be something like, if you don't agree to this double-digit increase, we are just going to put a sign in the reception of every hospital, which will say if you're a member of Scheme C, you have to pay R20,000 cash upfront!

Although hospitals are perceived to be more open to negotiations, particularly with their currently decreased volumes following the coronavirus-induced lockdown, there remains

significant information asymmetry that reduces medical schemes' ability to set up alternative

reimbursement models. Participant 4 explained:

> You need that data because all these costs escalate over time, cases complicate. On the
>
> hospital side, they may be getting lower costs by negotiating better with their contractors
>
> or suppliers. So, you need to make that comparison. We've got a bit of difficulty there in
>
> terms of the raw data, and not necessarily getting that is very difficult.

Cross-Case Analysis of Theme 1. All the seven medical scheme cases expressed

dissatisfaction with their reimbursement models and a willingness to consider new alternative

reimbursement models. Similarly, all the cases selected were adamant that the dominant fee-for-

service model does not result in effective cost-control. There was an even spread of initiating

global fees and fixed fees regarding alternative reimbursement models, but only the large

medical schemes had implemented diagnostic related group fees.

Comparison of Theme 1 to the Literature Review. The results of Theme 1 confirmed

the literature review findings regarding healthcare industry concerns about the unsustainable

current reimbursement models (Katuu, 2018). The literature review found that there was

dissatisfaction with the retrospective fee-for-service models, that healthcare utilization and costs

have been consistently increasing at an above-inflation rate for over eight years, and that hospital

costs require an alternative reimbursement model (Erasmus & Kean, 2018; Katuu, 2018; Mathew

& Mash, 2019; Wu et al., 2018).

However, a sub-theme that differed from the literature review was Sub-theme 1c:

Treatment and health outcomes affect cost control. The literature review suggested that medical

schemes could achieve cost-control by how reimbursement rules are structured (Garner et al.,

2018; Ogundeji et al., 2018). However, interview participants perceived the main driver for

reducing costs is improving healthcare outcomes because of the downstream effect in fewer repeat episodes of care.

Theme 2: P4P Results in Better Cost-Control and Quality Outcomes

Participants revealed that a P4P model would reduce the hospitals' costly over-servicing of patients and improve in-hospital outcomes. This finding compared favorably to the literature review of 17 studies on P4P, which found that 10 of them agreed that P4P is an effective cost-control mechanism. According to Participant 11, medical schemes have limited pools of funds, which they must ration by purchasing efficiently and cost-effectively to meet their members' requirements. Participant 10 echoed this sentiment and explained the following:

> The advantages of pay-for-performance are: You move away from fee for service to crude capitation, that rapidly becomes problematic, and so you finally move to where we are now, value-based care, which deals with the risk adjustment and with the outcomes. The huge advantage of that is that it aligns all three parties. The first thing is that it makes sure the patient gets the right services, and there's no over-servicing or under-servicing.

Sub-Theme 2a. Better Cost-Control. Regarding cost-control, participants perceived that P4P helps control the above-inflation healthcare costs that their medical schemes continually experience. Similarly, Lorente et al. (2019) observed that hospitals with payment-for-efficacy and payment-for-efficiency arrangements achieved better cost-control outcomes than fee-for-service hospitals.

Figure 8

Better Cost-Control
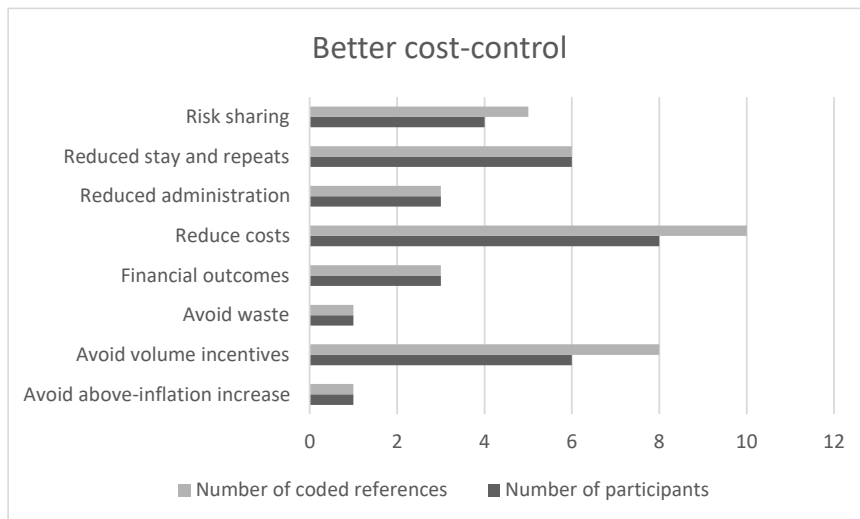
Eight participants concluded that medical schemes could use P4P as a mechanism for reducing costs. Participant 9 suggested that P4P could reduce the wastage in healthcare that contributes to high costs. Participant 5 believed that medical schemes could achieve cost-control by identifying inefficiencies: "Ones got to look at where the inefficiencies are in the system, and where they're giving someone control, which will enable them to manage it better."

Participant 6 had a similar view regarding the achievement of efficiency:

I think that type of risk, it moves a doctor out of that fee for service chart, trying to just get through as many as you can. And it gets to a space where the hospital, together with the team and those downstream costs, work together to create levels of efficiency. It should be those levels of efficiency and quality that actually attract the volumes in the long term.

A perception related to cost reduction was avoiding the volume incentives perpetuated by fee-for-service and fixed-fee models. According to Participant 6, traditional reimbursement models incentivize providers to see more patients at a lower quality. However, P4P incentivizes

less utilization – at a higher quality. Participant 16 related this to the control of supplier-induced demand:

> I think the clear advantage of it is that it begins to pull away from fee-for-service, which incentivizes utilization. As a provider, any form of provider, whether you're the hospital or the doctor or any healthcare provider, "the more I do, the more I get paid," it's as simple as that. So, utilization climbs, and supply induced demand is a significant factor as well. Whereas the pay-for-performance incentivizes, like I said, in the definition, the performance of particular activities or tasks drive towards greater efficiency or efficacy.

The participants provided further context about why they believed P4P could reduce costs. These cost-control factors included reducing hospital stays and repeat procedures, reducing administrative expenses, and sharing financial outcome risks with hospitals. Furthermore, P4P may combat supplier-induced cost inflation. For example, Participant 1 explained this view about hospital-driven inflation,

> They will tell you that the hospital costs are going up by 5%, but if you go deeper on the bill itself, you will find that with some items, what you paid last year to what you are paying to the following year is way above inflation and as a fund you only expected to increase your cost by 5%.

Participant 12 described how the P4P model builds around trust, measurable targets, and cost outcomes, rather than volumes. Those participants who had piloted P4P had seen reductions in hospital stay length and fewer patients readmitted within six months for the same hospital procedures. Participant 8 referred to the link between quality and costs in stating, "There's this alignment of stars that high quality costs less." Both Participants 5 and 7 explained that a P4P

model places more responsibility on doctors and specialists to keep patients out of the hospital. Participant 15 explained the risk transfer concept with a worked example:

> For me, the advantage is that, let me pay the hospital a little bit extra, for keeping the patient for a shorter period. And in that way, my suspicion is that there's a win-win and the scheme will win because let's say there's an extra day and it's R100 that we would have paid the hospital. But in that R100, the hospital would have incurred some cost, whether it's food or nursing care. So out of that R100, the hospital can make a profit of R20 as an example. Now, the win-win comes when the patient stays one day less in the hospital. We share R100, I give you R50, and I remain with R50. So that way the hospital made an additional income and the scheme paid less.

Sub-Theme 2b. Better Quality Outcomes. Participants perceived that P4P aligns the costs incurred by medical schemes to quality outcomes and relieves medical schemes from the burden of paying for inappropriate care. Although my earlier literature review had not deduced a strong relation between P4P and quality outcomes (Kessels et al., 2015), it was evident from the case interviews that the achievement of quality outcomes is integral to a P4P model. Participant 12 explained, "We can align healthcare behaviour to an economic model that achieves payment for outcomes in a way that says if you achieve an outcome for a procedure, we are happy to pay for it, but if that procedure fails, then why must the funder carry that liability."

Figure 9

Better Quality Outcomes
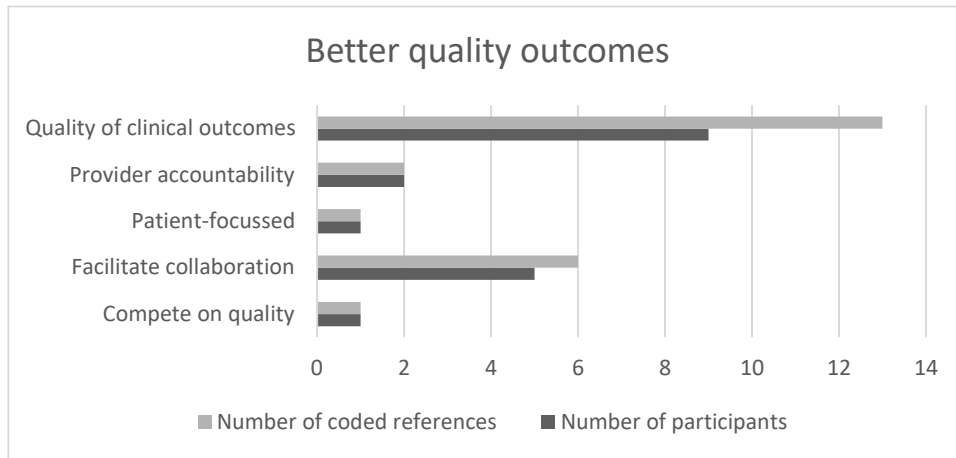
Participant 10 described how the patient-centric nature of P4P is fair to medical schemes,

their members, and hospitals because of the payment for real value. Participant 17 was even

more direct in stating that "Hospitals tend to wash their hands off bad outcomes." Participant 14

said that the patient-centric nature of P4P considers the needs of the medical scheme member

that is ultimately paying for the service, rather than just what the hospitals and doctors want.

Furthermore, Participant 14 explained that:

> You bring into the industry a different conversation that is anchored on quality on saying
>
> what we pay him for, is no longer just a service. But we want that service to be measured
>
> and be rated. What it does is it brings a different framing into healthcare that speaks to
>
> performance.

The participants reflected on what the measurement of outcomes means within a hospital

context. Participant 4 said, "You can look at mobility, you can look at mortalities, you can look

at readmissions, you could look at multiple numbers of things." Participant 8 surmised, "If you

do quality-based pay-for-performance correctly, then there is a potential win-win. It's actually a

win-win-win: the patient wins, the hospital wins, and the medical scheme wins, if you do it

right." Participant 8 further added that medical schemes had not fulfilled the duty they have regarding guiding members to seek care at providers with the best outcomes. Medical schemes have fixated on the prescribed minimum benefit (PMB) regulations that guarantee that their members will get insured coverage of most hospital events but have not used the power they have to select and reward high-performing hospitals for these PMB procedures.

A final viewpoint for this theme was that P4P facilitates collaboration. This facilitation means, "You can start building multidisciplinary teams that are associated with a particular outcome" (Participant 12). Participant 17 explained how P4P results in cost-mitigating best practices, unlike fee-for-service models:

> You currently have six surgeons in one hospital doing post-operative care in six different ways; how do you then make sure the nurses that are employed by the hospital are consistent in the quality of care. The nurses in the hospital can't learn what best practices are because each surgeon works differently.

Cross-Case Analysis of Theme 2. There was consistency across all seven medical schemes regarding how P4P could result in cost-control, and I observed no outliers. However, participants focused on different aspects of cost-control, such as avoiding waste, avoiding above-inflation increases, and risk-sharing. Similarly, I observed consistency regarding how P4P could create better quality outcomes. Only Scheme 3, a large scheme, emphasized the concept of hospitals competing on quality and creating a patient-centric model. These observations did not contradict the general pattern of the other schemes.

Comparison of Theme 2 to the Literature Review. The findings of Theme 2 suggested that P4P could result in better cost-control, which was partly similar to the literature review, which had mixed results that had an almost 60% inclination towards P4P's effectiveness.

According to the literature review of studies conducted on P4P within the last five years, ten out of 17 global studies concluded that P4P is an effective cost-control measure. Examples of studies that found P4P to be effective included the discrete choice experiment by Kessels et al. (2015), which concluded that P4P is a useful cost-control model. Similarly, the retrospective cohort study by Rosenthal et al. (2016) found that P4P had favorable impacts on hospital utilization.

Although Theme 2 also suggested that P4P could result in better healthcare outcomes, the literature review demonstrated concerns regarding measuring these quality outcomes and performance (Maddox et al., 2017; Osterloh, 2014). These challenges are, however, reflected by participants in Theme 4.

Theme 3: P4P has complex Measures and the Model can be Manipulated by Hospitals

Participants reflected on the disadvantages of P4P, and they were mainly concerned by the difficulty in setting reliable outcome measurement standards, obtaining data, and a fear that hospitals tend to manipulate reimbursement models to restore their status quo. These complexity perceptions corroborated the literature review's findings that P4P is associated with measurement challenges, information systems complexity, and complicated contracts (Mendelson et al., 2017; Slotkin et al., 2017).

Participant 14 articulated the challenge with obtaining quality data points to measure performance: "For instance, what may be said to be pneumonia clinically, how it gets coded by different parties, can vary from the lower respiratory tract, all the way to bronchitis, all the way to something else, that you have no idea what it is." Participant 14 concluded that these challenges in measuring outcomes could lead to false grading of performance, "What you are calling high performers may not necessarily be high performers, because of the gaps in the data.

So, you don't know what you don't know and that creates problems." The disadvantages relating

to measurement and manipulation were also articulated by Participant 13 in this manner:

> You lose the line item detail, which would have allowed you to do analysis into the
>
> past and actually look at the performance of the model more accurately. I think in many
>
> instances, the hospital groups actually protect themselves through having over-rider
>
> conditions, which become carve-outs, which they use then to manage their risk. The risk
>
> is always, in my opinion, more leaning towards the funder side.

Sub-Theme 3a. Data and Measurement Difficulties. The specific concerns that

participants articulated regarding data related to the failure to obtain detailed data if hospitals did

not bill on a fee-for-service basis, the complexity of data modeling, and the intricacies of

unforeseen patient complications. Although the literature review had identified measurement

complexity as a concern (Haviari et al., 2019), the field study revealed a new perspective that

adopting P4P results in a reduced incentive for hospitals to share detailed cost data with medical

schemes.

Figure 10

Data and Measurement Difficulties
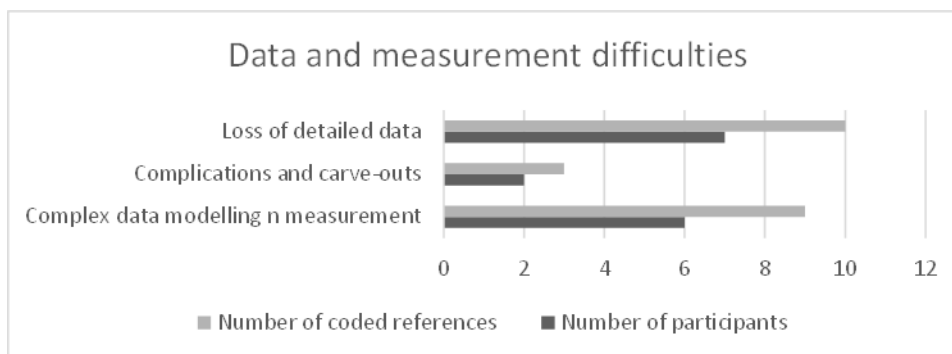
Seven participants explained that once hospitals agree to a bundled-fee reimbursement

model, they will generally stop sharing detailed claims data with medical schemes. One of the

reasons for this is that hospitals are inclined not to disclose or share data that may reveal how any

subsequent efficiency gains increased their profit. Participant 13 perceived, "You lose the line

item detail, which would have allowed you to do an analysis into the past and actually look at the

performance of the model more accurately." Participant 16 explained the data trust issue as

follows:

> Hospitals may share, for example, what they call their NAP files, their net acquisition
>
> price files, so they'll tell me they buy a syringe at 70 cents, and they're charging me 70
>
> cents, so there's no mark-up on the syringe per se. But I don't know that; it's a trust
>
> element if I don't know the data that sits on their side, and I don't know what profitability
>
> is on their side. Even if they claim there is no particular mark-up, I don't know what
>
> profitability sits in their structure already. I think that is probably my biggest concern.

Another data-related disadvantage perceived was the difficulty of choosing the correct

data measures and standardizing these across hospitals. According to Participant 16, "There can

be an emphasis on paying for activities, but the scheme might have a flawed assumption around

whether those activities will result in improved outcomes or improved costs." Participant 7

explained the difficulty of defining what a successful procedure is,

> What is a successful procedure? Is it successful having somebody going home and being
>
> on a ventilator for the rest of their lives at home or some kind of ventilation? I don't know
>
> that it is. I think that's the difficulty. How do you measure performance?

The participants perceived that the uncertain definitions of complications and carve-outs

add to the difficulties of P4P measurement. Participant 1 explained that hospitals with an

alternative reimbursement model would readily identify extreme or complicated cases to request

payment outside of the agreed model. However, it is difficult for a medical scheme to confirm

when they should validly award carve-outs for the reportedly complex hospital cases.

Conversely, if a medical scheme is overly strict in not paying for outlier cases, they could

jeopardize a patient's safety if the hospital compromised quality.

  Sub-Theme 3b. Uncertain Effects of P4P. The interview participants demonstrated

concern that a new model could have unintended or unpredicted consequences. Similarly, the

literature review revealed a global fear that implementing P4P within a complex adaptive system

could result in uncertain and unforeseen repercussions (Baghbanian & Torkfar, 2012; Sturmberg

& Johannes, 2019).

  Those consequences could include patients' under-servicing, a failure to change

performance fundamentally, and incomplete risk transfer from medical schemes to hospitals.

Participant 3 mentioned that, "You really need to guard against substandard care when entering

into these kinds of agreements," and Participant 9 reflected that,

> if you don't include healthcare as an outcome and only cost efficiency as a measure of
>
> performance, then it could actually negatively affect members. You don't want your
>
> specialists and providers to cut down on treatment, just to have effective cost
>
> management.

  Also, Participant 16 was concerned that "The disadvantages of it, would be the fact that

you are doing just that, you're paying for a particular activity, which in turn may or may not

deliver the outcome that you want."

Figure 11

Uncertain Effects of P4P
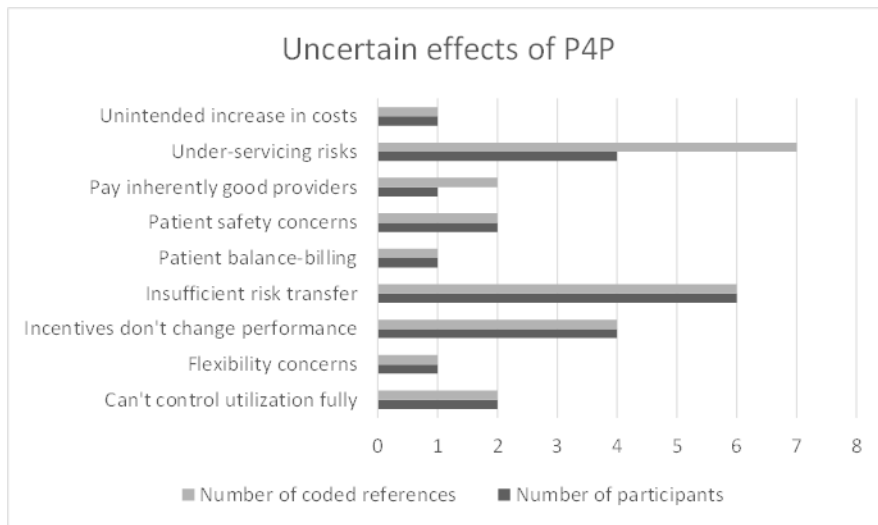
Regarding risk transfer, participants' experiences were that it has been historically difficult to get hospitals to take on greater accountability for the risk of utilization and costs escalating. Participant 3 explained that if medical schemes implement P4P with a fee-for-service base fee, utilization will remain uncontrolled. Participant 13 expressed skepticism about whether real risk-sharing is possible with hospitals, "I think in many instances, the hospital groups actually protect themselves through having over-rider conditions, which become carve-outs, which they use then to manage their risk. The risk is always, in my opinion, more leaning towards the funder side." Similarly, according to Participant 11:

> In general, with hospital groups, their risk appetite is very low, in terms of taking on risk when it comes to reimbursement models. Hence, a lot of the models in place where there is an element of risk-sharing don't actually transfer a considerable amount of risk and therefore incentives to hospital groups.

Sub-Theme 3c. Hospitals Could Game the System. Participants perceived that hospitals have gamed existing models to their advantage and that they could game a P4P model

in their favor. This perception supported Osterloh's (2014) findings in the literature review regarding the methods hospitals could use to game a system, such as excluding high-risk patients that could impair hospital outcome scores. However, the field study provided significantly more detail regarding provider manipulation than was evident in the literature review.

Participant 10 lamented, "Alternative reimbursement or pay-for-performance can be rapidly hijacked, and be concentrated on the form rather than the content - you see it as if what you do matters, rather than what effect you have." Similarly, Participant 12 explained that:

> If you don't agree upfront, really clearly, what constitutes the formulation of the pay-for-performance model and if you don't clearly articulate how broad the tolerance thresholds are, then you can make it susceptible to some form of abuse especially if all the granular level information is not disclosed. You can expose yourself to some form of under-servicing as well. So, the hospital does the bare minimum to meet the requirements. And in doing so, you, therefore, will fulfil the expectation, but you may not get the outcome that you want from a health perspective.

Participant 14 explained that hospitals could easily up-code hospital admissions into more severe admissions that earn them a higher reimbursement. For example, suppose hospitals know that medical schemes will penalize them for complications such as readmissions. In that case, they could readmit the patient with a different procedure to bypass a P4P measure so that "the knee replacement story or the hip replacement event remains a good event." Participant 4 agreed that manipulation would be diagnosis-dependent,

> the number one way is the diagnosis because that speaks to what alternative reimbursement model and what subgroup kicks in. So, if the data are incorrect, and

specifically the ICD 10 codes that the hospital groups provide, that opens up that area for

potential manipulation.

Therefore, hospitals can manipulate reimbursement models because medical schemes may not

know how severe the diagnosis was or whether the severity persisted upon admission to the

hospital.

Figure 12

Hospitals Could Game the System
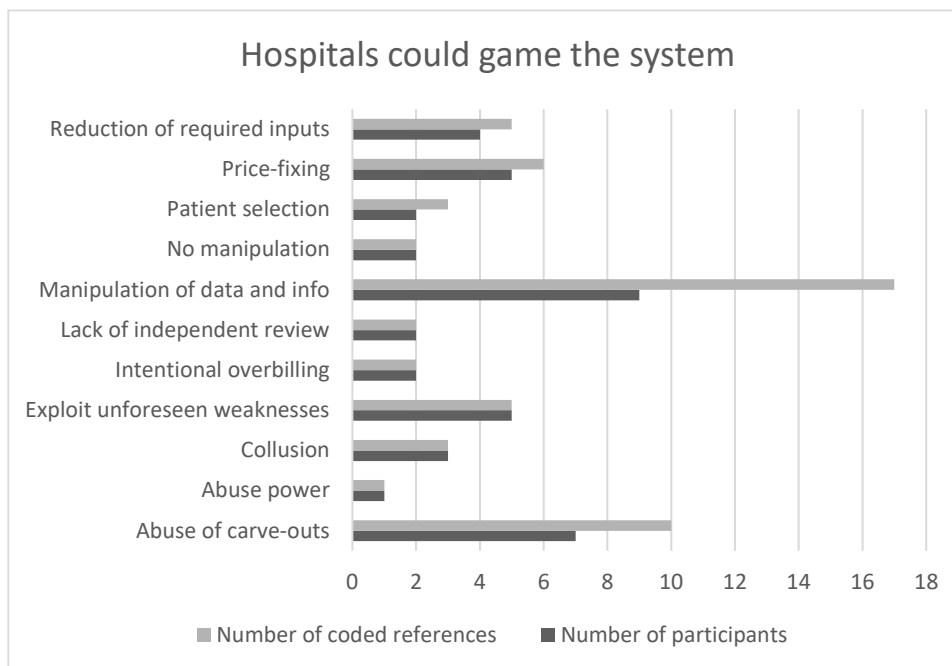
This form of gaming requires a hospital to collude with specialists to ensure that hospitals

obtain higher costs per event and is made possible by the hospital-specialist relationships in South

Africa. Participant 7 explained that,

> I think the links between the hospitals and the specialists are so strong, although
>
> everybody denies it and everybody says it's not there, and it doesn't happen. It's such a
>
> tight grouping, and hospitals are not prepared to expose the specialists that work for
>
> them.

Participant 8 provided a practical historical example of how medical schemes had been over-billed in the past because of hospital-initiated alternative reimbursement models:

One of the hospital groups came with a structural proposal to say, let's code all casualty admissions green, yellow, and red. And they came up with a loose criterion as to how you would classify them. The red ones would be really serious, you arrive with a heart attack, and you need to go straight to cardiology, but the yellow one and the green one would be these very minor ailments. And then, of course, they proposed a tariff structure that demonstrably showed a break-even impact by converting from the normal casualty admission cost to a higher cost for red but a lower cost for green. It was breakeven. The scheme could ask the actuaries to check them and show no cost increase or decrease if we convert from this model to this one. But of course, you could guess what happened the next year, when every scheme wiped out their eyes, there were many fewer green ones, and many more yellow ones and many more red ones!

Another gaming method identified by participants is price-fixing, which relates to the concern that hospitals would present a seemingly fair model at inception, but radically create efficiencies or reduce inputs after implementation to realize much higher profits. Participant 9 described this gaming method in this manner, "You could potentially, initially, price the model on higher costs, knowing that you could quite easily reduce costs in future and therefore actually benefit financially from it." According to Participant 11, "What drives the incentive for the provider to go into an alternative reimbursement model is that in the background, if they improve efficiencies, they would essentially make more money." Participant 8 further explained that:

Hospitals try to use that arrangement to gain a monopoly of that data. What often happens is: Because the medical scheme loses visibility of all of those details on the other side of

the fence, there's a risk of a growing suspicion over time that the hospital is becoming

much more efficient and taking all of those efficiencies to themselves.

Participants perceived patient selection to be another method of manipulation. Participant

10 explained that if hospitals participate in a reimbursement model that medical schemes do not

adjust for the inherent sickness of their population, it results in a destructive game between the

medical scheme and the hospital:

> The purchaser (medical scheme) tries to dump patients sicker than the average on the
>
> provider and keep the less sick people out because they're cheaper if they go to fee-for-
>
> service. The provider (hospital) tries to chase those same sick patients away, and only
>
> look at patients who are less sick than average so that they earn more than they spend.

Cross-Case Analysis of Theme 3. Although the medical schemes emphasized different

aspects regarding the complexity of P4P, they were predominantly consistent in their views

regarding the disadvantages of P4P, particularly regarding the complexities of data measurement.

The only minority rival view identified was from a participant who believed that hospitals would

not attempt to manipulate an alternative reimbursement model such as P4P. The participant

stated, "I just want to make it clear; I don't necessarily think that anyone will manipulate it."

However, this was not significant enough to invalidate the balance of perceptions identified.

Comparison of Theme 3 to the Literature Review. The complexity of P4P, which I

identified in Theme 3, was also evident in the literature review. The literature review identified

complexities relating to design, administration, implementation, and regulatory compliance

(Haviari et al., 2019; Izón & Pardini, 2018; Maddox et al., 2017; Slotkin et al., 2017). The

hospital provider manipulation of models, as described in Theme 3, has also been observed in

previous literature (Das et al., 2016; Osterloh, 2014). However, the participants' descriptions of how hospitals could 'game the system' had significantly richer content than the literature review.

Theme 4: Enabling Factors and Barriers

Participants identified the factors that are facilitators or barriers towards the selection of P4P as a reimbursement model. Although Theme 1 confirmed a significant dissatisfaction with current reimbursement models, this theme confirmed that the barriers to changing a reimbursement model outweigh the facilitating factors. I identified two hundred barrier factor references in the interviews, compared to 70 facilitating factor references.

Sub-Theme 4a. Facilitating Factors. The leading factors that participants perceived could facilitate selecting a P4P model were industry-wide negotiation, the global shift to value-based care, regulatory changes, and the potential for state universal health reform. Although recent literature demonstrates that the worldwide transition to value-based care is a major facilitating factor because of the increasingly available precedents (Ataguba & McIntyre, 2018; Katuu, 2018), most facilitating factors were unique to the South African environment and were therefore not evident in the literature review.

Participants preferred industry-wide negotiation because of the major hospital groups' perceived dominance or oligopoly and the need for consistent P4P measurement standards across hospitals. Participant 11 explained, "The larger the scheme and the more money that it's worth to a hospital group, the more willing they would be to engage in this type of contracting." Participant 3 also perceived that medical schemes should overcome competitive barriers for the sake of implementing this new model, "we need to do this for the collective and where we say do it for the collective, although we are competitors as medical schemes, the only way we can actually influence the market, influence pricing, is to really collaborate."

Figure 13

Facilitating Factors
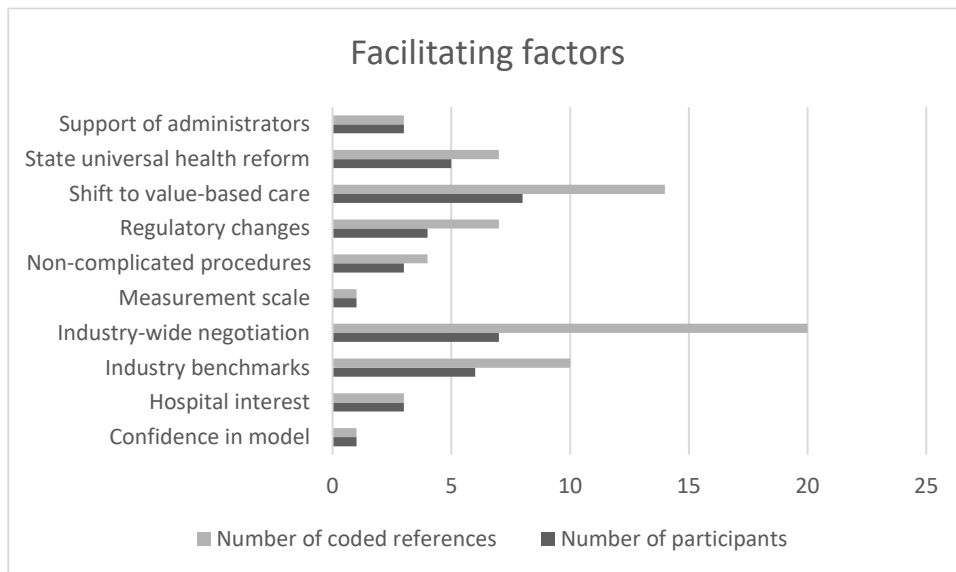
Participant 8 indicated that the Board of Healthcare Funders appear to be interested in taking the lead towards influencing medical schemes to agree on a collective approach for more global fees and P4P models. However, Participant 1 suggested that the market-dominant medical scheme administrators could also assist in industry-wide negotiations, "That is why funds end up using administrators to negotiate these fees because administrators pull numbers of all the schemes they administer rather than each fund looking at its own environment and negotiating on that basis."

The setting of industry benchmarks was a facilitating factor related to industry-wide negotiation. Participant 16 stated that

> If there were a benchmark; if there's something that we could understand where we are
>
> headed to across the industry, we'd be more enticed to move into it. I think that's probably
>
> the biggest pull factor if it was a standardized benchmark, that we knew that this was
>
> either clinical or financial outcome, we'd move to it.

Participant 17 said that the South African private health sector is set up similarly to the United

States and could consider adopting some of their benchmarks. According to Participant 17:

> The measurement of outcomes is not consistent across hospitals. For example, pressure
>
> ulcers are a common, preventable, but high-cost condition. When we looked at claims data
>
> across hospitals, we saw different results in how hospitals report. For example, if you
>
> compare different hospitals, there are different stages and conditions related to pressure
>
> ulcers, such as age-related ulcers, which can lead to radically different outcomes.

Participants perceived that the global shift to value-based care will increase the

confidence and precedents relating to P4P. Participant 10's perception was that there had been a

global shift to outcomes-based remuneration. Participant 8 explained that, "I think that cynicism

or skepticism that I've tried to describe is waning. The entire market is becoming a little bit more

sympathetic to the idea of any form of pay-for-performance or alternative reimbursement."

According to Participant 8, the recent Competition Commission's Health Market Inquiry,

which considered the healthcare sector in South Africa, demonstrated the major hospital groups'

power imbalance. The recommendations of that report could influence the political and

regulatory change of reimbursement models. Furthermore, South Africa has been considering

setting up a National Health Insurance (NHI) Fund to promote universal healthcare access.

Participant 11 hoped that NHI's governance processes could result in a quality monitoring body

that will guide hospital groups on preferred P4P models.

Participant 5 believed that the emergence of NHI will result in the government using its

purchasing volumes to stimulate the use of P4P models that medical schemes would benefit

from, and concluded that "without a big government as a central purchaser, you don't have

enough infrastructure." Participant 7 agreed that increased medical scheme members' increased

volumes would encourage hospitals to accept an alternative reimbursement model. Participant 7

stated, "This is why we would so love to see that low-cost benefit option come in - and have

some ability to offer to a bigger population."

Sub-Theme 4b. Barrier Factors. The leading factors that participants cited were

barriers to selecting a P4P model were the lack of trust in hospitals as a counterparty, resistance

by hospitals, data and quality measurement challenges, and hospitals' not employing their

specialist providers. The barrier factors confirmed the relevance of the complex adaptive systems

framework that I adopted for this study, which recognized that health insurers would not succeed

in resolving cost-control issues without considering social complexity theory factors (Conrad,

2015; Dadich & Doloswala, 2018; Long et al., 2018).

Medical schemes and hospitals did not appear to have a trusted relationship that would

enable the collaborative exploration of new reimbursement models. Participant 17 explained that

"The culture or safe place hasn't been there for P4P to be effective," and Participant 15 put it

bluntly,

The Hospital Association and the medical aid industry view each other as enemies.

There's a huge distance between medical aids and hospitals. There is a huge level of

distrust between all, and I thought COVID-19 would have brought us a little bit closer.

Participant 8 felt that hospitals only provide an impression of negotiating new reimbursement

models to achieve political and publicity outcomes:

Well, there's a benign explanation and a more sinister explanation. The benevolent

explanation is to say the hospitals distorted; the hospital's told the world that they

recognize there are inefficiencies in the system and that these alternative reimbursement

models will structure these incentives in an appropriate way, that it would make business

sense for the hospital to become more efficient, and that the scheme or the hospital can

jointly share in those efficiencies. That's the nice narrative that you would find if you

kind of paint over the story. But what often happened, in effect, can be a little bit sinister.

Figure 14

Barrier Factors
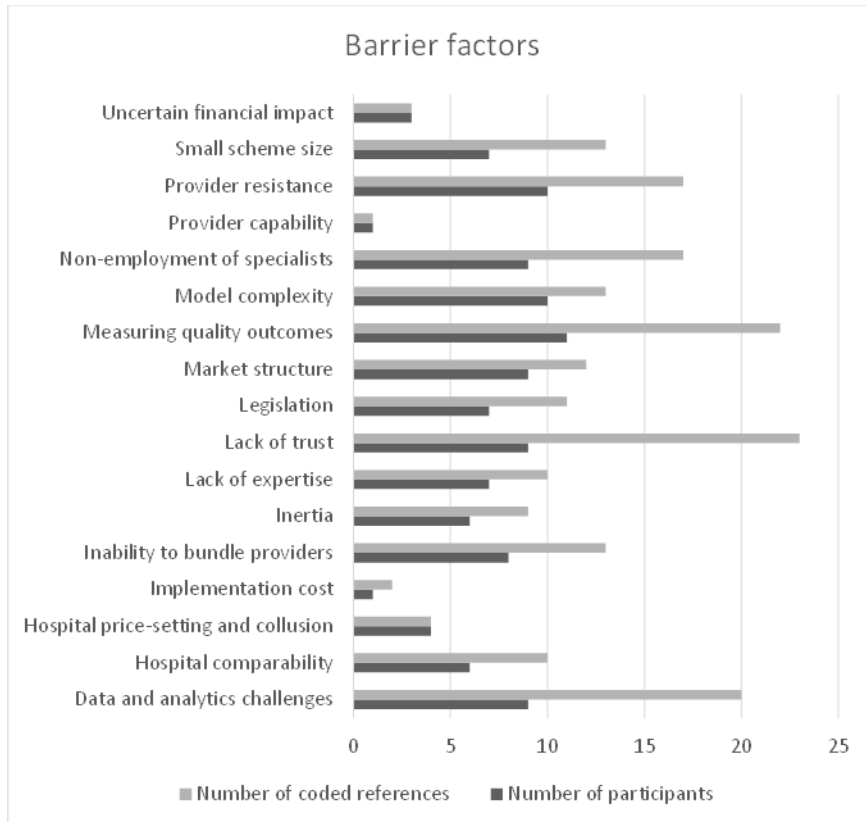
Participant 8 cautioned that medical schemes should not be surprised when for-profit

entities, such as hospitals, enter into an alternative reimbursement model to further their

shareholders' interests. Similarly, Participant 9 was concerned about the lack of transparency

from hospitals. The participant explained, "My feeling is that the transparency necessary to price

an alternative reimbursement model and all the definitions and technical requirements that you

need to measure it fairly, I think that's going to be a huge challenge."

Some factors that participants perceived to compound lack of trust were the inability to compare different hospitals and a sense that hospitals can collude in setting prices. For example, Participant 8 mentioned, "As far as we can see, the hospitals are probably deliberately structuring the information internally in ways that render them incomparable, that use different metrics so that you can't compare this metric with that one." Furthermore, Participant 15 described how hospitals that feel short-changed in pricing negotiations could "overcharge as a form of revenge, a counter-attack."

Participants also expressed concerns about provider resistance: Participant 11 perceived that hospitals have no risk appetite to adopt pure P4P models. Participant 7 described alternative reimbursement negotiation discussions being discontinued by hospitals after realizing that their profitability was at risk. An issue that was related to provider resistance was market structure, which places medical schemes at a disadvantage, as described by Participant 13, "It's because they (hospitals) have the value of being able to spread the services across a wide base of funders, whereas the funders struggle with their volumes." The historically dominant position of hospitals places them in a strong bargaining position, as described by Participant 12:

> So, when you sit across the table to negotiate on the costing or the pricing of the treatments of that alternative reimbursement model, there has to be equity, there has to be quality in that conversation. You have to leave there with a win-win, but the power is so predominantly within the hospital group that they don't need to be at the table. If they walk away, and you lose one of the three big industry hospital players, then you are compromising access to healthcare. So I think that structure of the hospital environment on the supply side is - an oligopoly in that you have a few strong players, and because they hold the power, you are not equal in that conversation.

The barriers identified relating to the set-up of P4P models were data complexity, measurement challenges, and the lack of expertise among medical schemes. Participant 10 explained that if a medical scheme's model assumed that all patients are average and require an average service, it would fail to account for real-world complexity. According to Participant 5, hospitals and clinicians do not typically provide medical schemes the extent of outcomes data needed for a P4P model. Even when data are available, benchmarking is a challenge, as Participant 16 questioned:

> If I've got 80% of diabetics under control, is a better outcome 50% of diabetics under control? Or should we be looking at an industry-wide benchmark, sort of localized South African industry-wide benchmark? Or are we looking at a global benchmark? What is a better outcome?

Similarly, Participant 17 questioned: "How do you determine whether you will pay for readmissions if you cannot have credible data about which are preventable and which ones are unplanned?" P4P models, therefore, require significant expertise, as Participant 12 positioned,

> You'll need actuarial resources to unpack that at the base cost, make projections and understand what the savings model would be. So, there's an economical part to it. You will need clinical specialists to align it to the clinical outcomes that you desire.

A final set of significant barriers was legislation, such as hospitals' inability to employ specialists or bundle hospital-related providers into a single payment mechanism. Participant 10 alluded to the importance of government intervention as they believed that self-regulation by shareholders had failed. The participant stated, "The consumers are getting screwed, and the patient care is terrible. It's a terrible failure, sorry to say, but it's a terrible failure. But at a structural level, it's a failure." The regulatory stances of the Health Professions Council of South

Africa and the Council of Medical Schemes were identified as significant barriers to alternative

reimbursement models, as described by Participant 8, and as per Participant 16's interview:

> The Health Professions Council has been very clear. They don't like the concept of
>
> capitation. They don't like the idea of one doctor paying another doctor or the insinuation
>
> that there may be the employment of doctors by any particular establishment. It really
>
> creates a barrier in that regard. Perhaps from the Council of Medical Schemes
>
> perspective, I think there's a section of the medical schemes act that speaks around how
>
> one would pay those incentives. If I have incentives that I wish to pay, I can't pay it out as
>
> a bonus. In terms of risk share, I need to be very careful about how I structure that profit
>
> share model or the risk share model. All of those just make it a little more difficult to
>
> implement because you've got to swerve and dodge around various regulations and
>
> legislature and policies

Cross-Case Analysis of Theme 4. The medical schemes' cross-case analysis revealed

that only the three small medical schemes cited small scheme size being a barrier to negotiating a

new P4P model with hospital groups. Conversely, the barriers that were only mentioned by large

schemes were concerns relating to hospital providers' lack of capability and the extent of

implementation costs that hospitals could face in implementing P4P.

Comparison of Theme 4 to the Literature Review. Theme 4 demonstrated certain

enabling factors for P4P similar to the literature review, such as the global shift to value-based

care and state universal health reform (Esposti & Banfi, 2020; Feldhaus & Mathauer, 2018).

However, Theme 4 discovered other essential factors to the South African healthcare market,

such as industry-wide negotiation.

The barrier factors that the literature review identified are mainly related to uncertainty regarding the design of incentives and implementation costs (Haviari et al., 2019; Izón & Pardini, 2018). In contrast, the South African participants emphasized barriers such as data and analytics challenges, outcomes measurement, and lack of trust in hospitals.

Theme 5: Specialist-Driven Pay for Outcomes and Pay for Excellence

Theme 5 reflects participants' perceptions regarding how medical schemes could design a P4P model to control costs, or if already implemented, how participants have designed P4P models. The interviews' key findings were that participants favored an outcomes-based model in controlling costs. They perceived that centers of excellence would promote efficiencies and that specialists should be the leaders within P4P models, instead of hospitals. Participant 10 described it in this manner: "The whole movement has moved away from pay-for-performance, and it's moved to outcomes-based remuneration. Because actually if you don't focus on outcomes, nothing shows." Participant 17 positioned that, "Quality and cost are linked, such as can be seen by the cost of re-admissions as a result of poor quality."

I explain the sub-themes of Theme 5 in more detail below.

Sub-Theme 5a. Pay for Outcomes and Measurements. Although the theoretically-preferred features of successful P4Ps focused on restructuring payment mechanisms such as incentive and penalty payments (De Meester et al., 2017; Gabriel et al., 2019; Spilberg et al., 2018), the participants preferred an approach that only pays hospitals if they achieve outcomes. The participants had experimented with alternative reimbursement models without meaningful change and opined that the next change should be significant. For example, Participant 10 suggested:

Pay-for-performance, in my sense, has to drive structural change. It has got to be about

teams, not individuals. And it's got to be big enough to make it worthwhile for me to re-

engineer the way that I practice medicine. If it isn't, then it's just marginal, and then

again, it's just farcical.

The word-cloud diagram below, generated from participant input using NVivo 12,

illustrates the participants' sentiments regarding outcomes and costs:

Figure 15

Word-Cloud Description of the Preferred Model

The following quotes further demonstrate the preferred model of participants. Participant

11 stated that "If I borrow a bit from the Centers for Medicare and Medicaid Services in the

States, I think they've got three separate initiatives under the pay-for-performance model, and

that covers: costs, patient satisfaction, and quality." Participant 13 echoed the importance of

patient satisfaction with this statement, "I think that dimension of consumer experience in a pay-for-performance model is absolutely critical."

The importance of paying for outcomes was illustrated by Participant 14 and Participant 9, who stated, "It would be paying for high-quality care of good clinical outcomes" (Participant 14), and "There are two measures. A financial measure and an outcomes measure. So, what are the healthcare outcomes? Then, from a financial point of view, are you reducing costs by implementing this?" (Participant 9). Participant 16 reiterated this perspective by explaining, "I think where I'm headed towards is pay-for-outcome. I believe that the performance of that activity would again, down the road, decrease my health care costs, whether it's short term or long term."

Furthermore, Participant 17 provided an integrated definition relating to quality, performance, patient-reported outcomes, and paying for improvement,

> We need to rephrase quality as performance, and not just look at the number of readmissions, clinical complications, etc., but to look at what the patient experience, such as better quality of life and patient-reported outcomes. Also, if we want to achieve improvement with pay-for-performance, we must see cost as part of the performance. (Participant 17)

Sub-Theme 5b. Measure and Reward Improvements and Outcomes. The participants described the provider performance that a medical scheme should reward. The participants identified measures that differed from the literature review because they perceived that patient outcome measures are more effective than economic criteria. This outcomes-based perspective confirmed the observations by Gondi et al. (2019) and Osterloh (2014) that previous P4P models have focused on detailed financial and quantity output measures without sufficiently considering

outcomes. The case interviews revealed a significant perception that an outcomes-based

approach would result in reduced downstream costs.

Figure 16

Measure and Reward Improvement and Outcomes
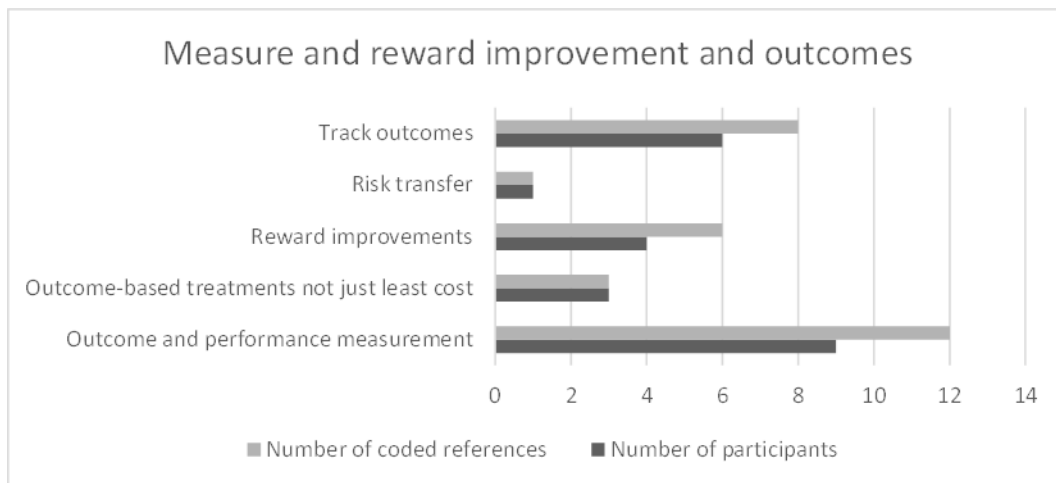
The interviews of Participants 11, 14, 15, and 17 demonstrated the following measures

for outcomes and improvements:

1. Patient satisfaction, such as patient-reported experience measures and patient-

   reported outcome measures

2. 30-day readmission rate, return to theater rate, and complication rates

3. Cost per case

4. Length of stay

5. Percentage of outliers

6. Statistics on preventable harm, such as pressure ulcers and hospital infections

7. Mortality rates of high-risk conditions

Participant 15 concluded, "Once we are at that level to say these are the measures, these

are the key performance indicators for the hospitals. We then need to say to ourselves, we need

to structure a fee." Participant 4 demonstrated high confidence in these measures controlling

costs, "If you define quality, for example, morbidity, mortality, readmission rates, and surgical

outcomes, that in turn, prevents downstream costs."

Sub-Theme 5c. Specialist, Rather Than Hospital-Driven, Team-Based Care.

Following the significant barriers in Theme 4 described by participants regarding hospitals, it

appeared logical that participants preferred a specialist-led P4P model. The preference towards a

specialist-driven model differed significantly from previous studies in the literature review that

did not recognize the specialist's role within a hospital as the appropriate agent for health insurers

to incentivize for coordinating care.

Participant 5 aptly described the under-recognized role that a specialist plays in a hospital

setting:

> The specialist is often sitting like the conductor of the orchestra. 'They're sitting, not
>
> being paid the lion's share of the fee, but controlling the lion's share of the cost' if that
>
> makes sense. So, you know, to give them an incentive to manage the orchestra makes
>
> sense. And often it's keeping people out of the hospital, that's what you're paying them
>
> for.

Figure 17

Specialist, Rather Than Hospital-Driven, Team-Based Care
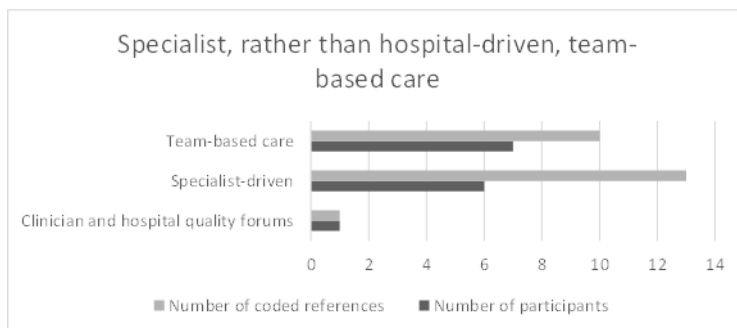
Similarly, Participant 6 perceived that medical schemes should contract P4P models with specialists and that specialists should be reimbursed for the additional administrative requirements required for coordinating teams. Participant 6 explained the specialist's role:

The best person that has all the influences: It's the specialist of the surgeon who works in the hospital, and they order the level of diagnostic testing, how many nurses, how many doctors assistants are in the room at any given time, whether there should be any physio and other supportive ancillary services provided, the specialist themselves do that. I mean, the specialist also says or dictates how long you're in the theater; dictates how long the person's in ICU, how long the person's in high care or normal Ward, and when the person can go home. So, we find that the models that we have in place with the hospital itself don't create the efficiencies that we actually want.

Participants, such as Participant 1, also described the benefits of team-based care, such as clinical and hospital quality forums that could monitor their collective performance against a global fee, instead of competing for fee-for-service reimbursements. Participant 10 emphasized that such teams should be aligned and rewarded to achieve patient outcomes and Participant 11 introduced the term "integrated practice units" to describe this concept. Participant 17 was confident that such team-based care is an indicator of performance, "If a funder saw clinical teams meeting for 10 minutes a day to discuss a few different measures that would be a very strong signal of a high-performing system."

Sub-Theme 5d. Simple, Patient-Focused Purchasing, and Measurement. According to the participants, medical schemes overly emphasize hospital-provided measures rather than the feedback from healthcare users. Patient-centric measures would be simpler to measure, and medical schemes could direct patients to reportedly high-performing hospitals as a reward for

excellence. This patient-focus for measurement contradicted the literature review, which

assumed that P4Ps require complex measures with hospital-created data (Lorente et al., 2019;

Mendelson et al., 2017).

> Simplicity is integral to success, as surmised by Participant 14,

> Because you don't want a list of 20 outcome measures. I say to my team, if it's more than

> 3, it's a lot. Because people remember three things. So, if you cannot have three critical

> measures, then it's very difficult to implement, and also for people to be engaged in it

> long term.

Participant 13 outlined how the medical scheme industry has neglected the patient

experience, and Participant 6 described the results of a successful pilot that allowed patients to

rate their experience and outcomes six weeks and six months after hospital procedures.

Participant 8 suggested that patients complete a questionnaire before hospital procedures to

validate their need for hospital procedures, such as quality of life indicators that mean a hip

replacement is necessary. The participant also indicated that the patients should then complete

the questionnaire again six months after the procedure to demonstrate that a hip replacement had

restored their quality of life.

Figure 18

Simple, Patient-Focused Purchasing and Measurement
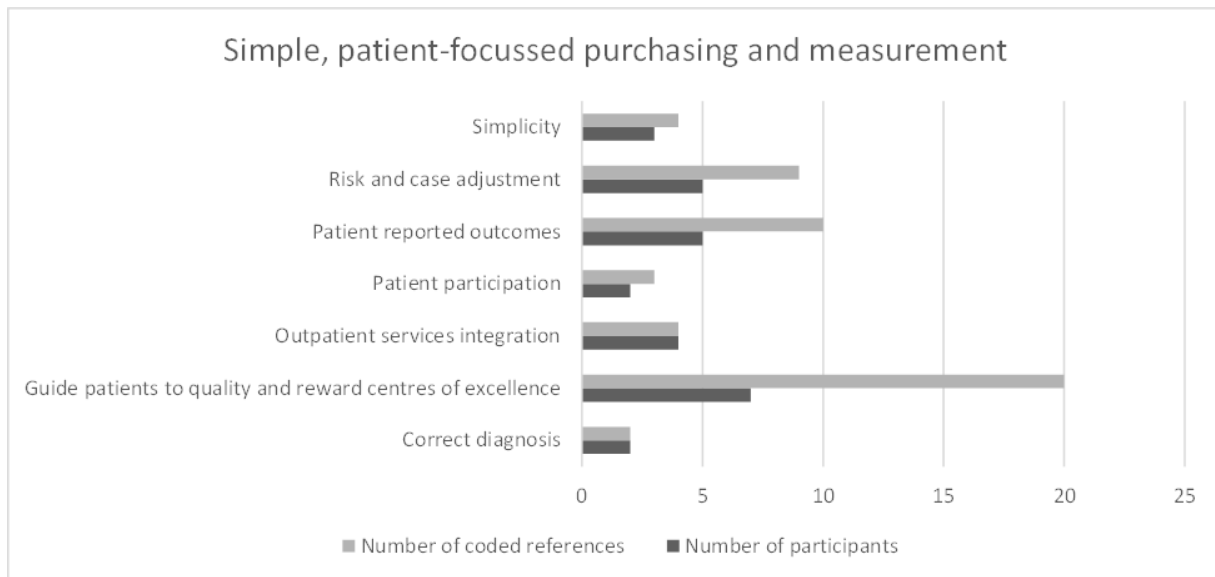
Participant 8 explained their confidence with patient-provided measures:

You get patient-reported outcomes (PROMS), clinically reported outcomes, and patient-reported experience measures (PREMS). Patient-reported experience measures are more like whether nurses are friendly, are the bedsheets clean, toilets clean, was the food good, those things also matter. But you do have these PROMS and PREMS. Doctors don't like the PROMS, but there's a good correlation between problems and actual outcomes. It's like doctors don't think patients know what's going on, but it turns out patients actually do know what's going on. If you ask the patient, was this operation successful and they say yes, then it probably was successful.

Furthermore, medical schemes could use the feedback from outcome measures to direct patients to high-performing hospitals. Participant 11 suggested that an independent Ombud could track the outcome metrics for doctors and hospitals. Participant 13 supported the centers of excellence model because it could guide consumers to hospitals that have the best clinical

outcomes and best value for money. The consequences for medical schemes would be reduced claim costs and better clinical outcomes, according to Participant 13. Participant 15 explained that when medical schemes guide patients to centers of excellence, their funding will reward hospitals, which is a form of pay-for-performance. According to Participant 8, this would result in "focus factories" that can use patient volumes to reduce hospital costs by efficiency gains of 30% to 40%.

A patient-centric model could result in more accurate diagnoses, better integration with out-of-hospital care, and medical schemes' ability to adjust their reimbursement to factor in hospitals' risk and case-mix profile. According to Participant 13, the importance of a patient-centric model is that:

> A funder and a hospital need to have a clear indication of the demographic which is going to be serviced by that hospital because you don't want other factors to be blamed for the lack of a pay-for-performance model performing. In the instance of a specific demographic where the outcomes are not reached both from a financial and clinical point of view, you don't want the reason for failure to be pointed around things like the scheme's demographics and because you're dealing with an old population.

Participant 10 referred to these concepts as demand-side characterization and explained the importance of monitoring the patient profile:

> Every time we sign up someone, and also because of their experience on the ground, we recalculate how sick people are all the time, and that comes into the funding formula. The one very important part of the funding formula is that it reflects how sick people are in that period. That's the beginning of value-based care. The first part of value-based care is that the global fee is always risk-adjusted.

Furthermore, participants 1 and 11 recommended that there should be a continuance of the pre-and-post operation care continuum to the out-of-hospital setting so that hospitals are rewarded for discharging patients earlier. Participant 12 agreed with this perspective and stated that: "If you build a model, and you have the right stakeholders in there, then you're not just dealing with an acute episode, you are dealing with the rehabilitation afterward as well, and any of the readmissions."

Sub-Theme 5e. Alternative Reimbursement Model Base Fee and Penalties. The participants described how they perceived medical schemes could structure a P4P model base fee and how medical schemes could apply penalties or incentives. The base fee that participants preferred was similar to the reference-based pricing in the literature review, which pays hospitals according to an agreed pre-determined benchmark (Zhang et al., 2017).

Figure 19

Alternative Reimbursement Model Base Fee and Penalties
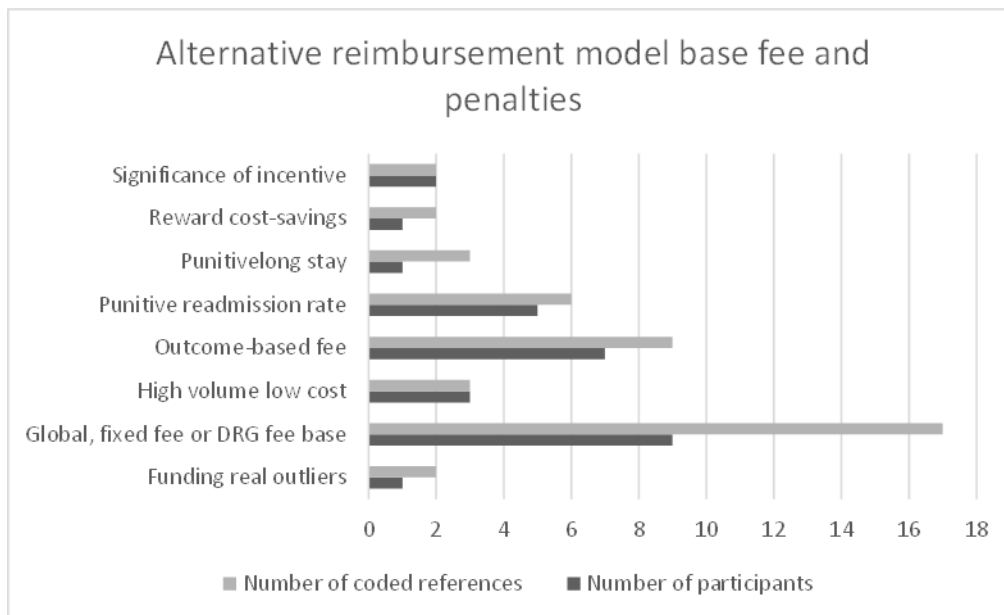
Participants preferred to create the base-fee principles using a prospective alternative reimbursement model structure, such as a single global fee, a fixed fee, or a diagnosis-related

group fee base. The base-fee would be distributed or shared by the providers involved in delivering hospital care. However, it was apparent that there is no single type of preferred base fee. Participant 16 explained the hybrid nature of a base fee:

> I think any payment mechanism that moves away from a pure fee for service would need to be hybrid in its design. I think just moving to just a pure pay-for-performance would be risky. In order to prevent those cons, you'd want to put in a second mechanism. I might make a hybrid of capitation and fee for service. So, my closing thought is that any mechanism put in should really consider being a hybrid model where some of the services are capitated. Those are usually the high-volume, low-cost activities. The high-cost low-volume activities are probably better put in as either fee for service or have a pay-for-performance component to them.

Therefore, Participant 16 perceived certain functions suited to fee-for-service, such as when a medical scheme might want to drive utilization in providing vaccines. The participant, however, said that specific procedures require a prospective fee. Participant 8 also recommended a hybrid base fee to avoid the loss of data from hospitals:

> The fee for service arrangements that I like best is actually, is the pay-for-performance arrangement where a hospital would say, we agree on a fixed fee, or we agree on a per diem, but we're going to continue billing you fee-for-service and then on a quarterly or a six-monthly basis, we do the calculation… let's recalculate all of this through the per diem structure, or through the fixed fee structure. Then at the end of every three months, or every six months, we do a reconciliation, and I will write you a cheque, or you will write me a cheque.

Few participants referred to providing an additional incentive after the event, and most participants preferred instead to impose a punitive readmission rate to control costs. Participants 1, 6, 8, 10, 12, and 14 explained that providers that fail to deliver quality outcomes should have to re-do procedures at their own cost or for a significantly reduced amount. For example, Participant 1 said, "if a patient complicates and there is a need for a recall, the recall rate would not be at the same cost, and also it must be investigated if it was something that could have been avoided."

Furthermore, the base fee should have a built-in outcomes component that is adjusted periodically, and Participant 10 described how they implement this:

A significant portion of the fee relates to outcomes. And I think that needs to be a minimum of 25% to 33%, something like that. But it's got to be big enough to be taken seriously. If you make a 10% incentive, people will ignore it. We have a couple of fairly basic scores, and we look at those, add them up, and it's attached to a value-based care, linked fee. And that is calculated every six months based on a previous year of data, and then it reflects forward. The fee is reset every six months, based on how the team did in the past year. And we took that very much from Obamacare.

However, medical schemes should fund real outliers, such as unforeseen complications or severe comorbidities that result in a readmission. This sentiment was described by Participant 1,

If one or two cases are real outliers and they require additional care, clinical committees should quickly authorize and approve so that those treating patients should feel free to save their lives and keep their patients safer than just looking at their budgets.

Cross-Case Analysis of Theme 5. I observed significant convergence among participant perspectives regarding the material elements of Theme 5, such as paying for outcomes (all seven

schemes), a specialist-driven model (six out of seven schemes), and a patient-centric

measurement model (all seven schemes). However, there was divergence regarding the type of

base fee required to support a P4P model. This divergence is understandable because base fees

vary significantly according to the hospital procedure they would fund.

Comparison of Theme 5 to the Literature Review. Theme 5 was comparable to the

theoretically preferred characteristics that I deduced from the literature review. Some of the

literature review design features were evident in participant interviews, such as the concept of a

risk-adjusted base fee, reference-based pricing, rewarding centers of excellence with more

significant patient volumes, rewarding team-based care, risk-sharing with healthcare providers,

and medical scheme payments for outlier events (Cattel et al., 2020; De Meester et al., 2017;

Gabriel et al., 2019; Spilberg et al., 2018).

However, Theme 5 revealed distinct differences from the literature review. The emphasis

on paying for outcomes negated the theoretical models that featured incentive pay as a separate

payment. The positioning of specialists as the coordinators of P4P models within hospitals,

rather than hospitals, was not apparent in the literature review. Theme 5 also emphasized patient-

reported outcome measures as a simple and reliable indicator of performance instead of hospital-

reported measures.

Theme 6: Trust, Transparency, and Purpose Essential To Cost-Control

Theme 6 demonstrated why participants believed their preferred models could be

effective. Participants described that trust-building, transparency between medical schemes and

hospitals, and clarity of a model's purpose were essential to achieving cost-control. This

corroborated the literature review findings that a successful model would need to overcome the

principal-agent issues of asymmetrical information, self-interest, perverse incentives, and moral

hazard (Cattel et al., 2020; Kipo-Sunyehzi, 2018).

The factors contributing to building trust and transparency included the co-development

of reimbursement models between medical schemes and hospitals and open information sharing.

Participant 12 positioned trust-building as an early engagement process during the development

phase of a model. The participant explained,

> You will learn that it is insufficient or inadequate to put a model together and take it to
>
> the professional society versus engaging with the professional society, sharing the
>
> information and then collectively and collaboratively working on a model. And if you
>
> don't do that, your model will fail.
>
> Participant 17 explained the engagement process by stating:
>
> You need a collaborative where you set some common aims, e.g., 'Here is historical data
>
> that procedures cost X,' there is evidence that you could reduce costs, get better
>
> outcomes, and reduce infections, etc. Here are some improvement aims; here is the theory
>
> of the drivers of cost that capture the most important things.

Figure 20

Trust, Transparency, and Purpose are Essential to Cost-Control
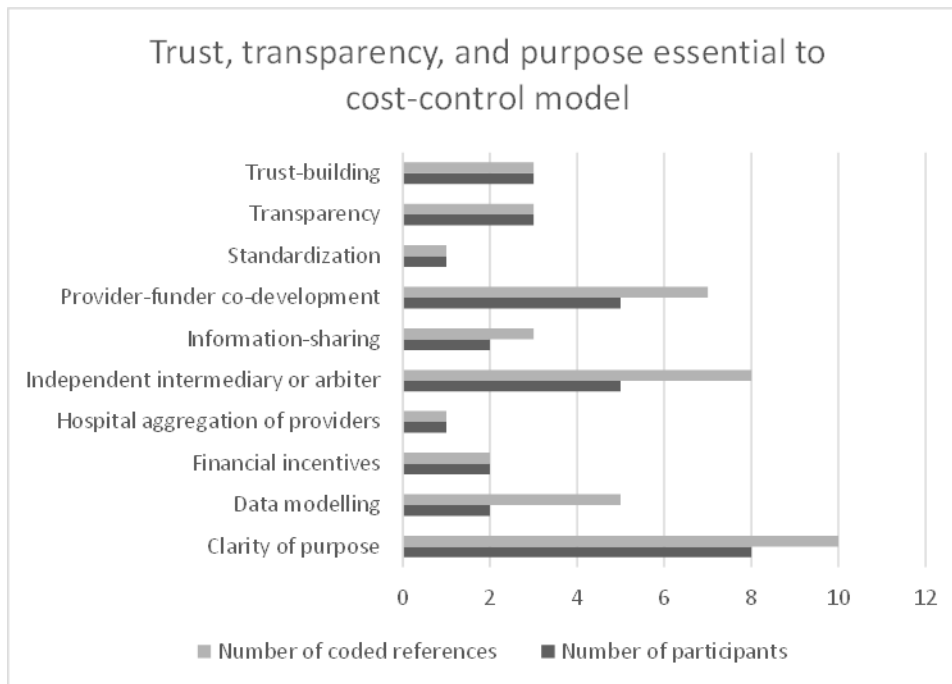
Another element that quickly creates trust in a model was described by Participant 6, who stated, "So it's essential that medical doctors and specialists are able to produce income as quickly as possible."

Participant 5 posited that starting a cost-focused conversation would further distrust and preferred redirecting the focus to the patient's outcomes. The patient-focused conversation creates a base for a multi-party relationship between medical schemes, hospitals, and treating specialists. Participant 13 explained, "It's not a one-on-one relationship because immediately when there are these one-on-one relationships, there are always gaps, which allows for movement outside of the framework that you want to set up."

Furthermore, participants advocated for an independent intermediary or neutral Ombud to enable medical schemes and hospitals to implement a P4P model effectively. Participant 11 described the role of such an independent party:

It would be great if there was an independent body put in place, which would, I think,

especially in terms of setting standards for implementation and setting standards for

monitoring standards for quality, be quite a key component for the broader context to

assist with putting pay-for-performance models in place. A bit of context there would be,

taking the Centers for Medicare and Medicaid Services as an example in the States,

where they are essentially a centralized body that has a lot of control in terms of how they

reimburse providers who service Medicare and Medicaid patients.

Participant 17 opined that such an independent body would monitor quality metrics

"based on a consistent standard across hospitals." Similarly, Participant 8 mentioned that:

I think you need either a regulator or an industry body to assist with the coordination of

these things. You're probably not going to get individual market players that will be too

focused on the short term and whether I'm winning or losing, in the conversion to pay-

for-performance.

Finally, another significant pattern from participants' interviews was the clarity of

purpose. Participant 16 described,

If I go in with a model that says the outcome is to decrease costs, it is implied that the

only way I'm going to decrease costs is by having fewer admissions. If I had fewer

admissions, it, therefore, means my patients are healthier, i.e., I've got the clinical

outcomes that I want.

Participant 5 explained,

What you are effectively doing is, you're entering into a pay-for-performance that makes

financial sense for the specialist or the healthcare practitioner, and you're using that to get

closer to them so that together you can try and improve the clinical.

Participant 8 was confident that a well-designed model is possible:

I believe you can have this real win-win - where a medical scheme can save money, a

hospital can make more money, and the patient can be happier. The financial brain on

your side will say, well, where does all of this money come from? And the short answer

is that if there's a doctor of a hospital that performs low quality work, those market

players will be losing out.

Cross-Case Analysis of Theme 6. I did not identify significant differences in

perspectives between the seven cases regarding Theme 6. All the views aligned towards creating

trust and confidence in a reimbursement model for medical schemes and healthcare providers.

Comparison of Theme 6 to the Literature Review. Theme 6 established the factors that

participants perceived were essential to establishing a successful cost-control model, such as

creating buy-in and trust. Similarly, the literature review found that a social complexity approach

is vital for engaging healthcare providers as potential counterparts to P4P contracts. This

approach means that medical schemes should understand the intrinsic motivation, individual

variability, social norms, values, and collective survival behaviors of hospitals (Carter, 2018;

Long et al., 2018).

Theme 7: Establish Baselines and Measure Regularly

Measurement is essential to P4P, and most participants alluded to the importance of

tracking financial and clinical outcomes. Earlier in this study, the literature described the

importance of regular measurement of a limited set of critical indicators (Pandya et al., 2018;

Vlaanderen et al., 2019). Participant 14 explained, "You want to know that the criteria that have

been set up-front are met. So, for me, that would be the biggest evaluator if this is a success or

not." Participant 16 described the relevance of setting cost benchmarks to enable medical

schemes to define success. The participant said, "So what's the cost of not acting versus what's the cost of putting it in, and then trying to adjust accordingly to make sure that there's a win-win-win: That the provider, the fund and the patient are better off."

Figure 21

Establish Baselines and Measure Regularly
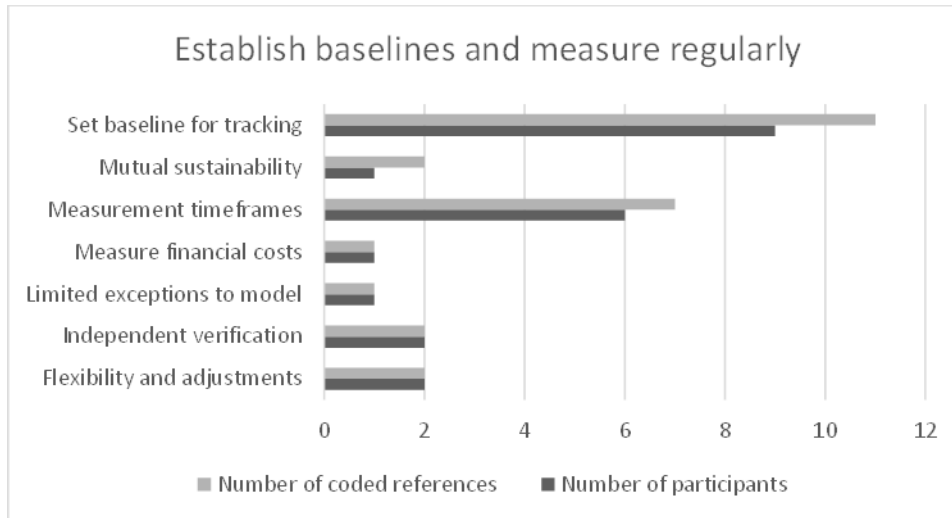
Participants 11, 12, and 13 provided six examples of critical metrics that medical schemes should measure at baseline and globally benchmark to ensure future tracking. These were the metrics: (1) readmission rates, (2) hospital-acquired infections, (3) the risk-adjusted cost of treating patient cohorts, (4) utilization rates, (5) historical annual cost increases, and (6) the overall burden of disease.

The participants emphasized the importance of regular review and refinement of a P4P model with a multi-year hospital agreement. Participant 1's suggested measurement frequency, which was similar to other participants, was, "On a quarterly basis because when you implement something new, there are lots of unknowns. So, I will review quarterly, half-yearly, annually, and then at three years." Participant 15 emphasized that measurement should consider both cost and quality outcomes, "After a year or six months of implementation, when you compare to the

previous year, we need to be seeing that our quality indicators are getting better, and the costs are

going down."

Furthermore, a successful P4P model should have a low prevalence of outlier hospital

cases: "You want to know at least that the pay-for-performance can catch the majority of your

cases. Then you have very small volumes as exceptions" (Participant 14). A successful P4P

model should also feature independent verification of the outcomes, according to Participant 1.

Cross-Case Analysis of Theme 7. The interviews demonstrated a high level of

consistency, with six out of the seven medical schemes identifying the importance of setting a

future tracking baseline. Only one medical scheme (a small scheme) suggested the need for

regular adjustments of the P4P model, which may indicate a concern that frequent changes of the

model could lead to the dilution of intended outcomes.

Comparison of Theme 7 to the Literature Review. Similarly to Theme 7, the literature

review made extensive reference to performance measures, which are an integral component of

P4P models and should be tracked regularly (Ogundeji et al., 2018). However, Theme 7

introduced the concept of an independent verification body that will provide hospitals and

medical schemes greater assurance regarding hospital performance.

Relationship of Themes to the Research Questions

The following sub-section relates the research questions of this study to the themes that I

identified. According to my logic model, table 7 in Appendix F illustrates how the themes I

identified correspond to the research questions. In the sub-section below, I briefly describe the

themes or sub-themes I identified for each research question.

RQ1. What are the characteristics of P4P models that health insurance organizations

perceive may be successful regarding the control of hospital service costs? Theme 5 identified

the attributes of P4P that participants perceived might be successful. These included a specialist-driven pay-for-outcomes model that rewards hospitals for their excellence by re-directing patient volumes.

RQ1a. Why are those characteristics perceived to affect the ability to control hospital service costs? According to Theme 6, the characteristics would affect cost-control if there is trust, transparency, co-development, data modeling, information sharing, and clarity of purpose.

RQ1b. How do health insurance organizations interpret the advantages and disadvantages of using P4P models? Theme 2 described the advantages of P4P of better cost-control and quality outcomes. Theme 3 outlined the disadvantages of P4P relating to its complexity, measurement difficulties, and how hospitals could manipulate it.

RQ1c. How do health insurance organizations determine if a P4P model is perceived to be successful in controlling hospital service costs? Theme 7 explained how health insurers could establish baselines and measure cost and quality outcomes regularly.

RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P model to influence their reward? Theme 3 described, in detail, how hospitals could manipulate a P4P model.

RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting P4P models for managing hospital service costs in South Africa? Theme 4 provided an outline of the facilitating factors and barriers to choosing P4P models.

RQ2a. What reimbursement models do health insurance organizations currently use, and what factors of those models would influence the adoption of P4P as an alternative model? Theme 1 provided an overview of the reimbursement models that health insurers use, and it also

presented the sub-themes that would influence the adoption of P4P as an alternative model.

Those sub-themes included cost, utilization, and risk concerns.

RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models?

Theme 4 included a sub-theme explaining how the facilitating factors could mitigate the

uncertainty of selecting P4P models.

RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?

Theme 4 included a sub-theme explaining how the barrier factors could increase the uncertainty

of selecting P4P models.

RQ2d. What is the basis for the perceptions of health insurance organizations regarding

P4P models? Theme 2 and Theme 3 explained the basis for health insurer perceptions by

exploring the advantages, disadvantages, and complexities of P4P.

Figure 22

Link of the Conceptual Framework to Themes
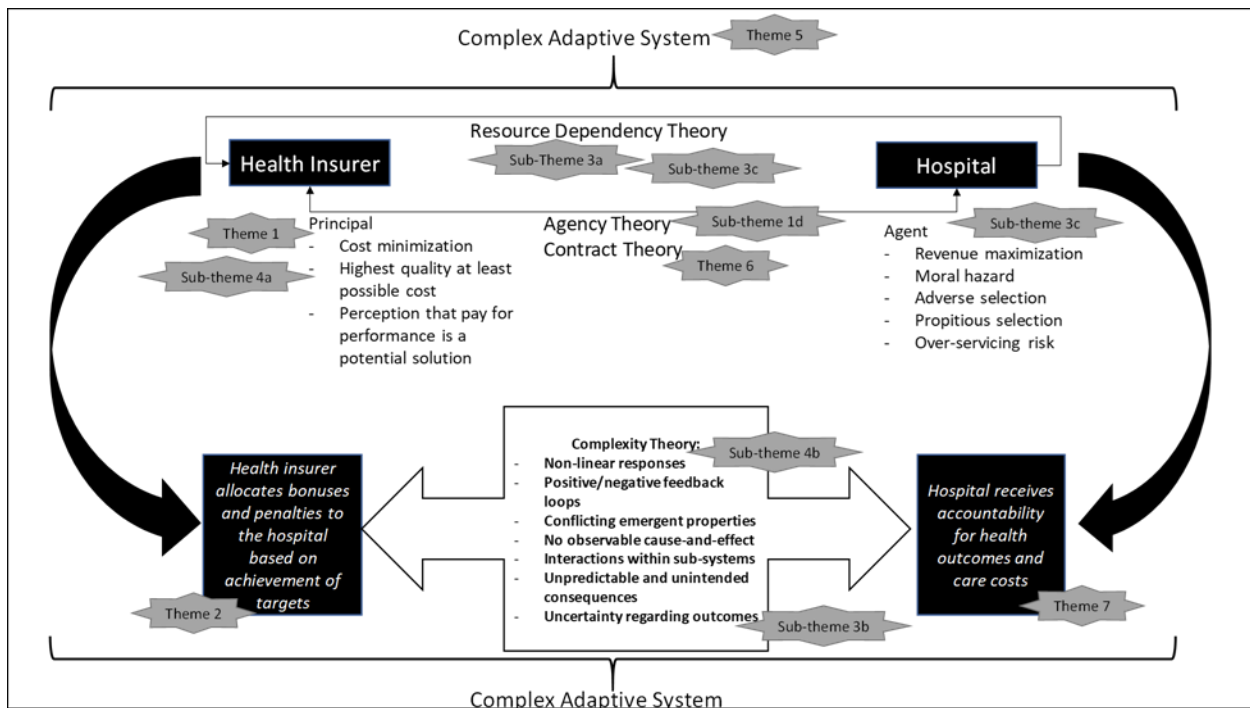
Relationship of Themes to the Conceptual Framework

The conceptual framework that I adopted for this study was the complex adaptive systems framework, which integrated agency, resource dependency, and contracts theories. Complex adaptive systems theory is relevant in understanding the lack of predictability regarding the consequences of introducing a new reimbursement model within the complex hospital system. Baghbanian and Torkfar (2012) cautioned that healthcare administrators are prone to making linear decisions regarding cost control without considering how providers' non-linear and adaptive responses could negate those decisions through unpredictable emergent behaviors by providers that restore the status quo. The diagram illustrating the complex adaptive system from Section 1 of this study is replicated here with links for the relevant themes identified.

The table below is an expansion of the above figure and describes how the field study's themes relate to the conceptual framework.

Table 4

Link of the Conceptual Framework to Themes

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
Complex adaptive systems theory	Feedback loops in a healthcare system mean that agents (hospitals) can vary or ignore an intervention, resulting in eliminating the cause-and-effect linkages required by the medical	Theme 5: Specialist-driven pay for outcomes and excellence model	The participant-preferred reimbursement model increases the role of specialists and patients. This role modification may eliminate feedback loops

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
	scheme implementer (Gell-Mann, 1992; Stacey, 1995).		from hospitals.
Resource dependency theory	Hospitals are dependent on medical scheme financial resources and will actively ensure that they create certainty for their revenue streams with any reimbursement model (Yeager et al., 2015).	Sub-theme 3a: Data and measurement difficulties	Hospitals may secure resources by complex data measurement processes, the use of carve-outs, and not sharing detailed data that may reveal hospital profitability.
		Sub-theme 3c: Hospitals could game the system	Hospitals can game the system by manipulating data linked to billing, abuse of carve-outs, selecting patients that attract better reimbursements, and reducing the cost-driven inputs for treatment.
Agency theory	Hospitals have asymmetrical information that is in their favor, which they are likely to exploit to	Sub-theme 1d: Hospital-skewness of	Hospitals are price-makers, typically initiate new models in their favor, and

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
	maximize their financial success at the expense of health insurance organizations (Cattel et al., 2020)	current models	do not readily share data that may create information symmetry.
Agency theory – principal	A rational principal (medical scheme) will only divert resources to incentivizing and measuring an agent if the principal anticipates a net positive return (Mitnick, 1975) Principal motives	Theme 1: Concern about costs and outcomes	Dissatisfaction with current reimbursement models. Cost, utilization, and risk concerns. The perception that better healthcare outcomes could achieve cost-control.
	- Cost minimization - Highest quality at least possible cost - The perception that P4P is a potential solution	Sub-theme 4a: Facilitating factors	Factors such as industry-wide negotiation, industry benchmarks, regulatory changes, and a global shift to value-based care.
Agency theory - agent	Agents (hospitals) will interpret payment rules to ensure their economic survival (Long et al., 2018) Agent motives	Sub-theme 3c: Hospitals could game the system	Hospitals can game the system by manipulating data linked to billing, abuse of carve-outs, selecting patients that attract better

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
	- Revenue maximization - Moral hazard - Adverse selection - Propitious selection - Over-servicing risk		reimbursements, and reducing the cost-driven inputs for treatment.
Contract theory	Contracting should evaluate the information about the likelihood of success, the moral hazard that results from the hospital bearing no risk of costly over-treatment, and adverse or propitious selection of cases that could be a consequence of the incentive measures selected (Marechal & Thomas, 2018)	Theme 6: Trust, transparency, and purpose essential to cost-control model	Effective contracting for P4P requires trust-building, transparency between medical schemes and hospitals, clarity of a model's purpose, and provider-funder co-development.
Complexity theory – non-linearity	- Non-linear responses - Positive/negative feedback loops - Conflicting emergent properties	Sub-theme 4b: Barrier factors	Factors such as difficulty in measuring quality outcomes; lack of trust; model complexity; data and analytics challenges;

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
	- No observable cause-and-effect - Interactions within sub-systems - Unpredictable and unintended consequences		provider resistance; market structure complexity; complex hospital-specialist relationships; complex legislation; and low negotiation power of small scheme.
Complexity theory – uncertainty	Uncertainty regarding outcomes	Sub-theme 3b: Uncertain effects of P4P	Incentives might not change performance; risk transfer to providers may be insufficient; unintended cost increases; overpaying inherently good providers; excess fees balance-billed to patients; under-servicing risks.
Health insurer P4P contracting role	Health insurer allocates bonuses and penalties to the hospital, based on the achievement of targets	Theme 2: P4P results in better cost-control and quality outcomes	Reduced costs and better financial performance; avoidance of waste and volume incentives;

Concept	Summary of concept/theory	Theme or sub-theme	Summary theme description
			improved quality of clinical outcomes; patient-focused care from accountable providers; hospitals compete on quality.
Hospital P4P contracting role	The hospital receives accountability for health outcomes and care costs	Theme 7: Establish baselines and measure regularly	Set a baseline for tracking; define measurement timeframes; ensure limited exceptions to model; ensure mutual sustainability.

Summary of the Findings

The multiple case study sampled seven medical schemes, which I evaluated using 17 case interviews. I synthesized the results of the case interviews into seven themes. I identified fee-for-service as the dominant reimbursement model that medical schemes currently use for hospital services. The participants had experimented with alternative reimbursement models such as global fees, diagnosis-related fees, fixed fees, and per diems. The participants were not satisfied with how their current reimbursement models control hospital costs and outcomes. The participants perceived that P4P could result in better cost-control and better-quality outcomes.

However, the participants acknowledged that P4P is a complex model, and they were concerned that hospitals could manipulate the model to their benefit. The participants also

described the enabling factors and barriers that could facilitate or hinder their selection of P4P as a cost-control model. The participants recommended a patient-centric P4P model that encompasses the principles of paying for measured outcomes, paying specialists for the coordination of care, paying for excellence, measuring patient's perceived outcomes, and relegating the hospital's role to that of a supplier rather than a coordinator of care. The participants perceived that trust, transparency, and clarity of purpose would be essential to implementing a reimbursement model. The participants suggested that medical schemes should introduce a baseline before introducing a model to measure improvements regularly.

I compared the themes that I identified with my literature review, and I also compared the multiple cases. I also compared the themes to the research questions and with the conceptual framework. I was satisfied that I had achieved data saturation and triangulation, answered the research questions and that the literature review and conceptual framework had provided an appropriate foundation for this study's exploratory nature.

Applications to Professional Practice

The Relevance of Findings to Improved Business Practice

The study intended to improve medical schemes' business practice by determining how best to select and introduce P4P models in their contracts with hospitals. Hospital costs are the leading portion of health insurers' expenses globally (Mathes et al., 2019). Medical schemes have been uncertain about how to make critical changes to their costs incurred from traditional fee-for-service payments.

As far back as the 1970s, the consensus emerged that fee-for-service models are costlier than necessary for medical schemes because they foster excessive hospital services utilization (Walker, 1977). Since then, health insurers have experimented with models such as diagnosis-

related groups, fixed fees, and global fees for clinical episodes (Feldhaus & Mathauer, 2018; Kane & Manoukian, 1989). However, they continue to face excessive healthcare inflation, which means that they remain significantly interested in new alternative reimbursement models (Esposti & Banfi, 2020; York et al., 2017).

Medical schemes in South Africa have a hospital-centric model that is facing significant and increasing cost drivers arising from supply-side management issues; prescribed minimum benefit regulations that allow hospitals to recover costs without recourse; patient moral hazards; aging membership profiles with higher disease burdens; and new technologies that encourage demand for treatment (Erasmus & Kean, 2018; Ruff et al., 2011). Therefore, I expect the findings to improve medical schemes' business practice by reiterating the case for change from fee-for-service and other cost-based reimbursement models by presenting the continued perceptions that these models are detrimental to cost and utilization management.

The findings may reduce the inertia that is hindering change by confirming the medical scheme industry's current perceptions. These perceptions will assist healthcare executives within medical schemes in understanding the potential cost-control and outcome-improvement benefits they could realize using a prospective model such as P4P. The findings present the complexities and disadvantages of P4P, such as how it can be manipulated by hospitals, which means that medical schemes can consider and manage these risks of implementing a new model.

The findings explore the barriers that medical schemes face in moving away from fee-for-service, enabling leaders within the industry to engage in industry-wide solutions collectively. To assist healthcare executives, I have presented a participant-preferred P4P reimbursement model type that I developed from the aggregated input of participants familiar with the complexities and nuances of engaging with hospital services. Therefore, the findings

will guide medical schemes regarding the factors that they need to consider in negotiating and

co-developing a new reimbursement model with healthcare providers. Finally, the results have

defined measurement principles that will help medical scheme businesses determine whether the

reimbursement model has been successful.

In summary, the findings provided information about the characteristics of P4P models

that medical schemes perceive may be successful in improving the control of hospital service

costs. The results described the challenges of traditional reimbursement models. The findings

outlined the factors that may reduce uncertainty about P4P models for business practice. The

study described the internal, external, and environmental factors that influence medical schemes'

ability or inability to select their preferred P4P models.

The Implication of Findings in Relation to a Biblical Framework

I based the Biblical framework for this study on the three fundamental principles. Firstly,

illness, and the burden of disease that medical schemes face, challenges humans' ability to reach

their full societal potential. Therefore, this challenge to the human condition requires research

into how medical schemes could improve the healthcare funding environment to foster less

costly and more accessible care (De la Porte, 2016).

Secondly, provider contracting models are an instrument that healthcare executives can

use to improve the human condition and foster the populations' physical and spiritual well-being

that require executive wisdom and guidance (Culpepper, 2016). Thirdly, healthcare executives

are mandated to steward resources diligently to work and take care of the 'garden' as implied by

Genesis 2:15. Cost-control of the resources allocated to hospitals is one of the greatest

stewardship expressions for a health insurer because it enables the fair rationing of a scarce

financial resource.

Following the above Biblical framework principles, the findings articulated that hospital care is costly and presents significant opportunities for improving cost-control and outcomes. Secondly, the results provided participant-preferred perspectives into how healthcare executives could structure an alternative reimbursement model, which they can use as an instrument to improve the physical well-being of their medical scheme populations.

Although healthcare executives are not responsible for their medical scheme members' spiritual well-being, physical health's indirect effects translate into individual happiness, fulfillment, and prosperity. This notion is reinforced by 3 John 2:2, "Dear friend, I hope all is well with you and that you are as healthy in body as you are strong in spirit" (New Living Translation).

Thirdly, the findings will remind healthcare executives of their stewardship role and will encourage them that their 'hands are not tied' to a fee-for-service model. Healthcare executives have an imperative and an ability to faithfully consider another reimbursement model that will help reduce healthcare costs and improve access to quality healthcare outcomes. Similarly, 1 Corinthians 4:2 states this about stewardship, "Moreover, it is required in stewards that one be found faithful" (New King James Version).

The Implication of Findings to my Field of Study

The findings helped reduce the uncertainty faced by health insurance organizations about which P4P contracting models could reduce their costs. These findings are related to the study of healthcare management because they explore the potential for healthcare administration innovation, identify methods that could improve healthcare costs, and provide guidance into managing the hospital contract management process for medical schemes. The findings

determined how healthcare administrators could integrate quality outcome improvements for patients with cost-effectiveness.

The findings were relevant to my field of study because the Doctor of Business Administration Healthcare Management degree is concerned with streamlining business processes, improving patients' quality care, fostering innovation in healthcare administration, improving the cost of care, and enhancing access to care. (https://www.liberty.edu/online/business/doctoral/dba/healthcare-management/).

The findings will help medical schemes better understand how they can manage their hospital costs, which is relevant to the healthcare business's financial and administrative management (Erlangga et al., 2019). The findings increased the literature-base for alternative reimbursement models, which will help healthcare administrators reduce the persistence of higher-than-optimal hospital costs. The study reduced the gap regarding how P4P models could be selected and implemented to improve cost-control in contracting with hospitals.

Recommendations and Steps for Action

This sub-section provides recommendations for action, for medical schemes, according to each of the themes I identified in the presentation of findings. The recommendations are presented in a framework and in sequential steps to facilitate their implementation.

Potential Application Strategies Framework

The framework in Figure 23 below illustrates the strategies that medical schemes could implement. Figure 23 synthesizes the participants' recommendations that were described in the discovered themes. The framework explains the proposed role of each actor within a healthcare system where a health insurer has implemented the P4P characteristics that were preferred by the participants of this study.

Figure 23

Recommended Pay-For-Performance Framework
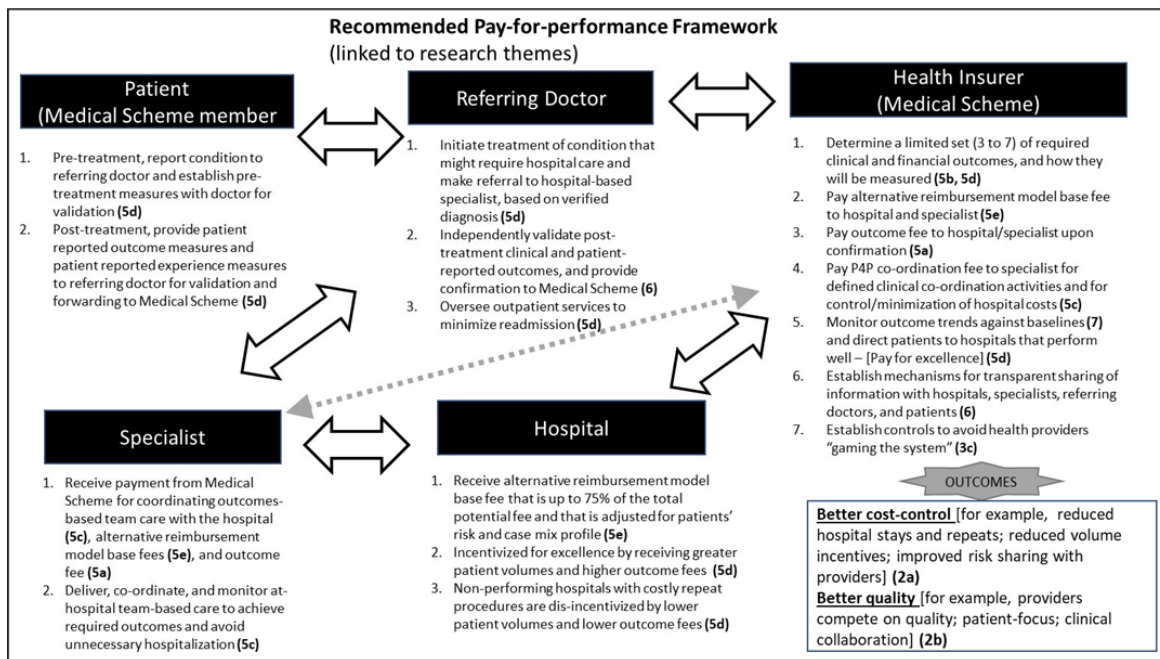
It is evident from the above framework that medical schemes may incur further costs relating to the administration of a P4P model and the payments of specialists for their role in managing hospital costs. A fundamental assumption of this proposed model is that the implementation costs will be lower than the cost reductions resulting from hospital admissions that are fewer and shorter.

Figure 24 demonstrates how the costs of hospitalization, that medical schemes incur, are significantly greater than the costs of specialists and referring doctors (Council for Medical Schemes, 2019). This cost differentiation implies that there may be merit in using contracting healthcare providers to deliver an intermediary role in controlling hospital costs.

Figure 24

How Costs Per Event/Admission Justify the Recommended Framework
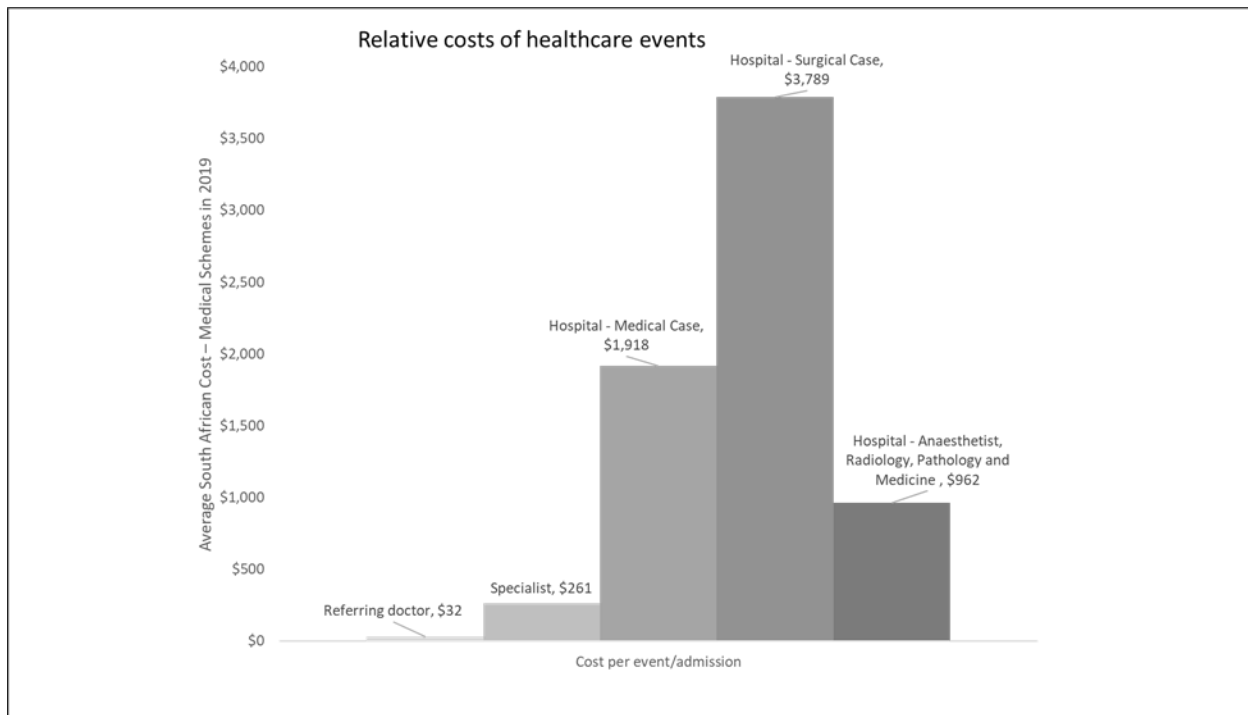
Confirm the Concern About Current Costs and Outcomes

Identify Stakeholders and Form a Task-Team. Medical schemes should identify the medical scheme's internal and external stakeholders concerned with managing hospital services, particularly the costs, utilization, risk transfer arrangements, and clinical quality outcomes related to those services. The identified stakeholders should form a task-team to consider the medical scheme's reimbursement models following the recommendations in this sub-section.

Quantify Hospital Costs That Medical Schemes do not Adequately Control. Healthcare executives should quantify the proportion of hospital costs paid using retrospective cost-based models or alternative reimbursement models that do not control utilization. Medical schemes should identify the ratio of total hospital-spend that is not subject to reimbursement model utilization controls. Where alternative reimbursement models are in place, medical

schemes should evaluate whether these were hospital-initiated or medical scheme-initiated and effectively control costs and utilization.

Develop a Theory of Change. The medical scheme's task-team should develop a theory of change to describe if and how improved treatment outcomes could result in improved cost-control, such as reduced payments for re-admissions and reduced duplication of costs from service fragmentation.

Prepare a Case for Change. The task-team should then prepare a case for change that motivates for a shift in reimbursement model, a description of the problem, clear objectives, advantages of changing to a P4P-type model, disadvantages of changing, and a weighted recommendation that balances all the considerations.

Establish and Quantify How P4P Would Result in Better Cost-Control and Quality Outcomes

Medical schemes should evaluate if and how P4P could result in better cost-control and better-quality outcomes for their particular circumstances. They should include this evaluation within the advantages section of the above case for change.

Mitigate the Risks of P4P's Complex Measures and how Hospitals Could Manipulate P4P

Analyze the Disadvantages and Uncertainties of P4P. The medical schemes should evaluate the disadvantages and uncertainties of selecting a P4P model, based on Theme 3, and include this within the disadvantages section of the case for change. They should consider if they can mitigate these disadvantages and uncertainties to a level within their risk appetite. In particular, they should assess if they have sufficient expertise and resources to implement a reimbursement model that is more complex than traditional fee-for-service.

Create Controls to Counter Provider Manipulation. It will be crucial for medical schemes to document their considerations about whether they can create controls or design principles to reduce the risk of hospitals 'gaming the system.'

Make a Formal Recommendation. After the above considerations, the medical scheme should prepare a qualitative and quantitative assessment of the reasons for changing or not changing the medical scheme's reimbursement model. Present a weighted recommendation within the case for change that balances the considerations.

Confirm the Presence of Enabling Factors and Barriers Before Implementation, and Prepare a Readiness Plan

Before implementation, a medical scheme should document the medical scheme's implementation readiness plan by evaluating the existence of facilitating factors and barrier factors. The medical scheme's implementation readiness plan should ascertain how facilitating factors can be developed or exploited. They should outline the implementable and assignable tasks for managing the facilitating aspects. The medical scheme's plan should also document how barrier factors can be minimized or negated. The plan will outline the implementable and assignable tasks for managing the barrier factors.

Implement a Specialist-Driven Pay for Outcomes, Pay for Excellence, and Pay for Coordination P4P Model

Design of Philosophy and Outcomes Library. The medical scheme should prepare a P4P design document that considers the preferred characteristics included in this study's findings. They should begin by defining the medical scheme's philosophy of paying for outcomes, paying for excellence, and paying specialists for co-ordination. Then they should prepare an outcomes library for the hospital conditions included in the P4P reimbursement program, which specifies a

clinically-validated range of outcomes for the hospital conditions. The medical scheme should

link the outcomes to a pay scale.

Design of Three to Seven Outcome Measures. Medical schemes should establish the

critical pre-operation and post-operation criteria for the identified hospital conditions, how they

will collate these measures (e.g., patient surveys), and when the measures will be collated for

each episode of care. According to this study's findings, the standard measures should not

exceed a range of three to seven outcome measures. The outcome measures should sufficiently

reflect patient-reported experience and outcome measures.

Define the Specialist's Role. It will be necessary for medical schemes to define the

specialist's role, responsibilities, and expectations in coordinating team-based care of the

continuum of pre-hospital, in-hospital, and out-patient services. The medical scheme should

define the specialist's pay-for-coordination reimbursement on the premise that this payment will

incentivize the specialist to reduce downstream costs.

Identify Centers of Excellence. According to this study's findings, I recommend that

medical schemes define the key metrics they will use to determine which hospitals and

specialists are centers of excellence and how they will guide patients to those centers of

excellence.

Define a Base fee for Identified Hospital Conditions. Medical schemes should prepare

a scale for the alternative reimbursement model base fee, using the principles I identified during

the study's case interviews: (1) Varying amounts depending on the outcomes that the hospital

healthcare providers achieve, according to the outcomes' library defined earlier; (2) a base fee

that medical schemes adjust to the risk and case profile characteristics of the patient population;

(3) a deferred payment of at least 25% of the base fee, that medical schemes pay after they

confirm outcomes; (4) that no amounts will be payable on avoidable readmissions; and (5) a

reliable mechanism for identifying and paying for validated outliers.

During Implementation, Consider That Trust, Transparency, and Purpose are Essential to Cost-Control

I recommend that medical schemes engage with hospitals, specialists, and related

providers to obtain buy-in into the P4P model during the design phase to agree on a unifying

purpose for enhancing reimbursement models, such as improving patient outcomes and long-

term financial sustainability of all parties. All the parties to the P4P agreements should decide

how hospital providers and medical schemes will share data and information. They should

consider how medical schemes will reimburse healthcare providers for collating claims-level and

outcomes-related data for the medical scheme. I also recommend that medical schemes and

hospitals incorporate independent validations into the P4P model, such as general practitioner

confirmation of patient outcomes and establishing independent standard setters for outcome

measures. Based on this study's findings, the P4P arrangement should be a formal contract

between hospitals, specialists, and related providers, with a multi-year agreement.

Establish Baselines and Measure Regularly

My final recommendation is that medical schemes determine cost and quality baseline

information before launching the P4P model. Therefore, they will track progress against the

baseline on a monthly, quarterly, annually, and three-year basis.

Who may be Impacted by the Results of the Study?

Medical schemes in South Africa are the primary parties that may be impacted by the

study because of its focus on reducing the uncertainty they face regarding selecting P4P as a

reimbursement model. The study will also have a material impact on hospitals and specialists

because they are the contracting counterparties for the reimbursement models. The other

stakeholders that the study may impact are healthcare industry regulators and the members of

medical schemes.

Dissemination of Results

After I conclude the study and the dissertation committee and Liberty University

administration have reviewed it, I will disseminate the results to contribute to the body of

knowledge regarding P4P as a reimbursement model.

Participants and Their Medical Schemes. I will first disseminate the results to the case

interview participants and their medical schemes that requested a copy of the results upon

finalization or publication.

Other Medical Schemes and Medical Scheme Administrators. After my publication

of the study, I will set up an online conference meeting with medical schemes to present the

results.

Council for Medical Schemes. I will engage with the relevant officials of the Council

for Medical Schemes to communicate my findings.

Board of Healthcare Funders. I will also engage with the Board of Healthcare Funders'

relevant officials in South Africa to communicate my findings because they are an industry lobby

group for medical schemes.

Recommendations for Further Study

I did not identify any significant South African quantitative studies on P4P, pay-for-

outcomes, and other prospective alternative reimbursement models for hospital costs. I

recommend further quantitative research for this subject matter should quantitative data become

increasingly available.

Theme 4 of the study identified regulatory barriers relating to reimbursement models in South Africa, such as the practice of prescribed minimum benefits. Participants also cited the regulations that prevent hospitals from employing specialists as hindrances. I recommend further studies to establish whether regulators should change rules relating to hospital reimbursement regulations and hospital employment models. Furthermore, because participants perceived a need for an independent body to guide the setting and enforcement of reimbursement models, I recommend further study regarding the purpose, objectives, and powers of such an independent body.

A significant barrier to P4P that Theme 4 alluded to was the difficulty of defining relevant outcome measures and obtaining data relating to outcomes reliably. Theme 5 reflected an increased interest in patient-reported outcome measures. I recommend further qualitative and quantitative studies to reduce the gap in the literature about outcome measures.

Reflections

As the primary instrument for collecting and analyzing data, I was continually aware that my personal biases could affect the validity and quality of the study conclusions. I maintained my reflexivity by being aware of my inherent biases and being careful to set aside the biases that I may have accumulated from my professional experience and previous research findings. I was mindful of presenting interview questions neutrally, faithfully transcribing all viewpoints, and including all perspectives within my data analysis.

I engaged in the exploratory study with an open mind and an intention to discover new perspectives rather than confirm my existing positions. The differences between my anticipated themes and the study's findings demonstrate the richness and uniqueness of information that I

encountered in dealing with real-world participants with profound practical knowledge of hospital reimbursement.

Some of the results were surprising and unexpected to me, such as the participants' preference to pursue a more 'extreme' version of P4P that pays for outcomes, centers of excellence, and coordination: I had expected a more conservative approach, based on the extent of change barriers in the industry. However, it was clear from participants that previous reimbursement model changes have resulted in insignificant changes that were easily negated by healthcare's complex adaptive system.

The participants unexpectedly elevated the role of the specialist as the principal coordinator of care. I had expected that participants would assign this role to hospitals. However, it became clear that participants would instead engage with a counterparty that is fundamentally committed to treatment outcomes rather than a hospital agent with shareholder profit interests.

Previous changes in reimbursement models have been simply re-arrangements of the funding envelope, which meant that hospitals could easily game the system to restore their required earnings. It became apparent during my data analysis that participants advocated a more fundamental shift in reimbursement. The participants ascribed a high level of trust in patient-reported outcomes and felt that provider-reported outcomes are prone to manipulation even though they may appear more evidence-based. Finally, I observed the participants' strong willingness to overcome their competitiveness and engage in an industry-wide solution.

Summary and Study Conclusions

Summary

Section 3 presented the field study results that explored the perceptions of non-profit South African medical schemes regarding P4P as a cost control model for hospital services.

Section 3 commenced with an overview of the study and explained why and how I did the study. The section presented a summary of key themes, and then outlined the themes in detail with selected participant quotes. The section concluded with an explanation of the applications to professional practice, recommendations for action, further study recommendations, and reflections.

Section 3 explained that I used a qualitative, exploratory, multiple-case study that discovered the perceptions of seven medical schemes in South Africa from a population of 76 registered medical schemes. I conducted 17 case interviews among the seven purposively selected maximum variation cases. I achieved data saturation, which means I was unlikely to reveal more themes if I increased the sample. I triangulated the research using multiple methods, including comparing the data from various participants, cross-case analysis, and comparing my field study themes to the literature review and the conceptual framework. I collected data using online interviews, and I prepared verbatim transcripts. I used NVivo qualitative data analysis software to determine seven themes, 19 categories, and 170 codes from the interviews.

Key Findings

The study found that medical schemes have significant concerns regarding their current reimbursement models' ability to control costs and outcomes. The participants believed that there were benefits to implementing a variation of a P4P model, which will translate to better cost-control and better outcomes for their medical scheme members. However, the participants were aware of significant barriers and disadvantages relating to the P4P model. As a result, the participants recommended a patient-centric P4P model that encompasses the principles of paying for measured outcomes, paying specialists for the coordination of care, paying for excellence,

measuring patient's perceived outcomes, and relegating the hospital's role to that of a supplier rather than a coordinator of care.

How the Research Closed the Gap in Literature

According to Alderwick et al. (2018), there is a healthcare management gap in the literature regarding how health insurers can implement reimbursement structures to reduce healthcare costs and increase healthcare efficiencies. There are also research gaps regarding the cost-efficiency of P4P arrangements, which result in uncertainty for health insurers in deciding if and how to implement P4P models (Feldhaus & Mathauer, 2018). Regarding South Africa, a study by Mathew and Mash (2019) found that there was significant uncertainty regarding how medical schemes could reform healthcare away from the retrospective fee-for-service model.

The study closed three main areas of the gap in the literature. Firstly, the study increased the literature base on how medical schemes can use new-generation reimbursement models to reduce costs and improve hospital outcomes. The research described a uniquely South African medical scheme perspective to alternative reimbursement models. The participants used their collective experience of attempting cost-control methods over hospital costs to explain how they would formulate a new P4P reimbursement model. The study also explored the advantages, disadvantages, facilitators, and barriers that medical schemes should consider in implementing such a reimbursement model. These considerations may help reduce the uncertainties, within the literature, regarding P4P as a reimbursement model.

Furthermore, the study added to the recent global studies, which I identified in the literature review, regarding whether medical schemes could structure P4P arrangements to improve cost-control. The literature review had demonstrated the mixed results regarding P4P.

Therefore, this study provided new qualitative considerations that may help health insurers

decide if and how to implement P4P models.

      Thirdly, the study specified the characteristics of P4P arrangements that South African

medical schemes and global health insurers could consider in reforming their healthcare

reimbursement models. For example, the study found that specific mechanisms, such as paying

specialists for coordination, directing patients to hospitals that demonstrate improved outcomes,

and paying hospitals according to the level of outcomes achieved, could theoretically result in

lower costs for medical schemes. However, the study created new questions that I recommend

for further research, such as a quantitative study on the extent to which implementing the study's

themes could result in reduced hospital costs.

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Appendix A: Interview Guide

Introductory Statement

(The exact wording of the interview script and questions might change in the discussion, but the essence of the interview will remain the same as this interview guide.)

Thank you for your willingness to participate in my dissertation study. This interview is part of a multiple case study that will explore how South African medical schemes perceive pay-for-performance as a cost control model for hospital services. The findings may guide medical schemes in determining how best to select and introduce pay-for-performance models in their contracts with hospitals. This research is part of my requirements for the Doctor of Business Administration degree in Healthcare Administration at Liberty University.

Your experience and knowledge within the healthcare field at a medical scheme make you a valuable source of insight. Your insights will help me to better understand the perceptions of medical schemes about how pay-for-performance models may or may not be successful in controlling hospital costs. If you have any personal notes that you believe will provide more detail regarding any answer, please e-mail them to me at mmoyo1@liberty.edu within two days of the interview. I will record our conversation and make notes to ensure that I capture this interview accurately.

Please note that we may stop or pause the interview at any time if you feel uncomfortable. You may also choose not to answer any questions that you do not feel comfortable discussing. You may cease your participation at any time if you happen to feel uncomfortable. Our interview will not exceed a maximum of one hour.

Interview Questions

Q1. Which reimbursement models does your medical scheme currently use for hospital services?

> Q1a. Are you satisfied with how your reimbursement model helps in controlling costs?

> Q1b. Explain why or why not.

Q2. What would make you consider or avoid adopting alternative reimbursement models?

Q3. Does your organization currently use pay-for-performance as a reimbursement model?

> Q3a. What is your understanding about what a pay-for-performance model is?

(Depending on the answer and if requested by the participant, the researcher may share his definition per the study, which is: "Pay-for-performance is a payment system used by healthcare funders that remunerates healthcare providers for achieving quality and cost of care metrics (Gondi, Soled, & Jha, 2019)"

Q4. What do you think are the advantages of pay-for-performance (P4P)?

> Q4a. Why do you believe P4P has these advantages?

Q5. What do you think are the disadvantages of pay-for-performance?

> Q5a. Why do you believe P4P has these disadvantages?

Q6. How do you think a hospital service provider could manipulate a payment model that rewards performance?

Q7. If you had to choose pay-for-performance as a reimbursement model, what would make you uncertain about using it as a reimbursement model?

> Q7a. What currently deters you from selecting pay-for-performance as a reimbursement model?

> Q7b. What would help you in selecting pay-for-performance as a reimbursement model?

> *Alternate Q7 if participants' organizations are already using the model*

Q7. If you already use pay-for-performance as a reimbursement model, what made you certain

about using it as a reimbursement model?

      Q7a. What factors could have deterred you from selecting pay-for-performance as a

reimbursement model?

      Q7b. What factors encouraged you to select pay-for-performance as a reimbursement

model?

Q8. How do you believe a pay-for-performance model should be structured if it is to help you

better manage hospital costs?

Q9. Why do you believe the structure you described would help manage hospital costs?

Q10. How would you know if a pay-for-performance model was successful, after

implementation?

Closing Statement

      Thank you very much for participating in this interview. I really appreciate the insights

that you have shared. As I mentioned earlier, should you wish to share any further personal notes

that you believe will provide more detail regarding any answer, please e-mail me within the next

two days. After this interview, I will e-mail you a typed verbatim transcript within 1 week, for

your checking. After I complete all interviews, I will analyze the results and I will share the

findings of my study with you.

Appendix B: Case Study Protocol – Data Collection

Table 5

Case Study Protocol – Data Collection

Questions	Details	Data collection source
What is the case?	• What are the characteristics of the medical scheme? • What is the demographic structure of the medical scheme? • What reimbursement model(s) does the medical scheme use? • Is the medical scheme implementing or considering alternative reimbursement models? • What cost-control issues is the medical scheme facing regarding hospital costs? • What proportion of healthcare expenditure is dedicated to hospital costs, and how has this changed over time?	Websites, Interviews.
What are the perceptions of medical schemes regarding P4P?	• How does the medical scheme perceive the advantages of pay-for-performance? • How does the medical scheme perceive the disadvantages of pay-for-performance?	Interviews.

Questions	Details	Data collection source
What are the uncertainties of medical schemes regarding P4P?	• What uncertainties does the medical scheme have regarding P4P? • What factors deter the medical scheme from selecting P4P as a reimbursement model? • What factors would encourage the medical scheme to select P4P as a reimbursement model? • How do medical schemes perceive a hospital could manipulate a P4P model to influence their reward?	Interviews.
What are the preferred characteristics of P4P models?	• How does the medical scheme believe a P4P model should be structured to assist cost-control?	Interviews.
What is the expected effect of P4P on hospital services cost control?	• Why does the medical scheme believe the factors they have identified would assist the control of hospital costs? • What indicators would demonstrate that P4P was successful in long-term cost control?	Interviews.

Appendix C: Reflective Journal and Interview Notes Instrument

Case Number: _____

Interview Number: _____

Date: _____

Start time: _____

End time: _____

Notes and reflections

Appendix D: Document Review Instrument

Case Number: _____

Assigned Document Number:_____

Document title: _____ *(strike out confidential details)*

Document type: _____

Summary of Document Contents:

Notes and Reflections regarding the Document:

Extract of Relevant Text from the Document:

Appendix E: Consolidated Criteria for Reporting Qualitative Studies

Table 6

How COREQ Standards were Applied to Demonstrate the Study's Trustworthiness

COREQ Requirement	Description
Researcher team and reflexivity	
1. Interviewer	The study explained that this researcher was the only interviewer.
2. Credentials	The study outlined of the researcher's status as a doctoral candidate and previous experience within the field.
3. Occupation	The study described the researcher's occupation during the study in October 2020.
4. Gender	That the researcher is male.
5. Experience and training	A short description of the professional experience of the researcher, and specific training relating to research ethics.
6. Relationship established	An explanation of the relationship established with participants before interviews.
7. Participant knowledge of interviewer	Outline of the details shared to introduce the researcher to the participants.
8. Interviewer characteristics	Description of the researcher's reflexivity, biases, and personal interests regarding the topic.
Study Design	

COREQ Requirement	Description
9. Methodological orientation and theory	The case study methodology, epistemology, ontology, and axiology that was adopted
10. Sampling	The maximum variation purposive sampling approach.
11. Method of approach	The recruitment method used.
12. Sample size	The sample size of 15 to 30 participants.
13. Non-participation	The number of people that declined to participate or withdrew consent.
14. Setting of data collection	How interviews were done (online teleconferencing) and how notes were collected from participants.
15. Presence of non-participants	No one else was present during interviews, besides each participant and the researcher.
16. Description of sample	Summary of key attributes of the sample.
17. Interview guide	Confirmation that an interview guide was used and that it was pilot tested.
18. Repeat interviews	The number of repeat interviews done: None.
19. Audio/visual recording	Whether interviews were recorded and how they were recorded, is described in the study.
20. Field notes	How field notes, if any, were maintained during interviews.
21. Duration	The duration of interviews, i.e. approximately one hour.
22. Data saturation	How data saturation was achieved.
23. Transcripts returned	If transcripts were returned for participant checking.

COREQ Requirement	Description
24. Number of data coders	The number of data coders that coded data, i.e. only the researcher.
25. Description of the coding tree	Whether a coding tree was described.
26. Derivation of themes	If themes were pre-identified or deduced from data.
27. Software	The NVivo software used to analyze data.
28. Participant checking	If participants checked the findings and provided feedback.
29. Quotations presented	Whether participant quotations accompanied the analysis to demonstrate themes, and if the quotations were identified according to the participants' coded numbers.
30. Data and findings consistent	How consistency was achieved between data and findings.
31. Clarity of major themes	How major themes were presented.
32. Clarity of minor themes	Whether rival cases and minor themes were presented.

Adapted from Tong et al., 2007, p. 352

Appendix F: How Research Questions and Themes Correspond

Table 7

Logic Model Showing How Research Questions and Themes Correspond

Logic model components	Description of perceptive stage	Research Question	Themes
1. Contextual factors	Factors influencing change	RQ2a. What reimbursement models do health insurance organizations currently use, and what factors of those models would influence the adoption of P4P as an alternative model?	Theme 1: Dissatisfaction with current models Sub-themes: - Current reimbursement models (Fee-for-service, fixed fees, diagnosis-related group fees, global fees, per diem fees) - Cost, utilization, and risk concerns - Treatment and health outcomes affect cost-control - Hospital-skewness of current models

Logic model components	Description of perceptive stage	Research Question	Themes
2. Input	Consideration of P4P as a potential solution	RQ1b. How do health insurance organizations interpret the advantages and disadvantages of using P4P models? RQ2d. What is the basis for the perceptions of health insurance organizations regarding P4P models?	Theme 2: P4P results in better cost-control and quality outcomes Sub-themes: - Better cost-control - Better quality outcomes Theme 3: P4P is complex and can be manipulated by hospitals Sub-themes: - Data and measurement difficulties - Uncertain effects of P4P
		RQ1d. How do health insurance organizations perceive a hospital could manipulate a P4P model to influence their reward?	- Hospitals could game the system

Logic model components	Description of perceptive stage	Research Question	Themes
3. Activities	Consideration of uncertainty characteristics	RQ2. What do health insurance organizations perceive as the facilitators and barriers to selecting P4P models for managing hospital service costs in South Africa? RQ2b. How do the perceived facilitators affect the uncertainty of selecting P4P models? RQ2c. How do the perceived barriers affect the uncertainty of selecting P4P models?	Theme 4: Enabling factors and barriers Sub-themes - Facilitating factors (Such as industry-wide negotiation, industry benchmarks, shift to value-based care, state universal health reform, and regulatory changes) - Barrier factors (Such as measurement of quality outcomes, lack of trust, model complexity, data and analytics challenges, provider resistance, and small scheme size)
4. Output	Defining preferred characteristics	RQ1. What are the characteristics of P4P models that health insurance organizations	Theme 5: Specialist-driven pay for outcomes and pay for excellence model Sub-themes:

Logic model components	Description of perceptive stage	Research Question	Themes
		perceive may be successful regarding the control of hospital service costs?	- Pay for outcomes and improvements - Measure and reward improvement and outcomes - Specialist, rather than hospital-driven, team-based care - Simple, patient-focused purchasing and measurement - Alternative reimbursement model base fee and penalties
5. Short term outcome	Evaluation of expected changes	RQ1a. Why are those characteristics perceived to affect the ability to control hospital service costs?	Theme 6: Trust, transparency, and purpose are essential to cost-control models Major patterns identified: - Clarity of purpose - Independent intermediary or arbiter

Logic model components	Description of perceptive stage	Research Question	Themes
			- Provider-funder co-development
			- Trust-building
			- Data modeling
			- Information sharing
6. Long term outcome	Evaluation of indicators of success	RQ1c. How do health insurance organizations determine if a P4P model is perceived to be successful in controlling hospital service costs?	Theme 7: Establish baselines and measure regularly Major patterns identified:
			- Set baseline for tracking
			- Set measurement timeframes
			- Independent verification
			- Measure financial costs
			- Mutual sustainability
			- Limited exceptions to the model