Walden University
A higher degree. A higher purpose.

Walden University
ScholarWorks

Walden Dissertations and Doctoral Studies

Walden Dissertations and Doctoral Studies
Collection

2016

The Pharmaceutical Industry's Effect on Rheumatologists' Patterns of Care

Frank Bailey
Walden University

Follow this and additional works at: https://scholarworks.waldenu.edu/dissertations

Part of the Pharmacy and Pharmaceutical Sciences Commons

This Dissertation is brought to you for free and open access by the Walden Dissertations and Doctoral Studies Collection at ScholarWorks. It has been accepted for inclusion in Walden Dissertations and Doctoral Studies by an authorized administrator of ScholarWorks. For more information, please contact ScholarWorks@waldenu.edu.

Walden University

College of Health Sciences

This is to certify that the doctoral dissertation by

Frank Bailey

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Lawrence Fulton, Committee Chairperson, Health Services Faculty
Dr. Lee Bewley, Committee Member, Health Services Faculty
Dr. Vincent Agboto, University Reviewer, Health Services Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2016

Abstract

The Pharmaceutical Industry's Effect on Rheumatologists' Patterns of Care

by

Frank Bailey

MHA, University of Phoenix, 2008

BSc, Medical Technology, University of Southern Mississippi, 1993

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

Walden University

February 2016

Abstract

Drug makers have developed numerous techniques to influence treatment choices. Almost no information exists regarding the pharmaceutical industry's influence on rheumatologists and how these pressures could affect patient care. This phenomenological research, conducted within the framework of social exchange theory, explored the lived experiences of rheumatologists regarding their interactions with agents of the pharmaceutical industry. A researcher-designed interview protocol was used to gather feedback from 10 rheumatologists regarding how interactions with agents of the pharmaceutical industry made them feel. Using horizonalization, meaningful statements made by rheumatologists were condensed into specific themes and patterns, which provided a composite summary of their experiences with agents of the pharmaceutical industry. The experiences of rheumatologists' interactions with drug manufacturing personnel provided insights about medication access and patient financial assistance. Other key themes from rheumatologists' feedback included relationships, respectfulness, value appraisal and credibility, and authority and oversight. Rheumatologists' preferences and animosities towards the pharmaceutical industry revealed potential opportunities to both improve and curtail specific activities. Such opportunities would allow rheumatologists and the pharmaceutical industry to increase equitable exchanges and facilitate the appropriate application of medical care for the greater society.

The Pharmaceutical Industry's Effect on Rheumatologists' Patterns of Care

by

Frank Bailey

MHA, University of Phoenix, 2008

BSc, Medical Technology, University of Southern Mississippi, 1993

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Health Services

Walden University

February 2016

Table of Contents

Chapter 1: Introduction to the Study 1

Background of the Study 2

Problem Statement 5

Purpose of the Study 7

Research Question 7

Conceptual Framework 8

Nature of the Study 10

Definition of Terms 11

Assumptions 11

Scope and Delimitations 11

Scope 11

Delimitations 12

Limitations 12

Significance of the Study 13

Significance to Practice 13

Significance to Theory 13

Significance to Social Change 14

Summary and Transition 15

Chapter 2: Literature Review 16

Introduction 16

Literature Search Strategy 16
Theoretical Foundation 19
Foundation of Social Exchange 19
Examples of Social Exchange 21
Conceptual Framework 23
Philosophical Assumptions of Social Exchange 23
Challenges of Social Exchange 26
Literature Review 31
Institutionalization of Social Exchange 31
Social Exchange within the Pharmaceutical Industry 36
The Need For Authority 39
Social Exchange in the Modern Era 44
Summary and Conclusions 48
Summary 48
Conclusion 51
Chapter 3: Methodology 55
Research Design and Rationale 55
Role of the Researcher 59
Methodology 62
Participant Selection Logic 62
Instrumentation 64
Pilot Study 66

Procedures for Recruitment, Participation, and Data Collection 68
Recruitment 68
Data Analysis 69
Trustworthiness 70
Credibility 70
Transferability 71
Dependability 72
Confirmability 72
Ethical Procedures 73
Summary 74
Chapter 4: Presentation of Collection and Analysis 77
Pilot Study 77
Research Setting 78
Demographics 79
Data Collection 80
Data Analysis 81
Evidence of Trustworthiness 85
Credibility 85
Transferability 85
Dependability 86
Confirmability 86
Study Results 87

Summary 91
Chapter 5: Summary, Conclusions, and Recommendations 93
Interpretation of the Findings 94
Relationship 94
Respectfulness 97
Value Appraisal and Credibility 99
Authority and Oversight 102
Rheumatologist’s Guidance 104
Limitations of the Study 106
Recommendations 108
Implications 110
Conclusion 111
References 114
Appendix A: Introduction and Agreement to Participate Letter 123
Appendix B: Consent Form 124
Appendix C: Interview Protocol 126

Chapter 1: Introduction to the Study

The pharmaceutical industry is a unique social institution that contributes to the larger society by developing medicines and novel treatments to address the medical needs of the populace. Because the pharmaceutical industry and other health care institutions must work harmoniously together to apply patient care, the practices and influences each has on the other requires constant examination (Appelbaum, 2010). As such, the complex application of medical care in the United States requires impartial scrutiny. Though some larger medical specialties, such as cardiology, have enacted policies governing ethical relationships between practitioners and pharmaceutical agents (American College of Cardiology, 2008), other areas of medicine have yet to examine this phenomenon.

Rheumatology represents one of the smaller medical specialties within the U.S. health care system. Over the last 2 decades, drug manufacturers have developed many new treatments for rheumatologic diseases, and this increased innovation has resulted in a greater pharmaceutical presence within this specialty (Cronstein, 2007). As a result, the influence drug manufacturers apply to these practitioners has raised new questions regarding equitable exchanges and what represents ethical interactions (Cronstein, 2007). Interestingly, such questions persist without definitive guidance as to what an appropriate relationship is in rheumatology or how such interchanges can impact the care rheumatologists provide for their patients.

Equitable exchange between health care partners represents an important social imperative for each culture. Any negative impact one organization may have on another

could increase the adverse health outcomes of the population it serves (Eichler, Abadie, Raine, & Salmonson, 2009). Given the implications of these processes, equitable exchanges must be identified and understood to ensure that the health of the larger society remains thoroughly intact (McClure, 2009). This research seeks to understand the influence of the pharmaceutical industry on rheumatologist's patient care as doing so will elucidate a framework of processes and opinions by which exchanges between these two groups can be understood.

Background of the Study

Health care is a fundamental requirement of each society to ensure that the function of each member is maintained. The appropriation of medical care often requires multiple professionals, each coordinating a specific function to deliver a necessary service. Given the dependence each populace has on this matrix, the unobstructed flow of information between these partners remains critical (Kirschenbaum, 2009; Krumholz, Coutts, Angell, & Gottlieb, 2009). Physicians require medicines to treat illnesses, drug makers seek new treatment interventions to ameliorate diseases, and the greater public expects each party to work together to maintain and improve the overall health of the populace. It is when the acquisition of wealth takes precedence over ethical medical care that the social exchange between these groups becomes inequitable (Appelbaum, 2010; Crigger, Barnes, Junko, Rahal, & Sheek 2008; Kerridge et al., 2005; Olsen 2009). Appelbaum (2010) explained that these relationships demand the uninterrupted flow of critical information to advance medicine so practitioners can make appropriate treatment decisions. Thus, the relationships between social institutions in health care represent an

information network, with each party requiring something from the other in order to fulfill its mission.

Drug makers have developed numerous techniques to influence treatment choices (Crigger et al., 2008; Fischer et al., 2009; Kerridge et al., 2005; Nur & Ozsahin, 2009; Olsen & Whalen, 2009). Perhaps the most effective mechanism to drive drug selection is that which bounds the confines of a relationship (Appelbaum, 2010; Krumholz et al., 2009). Some form of partnership is necessary between health care matrix partners because the flow of pertinent information is critical to the advancement of patient care (Appelbaum, 2010; Kerridge et al., 2005). However, many have sought to limit such exchanges in order to reduce the perception of bias or influence over treatment selection (Naik, Woofter, Skinner, & Abraham, 2009; Olsen, 2009).

Given the need for regulatory oversight, many national governments have imposed laws and regulations to ensure that the application of medical care remains harmonious. In the United States alone, the Health Insurance Portability and Accountability Act (1996) and the Anti-Kickback Statute (1972) became law in order to preserve equitable interactions between medical professionals and their contractors (Appelbaum, 2010). In addition to these and other federal mandates, individual states have also executed laws governing the interactions between health care workers and agents of the pharmaceutical industry. Even some professional medical societies adopted guidelines or governing principles regarding relationships with drug manufacturers (American College of Cardiology, 2008). Though each policy provides recommendations and statutes to regulate collaborations with the pharmaceutical industry, the aim of action was to ensure transparency (Eichler et al., 2009; Kerridge et al., 2005).

Perhaps the most disputed matter regarding the relationship between physicians and drug makers is that of reciprocal influence (Fischer et al., 2009; Krumholz et al., 2009). Although the resulting relationship between these parties seems inevitable, defining positive and negatives levels of influence are often relegated to the perceived outcomes of these relationships (Appelbaum, 2010; Christensen, 2009; Crigger et al., 2008; Fischer et al., 2009; Krumholz et al., 2009). Scholars have examined various outcomes, such as patient health, monetary incentives, and perceived information bias (Appelbaum, 2010, Christensen, 2009, Fischer, et al., 2009). However, less emphasis is afforded to practitioner perceptions of pharmaceutical influence, in part because physicians face many groups who believe any level of this relationship injects potential proclivity (Eichler et al., 2009).

Often, individual awareness of influences between physicians and drug makers is subtle, but becomes subjective when reviewed by a third party (Olsen & Whalen, 2009, Parker, 2007). In fact, the growing body of evidence exploring such relationships is often generated by such third parties, such as patient advocacy groups, managed care organizations, and professional medical societies (Fischer et al., 2009; Kerridge et al., 2005). Although the physician perspective regarding the influence of the pharmaceutical industry accompanies this book of knowledge, such findings are often presented through opinion polls and in the first person (Nakayama, 2010). Moreover, little if any such analyses exist within the therapeutic space of rheumatology.

It is important to determine the level of influence of drug makers from the practitioners' perspective. Understanding these lived experiences provides transparency for physicians and pharmaceutical organizations alike (Appelbaum, 2010, Crigger, et al.,

2009, Krumholz, et al., 2009). In this study, I examined the effects of the pharmaceutical industry on rheumatologists' patterns of patient care. Quality health care affects all members of the populace. Though equitable exchanges between collaborators are subject to individual perceptions and value domains, interchanges that result in diminished patient care must be examined in order to elucidate positive change (Fischer, et al., 2009). Pharmaceutical organizations may seek to influence physician prescribing, but doing so may cause practitioners to choose suboptimal treatments, leading to diminished outcomes (Krumholz, et al., 2009). Therefore, medical processes that impinge the ethical application of patient care must be elucidated if the equitable function of a given health care systems is to be maintained.

Problem Statement

Considerable evidence exists on the potential negative influence that drug manufacturers may have on physician prescribing habits (Appelbaum, 2010; Crigger et al., 2008; Eichler et al., 2009; Fischer et al., 2009; Kerridge et al., 2005; Krumholz et al., 2009; Naik et al., 2009; Nakayama, 2010; Nur & Ozsahin, 2009; Parker, 2007; Sah & Fugh-Berman, 2013). Appelbaum (2010) and Nur and Ozsahin (2009) referenced the reciprocal influence that drug manufacturers may have on physician prescribing habits, while Crigger et al. (2009) and Fischer et al. (2009) detailed the mechanisms in which these organizations may leverage only favorable data in educational settings. Regardless of the mechanisms employed by pharmaceutical organizations, many physicians and professional societies reject that such means will sway what drug they decide to use in a

given situation (Kerridge et al., 2005; McClure, 2009). However, there is little to no information on this topic in the therapeutic discipline of rheumatology.

There is conflicting evidence on the pharmaceutical industry's effect on rheumatologists' patterns of patient care. Though both health care collaboration partners play a role in the application of medical care, increasing exposure to rheumatologists by the pharmaceutical industry has generated new questions about reciprocal influence. In previous studies on physician perceptions of the pharmaceutical industry, researchers revealed distrust and skepticism regarding drug agent motives (Crigger et al., 2008; Fischer et al., 2009; Kerridge et al., 2005; Nur & Ozsahin, 2009; Olsen & Whalen, 2009). Scholars also revealed increasing interdependence for information exchange between physicians and pharmaceutical representatives when exchanges intensify (Kirsch, 2010; Rodwin, 2010). However, such research was limited to a broad spectrum of physicians, often primary care, and did not address the potential impact such exchanges may have on smaller therapeutic specialists who have only been engaging industry representatives for a short period of time.

When considering the topic of reciprocal influence between two parties, the concept of equity and fair balance become subjective. Appelbaum (2010) explained that interactions between physicians and drug manufacturers might result in multiple forms of collaboration, each with varied equitable exchanges that could result in either improved patient care coordination or negative health outcomes for patients. Though rheumatology represents a small specialty physician discipline, over the last decade, these practitioners have been propelled to the forefront of modern medicine with the introduction of numerous innovative biologic medicines (Naik et al., 2009). As a result, the

pharmaceutical industry's presence in rheumatology has grown precipitously, leading to many new questions regarding the influence this group has on practitioners' methods of applying patient care and what exchanges represent equitable practices. Crigger et al. (2008), Kerridge et al. (2005), and Olsen and Whalen (2009) indicated that drug makers can effect practitioner habits in a variety of ways and understanding the impact such processes may have on patient care must be elucidated in order to identify appropriate areas of ethical and equitable exchange. Hence, in this study, I explored the lived experiences of rheumatologists regarding the pharmaceutical industry's effect on their patterns of patient care.

Purpose of the Study

The purpose of this study was to examine the lived experiences of rheumatologists regarding the effect of the pharmaceutical industry on their patterns of patient care. Through this qualitative study, I gained insights regarding the influence of drug makers on rheumatologists and how this has impacted the care these practitioners provided for their patients. Because such research has yet to be conducted, the findings from this inquiry can inform rheumatologists, leadership within the pharmaceutical industry, government regulatory agencies, managed care organizations, and patients as to whether there is an advantageous or adverse cost benefit exchange between drug manufacturers and rheumatology practitioners. Positive exchanges can be identified and improved upon, whereas negative processes can be determined and amended to facilitate the appropriate application of medical care for the greater society.

Research Question

The following question informed this research study:

1. What are rheumatologists' lived experiences regarding the influence of the pharmaceutical industry on their pattern of patient care?

Conceptual Framework

The contextual framework for this study concerned the influence individuals have on one another and how these relationships impact outcomes. Personal relationships derive from an innate desire to exchange experiences and to reap rewards of satisfaction and trust (Thibaut, 1986). As such, social exchange theory is a platform that can be used to describe the ascendance of relationship formation and why such connections become significant. Because each individual develops goal-oriented behaviors as a result of social exchange, this medium provides a conceptual lens in which to explore individual influence over others (Ekeh, 1974). Because each society seeks to evolve and incorporate more complex interaction structures and institutions, the equality and morality of each exchange becomes a social issue (Cook & Emerson, 1987).

Interpretation of the lived experiences of one group regarding their exchange relationship with another requires context and boundaries that allow each member to consider his or her individualistic value perspective. When such perspectives become shared across a community, it becomes an institutionalized process, further increasing each member's exchange potential (Blau, 1986). These institutionalized groups then develop values and norms to regulate goal-oriented exchange possibilities, and these processes become ingrained as operational procedures and serve to socialize each member (Thibaut, 1986). Although an institution is representative of a specific culture, its processes may influence others to change or create various obstacles when exchanges

are performed without its involvement (Thibaut, 1986). Such is the case when a specific group wishes to influence, integrate, or dominate others.

Within the confines of this research, the pharmaceutical industry represented one such institutionalized group that often exploits its influence over medication prescribers to achieve financial goals. The mechanisms permitting such inducements are circumscribed to social exchange situations, with each interaction resulting in greater influence (Blau, 1986). Although many argue the leverage of formed relationships may be equitable for those involved in a given exchange, the outcome may not always facilitate improvements for the greater society (Bignoux, 2006; Cook & Emerson, 1987; Ekeh, 1974). A physician and a drug representative may have a respected affiliation, but if actions emanating from this association adversely affect patients, then the interrelationship creates unwanted imbalances. Social exchange theorists explain that the use of influence is at the heart of each interaction because each exchange partner enters into the relationship wanting something from the other (Blau, 1986; Cook & Emerson, 1987; Ekeh, 1974; Thibaut, 1986).

In this study, I sought to understand the lived experiences of rheumatologists regarding the pharmaceutical industry's influence on their patters of patient care. Each party willingly enters into periodic social exchanges while developing a sphere of influence over the other (Cook & Emerson, 1987). Over time, the impact of these exchanges may guide or sway decision making to favor one collaborator over another. The impact of reciprocal exchanges over time may be subtle, and at times seem amicable, especially when both parties achieve their desired goals (Blau, 1986). Understanding the experiences of rheumatologists regarding their exchange relationship with drug

manufacturers could provide insights for leaders within the pharmaceutical industry regarding the reciprocal influence each group has on the other.

Nature of the Study

This qualitative research will explore the influence pharmaceutical manufacturers have on the care rheumatologists provide to their patients. Creswell (2007) explained that qualitative researchers seek to understand the meaning that individuals ascribe to a given situation or circumstance. The purpose of this study was to understand the lived experiences of rheumatologists regarding the effects of drug manufacturers on their pattern of patient care. The interpretation of those experiences requires the accumulation of a broad medium of value-oriented behaviors, individualistic goals, and the moral perspective of the presiding societal culture. If the outcomes of these exchange transactions appease the societal role facilitation of each party, then a thorough understanding of these experiences provides a platform in which to interpret additional exchanges (Blau, 1986).

Given the breadth of potential individual empiricism, a qualitative study design is amenable to explore the lived experiences of study participants. A phenomenological study design was selected to elucidate the shared experiences of rheumatologists regarding the influence of pharmaceutical corporations on their patterns of patient care. In doing so, I aimed to determine what these lived experiences are and how these outcomes have influenced their patient care. The focus on the essence of these lived experiences distinguishes the phenomenological approach from other qualitative research approaches.

Definition of Terms

Rheumatology: A distinct therapeutic area of medicine that diagnoses, treats, and medically manages patients with arthritis and other rheumatic diseases (American College of Rheumatology, 2012).

Social exchange theory: Examines socially motivated reciprocal processes between individuals, organizations, and cultures to achieve specific outcomes (Blau, 1986).

Assumptions

In this study, I explored the effects of the pharmaceutical industry on rheumatologists' patterns of patient care. The following assumptions were considered:

1. The participating rheumatologists in this study have undergone interactions with various pharmaceutical personnel.
2. The participating rheumatologists prescribe medicines promoted by drug manufacturers for their patients.

Scope and Delimitations

Scope

In this study, I explored the lived experiences of rheumatologists regarding the pharmaceutical industry's effect on their patterns of patient care. To date, there is no empirical evidence suggesting that such an influence exists, but the philosophical underpinnings of social exchange theory propose that all interchange partners affect each other (Blau, 1986). Although scholarly evidence of drug manufacturer influence is present in other medical arenas, rheumatology has yet to be explored. Social exchange theory provides a conceptual framework to explore how individuals or groups apply

influence on each other before, during, and after various interchanges. The qualitative nature of this exploration allowed rheumatologists to explain their exchange experiences with various agents of drug manufacturers to determine if reciprocal active or passive influence exists. Understanding the impact of these lived experiences can provide context for both exchange parties and aid in the construction of an improved equitable relationship.

Delimitations

This research encompassed the live experiences of rheumatologists and their opinions regarding the influence that the pharmaceutical industry has had on their patters of patient care. As such, participants were delimited to rheumatologists and not to other practitioners in different areas of health care. These health care professionals are trained in primary care, but undergo specific training in rheumatologic care and are, therefore, separated by this specialization. As such, the boundaries of this inquiry were confined to this specific health care population. Although the conceptual framework encompassed by this research may be transferable to other areas of medicine, the nuances and professional variations between these groups would require separate analyses.

Limitations

Potential limitations of the study included the following: The discussion of each limitation impact is detailed in Chapter 3 of this manuscript.

1. Because I explored the lived experiences of only 10 rheumatologists in the Southeast United States, the resulting themes and insights may not be generalizable across the entire field of medicine.

2. I explored the reciprocal relationship between drug manufacturers and rheumatologists from the perspective of the participating rheumatologists. Therefore, the outcomes may not reflect the perspective of the pharmaceutical industry.

Significance of the Study

Significance to Practice

Each society must construct mechanisms to ensure the viability of its population. Health care is a vital institution within this context and requires collaboration between multiple members of the populace. Medical professionals play a role in the application of health services, and issues related to patient care must take priority over personal considerations (Crigger, et al., 2009). As such, relationships between exchanges partners must promote medical improvements if each member is to fulfill the given societal role they occupy (Appelbaum, 2010; Eichler et al., 2009; Krumholz et al., 2009). Therefore, understanding the influence each group has upon the other may elucidate practices that can be improved upon to potentially foster positive health outcomes.

Significance to Theory

Maintaining the health of a given population is a critical societal imperative and is necessary for continued viability and evolution. However, the mechanisms that influence its application are multifaceted and may differ from one population to the next. Because the practice of medical care involves multiple individuals engaging in a variety of exchanges in order to achieve a desired outcome, each becomes influenced by the other (Blau, 1986). Though the impact of each exchange may seem subtle, continued exchanges between individuals or organizations require trust and equitable arrangements

(Cook & Emerson, 1987). While exchange mechanisms help shape different social norms, various constraints existing within each cultural matrix may attenuate or confine such processes.

Though trust and reliance are required for each party to engage in a particular transaction, the evolving process of reciprocal exchange increases the dependence between them. While profit-motivated behaviors abound in free markets around the world, the actual remuneration may be more relative than absolute (Cook & Emerson, 1987). As each exchange partner strives to exchange commodities that maximized gains while minimizing losses, attainment could lead to either gratification or disappointment, depending on the circumstances encompassing that exchange (Blau, 1986). These profit/loss motives can lead to coercive practices and negative outcomes, even when such conclusions were not intended.

Significance to Social Change

In this study, I examined the lived experiences of rheumatologists regarding the effect of the pharmaceutical industry has on the care provided to their patients. Through this qualitative study, I gained insights regarding what influences drug makers have on rheumatologists and how this has impacted their approach to patient care. Because such research has yet to be conducted, the findings from this inquiry can inform rheumatologists, drug manufacturer leadership, government regulatory agencies, managed care organizations, and patients as to whether there is an advantageous or adverse cost benefit exchange. Positive exchanges can be identified and improved upon, whereas negative processes can be identified, categorized and amended to facilitate the appropriate application of medical care for the greater society.

Summary and Transition

Because health care requires the coordination between many different individuals, each transactional exchange should serve to facilitate patient care. For this reason, it is necessary to explore these value-oriented interactions in order to determine the depth of influence one party has over the other. Individual, organizational, and societal influences may alter such intent and lead to impediments for medical care. According to the social exchange process, such impediments can and often lead to conflict or social restriction of the interchange involved. It then becomes a societal mandate to determine what restrictions or deterrents exist within an exchange matrix so as to determine what processes can be altered or modified to form equitable interchange.

In this study, I sought to understand the lived experiences of rheumatologists regarding the influence that the pharmaceutical industry has had on the care they provide to their patients. Through this inquiry, I sought to understand what reciprocal consequences exist and how subjects are or are not influenced by agents of drug manufacturers. In addition I elucidated what the connections are and how these processes work. In doing so, a greater understanding of drug manufacturers' motivations can be examined and interpreted regarding this evolving health care relationship.

Chapter 2 provides a comprehensive literature review, Chapter 3 includes a description of the methodological approach for this inquiry. In Chapter 4, I describe the research findings, and Chapter 5 includes the interpretation of the data.

Chapter 2: Literature Review

Introduction

There is conflicting evidence regarding the pharmaceutical industry's effect on rheumatologists' patterns of patient care. Crigger et al. (2008), Kerridge et al. (2005), and Olsen and Whalen (2009) indicated that drug makers can affect practitioner habits, and it is necessary to understand the impact such processes have on patient care in order to identify areas of ethical and equitable exchange. Hence, in this study, I explored the lived experiences of rheumatologists regarding the pharmaceutical industry's effect on their patterns of patient care. Because the actual effect drug companies have on rheumatologists' practice decisions are relatively unknown, understanding this impact could provide insights for pharmaceutical processes to align corporate goals with the needs of this specialized discipline.

In this literature review, I summarize research related to social exchange practices and how societal members and social institutions engage in interactions that evolve over time. Because the confines of this philosophical framework provide insights regarding reciprocal processes of interdependent relationships, it allows for a detailed analysis of motives and value-oriented behaviors between exchange partners. In addition, I will consider the social norms that bound an exchange environment as well as the potential consequences of inequitable reciprocation.

Literature Search Strategy

The information presented in this review was collected using multiple means. First, the theoretical framework was examined through the works of Blau (1964), Cook

and Emerson (1987), Ekeh (1974), and Thibaut (1986) as they relate to the different elements of social exchange theory. Sources for the literature review were obtained through a database review, including Academic Search Premier, Google Scholar, ProQuest, numerous scientific journals, Walden Dissertations, and local library resources like the book sharing programs throughout various academic institutions in the state of Georgia. Because the presence of pharmaceutical representatives has increased in rheumatology over the last decade (Cronstein, 2007), the parameters for the literature search were limited to those published no more than 10 years ago. Keywords used to mine these and other databases included the base phrases *social exchange, social exchange theory, equitable corporate sharing, pharmaceutical ethics, physician and pharmaceutical, pharmaceutical processes,* and *corporate responsibility.*

Various terms, such as pharmaceutical, rheumatology, ethics, equality, and leadership, were used to condense the large amount of data discovered by the base phrase searches. The purpose of this research strategy was to use the broad phrase searches to maximize the return of scholarly journals and periodicals. Reviewing the extensive returns of these searches often revealed unanticipated and useful materials. In addition, collaboration with professional colleagues, student peers, and Walden professors provided other recommended sources of information, such as websites (e.g., PhRMA.org and Pharmaceuticalethics.com) and pharmaceutical mission statement review.

I incorporated the philosophical works of several key scholarly authors, each contributing to the consensus of the social exchange intellectual framework. Blau, Cook, Ekeh, and Thibaut provided an examination of the theoretical structure for this research, which also encompassed practical examples of social exchange situations, serving to

further influence the literature search. Many of the social exchange-derived scholarly journals quoted and cited the above authors and described their literary contributions as the foundation for social exchange composition. I made notes throughout the review of each of these published works.

Though ample literature was available regarding pharmaceutical tactics with regards to physicians profiling and suggestive marketing practices, little information regarding the social exchange mechanisms employed by drug manufacturers was found. Instead, the wealth of evidence available is often the result of third party observation, many of which view any relative exchange between physicians and members of the pharmaceutical industry as questionable. Specifically, Appelbaum (2010), Crigger et al. (2008) and Kerridge et al. (2005) referred to such exchanges as an open-ended potential for discourse. Each provides examples of pharmaceutical interactions with physicians as a trade of commodities, regardless of whether the information is educational, monetary, or influential. From this perspective, a physician willing to engage an agent of the pharmaceutical industry is subject to the value domains of anyone who oversees or reviews the interaction.

In rheumatology-specific searches, I found some scholarly information regarding interactions with drug company personnel, but the boundaries of equitable exchange confining such interactions were not elucidated. Cronstein (2007) explained that the notion of incorporating pharmaceutical support or attendance does not necessarily mean rheumatologists become unknowingly influenced. Furthermore, if a rheumatologist pays for a meal with a representative of a drug manufacturer, it may not mean the pharmaceutical employee has become influenced by the doctor (Cronstein, 2007). The

assumed dominion drug companies have over rheumatologists is not evidence-based (Lipsky, 2009). As such, the value domains that encompass exchanges between these collaborators remain unclear, and the resulting influence each party has on the other is entirely subjective. The void in this body of knowledge influenced the pursuit of this research.

Theoretical Foundation

Foundation of Social Exchange

Throughout human history, social behavior has been relegated to observational scrutiny rather than scientific fact (Cook & Emerson, 1987). Historically, scholars reviewed documents and artifacts to gather evidence on social outcomes, but it was not until the mid-19th century that sociological aspects of human behavior were actively observed and categorized (Ekeh, 1974). The industrial revolution gave way to the information age and shifted the social perspective away from authoritative and aristocratic rule to an economy based on exchange of labor for wages, often isolating workers from the support and certainty of the familial trades (Blau, 1986). Through this evolution, many societies began to prosper and grow at a rate not seen before in human history. The increasing exchange of ideas, commodities, and labor began to shape each culture and lead to increased collective action by each society (Ekeh, 1974).

Human interaction is the result of many different types of associations. Individuals may be associated through relationships involving family, labor, recreation, proximity, conflict, or shared cultural beliefs (Blau, 1986). Through these associations, a complex system of exchanges develops in which wealth, status, power, or psychological

fulfillment are increased or decreased. Such exchanges are the result of opposing forces, which creates balances and imbalances (Blau, 1986). A person gaining a particular resource often results in the limitation of another to obtain the same commodity. However, social exchange practices evolved to create more equitable practices in which such resources may be exchanged for another, perpetuating a system of continuous interchange and dependency.

Although historical evaluation of social exchange often provides evidence of only value acquisition, interchanges involving personal relationships were more difficult to scrutinize. As members within a certain social matrix may or may not have access to various resources, socially motivated exchanges may predominate. Within each society, individuals become indoctrinated into the system of social exchange soon after birth (Blau, 1986). From the moment a toddler assigns value to a given object or act, he or she begins to develop psychological methods of acquiring it (Cook & Emerson, 1987). The more the object or action pleases the child, the greater the value assigned to it. Once the child is able to speak, new methods of manipulation begin, and the reciprocity of appeasing these desires leads to the formation of different values, goals, and preferences (Cook & Emerson, 1987).

As societal members mature through life and develop new relationships to facilitate social exchange processes, larger organizations form to perpetuate such actions. As a result, families, communities, businesses, organizations, societal infrastructure, and governments begin to take shape, each serving to increase exchange possibilities. Exchange processes learned throughout life develop into goal-oriented behaviors as individuals seek to create personal satisfaction, regardless of its designation (Thibaut,

1986). Each social exchange theorist agrees that the acquisition of power, love, wealth, or personal fulfillment becomes contingent on the actions of others. As such, societal members find profit in their interactions with others, although the allocation of this benefit is not always equal (Blau, 1986). The motives behind these pursuits are often rewards gained from psychological processes of attraction, both physical and nonphysical (Thibaut, 1986).

Examples of Social Exchange

Though basic survival necessitates various exchanges between individuals in primitive society, the evolution of social structures became a critical component of interchanges between citizens of a given community. Ekeh (1974) denoted the diffusion of organized religion as a modality that served to exchange information and societal values between indoctrinated members. Once initiated into a given religious structure, each individual is encouraged to recruit new members to facilitate increased exchange possibilities, which lead to the expansion of that cultural organization (Cook & Emerson, 1987). Because this system is self-perpetuating, it requires increasing dependence to exert its significance. Individual needs are superseded by the needs of the growing movement, but still remain the underlying motivation for each member (Ekeh, 1974).

Religion is but one social structure emerging to facilitate greater social exchanges. Although the commonalities shared by each member provide a base for increased interactions, the structural framework of the societal structure does not specifically feed or protect its members (Thibaut, 1986). Instead, it serves as a cultural attribute, in which members identified themselves as part of; worthy of preservation, and in some cases, domination. This dependability influences the development of other social structures,

each inculcating new values and opportunities for exchange between each individual. As each societal structure evolves, its infrastructure creates new positions in which members can aspire to, thereby expanding exchange possibilities. Other commodities, such as improved accommodation, wealth, and power, often accompany ascendance within the social organization. Once established, the social order is able to apply value to its existence beyond the shared commonalities of its members (Ekeh, 1974).

As the benefits of evolving social organizations demonstrate value to each of its members, individual needs and exchanges have to benefit the larger social order so as to sustain its increased proliferation (Cook & Emerson, 1987). Although the actions of each citizen serve the larger populace, individual motivations for such exchanges evolve from direct to indirect (Ekeh, 1974). Instinctual desires previously influencing particular actions give way to learned exchange practices, which benefit each party. A member of society seeking food learns directly that taking it from another nullifies an exchange, whereas negotiation or exchange engagement creates an opportunity for continuous trade (Blau, 1986). Because the value of the relationship now outweighs the potential for one-time gain, a social code of conduct emerges to facilitate increased exchange while creating reparation for self-serving conduct (Ekeh, 1974).

As society evolved further, the domains by which individuals could engage in exchange activities increased. These various influences created new socially conditioned situations, often leading to economic pursuits rather than individualistic survival motivations (Ekeh, 1974). As social conditions became more economically ambitious, members increasingly sought social exchanges to maximize profit potential, while minimizing potential loss. As humans learned the value of profit, economic motivations

became commonplace and created new social norms to separate exchanges of necessity into modes of transactions (Thibaut, 1986). However, growing social systems perpetuating economic growth required controlling forces to prevent conflict and harmonize a system of balances (Cook & Emerson, 1987). As such, new social norms, influenced by familial, community, and governmental systems, developed to regulate social exchanges (Blau, 1986).

Conceptual Framework

Philosophical Assumptions of Social Exchange

Society is a complex blend of individuals collaborating amongst others to achieve a wide variety of goals. From birth, individuals begin the ritual of social indoctrination and learn quickly to assign value to attributes that create pleasing emotions (Cook & Emerson, 1987). Because the stimulus of social interaction increases as a person matures from youth, the constructs of individual value sets begin to shape into a hierarchical system. Within this system, people learn to place various levels of value on things, which in turn are assigned worth (Thibaut, 1986). Once a general sense of worth forms physical and emotional characteristics, the individual learns his or her value in social exchange situations (Cook & Emerson, 1987). From there, socially conditioned members engage in multiple exchange processes to maximize gains and to seek physical and emotional fulfillment (Blau, 1986).

Because the value of a thing is mediated by hypothetical constructs created by the individual, its relative worth varies among the social players. Some will place paramount value on a thing and seek to exchange physical or emotional favors to possess it, whereas others may apply low worth (Ekeh, 1974). As a result, an array of social exchanges

becomes possible with members actively interacting and perpetuating countless transactions. The sheer diversity of human relations creates revolving processes, which shape individual choices and preferences, while influencing external conditions which become socially modified to increase exchange possibilities (Blau, 1986). As new members become assimilated into a given society, they introduce new exchange choices, shape new motivations, and alter social norm conduct to favor desired conditions (Blau, 1986).

Individuals may not always be able to acquire their desires and may become willing to use coercive actions to obtain it. However, social indoctrination may influence individual gain to favor that of a group or specific segment of the population. Such is the case when individuals form units to greater facilitate each individual's need for social exchange, but also to further common goals. Practically every group in society has goals to create self-propagation and continuous development (Thibaut, 1986). Clubs, gangs, classes, communities, religions, and governments each have agendas and needs, whose members serve the unit by identifying, acquiring, and expending resources to expand its fulfillment (Cook & Emerson, 1987). Individual friendships also serve this common goal through social exchange processes by rewarding each member and providing the necessary incentive for continuous development (Thibaut, 1986).

Although various exchange processes create unions between societal members, not all transactions are equal. Some may argue different social norms reward actions that maximize benefit through the quest of power or status differentiation, rather than propagate harmony through equality. Ekeh (1974) explained that such pursuits are not always economically influenced, but are often symbolic. Exchange processes may lead

one individual to obtain objects that have low value to the majority, but have high emotional overtones for those who possess it. Ekeh (1974) exemplified these behaviors by denoting a person's willingness to exchange monetary commodities for a religious artifact, perhaps having virtually no value for the social majority. It is within the individual's psychological constructs that value becomes weighted, leading him or her to seek out emotional fulfillment.

Because the psychological constructs of a given exchange may differ between interchange partners, the morality of the experience may define the boundaries governing the process (Blau, 1986). Each participant receives fair and balanced rights for the exchange whereas self-interest cannot prevail for the majority. Ekeh (1974) explained that such morality exists in social exchanges even when under the influence coercive forces. A dictator could impart fair judgment of an exchange between subjugated citizens when nothing is at stake for them. However, coercion is a common mechanism for individuals to implement when they wish to obtain something they value in the absence of equal exchange (Zhang & Epley, 2009). Thibaut (1986) suggested that the presence of such inequalities creates changing imbalances in society, with opposing forces exchanging power continuously to seek equilibrium. Blau (1986) explains societal balance is a necessary cornerstone for equitable social exchange because fewer impediments exist to distract individuals from continuous trade.

Within this changing environment, many people develop similar desires and take similar steps towards its acquisition. Because social exchanges are mediated through a variety of different relationships, individuals learn to seek out those with kindred traits to facilitate greater interaction. As groups form and membership increases, organizations

develop to optimize exchanges and participants learn to induce desired actions from outside members (Cook & Emerson, 1987). If an outsider is unwilling to conform to the constructs of the association, in-group members invoke disapproval and often restrict exchange opportunities with them (Zhang & Epley, 2009). Inevitably, both parties will conduct exchange processes on different levels, but will assign contrasting values for things they believe have greater worth.

Although kinships with like individuals may facilitate greater social exchange possibilities, it does not mean all members of society seek such relationships. In a free society where individual choice prevails over directed social activity, endless possibilities emerge for social conduct and create abundant opportunities for exchange processes (Blau, 1986). Each individual develops social and psychological constructs that drive individual choice and justify personal needs. They are also free to associate with other members who may or may not have similar traits. This expands the person's ability to engage in exchange processes that would not be otherwise available in a restrictive state. As a result, each member involved experiences different opportunities and challenges to facilitate social exchange processes and seeks personal fulfillment through a variety of means afforded within their social construct (Cook & Emerson, 1987).

Challenges of Social Exchange

Historically, social exchange processes were necessary to obtain basic needs and improve livelihood. Once basic necessities were assured, more complex exchanges emerged to fulfill other aspects of social development. However, due to the limited array of individual possessions, exchange processes did not always benefit those involved.

Rosenbaum (2009) explained parents exchanged children, among other commodities, through marriage to ensure prosperity or balance opposing forces in conflict. In doing so, the children are denied the freedom of social exchange, whereas the families controlling the union obtain some level of fulfillment. Furthermore, the persons involved are often conditioned to accept the terms of the union, often forgoing individual freedoms to accept new exchange possibilities promised through the terms of their sacrifice (Nakonenzy & Denton, 2008). Even with abundant resources available for exchange today, such practices still exist because the value of the exchange is given priority over other possessions.

Such are the challenges of social exchanges that each potential commodity has presumed value and those seeking it will may employ a variety of means to acquire it. To further complicate matters, the actual value of the exchange may be disproportionate between those engaged in the activity, where one individual may place high value and another places low value. Blau (1986) explained such circumstances created preludes to conflict because an individual who places high value on a commodity may employ unscrupulous means of acquisition, even when the value to others is relatively low. Cook and Emerson (1987) denoted these processes in social exchange situations might create avenues of potential exploitation, deceit or perfidiousness. As these practices grow, conflict often ensues in an effort to achieve balance for future exchanges.

Though conflict can emerge through social exchange practices, outcomes can lead to improved systems that serve to create equitable practices during such processes. A common development leading to potential balance is the enactment of socially conditioned laws and governances. As society develops and agrees upon the value of

common exchange practices, this acceptance provided the foundation for rules to govern the overall process. Thibaut (1986) expressed this development is exemplified in common social marketplaces, where commodities are sold to customers with standard costs or trade. In this matrix, each citizen agreed on the value of a particular ware and voluntarily participated in the fair exchange process. It is when the value of a commodity is unknown or novel that its reimbursement in an exchange became questionable or controversial.

Ekeh (1974) explained the foundation in which individuals engaged in social exchange was built primarily on trust and the ability to opt out of the process if they deem its reimbursement was unfair. When trust and reliability become insured, other socially conditioned processes emerged and gained value among the actors involved. Camaraderie, friendship, love and appreciation are possible outcomes of positive social exchanges once the process created greater investment than the simple commodity involved in transfer. Persons may agree to have a meal at a restaurant, not simply because of basic human necessity for sustenance, but because the interchange fulfills a psychological need, which at the time has greater value than the tangible food provided (Blau, 1986).

As society developed, the need for social exchange processes to satisfy emotional fulfillment became greater. So much so, desires serving only one individual without the involvement of another may suggest gluttony to others. A person wishing only to eat alone may deprive others seeking involvement, even when the individual is satisfying their own desire for privacy or seclusion (Blau, 1986). Although other examples of solitarily motivated activities, such as reading, watching a movie, or creating art often

seem withdrawn; the processes often involved future social exchanges possibilities in which the individual shared the experience or seeks feedback from others for emotional fulfillment. Perhaps ironically, those seeking to forgo exchange processes, as defined by the socially implemented laws or rules, were punished by excluding them from exchange possibilities, such as confinement or forced procedural education (Cook & Emerson, 1987).

Not surprisingly, many individuals learned to circumvent social exchange processes to benefit themselves, while remaining compliant with existing laws and procedures. The development of exploitation through excessive obligations emerged when a person willingly engaged in an exchange when the other has insufficient trade. Although the individual with the higher valued commodity may seem to obtain diminished return, a condition associated with the trade may involve future commitments, which in time increased the value of the original trade (Thibaut, 1986). It is commonplace in modern time to accept the conditions of a financial loan, even when it exceeds the cost of that which is obtained. Although this process originated from various forms of historical exploitation, the practice became socially accepted so as to provide increased potential for greater exchange possibilities (Blue, 1986).

So complicated have exchange processes become, individuals seeking value through such transactions must be willing to accept potentially negative outcomes (Ekeh, 1974). Historically, groups agreed to battle for dominance with the understanding their loss would result in defeat or even death. However, the potential gain from such actions had greater value than the negative prospect. The chance to rule or influence fulfilled both physical and emotional needs, and created a dominant position for increased

exchange possibilities. Although evidence of these actions exists in surplus today, more subtle means of status differentiation and power capacity exist and flourish. Individuals willingly engage in mating rituals and courtships, while understanding their needs may be unfulfilled or even rejected. A man seeking the attention of a woman must compete for her affections and risks rejection, but the potential gain outweighs the refusal. An employee who sought and obtained a promotion often does so at the expense of others, even when it is deserved. A typical sporting event involves individuals or groups agreeing to participate in the activity even with the understanding that only one can prevail. So conditioned are these social exchanges in present day that deprivation is accepted and even expected in most transactions (Blau, 1986).

Although increased social exchange processes provided greater potential for each member to engage in a given transaction to pacify physical or emotional needs, power differentiation and dominance often served to limit possibilities. An individual ascending into power with the sole desire to implement their will onto others through dominance will seek to limit exchange possibilities among subjects to retain power and create dependence upon those commodities they control (Thibaut, 1986). Perhaps ironically, social systems that rewarded people by increasing their influence and dominance in a given environment often sacrificed increased exchange potential once the individual obtains the power. An employee promoted into a position of power may have obtained the role by acting or working differently than others and will then seek to limit the processes embraced by those subordinates, thereby decreasing their exchange potential.

Power differentiation is hardly limited to single members or groups. When social conditions allow freedom of alliances, large organizations develop and drive exchange

potential for the larger society. Although free societies seek continuous growth for exchange processes, such industries may have the opposite effect. A service organization developing a dominant position may seek to limit or obstruct potential competitors, often resulting in reduced exchange potential. Governments ascending into power with the prospect of increasing social exchange possibilities may also limit others. As social exchange practices seek balance among those involved, continuous processes, industries and governments evolve or decline when meeting these unceasing challenges.

Literature Review

Institutionalization of Social Exchange

As individuals strive to participate in exchange opportunities, they became united and formed groups and systems to increase the potential of interactions. As individuals gravitated to others with shared values and goals, their connection expanded to form larger social systems (Cook & Emerson, 1987). Blau (1986) explained how such motivations serve to create larger social systems:

> Social relations unite not only individuals in groups, but also groups in communities and societies. The association between individuals tends to become organized into complex social structures, and they often become institutionalized to perpetuate the form of organization far beyond the life span of human beings. (p. 13)

The creation of such alliances also fulfilled the emotional needs of each member and generated further investment in its continuation and expansion. Two individuals trading food for clothing both obtained basic necessities and could become dependent upon the other for vitality. When others are permitted to add new items for exchange, the relationship expanded to include new possibilities for acquisition. As each new member

joined, they became invested in protecting the sanctity of the arrangement and expanded into new areas of commerce.

Once again, a simple market exemplified this arrangement as one individual attempted to exchange their wares for other commodities in a set location. Additional people opted to participate and began exchanging other wares in the same location. Each person benefited from the other by attracting more clientele and increased the potential to exchange their products. Once such alliances formed, the value it brings to each individual warranted continuous growth and protection (Blau, 1986). Once such alliances became stabilized, organizations and institutions emerged. Rules needed to govern the organization's processes then formed and such procedures dictated what each individual may and may not do. As the institution perpetuated, members became increasingly invested and the organization took greater form by expansion and proliferation (Blau, 1986). Such institutions are exemplified by governmental structures, community organizations, and religious practices. As society evolved, these social institutions formed to regulate basic needs and to stabilize necessities required for each member.

Once basic needs became balanced among participants, individualistic desires began to prevail. When currency was introduced to balance exchange processes, the acquisition of greater resources became paramount. Currency in of itself was not able to sustain life, but served as a symbolic asset and could be used to trade for any number of resources. As such, institutions often served primarily economic motives to bestow greater wealth or currency on each participating member. As each member accumulated more currency, his or her exchange investment served to perpetuate that institution.

While conceptually grounded in basic exchange procedures, such pursuits often led to imbalances within society as institutions grew to such proportions, it commanded exchange situations favoring only its objective at the expense of non-invested members (Ekeh, 1974).

While institutionalized groups developed values and norms to regulate goal-oriented exchange possibilities, these processes became ingrained as operational procedures and served to socialize each member. As the institution grew, it became a reflection of a particular society and represented their specific interests abroad (Blau, 1986). Social norms, business culture, and local customs were practiced when engaging in commerce with other societies and each exchange presented an opportunity to learn about the other's culture. Like other local cultural practices, society's industries served to increase potential exchanges. Although an institution was representative of a specific culture, its processes influenced others to change or create various obstacles when exchanges were performed without its involvement (Thibaut, 1986). Such is the case when a specific group wishes to influence, integrate or dominate others.

Processes used to influence actions from other cultures need not be solely economically motivated. Cultural, spiritual and educational motives were also embedded in institutionalized practices. Cultural influences, such as entertainment, music and art played an important role in each specific society, and continuous developed and evolved to create massive industries for each facet. Once institutionalized, these mechanisms were exchanged worldwide and served to influence others and transmitted cultural information between populations. When other cultures experienced such influences, it served to impress or even manipulate their society, potentially leading to domestic

changes. As these transmissions gained in influence, its value increased and became a commodity like any other, readily available for exchange and worthy of reciprocity (Cook and Emerson, 1987).

Traditionally, one of the most apparent forms of institutionalized exchange was that of religion. Social conditions became fertile for a variety of spiritual manifestations as the population grew and individuals developed commonalities worthy of further development and exchange. Each religion developed from social norms and common values, and served to stabilize provincial conditions while representing that specific culture. Sharing the characteristics of other institutions, religious associations sought new members to increase size and influence, while introducing rigidities to minimize attrition and prevent others from engaging in conflicting goals (Blau, 1986). Contention motivated by religious division and variance are abundant throughout history and reflect the potential influence gained by an institution within a given culture when its exchange potential becomes unwillingly confined. In some cases, the institutionalization of a specific religion became so dominant; it defined the very culture itself.

As social systems became institutionalized, opposition movements arose when conditions were such that social norms permit such challenges. Blau (1986) denoted coalitions seeking to challenge a particular institution often evolved into separate institutions. Capitalistic nations permitted an institution to grow within the confines of specific laws and enforced the specific population's perceptions of fairness and rightful exchange practices. As the institution grows, it generated competition, which then created a separate institution by its own evolution. Inevitably, the organizations created a prevailing industry, which became increasingly institutionalized and served to increase

exchange possibilities to sustain its continued growth. Although an organization spawned its own competition, the prevailing partnership united competitors and each became invested in its continued perpetuation.

When institutionalized systems gained sufficient power to regulate conditions that facilitated its legitimacy, imbalances in exchange potential emerged. A government using available resources to solidify supreme control over other social institutions imposed influence or directly managed its activities to assimilate its population in a manner it deemed appropriate. Even in free societies, examples of these activities were abundant. Educational institutions created learning paradigms which were agreed upon by those in power and imposed criterion for those who were socially conditioned to accept such instruction if they expected to advance within that society. Religious associations dictated undergoing spiritual processes necessary for social acceptance. Industries conditioned employees with procedural training to ensure their actions supported corporate goals. While these systems facilitated continuous exchange possibilities within a specific culture, social evolution allowed such processes to become institutionalized, which directly affected each member's ability to reciprocate within that society (Ekeh, 1974).

While conformity to social norms remained a stability pillar within each society, some members engaged in exchanges that circumvented institutions created for such purposes (Blau, 1986). Although a process became institutionalized, gained social acceptance, and fortified legitimate power, imbalances emerged when alternative processes challenged the prevailing institution. Depending on the social conditions governing these imbalances, either the institution possessed sufficient influence or power

to suppress challenges or was subjected to prevailing laws that permitted legitimate alternatives (Cook & Emerson, 1987). However, even in democratic societies, those in power often agreed upon laws necessary to govern such practices and were potentially incentivized to increase their exchange possibilities at the expense of those they served (Thibaut, 1986). As a result, citizens learning those in power supported institutions that limited exchange potential could expel such leaders, if social conditions allowed such actions. Nonetheless, individuals within each society help legitimate prevailing rule if they believe the advantages of doing so outweigh alternative hardship (Blau, 1986).

Social Exchange within the Pharmaceutical Industry

Throughout many civilizations around the world, health care operations became institutionalized quickly due to the innate need for each culture to care for its citizens. Through this evolution, the pharmaceutical industry developed and began to operate like many other types of businesses. A product was developed, marketed and exchanged, funding operations and strategic growth for each organization. From this perspective, the pharmaceutical industry occupies a similar role in each society, in that it provides employment, services and remuneration. However, the procurement of raw materials, innovative research, operational structure, and the employment of many citizens have garnered little attention since the industry's infancy in the early to mid-20th century (Nakayama, 2010; Schaefer, 2007; Wechsler, 2009).

Instead, abundant research has amassed since the fledgling industry's beginning regarding the outcomes of its marketing strategies and customer engagements. The social exchange platform used by representatives of drug manufacturers and their customers differed little from tradition transactions of commodities and goods (Eichler et al., 2009;

Nur & Ozsahin, 2009), but accusations of disproportionate wealth accumulation and negative patient outcomes increasingly swayed populace opinion to believe agents of these organizations willfully engaged in negative exchanges (Appelbaum, 2010; Naik et al., 2009; Olsen & Whalen, 2009; Ritter, 2010). Given the social exchange realities suggesting superfluous transactions often lead to conflict and societal unrest, regulatory agencies have increased oversight and scrutiny of pharmaceutical processes (Krumholz et al., 2009; Nur & Ozsahin, 2009; Parker, 2007; Wechsler, 2009).

At the heart of these arguments is often the exchange relationship shared between drug manufacturers and their primary customer base – physicians (Christensen, 2009; Crigger et al., 2008; Schaefer, 2007). Sah and Fugh-Berman (2013) described the utility of pharmaceutical influence over doctors as a reciprocal relationship, like any other, but the introduction of incentives often subjugated medical decision making, regardless of the subtlety altruism. In fact, the vastness of research encompassing the pharmaceutical industry centered on the notion its agents provided incentives for preferred prescribing and created elaborate marketing schemes to facilitate continuous reciprocity (Appelbaum, 2010, Eichler et al., 2009, Nakayama, 2010, Sah & Fugh-Berman, 2013).

Within this spectrum of social exchange, drug manufacturers enticed physicians with financial inducements, deference, or stature (Crigger et al., 2008; Nur & Ozsahin, 2009; Parker, 2007). Whether these pursuits lead to inequity or worsening patient health is often a contentious philosophical debate, which continues to fuel the growing body of literature surrounding this topic. Though many regulators and public service organizations voiced concern over proposed pharmaceutical coercion of health care practices, some have offered occasional notions of defense and defined situations in

which the two parties can coexist without untoward consequences (Appelbaum, 2010; Krumholz et al., 2009; Nakayama, 2010). Within these arguments, underpinnings of financial support to facilitate continued operations, educational fulfillment, and the general will to identify new medicines culminated to form a platform of guardianship for drug manufacturers (Olsen & Whalen, 2009; Ritter, 2010).

Regardless of the intent of pharmaceutical agents, the perception of unequal exchanges remained ever present in society (Olsen & Whalen, 2009; Parker, 2007; Ritter, 2010). Though many therapeutic areas of medicine have enacted various recommendations for pharmaceutical industry interactions, some have had considerably less exposure with drug manufacturer personnel. Cardiology, for example, enacted its guidance document for industry relationships in 2008 and oncology in 2013 (American College of Cardiology, 2008; Spence, 2013). Rheumatology, in contrast, has only recently begun to explore this issue due to the increased incursion of pharmaceutical agents in this field. MacKenzie, Meltzer, Kitsis and Mancuso (2013) explained the organization's efforts to identify areas of potential influence through practitioner questionnaires, but the resulting outcomes only generalized pharmaceutical intentness. According to a 2013 survey, rheumatologists perceived direct financial involvement with a drug manufacturer, such as serving on the board of directors, as the most questionable ethical activity (MacKenzie et al., 2013).

Other areas of medicine shared the same ethical questions as rheumatologists. Fischer et al. (2009), Naik et al. (2009) and Nakayama (2010) explained the extent of ethical activity typically derived from monetary reimbursements offered by drug manufacturers. Such payments came in the form of consultant fees, clinical trial conduct,

or meals and recreation (Appelbaum, 2010; Parker, 2007). Though some defended these types of reimbursements as ethical and moralistic (Krumholz et al., 2009; Nakayama, 2010; Ritter, 2010), MacKenzie (2013) explained these industry-related experiences offered important lessons for rheumatologists and their exchange networks. As such, the negligible literature available for this specialty's exchanges with pharmaceutical agents requires further exploration and understanding (MacKenzie et al., 2013).

The Need For Authority

Whether it is an individual, community or institution engaged in exchanges with others, rules governing the morality of each transaction became critical when applying the prevailing social norms (Blau, 1986). When individuals or institutions obtained sufficient power to dictate the exchange possibilities of those influenced, imbalances emerged and created growing instability (Ekeh, 1974). While each society developed conditioned concepts of fairness and justice, such perceptions usually served the demands of that specific culture (Cook & Emerson, 1987). If a militant civilization believed conquest is necessary to assimilate new members, then the methods used to accomplish such goals were justified within that society. A society ruled by a single institutionalized power, such as religion, seeks to restrict exchange opportunities with other cultures so as not to permit potential challenges to its rule. Those conditioned in this society believed such actions were just in order to retain their virtue and to ensure favor in the afterlife. The social norms developed over time within a given society governed exchange potential and resulted in specific justifications of each member's actions (Blau, 1986).

Although general acceptance of authority often facilitated a specific culture's

ability to engage in social exchanges, the concept of justice varied among members. Ekeh (1974) explains:

> There is justice in the superiority of society or more concrete groups over individuals who will have to consider their interests as unequal to the demands of the wider society. This may mean that inequalities between individuals, which interfere with the superiority of the total social structure, may become defined as unjustifiable. On the other hand, individualistic sociologists generally see individual attainments as evidence of ability differentials and hence see inequality as justifiable. (p. 145)

From this perspective it is clear superiority and equality were subjective among members of a given society. Those seeking to challenge existing dogma believed themselves to be superior over others and often do so because they believe inequality exists. Depending on prevailing laws and social structure, the individual was persecuted, defended or praised. In either case, the opposing view challenged established social norms that developed over time and dictated specific actions and behaviors (Thibaut, 1986). Depending on how the social structure sanctioned such actions, the outcome created new norms or enforced existing ones.

Blau (1986) suggested the need for increased exchange possibilities would generate in-group pressures, which can lead to instability within the agreed social practices. Such circumstances required authoritative actions to preserve normative standards (Ekeh, 1974). Violence, persuasion, intimidation and coercion developed between players as tactics to fulfill individual exchange motives when socially justified methods failed. If prevailing social norms rewarded such actions, even when the methods used to obtain it were unjust, unstable conditions began to develop as others engaged in similar actions (Cook & Emerson, 1987). Authority is necessary to limit such instabilities and restored the social order to that which was agreed upon by the dominant masses.

When a civilization collectively provided power to an individual or group, they began to submit to it and legitimated its rule (Blau, 1986). The legitimacy derived from these actions fulfilled each individual's desire for increased social exchange potential under the ruling body it created. If the ability of social exchange began to diminish, the legitimacy of the ruling factors became threatened and social instability ensued. As society flourished and expanded, tighter social controls were necessary to preserve equitable exchange processes (Thibaut, 1986). Furthermore, authoritarian bodies began to expand and institutionalized in order to focus on specific aspects of social controls. Power then began to shift from a central nexus to distinct branches, each empowered to control specific social functions using justified methods approved or accepted by the masses.

These evolving processes gave rise to civil governments, which applied and enforced social norms to facilitate continuous exchange among members. The ability to engage in social exchange practices was a commodity in of itself in such societies. Individuals allowed to engage in comprehensive exchange activities under social norms enforced by authoritative bodies could provide numerous advantages, which often compensate the burden necessary to maintain continuous compliance (Blau, 1986). In fact, Blau (1986) surmised this process often resulted in obligatory actions by individuals within this society because they believed their system to be just and worthy of preservation and expansion.

Societies without collective authority and those tightly controlled by non-legitimate forces foster opposition because of the lack of social exchange evolution (Cook & Emerson, 1987). Such circumstances created various imbalances because resources were

diverted to preserving social controls rather than benefiting the citizens suppressed under those conditions. Exchange processes then created insufficient compensation for involved members, leading to social instability and inevitably reprisal (Blau, 1986). Thibaut (1986) explained legitimate rule provided advantageous exchange potential for social members even in the absence of compensation because compliance with prevailing norms increased worth over a variety of other exchange possibilities.

Even under stable conditions, individuals and organizations sought to increase exchange potential, even at the expense of others. If social norms rewarded such actions, methods used to acquire materials or power were still regulated in order to comply with the legitimate authority imposed by the society. Democratic societies engaged in capitalistic pursuits allowed organizations to gain advantages over other institutions and consumed its resources. In such cases, those involved often benefited from the exchange process. The dominant organization provided financial compensation or allowed new exchange possibilities for those affected. However, power differentiation provided by the social exchange required regulation because the negative impact to the larger society created instabilities. Nevertheless, those whose exchange potential was reduced deemed some exchanges allowed under democratic rule unjust. A company buying another company did so using legitimate means, but those left without a job experienced negative outcomes. The legitimacy of such exchanges was socially justifiable because those in power or those representing the larger majority obtained their desired exchange outcome.

Prevailing social norms regulated by legitimate power justified a variety of actions by individuals and organizations, as each became more dependent upon the other. Consensus and equality emerged from societal interdependence, both from individual and

organizational perspectives (Ekeh, 1974). A person within such a civilization gained equality among others when legitimate rule facilitated equitable exchange opportunities. An organization adhering to practices deemed appropriate by social consensus increased its investment within society because exchanges benefited those who represented the organization (Ekeh, 1974). As social investment by each member increased, a sense of citizenship developed and permitted greater opportunities to contribute to the larger societal unison.

Authoritarian structures facilitating increased social exchange possibilities obtained power by those submitting to it because of the rewards it provided (Cook & Emerson, 1987). Illegitimate forces striving to obtain power and status differentiation likely resorted to coercive practices, creating inequities and instability (Ekeh, 1974). Sustainable governments enforced and maintained social norms created by prevailing consensus among its citizens. Thus, the necessity of this rule was to preserve authority and maintain equitable exchange practices among its members. Individuals refusing to submit to the laws created by a legitimate authority risked persecution or restriction of their social exchange potential (Thibaut, 1986). Although the goal of legitimate authority was to preserve social norms, threats from other civilizations whose exchange goals created conflicts altered societal priorities and shifted exchange practices (Cook & Emerson, 1987).

Because each individual was dependent upon the other to mount a significant defense against the threat, exchange practices were altered to achieve new priorities (Ekeh, 1974). The common recognition of the challenge strengthened relationships between invested members and increased social exchange opportunities. The strength of

each opponent was derived upon the preceding series of exchanges within that social setting and coalesced into a more powerful force (Cook & Emerson, 1987). The outcome of the conflict then modified the exchange possibilities within the new culture. The victor obtained new resources and increased its interdependence on its growing social structure (Cook & Emerson, 1987).

Social Exchange in the Modern Era

When synthesizing the various types of alliances and partnerships seen in today's social environment, several viewpoints emerged. First, institutionalization has increased dramatically over the decades, leaving many citizens increasingly dependent on their socially derived services (Luo, 2007). Individual employment, consumption and vitality became ever linked to the social institutions derived through social exchange mechanisms and fulfilled the needs of each citizen (Lawler, Thye, & Yoon, 2008). Within this environment, individuals and vast social conglomerates engaged in a variety of exchange processes on a daily basis. Because of the interdependence citizens and their social institutions were shared, each was invested in expanding social exchange opportunities for the other (Blau, 1986). Hence, if the cultural organizations created to increase exchange possibilities failed, then the citizens relying on the institution suffered.

Societal institutions accomplished exchange mechanisms with greater efficiency and benefited when alliances were created to facilitate a more trusting environment (Molm, Collett, & Schaefer, 2006). Such short-term inter-organizational alliances were common when corporate mandates dictated the implementation of a new process or any activity aimed at a specific objective. Bignoux (2006) explained the social exchange

motivation within these groups hinged on the motivation of each participant to help the other achieve a common goal. This was the case when reviewing the short-term alliance parameters between physicians and the pharmaceutical industry. The syndicates involved work closely together for a specific timeframe and achieved a common goal, previously unattainable by each alone (Bignoux, 2006). However, conflict and coercion developed in such relationships, partly because of the failure to fully depend on a partner, and also because of lack of trust (Fehr & Gintis, 2007). Hence, the impetus of reward versus cost in formed relationships motivated both individual and organizational choice.

While many business relationships formed through aspects of social exchange, the transaction of knowledge became increasingly common and important (Chen & Choi, 2005). The advent of information technology has facilitated greater exchanges while introducing new ethical dilemmas for traditional social exchange processes. Monetary transactions often resulted from business exchange practices as the increasing importance of knowledge acquisition required new ethical mindsets for exchange participants (Chen & Choi, 2005). As Blau (1986), Cook and Emerson (1987), Ekeh (1974), and Thibaut (1986) explained, social exchange that resulted in disparate transactions often lead to conflict or distrust. Therefore, the perceived simplicity of information exchange was no different from other forms of social interchange.

Essentially, ethical applications influencing such information exchange were based on value domains developed through various individual and organizational behaviors (Chen & Choi, 2005). These value domains were not always monetarily influenced, which suggested most situations involving knowledge exchange stemmed from relative value, such as understanding a new process to increase efficiency or gain industry-related

advantages (Johar, 2005). In fact, as the limits, scope and boundaries were defined for knowledge exchange commitments, the transaction became ethical as each participant delineated the pros and cons prior to commitment (Chen & Choi, 2005). Because such transactions were often relative as opposed to absolute, the social exchange value for the knowledge gained or exchanged differed greatly among participates. Modern business ethics ensured each party abided by time proven social exchange principles in order to avoid conflict and to facilitate a culture encouraging future exchanges (Muthusamy, White & Carr, 2007).

Exhaustive sociological experimentation performed previously suggested most social exchange processes were exclusively self-regarding, or conducted with the purpose of fulfilling individualist needs and desires (Fehr & Gintis, 2007). However, the growing body of evidence from recent sociological and behavioral research provided evidence supporting individualistic need for reciprocal processes and engagement in disproportionate transactions simply to fulfill their needs. So conditioned are modern civilizations to conform to prevailing norms, individual values seldom conflicted with the larger majority (Fehr & Gintis, 2007). In fact, current examples of this inordinate behavior abound when observing reciprocal behaviors of collaborators engaged in charitable activities and the punishment of violators, even when said discipline involved costs for the victim.

Johar (2005) analyzed modern relationship constructs and determined many unions lack economic provocation because the actual association is considered more valuable. Through numerous recent psychological analyses, it was determined exchange partners were continuously trying to understand and predict the other's behaviors (Johar, 2005).

Curiosity increased when unexpected actions developed within these relationships and were the result of a member or organization disregarding a particular social norm or failure to conform to the understood rules of engagement (Thibaut, 1986). Although the motivation for such a violation need not be deleterious, illegal or mischievous, its manifestation either enriched or endangered a relationship with another (Johar, 2005). As Thibaut (1986) explained, social norms regulating relationship orientation among individuals only served as an induction, because each affiliation conceives new possibilities for that society and fueled societal norm development.

Scenario-based relationships underpinning this orientation can again be reviewed through the analysis of physician and drug manufacturer relationships. Each entered into a collaboration in which one partner has expectations of the other. As the relationship matured, trust is established when each party fulfilled a given need of the other. However, each individual placed different subjective and absolute values for potential trades, and therefore, the social norms governing the integrity of the exchange lead to satisfaction, coercion or violation (Johar, 2005). The repercussions of each exchange fueled more transactions and increased the value of the relationship. Over time, the value associated with the relationship influenced exchanges within each party and formulated overarching norms, which in turn began to govern each transaction. The profit motive then matured from simple monetary or information exchange into a valued relationship, worthy of protection and preservation (Blau, 1986).

Unfortunately, profit motives were often at the root of predatory practices used both by individuals and organizations. Luo and Donthu (2007) reviewed the concept of international opportunism as one force taking advantage of another when circumstances

favored corporate objectives, regardless of the outcome of the other party. Rather than seeking lasting relationships through social exchange processes, some institutions opted to capitalize on the misfortune of another or actively employed rapacious practices to achieve corporate goals (Luo & Donthu, 2007). In doing so, collaborative, partnering, and judicial outcomes became unattainable. Perhaps surprisingly, individualistic societies actually promoted such activities as a normal business practice because prevailing social norms favored profit over other types of relationships. Luo (2007) experimented in cross-cultural relationships and revealed those with individualistic tendencies were more like to engage in opportunistic exchange.

Summary and Conclusions

Summary

Each citizen within a social matrix required exchanges with others to form bonds, communities, organizations and cultures. Many sought like-minded others to create friendships who shared common interests and similar characteristics. Blau (1986) rationalized this development as a process of reciprocal incentives created through various exchanges, resulting in growing interdependence between the individuals in the relationship. Such relationships were also bound within existing social constraints, which dictated the societal norms necessary for conformity (Blau, 1986). Through historical and current analyses, each society evolved social exchange mechanisms in a manner consistent within the cultural norms represented within that particular population.

Cook and Emerson (1987) justified these exchange processes through value theory of distribution in which each person sought rewards from an exchange and the morality

of the means to obtain it was socially derived. The rewards obtained through an exchange resulted in profit for one and loss for another. As each individual sought exchange potential with others, coalitions formed in an attempt to balance the exchange process (Ekeh, 1974; Molm et al., 2006). When this process occurred early within a growing social matrix, it created collaborative societal norms and characteristics shared by each citizen. As the society evolved, it created laws and policies to ensure norm compliance and penalties for noncompliant activities (Cook & Emerson, 1987). Importantly, the exchange parameters governing a specific landscape of exchange were often dramatically different from one culture to the next, potentially resulting in perceived predatory behavior and eventually conflict (Luo, 2007).

When individual objectives clashed with prevailing social norms, a person or institution sought exchange opportunities with others who shared such objectives. This lead to new coalitions or organizations that will grow or conflict with established social dogma. If the conflict cannot be balanced within the system of available social exchanges, it will either escalate potential conflict or face dissolution (Fehr & Gintis, 2007; Thibaut, 1986). Although the aberration of the individuals involved in the conflict created exchange obstacles, both groups remained interdependent. Each strived for commonality with the other, but faced dissolution often resulting in various forms of conflict (Ekeh, 1974; Siegrist, 2006). As these conflicts resolved, new social norms were created or modified to include the new members in order to reach an amicable balance. In fact, the very nature of the contention between the competitors provided an educational foundation for each society to tolerate and indoctrinate new members (Cook, 1987; Kuwabara, Willer, Macy, Mashima, & Yamagishi, 2007). Many cultures became defined

by their ability to indoctrinate new members or prevented assimilation when conflict arose regarding their ability to participate in social exchange (Johar, 2005)

As individuals navigated the complexities of do's and don'ts allowable within their social arena, they learned the subtle methods to obtain desires and necessities alike. Each exchange opportunity presented risk/benefit potential and the uncertainty of each situation provided valuable lessons (Cook & Emerson, 1987, Lawler et al., 2008). Each person navigated complex exchange processes to fulfill innate aspirations developed throughout life. As something new increased in value, members became willing to sacrifice other possessions, potentially having great personal value, to obtain it (Ekeh, 1974; Schaefer, 2007). When examining the relationship between physician and drug manufacturer, this process may unfold when the organization had a new treatment that is financially important for corporate goals, but the doctors saw little relative value for their patients. Because the value of the product is important for the pharmaceutical organization, it was often willing to compensate the physician in creative ways for using the product. In doing so, the value of the commodity became increased for the physicians if their value domains placed greater relevance on the acquisition of wealth.

Even within a social system dominated by power status and profit, the exchange rewards continuously changed to fuel further interchange (Bignoux, 2006; Muthusamy et al., 2007). The individual seeking power or status did so by identifying and engaging in exchanges promoting such actions, while at the same time sacrificing other actions. The individual placing higher value on actions unrelated to power acquisition alleviated this need by fulfilling that which they felt was more crucial. A person climbing the social latter may forgo friendships, family or integrity to obtain it, whereas another individual

may place little to no value on this compared to simply sustaining their relationships. Nonetheless, both parties within this social condition relied on each other to provide the necessary opportunities to fulfill their individual needs (Blau, 1986).

As a consequence of this interdependence, the social appetite for new exchange potential became apparent. When exchange possibilities diminished, each collaborator became more reliant on remaining members to fulfill their needs and desires (Lawler et al., 2008; Molm, Schaefer & Collett, 2007). When social unrest burgeoned from lack of exchange potential, it fueled any number of actions to replenish civilian magnitude. Human history contained abundant examples of conflicts and campaigns fueled by social unrest to obtain new members, land or resources. Each of these commodities represented further exchange potential for the assailants. Conflict is still readily evident today, as resources become limited and societal appetites for continuous growth and exchanges progressively increase. Social interdependence is now transcending borders, nationalities and cultural stigmas, and further binding each individual to the other to precipitate continuous exchange.

Conclusion

Social Exchange Theory encompasses the parameters and conditions regarding the interchange between multiple parties (Thibaut, 1986). Both rheumatologists and the pharmaceutical industry represent unique stakeholders in the application of health care within a given population. Because of this shared pursuit, both engaged in various exchanges over time. However, the provision of medical care for an entire society required many different exchange partners and collaborators (Siegrist, 2006). Blau

(1986) describes how the many facets of an institutionalized process created unique groups, each with its own objectives, philosophical desires, and mechanisms for achieving its goals. Through the complexities of social exchange processes, each party employed any number of mechanisms to influence the other (Chen & Choi, 2005; Luo, 2007).

Because social interchange between members required boundaries and regulations to justify exchange processes, the prevailing social norms presented during a given transaction became the ethical compass by which to judge its perceived morality (Luo, 2007). Although physicians apply care directly to patients, the provisions of equitable exchange may be different than that of an institutionalized group not having direct contact with patients. Furthermore, a capitalistic society placing high value on monetary returns may apply a uniquely different equitable lens when evaluating exchanges made with its interchange partners (Schaefer, 2007). Though the actual morality of each exchange between these partners remained subjective depending on the value domains each individual applied, the fact remained each was an important collaborator in the fulfillment of medical care.

Social exchange theory seeks to achieve and maintain balance within a given societal matrix, but each philosopher examined the common use of coercion and self-gain to achieve his or her means (Blau, 1986; Cook & Emerson, 1987; Ekeh, 1974; Thibaut, 1986). Such mechanisms to apply influence on an exchange partner exist in many cases of social interchange. However, the use of unscrupulous means to achieve one's goals often leads to imbalances and conflict (Chen & Choi, 2005). Because such actions required repetition and time in order to swell into a larger cultural deviation, the

subtleties of perceived influence often went unnoticed (Molm et al., 2007). Because trust increased over time between social exchange partners, the untoward influence each applied to the other to achieve their goals usually fulfilled their individual desires (Schaefer, 2007). It is when such pursuits resulted in large-scale imbalances that instability arose and dictated balancing forces to intervene (Cook & Emerson, 1987).

As previously examined, social exchange required partnerships, balance, trust and regulation. Each parameter exists within physician and pharmaceutical industry exchanges. Though each party represented a distinct group, each must balance its own in-group pressures and expectations when dealing with interchange partners (Bignoux, 2006). This was further necessary when both exchange collaborators depend greatly on the other to continuously operate and fulfill the social role designation it was intended for (Fehr & Gintis, 2007). Although social exchange lead to justification of a process or outcome, even when the outcomes were harmful to both groups, the provisions of the exchange occurred within a social circumstance that allowed it to occur (Muthusamy et al., 2007).

The United States health care system operates in a free market, with many individuals and institutions incorporating for-profit business models. Regardless of existing social dogma permitting physicians and drug manufacturers to engage in exchanges, the resulting outcomes should not result in societal imbalances elsewhere. Understanding and interpreting the influence one exchange partner has over the other may elucidate underlying motives and outcomes warranting further evaluation or scrutiny. Given the fact no evidence exists regarding the influence pharmaceutical organizations

may have on rheumatologist’s application of patient care, this proposed inquiry could provide valuable insights regarding both positive and negative exchange processes.

Chapter 3: Methodology

The purpose of this study was to understand the pharmaceutical industry's effects on rheumatologists' patterns of patient care. This information reflects the lived experiences of participating rheumatologists and their interpretation of their experiences with drug manufacturers. Given the breadth of potential individual perceptions, a qualitative study design was amenable to explore the lived experiences of study participants. In this chapter, I describe the phenomenological research approach and characteristics related to its appropriate application. In addition, I examine the methodological specifics of the research, including study setting, development and use of the instrumentation, subject selection, verifiability and generalizability properties, ethical considerations, and the procedure informing the data analysis of results.

Research Design and Rationale

In this study, I examined the lived experiences of rheumatologists and the effect that the pharmaceutical industry had on their patterns of patient care. Through this qualitative phenomenological study, I gained insights regarding how drug makers influenced rheumatologists and how this influence has impacted the care provided for their patients. Creswell (2007) explained that qualitative researchers seek to understand the meaning individuals ascribe to a given situation or circumstance. In doing so, the researcher may consider five unique approaches to engage in qualitative research: narrative, phenomenological, ground theory, ethnography, and case study. Though each of these approaches employs congruent data collection methods to explore individual experiences, each approach is distinguished by differing units of analysis, data gathering tools, and data analysis strategies.

In order to apply the proper research design to address the research question that guided my research, each qualitative methodology was considered. Creswell (2007) explained that narrative researchers explore life's experiences through story telling. Once a study participant's stories are analyzed, the information is generalized in the form of a new story through the linkage of new ideas (Creswell, 2007). Similar to narrative approaches, phenomenological scholars seek to understand the essence of shared experiences in a small group of individuals. The description of a given phenomenon then allows the researcher to examine the "how" and "what" of the shared experience (Creswell, 2007). In contrast, grounded theorists seek to elucidate a theory of a given process, which may then provide a conceptual framework for the topic being studied (Creswell, 2007). This approach is often employed in the absence of an existing theory, which may provide the necessary context for the situation under evaluation.

When examining larger populations to understand a cultural-level circumstance, ethnography may be a more appropriate choice of research design. In this design the researcher becomes immersed in the daily lives of the study group and examines cultural themes (Creswell, 2007). Lastly, in a case study, the researcher seeks to analyze the in-depth meaning of a given case within a "bounded" system (Creswell, 2007). This approach is well suited to gain deep insights regarding a given situation with specific characteristics that limit its application to other cases (i.e., bound).

A phenomenological study design was selected for this research to elucidate the lived experiences of rheumatologists regarding the potential influence the pharmaceutical industry has on their patterns of patient care. I aimed to determine "what" these influences are and "how" such experiences have impacted their patient care. As such, the

focus on the essence of these lived experiences distinguished it from other qualitative research approaches. Also, the intent of this examination was to learn from multiple subjects' experiences, abrogating it from a narrative research approach. Furthermore, the theoretical framework of social exchange theory provides the necessary conceptual context for study. In a grounded theory design, a researcher would seek to identify a new sociological theory in order to interpret these experiences; this design is, therefore, not an appropriate research scheme.

The target study population is a rather homogeneous population of rheumatologists, consisting of board-certified physicians in the field of rheumatology in the states of Alabama, Florida, Georgia, and Mississippi. Ethnological researchers seek to interpret cultural-level characteristics, which is not necessarily translatable to the pursuit of this research (Creswell, 2007). Lastly, I sought to examine a phenomenon rather than a single bounded case. Because case study research would require specific boundaries to be in place, the research topic presented in this study may not become generalizable with this approach (Creswell, 2007).

The use of qualitative research has increased over the years (Bellenger, Bernhardt, & Goldstucker, 2011; Bluhm, Harman, & Lee, 2011; Cassell & Symon, 2011; Lacey, 2009); throughout the spectrum of industries and social role disciplines, so it is not surprising that the uptake of this methodology has increased in the health care arenas as well (Leeman & Sandelowski, 2012; Morse, 2012; Speziale, Streubert, & Carpenter, 2011). The traditional use of quantitative research in drug trials became the philosophical lynchpin for the pharmaceutical industry for decades in order to prove the effectiveness of new treatments (Gallin & Ognibene, 2012). However, many drug manufacturers are

learning the value of customer and patient feedback mechanisms, which serve to inform further research and ensure a greater body of evidence for registration purposes with health ministries around the world (Gallin & Ognibene, 2012).

Within the qualitative research disciplines exists a plethora of philosophical, procedural, and methodological opportunities (Patton, 2002). Though the approaches for qualitative inquiry may seem diverse, several fundamental attributes are shared among each research method. Qualitative researchers often seek to describe, decrypt, translate, and determine the meaning of a given case or phenomenon (Creswell, 2007). In contrast, quantitative approaches are often used to determine the frequency of a given circumstance or event (Patton, 2002). Though enumerating a specific event within an artificial clinical trial environment may elucidate a pattern of improvement or deterioration, it often fails to capture other pertinent information that translates to individual patient experiences (Al-Busaidi, 2008).

Describing the essence and meaning of a phenomenon should not rely on deductive experimentation, but rather observation and active participation by the researcher (Creswell, 2007). Phenomenological researchers promote both descriptive and interpretive processes, but require the comprehension of various philosophical assumptions (Creswell, 2007). According to the framework of social exchange theory individuals are linked together in a social matrix and are connected through the sharing of real world experiences by continuous interchange (Thibaut, 1986). The exploration of these real experiences provides the phenomena and drove the goal of this particular research.

Role of the Researcher

Creswell (2007) and Patton (2002) explained that the researcher is the primary instrument for data capture in qualitative studies. Throughout this process, the researcher examines documentation and behaviors and directly interacts with study participants (Creswell, 2007). In phenomenological research, commonalities between study participants are identified and then synthesized to form a description related to their shared experience (Wertz et al., 2011). As such, the researcher engages in actions, such as interviewing and observations, as the primary methodologies of information gathering. In contrast, quantitative researchers use reliability as a source of verification, whereas phenomenologists employ validity (Patton, 2002). Though both approaches to research have various strengths and weaknesses, each is often seen as complementary to the other and can aid in the understanding of a given event.

An important component of any research is the methodology used to guide its conduct. Wertz et al. (2011) examined existing arguments for research investigation and to determine which of the study methods is appropriate for a given investigation, but Creswell (2007) explained that the best research approach is one that effectively and efficiently addresses the research question(s). From this perspective, qualitative analyses take form as researchers seek to understand the meaning of a given event, rather than simply quantifying a specific variable and then juxtaposing its rate of frequency with a specific explanation. Rather, phenomenological pursuits begin with exploring the beliefs and understanding that serve to influence a given reaction or behavior (Wertz et al., 2011). These lived experiences bring to light individual presuppositions and assumptions

regarding the research topic, which can then serve to inform additional research regarding a given topic.

The inductive process of phenomenological research was previously criticized in health care research due to its separation of theory and method, but additional use and exploration of this approach has proven to enrich existing bodies of medical knowledge (Speziale et al., 2011). Too often, quantitative researchers failed to elucidate the purpose or meaning of a given result and sought to extrapolate other reasoning for a particular outcome (Lacey, 2009). As a result, qualitative analysis has emerged as an instrument to provide new insights on treatment decision making and deductive processes that provide the theoretical framework for a given pathway (Bluhm et al., 2011). Understanding the commonalities of these processes can then serve to create better educational opportunities for information sharing, thereby improving patient outcomes and increasing shared understanding between practitioners.

In the present study, I acted as the observer and participant (Creswell, 2007). However, in order for the findings to have credibility, adherence to rigorous methodological approaches and scholarly integrity is necessary when designing, implementing and analyzing the findings (Patton, 2002). Because I professionally resided in the therapeutic discipline of rheumatology and worked directly with rheumatologists, reflection and bracketing were necessary to ensure that my personal predilections and assumptions do not interfere with data analysis (Gearing, 2004). The employment of bracketing for this study required me to distance myself from current or previous beliefs in order to alleviate bias or preconceived assumptions regarding the phenomenon under investigation (Gearing, 2004). Creswell (2007) and Patton (2002)

explained that relinquishing of all possible predictions and beliefs is not feasible given the fact because the researcher plays an active role in the study.

The study participants and I sought to elucidate the effects of the pharmaceutical industry on rheumatologists' pattern of patient care. Through the construction of this phenomenon, I set aside prior experiences with each study participant and explored this topic from a open-minded manner in order to ascertain impartial and unbiased findings. In doing so, I rescinded prior knowledge and expectations during the data gathering process. Furthermore, bracketing helped me to inform the research and interview questions for this research. Creswell (2007), Patton (2002), and Wertz (2005) claimed that the researcher's prior knowledge of the investigation undertaken is not necessarily impairing, but rather remains as a passive awareness, which does not influence or interfere with participant responses.

Additional ethical considerations for this study were environmental. Because interviews were conducted within the rheumatologists' practices, time, background interferences, and individual promptness may differ between each study participant. If a rheumatologist is running late or has an increased patient load on the day of the interview, their experiences regarding the effects of the pharmaceutical industry may be influenced by the fact that a representative from a drug manufacturer is conflicting with his or her practice commitments. In order to reduce potential for this occurrence, I sought to conduct interviews in the early AM or late PM to avoid the rheumatologists' obligations to their patients. Lastly, some study participants may have had concerns regarding their business relationship with me if they expressed negative connotations regarding the

individual's employer. To alleviate this predilection, I ensured that the participants understood my neutrality and the impartial nature of this inquiry.

Methodology

Participant Selection Logic

Approximately 5,000 rheumatologists practice in the United States (Deal et al., 2007). Maxwell (2005) explained that sample size considerations in qualitative research must include the proposed methodological approach, study purpose, and the proposed research questions. Creswell (2007) and Patton (2002) both explained that such sample determinations should also include the phenomenon of the research, and the researcher must obtain enough study participants to adequately address the research question guiding the investigation. According to Creswell (2007) and Maxwell (2005), phenomenological research typically includes approximately five-25 subjects. The enumeration should allow the researcher ample information to understand and describe the general lived experiences of the research participants regarding the study topic.

In order to select an appropriate subject number for this investigation, I considered sampling strategies from both quantitative and qualitative research methods. Goertz and Mahoney (2012) expounded on the contrasting approach in quantitative research in which greater numbers of study participants increase the statistical power and provide the necessary link between the empirical observation and the mathematical measurement for hypothesis formation. In basic terms, both approaches seek to learn more about a given topic, but the questions proposed in quantitative research are often narrow, whereas qualitative inquiries tend to be broader (Creswell, 2007; Goertz &

Mahoney, 2012; Patton, 2002). When considering the number of subjects to include in this study, I sought to obtain sufficient study participants to assure that the perceptions and lived experiences obtained reflect the larger rheumatology community.

In order to achieve this goal, saturation was used as a guiding principle regarding study sample size. Mason (2010) described the concept of saturation as a process obtaining all or most of the available information of interest without being overly repetitive or superfluous. Application of this concept in the present study required me to consider the various environments and practice types encompassing the U.S. rheumatology community. At present, rheumatologists can be divided into two specific subgroups: private practice or academic appointment. Though practitioners may operate in single or group environments in either private or academic settings, the two primary subgroups remain essentially homogeneous.

Rheumatologists in private settings meet with various pharmaceutical representatives and engage in varied discourse, including marketing interactions, clinical trial data review, and scientific exchange. Academic rheumatologists may have similar interactions with pharmaceutical personnel, but may also seek funding for unrestricted education and/or research grants. In either case, drug manufacturers act as health care matrix team members by providing educational sustenance, in various forms, for each practitioner. In addition to this educational discourse, marketing messaging and consultancy agreements exist within varied formats for each region of the country.

Although rheumatology practice methods vary little from state to state (American College of Rheumatology, 2012), the managed care and political environment may introduce some regional differences between study participants (Crigger et al., 2008). As

such, subject selection encompassed more than one state in order to reduce this environmental affect. I planned to interview rheumatologists in the states of Alabama, Florida, Georgia, and Mississippi in order to obtain sufficient saturation data regarding the effects drug manufacturers have had on the care they provide to their patients.

Given the in-depth immersive element associated with this phenomenological pursuit, 10 rheumatologists were interviewed to obtain the essence of their experiences regarding the effects drug manufacturers have had on their application of care for patients. Though the variation of experiences regarding collaboration between pharmaceutical representatives and rheumatologists may result in a deluge of information, potentially suggesting saturation would require a large number of subjects, the philosophical framework of social exchange narrows this research pursuit. Morse (2000) explained that the richness of the data obtained relates directly to the research question(s) and dictates the number of selected participants. The in-depth interview process associated with this research was used to capture the abundance of each participant's experience with the pharmaceutical industry. This immersive element provided the necessary saturation with the purposely selected study participants.

Instrumentation

I selected the interview process for this inquiry because of the flexibility it provides for both the investigator and the study subjects. The direct information exchange process facilitated by this system allows each participant the opportunity to recall events and personal situations pertinent to this research topic (Maxwell, 2005). In addition, the investigator has an opportunity to clarify information or subject responses to fully understand the breadth and depth of each response. Additionally, the qualitative

nature of this process allowed me the opportunity to use standard prompts so each participant could freely provide his or her personal perspective. The questions asked in this research served to elucidate the effect drug manufacturers have had on rheumatologist's patient care.

In order to ensure the conduct of the interview process accurately fulfilled the needs of my research, different formats and approaches were considered. Creswell (2007), Maxwell (2005), Morse (2012), Patton (2002), and Wertz et al. (2005) explained that the two most common types of interviews used in phenomenological research are structured and semistructured. Additional categorization may also frame the interview process as open-ended or close-ended, depending on the research questions and the study methodology (Creswell, 2007). Although a variety of interview protocols may be employed when obtaining qualitative data, I concluded that Rubin and Rubin's (2005) responsive model would be appropriate for this study. This approach consists of an introduction to the study under investigation, open-ended interview questions, and an informal interaction method to facilitate openness. The use of standardized prompts may also facilitate the conversation and discussion so as to elucidate the breadth and depth of the research topic (Rubin & Rubin, 2005).

Larkin, Watts and Clifton (2006) explained the above interpretive process encompassed the realization from both the participant and I that the knowledge and experience of both parties allowed me to develop and detail an understanding of the phenomenon under investigation. Additionally, the informal nature of the interview engagement process allowed each subject to engage me in a manner facilitating an open and honest dialog (Patton, 2002). As such, study participants described the importance of

their lived experiences by explaining the meaning it had for them, which allowed me to detail these events and processes in order to extrapolate the underlying themes (Creswell, 2007). The implementation of Rubin and Rubin's (2005) model for this research consisted of an open-ended interview process in which the dialog was audio taped and later transcribed. As per Creswell (2007) and Patton's (2002) guidance, the information captured after each interview was quickly transcribed so as to convey accurate information and undertones associated with each interaction.

Prior to soliciting study subjects, written approval from the Walden University Institutional Review Board (IRB) was obtained. Each subject was invited to participate in this research via direct interaction, telephone or email. The invitation script is presented in Appendix A. In addition, consent (Appendix B) to participant in this study was obtained for each research participant prior to the interview process. The instrument used in this research was a researcher-designed interview protocol (Appendix C) based on the theoretical framework presented in Chapter 1. The validity of the interview protocol was established in a pilot program in which the researcher obtained feedback from two rheumatologists regarding the effects pharmaceutical exposure has had on the care they provided to their patients. The feedback obtained from the rheumatologists participating in the pilot interviews informed the final interview protocol.

Pilot Study

The pilot interview process included two rheumatologists as expert reviewers to assess the understandability of the questions. Once the determination of whether the interview questions accurately addressed the research question for this inquiry, the larger

study group was solicited for interviews. The same open-ended format previously described was employed during this process to allow undirected feedback. The inclusion process for subject selection of the pilot and larger study included rheumatologists, either in private practice or academic settings. The purpose of the pilot study was to determine if the interview process facilitated the necessary dialog to answer the research questions. The insights obtained through this mechanism served to confirm current interview protocol.

Following the pilot study, ten rheumatologists were interviewed in the Southeast region of the United States. The researcher conducted each interview, audiotaped each event, and transcribed the information shortly thereafter. The frequency of the data collection and interview process was dictated by my ability to obtain appointments from each study participant. The resulting study enrollment and interview period consisted of three months. Once consent and scheduled interactions were obtained, the investigator used the recording mechanism from a mobile device to capture subject feedback. In the consenting process, each subject was made aware of the purpose of the study, the expected duration of the interview (approximately 30-60 minutes each), and the debriefing process to allow me the opportunity to summarize the information exchanged (Creswell, 2007; Maxwell, 2005). Lastly, each participant received thanks for their participation at the conclusion of each interview.

Procedures for Recruitment, Participation, and Data Collection

Recruitment

I interviewed rheumatologists in the states of Alabama, Florida and Georgia to obtain sufficient saturation data regarding the effects drug manufacturers have had on the care they provided to their patients. Each potential subject was approached either by email, telephone or direct interaction. I contacted each subject myself and without the assistance or involvement of others or a third party. Engagement frequency encompassed an initial interaction to assess participation interest and an additional visit to complete the study interview protocol for three of the protocol subjects. The remaining subjects had only a single visit in which they agreed to participate and the interview was completed during that same visit.

The average duration of the interviews was approximately 30 minutes, with one occasion lasting nearly one hour. At the end of each session, I provided a brief summary of the participant's feedback to ensure all of the pertinent points were sufficiently captured. I expressed appreciation for their time and responses, and no follow-up sessions were required for any subject. All interviews were recorded using my mobile device and additional notes were taken during each engagement. All recordings and notes were further transcribed onto worded documents for data analysis. Each document was compared against the original recordings and notes two times to ensure all data was captured and that no transcription errors occurred. I achieved study recruitment within the states of Alabama, Florida and Georgia, and prior to the opportunity to solicit participation in Mississippi.

Data Analysis

Each interview was audio taped and later transcribed into a worded document. Each transcribed document was saved onto a secure computer file, which is password protected. Only I will have access to the password-protected files. Each worded transcript was coded and categorized by me to identify the narrative elements serving as specific data points (Creswell, 2007; Wertz et al., 2011). Each transcribed document was thoroughly reviewed using this coding process to elucidate overarching themes. The holistic process of this document review allowed me to develop a sense of each subject's lived experiences regarding the research topic. Maxwell (2005) explains this approach will afford me the opportunity to identify key elements of specific meanings, such as phrases, individual experiences, and external influences, which informed their individual decision making.

For my research, the Moustakas (1994) concept of horizonalization was employed for data analysis. Within this approach, significant statements made by the research participants were highlighted and served to provide meaning and understanding for their experiences related to the research question (Creswell, 2006). The statements were then transcribed into meaningful units or codes onto a separate document. In doing so, I was able to cluster similar information to determine emerging categories and common patterns of evidence (Patton, 2002). Using iterative collapsing, such categorical and patterned information, I repeatedly examined the data to reduce redundancy and repetition, and to connect the existing data across individual themes (Creswell, 2007, Maxwell, 2005). Wertz et al. (2011) explained the existence of repetitive information allowed for generalization and the identification of commonalities, which then revealed

underlying concepts and the broader applicability the information has concerning the research topic. Divergent information was also categorized and considered in the data analysis process. Also, the absence of a specific theme did not imply the process was not thorough, but rather its omission or exclusion also served to inform the analytical process undertaking in qualitative analysis (Creswell, 2007).

The significant statements emerging from the clustered data provided the textural description of the effect of the pharmaceutical industry on rheumatologists' patterns of patient care. This process also encompassed the influencing contexts and settings that served to inform the study population's lived experiences, thereby providing a structural description of the research topic as well. Together, the textural and structural descriptions of the studied phenomenon form the essence of the study population's shared experiences (Creswell, 2006). Through the summarization of discovered themes and patterns, a composite summary was developed, which encompassed the delineated experiences of all research subjects, while also highlighting significant individual variations (Creswell, 2007; Maxwell, 2005; Patton, 2002; Wertz et al. (2011).

Trustworthiness

Credibility

In transcendental phenomenology, Moustakas (1994) described the credibility of research results should be uninfluenced by the investigator so as to accurately convey the lived experiences of the study participants. Creswell (2006) and Patton (2002) further described validity in qualitative research requires thorough consideration of methodology, evidence gathering, and data interpretation processes. Because I possessed a causal and

professional relationship with the research subjects, a passive influence may emanate during interviews, transcription and analysis (Maxwell, 2005).

In order to address this inference, I employed bracketing to reduce individual bias and beliefs regarding the research content (Chan, Fung, & Chien, 2013). This uniquely phenomenological approach allowed me the opportunity to alleviate my perceptions and prior knowledge of a given topic in order to solicit unbiased feedback from study subjects (Chan et al., 2013). Additionally, to reduce such occurrences, I debriefed each subject following the conclusion of the interview to allow for summarization and additional participant feedback. In doing so, each research subject had the opportunity to clarify, modify and verify the information gathered. Morse (2012) and Moustakas (1994) referred to this process as a system of fact verification or member checking.

Transferability

Findings from this analysis included a rich description of the participants and the settings under evaluation. The purpose of these characterizations was to allow external viewers the opportunity to transfer the study findings to other environments (Creswell, 2006). These shared attributes provided the necessary perspective for an external audience to consider potential variations, both from the targeted study population and the coexisting environment I shared with them (Moustakas, 1994). Additionally, research assumptions described previously were central to the issue of trustworthiness. Particularly, study subjects were expected to have had previous exposure and experience with pharmaceutical agents, and therefore the transferability of these findings are limited to settings coexisting within similar boundaries (Maxwell, 2005).

Dependability

In parallel to the quantitative notion of reliability, trustworthiness in qualitative research findings requires dependability (Creswell, 2007; Guba, 1981; Patton, 2002; Wertz et al., 2011). Guba's (1981) description of dependability encompassed the totality of results, which would be inclusive of all variable situations encountered. The variability of each subject's responses was captured and thoroughly reviewed to ensure accurate transcription. To ensure the dependability of the results obtained through this inquiry, I conducted a code-recode procedure. Guba (1981) described this process as an initial coding step, followed by a re-code or repeat coding process. As part of the data analysis fulfillment, recorded interviews were expeditiously transcribed following each subject engagement. In addition, the information was recoded approximately one to two weeks following the initial coding. In doing so, the findings from both coding sessions were compared and contrasted to strengthen the dependability of the final results.

Confirmability

Patton (2002) expressed the need to establish confirmability for qualitative research in order to minimize personal bias and influence. However, the investigator often constructs the research instruments and tools applied in qualitative research; often implying complete abrogation of individual beliefs or preferences is not entirely possible (Creswell, 2007). In order to minimize this effect, Creswell (2007), Maxwell (2005), Patton (2002) and Wertz et al. (2011) stressed the need for the researcher to acknowledge personal predispositions and assumptions. Such acknowledgements allow for critical assessment of the methodology and interpretations employed for this research. The

assumptions, limitations and data analysis plan for this evaluation provided a requisite audit trail for analytical consideration and confirmability.

Ethical Procedures

Ethical research practices are essential in qualitative and quantitative inquiry to ensure study integrity and to protect subject confidentiality (Bellenger et al.; Creswell, 2007; Goertz & Mahoney, 2012; Guba, 1981; Maxwell, 2005; Moustakas, 1994; Patton 2002). To ensure subject protection and informed consent were obtained in a manner that ensured privacy and confidentiality, prior authorization to engage study participants was obtained through the Walden Investigational Review Board (IRB) prior to solicitation. Following approval of this research by the IRB, each subject was fully informed of the general purpose of the study through written and verbal communication, which were inclusive of the intent of the investigation and the interview process. The consenting process commenced through email or face-to-face communication and explained the measures to ensure subject privacy and confidentiality.

For this research, there were no expected risks associated with participating, which was strictly voluntary, and each subject was able to withdraw from the study at any time. Research participants could refuse to answer any questions or expand explanations of existing interview questions if they deemed such exchange to be invasive. Each candidate was informed that no form of compensation exists regarding his or her participation and the benefit associated with their voluntary consent resided in their ability to describe what effects the pharmaceutical industry had on their patient care.

Research subjects retained their consent form, which contained all of the relevant contact information for the researcher, IRB and other pertinent parties if they had questions or concerns at any time during the conduct of this study.

Subject confidentiality was maintained during the data analysis process through the assignment of subject numbers to protect the participant's identity. All audiotaped and transcribed data were maintained in a secure location by the investigator. The electronic data was password protected and subject identifiers were only assessable by me. No participant identification was provided in the dissemination of the data, but was rather coded to specific subject numbers not accessible by the reviewing audience. Data will be archived for approximately 3 years, unless otherwise indicated by the Walden IRB.

Summary

Understanding the impact the pharmaceutical industry may have on rheumatologists' patterns of patient care was essential for improved collaborations between drug manufacturers, health care professionals, and the patients dependent upon the services provided by both entities. Understanding the essence of the participant's lived experiences regarding this topic dictated a phenomenological approach for inquiry. Though I professionally reside in the field of rheumatology and have experienced various interactions with the sampling population, individual preconceptions and past experiences were set-aside for the purposes of this research endeavor.

Information saturation was obtained through the interactions of ten study subjects from various professional medical environments. Interviews were the primary method of

information gathering and encompassed direct interactions between each subject and me. The interview protocol consisted of open-ended questions so as not to lead or guide participant feedback and to foster an open dialog necessary to capture the breadth and depth of information exchanged. The interview protocol was designed by me and pilot tested to ensure validity and that the proposed dialog captured the intended information necessary to address the research question.

Data collected during this investigation underwent a coding procedure to extrapolate emerging themes and phrases. I transcribed audio taped interview conversations onto textural documentation and then derived a coding scheme that was rechecked through a secondary coding process. The purpose of this data analysis procedure was to discern relevant words or phrases that expanded the understanding of the research question. Discrepant or divergent information captured during the data collection process was also included in the analysis and coded separately from the other emerging themes.

Bracketing was employed to reduce potential bias and individual perceptions. To increase credibility and validity of the emerging results, each subject was provided a debriefing following their interview to ensure the information captured accurately reflects their views and opinions. Data analysis included a thorough description of the targeted study population and the individual environments in which they reside. To this end, transferability can be implied through the lens of the intended audience for this research. Additionally, I provided the proposed assumptions and limitations of this research proactively to designate existing predispositions and to provide potential viewers the context in which this research was pursued.

Lastly, various steps were undertaken to ensure subject privacy and confidentiality. Approval from the Walden IRB and a thorough subject consenting process was indicated to safeguard the rights of each participating rheumatologist. Each subject had these protections stated during the consenting process to validate their at will participation. Data analysis and dissemination did not expose subject identities, but rather subject numbering provided the relevant information blinding. Only I had access to the subject-level data and all study information was securely maintained on a password-protected computer to which only I had access.

Chapter 4: Presentation of Collection and Analysis

The focus of this phenomenological study was to explore the lived experiences of rheumatologists regarding the effect that the pharmaceutical industry has had on their patterns of patient care. The following question guided this inquiry:

1. What are rheumatologists' lived experiences regarding the influence of the pharmaceutical industry on their pattern of patient care?

Pilot Study

The purpose of the pilot study was to determine if the interview process facilitates the necessary dialog to answer the research question. Following IRB approval of the research proposal, solicitations to several rheumatologists were made in order to secure appointments for study interviews. Two specific rheumatologists, one in Georgia and the other in Alabama, were sent the protocol invitation (Appendix A); the participants agreed to participate in the pilot study and signed the study consent form (Appendix B). Both participants of the pilot study were practicing rheumatologists with many similar characteristics of the larger, intended study population. Both subjects were males over the age of 50. Using the interview protocol (Appendix C), each rheumatologist provided abundant feedback.

Both interview transcripts were reviewed on two separate occasions. Although both subjects provided multifarious feedback to each interview question, action words, commonalities in thought, and emphasis on relevant feelings were reiterated by both participants. I used an inductive and iterative approach to determine whether these responses would address the over-arching research question. The success of the pilot

study was determined by whether the feedback provided using the existing interview protocol adequately provided sufficient information to analyze the meaning and feelings rheumatologists have regarding the impact of their care by agents of the pharmaceutical industry. In addition, the pilot study allowed me to challenge individual bias and to determine whether previous exposure with these individuals would influence their responses.

The objective of this study was to understand the lived experiences of rheumatologists regarding the effects that drug manufacturers have on their pattern of patient care. Creswell (2007) explained that qualitative researchers seek to understand the meaning that individuals ascribe to a given situation or circumstance. Given the similarities provided by both subjects in the pilot study, generalizability was sufficiently obtained. As such, the feasibility of this objective was satisfied in the pilot study, which allowed me to continue without modifications or alterations to the interview questions or protocol.

Research Setting

As described in Chapter 3, subject recruitment for this research occurred in the states of Alabama, Florida, Georgia, and Mississippi. Interviews for the 10 research participants, as well as the two included in the pilot study, occurred in each practitioner's office. Each subject meets with various agents of the pharmaceutical industry, including agents who sell products, medical information personnel, and clinical research associates. For the purposes of this research, each interview lasted between 10-35 minutes. All sessions were interactive and allowed me opportunities to clarify statements and summarize information.

All interviews were conducted as one-on-one engagements, free of other office personnel or additional agents from the pharmaceutical industry. No interruptions occurred during any of the engagements. Interviews were conducted in the physicians' office at their clinics with their doors closed for privacy. Most sessions occurred either before the rheumatologist began to see patients (early AM) or during lunchtime, when the physician would normally take a break from their clinic. The only exception was a scheduled interview with one rheumatologist in the late afternoon.

Demographics

Both rheumatologists participating in the pilot study were male. Of the 10 rheumatologists enrolling in the larger protocol, seven were male and three were female. The age range of these subjects was 43-75. Three of the subjects were located in Alabama, two in Florida, and the remaining seven were in Georgia. During the time of enrollment, I was able to schedule the above interviews prior to soliciting in the state of Mississippi. One of the 10 participating subjects had an academic appointment, whereas the remaining rheumatologists were located in private practice settings.

Three of the 10 participants were in solo private practices, with all others being in larger practices with other rheumatologists. One subject resided in a shared practice space with multiple rheumatologists and orthopedic medicine practitioners. Eleven of the overall subjects were medical doctors (MD) specializing in rheumatology, and the remaining one practitioner was a doctor of osteopathic medicine (DO) specializing in rheumatology. None of the participants presented any personal or organizational limitation that would impede their ability to enroll into this study.

Data Collection

Following approval from the Walden University IRB, solicitations for interviews were initially sent via e-mail. After agreeing to enroll, the informed consent was presented to the participant during the interaction, and I explained their potential participation. Once consent was obtained, interviews were conducted between July 2015 and September 2015. Each interview was conducted at the rheumatologist's office and lasted approximately 10-30 minutes each. The researcher-designed interview protocol (Appendix C) was validated in a pilot program in which two rheumatologists were interviewed regarding the effects pharmaceutical exposure has had on the care provided to their patients. The feedback and responses obtained from the rheumatologists participating in the pilot interviews were used to validate the final interview protocol.

At the beginning of each interview, I explained the impartial nature of this inquiry and requested that subjects disregard any previous interactions involving my professional role. During the interview process, each subject answered the questions in the interview protocol, and at the end of each interaction, I provided a brief summary. Using Rubin and Rubin's (2005) model, I offered open-ended questions, clarification statements, and standardized prompts when needed in order to understand the breadth and depth of the subject's feedback. No variations or deviations from the interview protocol were made during any of the 12 interviews.

Each interview was recorded using my password-protected model device. The information contained in the recordings was quickly transcribed onto worded documentation. Additionally, written notes were taken to ensure that all nonverbal behaviors were captured, which further allowed me the opportunity to clarify the feelings

of the subject. All study-related documents were secured at my place of residence in a locked file cabinet. All electronically recorded and transcribed documents were maintained on a password-protected personal computer also located at my home. No unusual circumstances or interruptions were encountered during the interviews or data collection process.

Data Analysis

I coded and categorized each worded transcript to identify the narrative elements serving as specific data points (Creswell, 2007; Wertz et al., 2011). I employed Moustakas' (1994) concept of horizonalization for data analysis, whereby significant statements made by the research participants were highlighted and then transcribed into meaningful units onto separate documents: one for each research question contained in the interview protocol. Through the process of iterative collapsing, the categorical and patterned information was repeatedly examined to reduce redundancy and repetition and to connect the existing data across individual themes (Creswell, 2007; Maxwell, 2005).

Following this process, significant statements, action words, and pertinent phrases were categorized into positive, negative, and neutral themes. As the first research question dealt with the types of interactions these subjects had with agents of the pharmaceutical industry, the primary responses clustered into scheduled and nonscheduled visits, and in-office or out-of-office circumstances. The second research question inquired about the participant's feelings regarding his or her experiences with individuals employed by drug manufacturers. According to the primary theme emanating from this inquiry, the rheumatologists assessed each agent individually, as the majority of subjects answered this question initially as "it depends on the person." Within the

researched population, an equal amount of coded units were recorded for both positive and negative statements. Positive inclinations involved statements such as “beneficial” and “camaraderie,” whereas negative statements included terms such as “conflicted” and “pressured.” In several neutral statements, the subject’s feelings were influenced by the amount of time he or she had for each interaction and whether the information exchanged represented any specific “value.”

The third research question was used to assess rheumatologists’ perceptions of the products marketed to them by the pharmaceutical industry. Similar to the second research question, many subjects indicated “it depends on the person.” However, more negative units were recorded than positive. Among the themes emerging from this inquiry, positive statements were more probable when subjects discussed “good” or “ethical relationships.” The more resounding codes reflected “negative” or “deceptive relationships,” with several subjects specifically suggesting “biased” or “dishonest exchanges.” More impartial clusters emanated from this inquiry than the previous questions, with increased references to rheumatologist’s “preference” and “knowledge.”

The fourth research question was used to describe what rheumatologists believed motivates the agents of drug companies who visit their centers. All participants indicated “sales” as the major cluster theme. Other neutral responses ensued, which included “establishing a rapport,” “they are under pressure,” and “maintaining access,” but several notable outliers suggested that pharmaceutical agents also “want to do a good job” and “want to educate physicians.” Adversely, in negative clusters, the participants suggested that these agents “are dishonest,” “wrongfully interpret data,” and “are not transparent.”

Of note, three of the participating rheumatologists suggested that "sales" were the only motivation of these agents, with no further responses.

In Research Question 5, I sought to understand rheumatologists' interpretation of the value of their interactions with drug representatives. Contrary to the responses provided for Question four, clustered data for this examination were compellingly positive. Ten of the 12 participating rheumatologists indicated "access support" was of particular value, supported by clustered statements like "providing samples," "coupons for discounts," and "patient education materials" were of benefit. Additionally, subjects denoted the value of "efficacy and safety reminders," "reference or data checking," and "drug niches" as positive attributes of a quality interaction. In fact, the only negative connotation was the reference of "low quality" interactions, suggesting that these exchanges had little or no value. Several participants referenced the limitation of academic institutions that prevent interactions with agents of drug companies by providing neutral to negative statements. Only private practice rheumatologists provided feedback regarding this issue and suggested that academic practitioners might limit their availability to valuable "drug information" and "access support" mechanisms. No subject provided negative commentary regarding the academic center directly, but rather to the processes governing their interactions with pharmaceutical agents.

The final research question was used to explore how the experiences rheumatologists have had with drug agents have impacted the care provided to their patients. Similar to Question 5, responses were overwhelmingly positive. Specific emphasis on "access" was the primary theme, with many subjects indicating "samples" and "coupons" were important attributes of these agents. Of note was the second most

common theme after clustering the data, which was “education exchange.” All subjects indicated the need for continuous “education” and “keeping current” on new data. Though all rheumatologists provided positive statements, several suggested that the impact on their patient care was “minimal” or “very little.” The primary neutral theme was similar to the other research questions, with several rheumatologists indicating that the impact on the care provided to their patients by agents of drug manufacturers “depended on the person.”

Discrepant information was captured and coded as well. Two of the subjects indicated that they enjoy “hearing a different perspective” about a given drug and expect such exchanges when they engaged pharmaceutical personnel. Two other rheumatologists stated that they often felt “guilty” if they had not used a drug and engaged an agent of that specific company. Another participant indicated they “felt sorry” for these agents, specifically referring to the proposed pressures these agents undergo to facilitate the uptake of the product(s) they represent. Lastly, one subject referenced meals and indicated “I cannot be bought with food,” suggesting that lunches provided by some of the pharmaceutical agents would not serve to influence their opinion of the drug the agent represented. Although only one or two subjects offered these statements sporadically, the clustered data did not detract from underlying themes provided by each research question.

Evidence of Trustworthiness

Credibility

Because I had a professional relationship with the study subjects, ensuring credibility of these results will address this association and how I maintained impartiality (Patton, 2002). Moustakas (1994) stated that the credibility of research results should be uninfluenced by the investigator so as to accurately convey the lived experiences of the study participants. As described in Chapter 3, I had met the study subjects prior to interacting with them regarding this research pursuit. Maxwell (2005) explained that a casual relationship between the researcher and the study population might introduce a passive influence during the interview process and analysis of the data. In order to address this inference, I stressed the importance of being treated as a stranger during the interviews and employed bracketing to reduce individual bias and beliefs during data analysis (Chan et al., 2013). In addition, I used fact verification and member checking during the interview process to ensure that the information exchanged was accurate and to provide the participant the opportunity to clarify any other statements (Morse, 2012; Moustakas, 1994).

Transferability

Extensive data provided by the study participants provided robust descriptions of the lived experiences rheumatologists had with agents of the pharmaceutical industry. The characterizations and themes emerging from this research must be considered within the limits of the study as defined in Chapter 3. Specifically, subjects were required to have had some history of interactions with pharmaceutical personnel, and transferability

to practitioners with little or no experience with such agents may not be possible. Additionally, the states included in subject recruitment included only Alabama, Florida, and Georgia. Given the differences in access and managed care environments, transferability may be similar for rheumatologists residing in states with similar mechanisms, but different in locations with contrasting conditions. For example, several U.S. states have limits on how much pharmaceutical companies can spend on lunches or other items, and the result may be fewer interactions with these agents. Further, conditions outside the United States may be different in terms of access, governing laws, and potential exposure to such agents. As such, transferability may occur only in similar environments as those presented in this research.

Dependability

The trustworthiness of the results provided by this inquiry requires dependability (Creswell, 2007; Guba, 1981; Patton, 2002; Wertz et al., 2011). Guba's (1981) description of dependability encompasses the totality of results, which would be inclusive of all variable situations encountered. All electronic interviews were transcribed to worded documents shortly following the actual engagement. In addition to the initial transcription of the data, the information was recoded a second time (Guba, 1981). The two coding sessions were then compared and contrasted to ensure that any emanating theme was not inadvertently omitted. The findings from these two sessions were furthered clustered into meaningful statements and themes.

Confirmability

Confirmability requires the researcher to minimize personal bias and reduce potential influence during exchanges with the study participants (Patton, 2002). However,

Creswell (2007) explained that removing all potential bias is not entirely possible because the researcher is the primary tool capturing the data. For the purposes of this inquiry, I explained during the consenting process that the rheumatologist should set aside previous experiences he or she may have had with me. Additionally, it was stressed at the actual beginning of the interview process that the subjects treat me as a stranger, so as not to engage in any type of professional dialog or context removed from this investigation. Lastly, the coding process included a consistent review of each textual document without reflection of the subject involved, resulting in a document of clustered themes free of participant identifying information.

Study Results

This phenomenological study examined the effects of the pharmaceutical industry on rheumatologists' patterns of patient care. The research question sought to understand the feelings of the participating rheumatologists and the meaning their interactions with agents of drug manufacturers has had for them. The interview protocol provided vast amounts of data for analytical consumption and provided the views of different rheumatologist located in different states. The majority of interactions between research subjects and agents of the pharmaceutical industry occurred within the rheumatology practice site. Scheduled and unscheduled interaction frequency occurred equally among the study population, with each rheumatologist indicating they allowed pharmaceutical representatives to provide lunch, and allowed these individuals the opportunity to drop in unannounced.

Although study participants engaged drug personnel under these two conditions, the majority indicated their allocation of time for such interactions was limited by their

relationship with the individual and the amount of time they could offer. The context of each subject's relationship "depended on the pharmaceutical agent", with numerous responses suggesting the opportunities they provided to the agent for engagement and the amount of time spent during the exchange was dependent on whether the practitioner liked or disliked the individual. Other responses in this category included scheduled times spent with drug representatives, other than lunch or between patients, in which they provided time allocations for meetings. Casual encounters with pharmaceutical personnel outside the office occurred rarely, with one third of the subjects indicating they occasionally attended industry-sponsored dinners. Two subjects indicated personal friendships with agents of the pharmaceutical industry and his or her willingness to engage these individuals in a setting outside of the practice environment.

Regarding rheumatologists' feelings about their exchanges with drug personnel, the responses were mitigated by the same relationship criteria listed above. If the rheumatologist liked the individual, the more willing they were to spend time with them and allow further access. Conversely, if the agent was disliked, the rheumatologist was less likely to engage the agent and would cut the interaction short. In responding to situations in which the pharmaceutical agent was liked, participants believed their exchanges brought value, credible insights, and camaraderie. In conditions where the agent was disliked, the interactions were termed as awkward, defensive and brief. Importantly, several subjects noted their feelings regarding such interactions were influenced by the amount of time they could spend or were willing to spend with them. Through these exchanges, rheumatologists denoted unscheduled visits during peak

patient times lead to more negative connotations, even when the pharmaceutical agent was liked.

Regarding rheumatologists' perceptions of the products sold by the various agents visiting their clinics, responses were influenced by the same relationship they had with the agent. Most study participants provided statements affording some level of comfort regarding these agents if he or she was liked. Within this contextual category, more than half of the rheumatologists indicated they engaged in primarily positive information exchanges with agents they previously developed comfort with. These affirmative exchanges left the practitioners with greater contentment for prescribing a drug represented by these personnel. Three of the rheumatologists provided more negative comments even when the agent was liked. Specifically, themes of "deception" and "coercion" were documented suggesting these subjects believed representatives from drug manufacturers were obliged to sell their products regardless of the potential benefit or harm the drug may represent. Lastly, three of the participants implied their opinions about the product in question directly influenced their perception of the agent representing that drug.

Unlike the previous responses to the preceding interview questions, subjects when asked about their opinions of what motivates these agents to visit their practices provided little variation. The principle response from all rheumatologists suggested selling was the underlying motivation for these interactions. However, some notable comments went beyond this influence and indicated information exchange and access were further goals of these agents. Within this context, rheumatologists clearly saw agents of the pharmaceutical industry as vendors engaging in commerce and with goals to increase

potential transactions. Several subjects acknowledged these agents are under pressure, and suggested this causality led them to use their products or to "spread the business around." Interestingly, all participants suggested these agents are part of the overall health care industry, citing "they have a job to do" and "I understand their role."

Quickly following the discussion of motivations were statements regarding the value interactions may have for rheumatologists. While still hinging on the perception the subject had on the agent of a drug manufacturer, responses were overwhelmingly positive. Primarily, rheumatologists prefer scientific exchanges and information to help their patients access medications. In fact, access related statements emerged during each interview and led to lengthy discussions regarding the potential benefits these agents can provide for practitioners. Three of the rheumatologists specifically referred to academic centers and the lack of access related options because the institution may prohibit representatives from engaging doctors. In regards to clinical exchanges between these agents and practitioners, subjects indicated understanding the "best use of a drug" or "access to resources" were the most common clusters of data.

With regards to pharmaceutical agents impacting the patient care provided by rheumatologists, "access to medications" was by far the most common response. Many of the participants described situations in which their patients may lack funding or insurance necessary to procure a medication, and programs afforded by drug manufacturers were very helpful. Specifically, "coupons", "co-pay assistance", and "access-support mechanisms" were most commonly cited. All rheumatologists indicated positive information exchanges were beneficial and staying current on emerging medication research helped them make more comfortable decisions or made them more

confident regarding a given drug. Two study subjects specifically indicated their perception regarding drug corporation's impact on their patient care was either "minimal" or "had no effect." However, both participants provided additional dialog and indicated the same access related feedback provided by the other rheumatologists. Only one subject indicated non-access related educational materials aimed directly at patients was helpful.

Summary

The central research question posed by this research seeks to determine rheumatologists' lived experiences regarding the influence of the pharmaceutical industry on their pattern of patient care. The findings from this inquiry provided ample information regarding rheumatologists' experiences with such agents and contribute to the growing body of evidence regarding the phenomenon under investigation. Through the interview protocol I designed, exchanges with drug manufacturing personnel occur most frequently in the practitioner's office, and many of these interactions were unscheduled. Rheumatologist feelings regarding these exchanges crossed a wide spectrum of sentiment, with equal portions of both positive and negative statements.

The perception provided by the research subjects clearly seemed dependent on their relationship with the agent of the pharmaceutical industry. Each participant provided statements similar to "it depends on the person" when answering the interview questions, meaning their social exchange value varied between different people. Invariably, this means the actual value of an exchange with a drug manufacturer employee encompassed the spectrum of purely scientific exchange to pleasantries to

annoyance. Regarding the value of these social exchange situations for rheumatologists' patients, almost all subjects referred to the greatest benefit being access-related discussions and educational materials facilitating the proper use of a given medication.

From this data, prevailing themes and concepts emerged to further advance this discussion and the overall understanding of the potential value exchanges between these matrix partners may represent. As such, the interpretation of these results will be discussed in greater detail in the preceding chapter. Furthermore, Chapter 5 will also discuss the research limitations, recommendations and implications of this body of evidence to further inform rheumatologists, pharmaceutical industry leadership, government regulatory agencies, managed care organizations, and patients as to the value of social exchange mechanisms between these associates.

Chapter 5: Summary, Conclusions, and Recommendations

Each society must develop institutions to ensure the viability of its population. Health care is one such social institution, but it represents a complex blend of individuals, organizations, and governmental agencies. Because the application of medical care involves multiple individuals engaging in a variety of exchanges in order to achieve a desired outcome, each may become influenced by the other over time (Blau, 1986). Although abundant research exists on the reciprocal relationship between health practitioners and agents of drug manufacturers (Appelbaum, 2010; Naik et al., 2009; Olsen & Whalen, 2009; Ritter, 2010), virtually no information exists within the specialty space of rheumatology. Through the theoretical lens of social exchange, interactions among members of a given society often lead to reciprocal relationships, with each having potentially positive or negative outcomes.

It was necessary to explore the value-oriented interactions between pharmaceutical representatives and rheumatologists in order to determine the depth of influence one party has over the other. Inevitably, such exchanges should serve to enhance patient care as both health care matrix partners occupy societal roles to maintain and improve medical outcomes. Furthermore, drug manufacturers have developed organizational mission statements that aim to treat difficult diseases and help patients live longer, healthier lives (Kerridge et al., 2005; McClure, 2009). Given the increased presence of pharmaceutical agents in rheumatology over the last decade, it is important to assess the potential impact these exchanges represent. In this chapter, I examine the underlying meaning and interpretations of the lived experiences of rheumatologists'

experiences with drug manufacturers and how such exchanges impact the care provided to their patients.

Interpretation of the Findings

Through the examination of the lived experiences that rheumatologists had regarding their interactions with pharmaceutical agents, several key themes and trends emerged.

Relationship

In each interview, I posed questions for rheumatologists to consider the value of exchanges with employees of drug manufacturers. Universally, all subjects indicated that such interactions are expected and often desired. Ekeh (1974) explained that the achievement of challenging goals often requires reciprocal relationships between multiple exchange partners. Because these exchange partners coexist within a similar professional environment, like-minded tendencies, common interests, and a prevailing mission to fulfill their social role may form kinships and social bonds. Blau (1986) explained that this phenomenon development is a result of reciprocal incentives created through various exchanges, resulting in growing interdependence between the individuals in the relationship. From this perspective, it is logical to rationalize why subject responses regarded such relationships as "important," "educational," and "a necessary evil."

Within the United States most presiding laws, governmental regulations, and social norms often allow for interactions between medical practitioners and agents of the pharmaceutical industry. A notable exception would be those academic centers having organizational conduct standards that, in some cases, restricts exchanges between these groups. Several participants noted the lack of exchange potential for these environments,

and they noted that the reduced opportunity for interchange might deprive the physician of important patient assistant materials. For those providing commentary regarding various academic restrictions, “access-related” materials were specifically indicated. Hence, rheumatologists believed that information and materials facilitating access to medications is an attribute that agents of the pharmaceutical companies may provide. Furthermore, “access” was a primary notation of subjects in this research and is an influential tool of the pharmaceutical industry.

Though all participants in this research engage in exchanges with employees of drug manufacturers, often on a daily basis, some relationships transcend the professional arena and develop into personal friendships. Six of the 12 subjects specifically indicated that exchanges over time led to friendships and occasional nonprofessional engagement. Cook and Emerson (1987) explained that the social exchange spectrum often leads to necessary exchange partners, and these associations may result in kinships, which increase both partners’ avenues of social interchange. Therefore, professional relationships are personal too, with both serving each participant’s goal-oriented behaviors. Some subjects found profit in their friendships with agents of the pharmaceutical industry, often citing “camaraderie,” “respect,” and “trust” for such associations. These rheumatologists noted that their friendly association did influence their willingness to spend time with such agents in and out of the office. However, it was noted by each participate that providing such feedback did not impact their medical decision making.

Four rheumatologists indicated that they consulted with pharmaceutical companies, most often in the capacity of a speaker/consultant. These individuals were

more likely to have increased interactions with numerous types of pharmaceutical personnel. Though all subjects indicated that their interactions were more frequent with pharmaceutical sales representatives, these rheumatologists indicated that they also interacted with medical, corporate executives, and research individuals at these companies. When discussing their relationships with these expanded matrix members, subjects stated that such exchanges were positive and were more likely to provide educational value than exchanges with individuals associated directly with drug sales. Furthermore, this participant subset indicated that these relationships allowed them increased access to medical literature, clinical trial information, and in-depth medication knowledge.

All rheumatologists stated that their "relationship" dictated much of their interchange with pharmaceutical agents. For each of the interview respondents, most subjects prefaced their response by stating, "it depends on the person." Thibaut (1986) indicated that exchange partners continuously assess the value of their interactions and seek to increase interchange with those who offer the greatest profit potential. The rheumatologists were swayed by whether they liked the person. These assessments seemed to have little or no influence by drug manufacturer association, but rather the on subject's personal perception of the pharmaceutical individual. Blau (1986) explained that this phenomenon is universally common because people often put personal preferences over professional pursuits. Therefore, agents of drug manufacturers must often undergo a personal value appraisal by rheumatologists before their professional benefits can be assessed.

Respectfulness

Though a relationship and its resulting reliance have relative worth in exchange settings between agents of the pharmaceutical industry and practicing rheumatologists, these exchanges have limits. Zhang and Epley (2009) explained that interchange partners seek to optimize exchange opportunities, but doing so often leads to developed protocols and expected conduct of action. Within these processes, both parties set forth parameters in which to interact, but also became conditioned to accept terms from the other (Nakonenzy & Denton, 2008). Failure to procure the remuneration of these exchanges could lead to conflict or abandonment (McNall & Roch, 2009). In the case of this research, such boundaries would include a rheumatologist's willingness to meet and the drug representative's ability to demonstrate value within the exchange. Given the subjectivity of the perceived value an agent of the pharmaceutical industry may provide, the drug maker representative's ability to adjust to each customer type dictates a certain level of proficiency and respect.

During subject interviews, rheumatologists expected drug agents to respect their time and the confines in which they work. Many participants suggested increased potential for negative outcomes when the practitioner was running late, was behind in examining patients, and when the pharmaceutical agent would not disengage in a timely manner. The rheumatologist's impression of the drug agent influenced such outcomes. Subjects were less likely to describe negative encounters with drug representatives when their exchanges were brief and to the point. Therefore, it is likely to conclude that time is linked with the respect that rheumatologists have for the various pharmaceutical personnel they meet.

Participants indicated various types of assessments used to determine the potential level of relative and absolute value of a drug representative. Ten out of the 12 subjects suggested that agents who bring “value” and do “not waste their time” were more likely to enjoy open access and were more likely to have personal relationships with said person. Some of these personal relationships did include friendships and camaraderie, but most of this population segment referred more to their exchanges as “friendly” and “respectful.” Several rheumatologists provided stories of negative exchanges with agents they actually liked, but their personal predilections allowed the interchange to continue without abandonment. Conversely, several subjects recalled positive exchanges with individuals they did not particularly like. In both scenarios, respect was a common theme, acting in a reciprocal manner between both parties.

Examples of information and educational interaction occurred frequently between rheumatologists and pharmaceutical agents. The appreciation of a given exchange was apparently influenced by the respect each had for the other and the amount of admiration given to the outcome of the transaction. If the drug manufacturing personnel took only a small amount of time and provided something of high potential value, the individual’s access and opportunities for further exchange increased. Given the vast institutionalization of drug innovation in the United States, these corporations have developed systematic social exchange approaches to market their products directly to health care professionals (Nakayama, 2008). Blau (1986) indicated that the reciprocal relationship between two exchange parties creates alliances and the self-perpetuating requirement to continuously increase interchange possibilities. Ekeh (1974) and Thibaut

(1986) explained that such relationships couldn't exist without the confines of trust and respect.

Though pharmaceutical agents often demonstrate respect towards their rheumatology customers, 11 out of 12 subjects expressed that drug manufacturers' motives for engaging them was to facilitate the prescribing of a particular drug. However, the feedback provided on this topic was not solely exclusive to facilitating sales, but also included the perceived value of access support mechanisms and useful information exchanges. When such interactions provided these positive attributes, the pharmaceutical agent was more likely to be seen as a "partner" and was allowed greater access. Cook and Emerson (1987) expressed that the increased value of each exchange becomes a commodity in of itself and is worthy of respect and protection. As such, drug agents providing useful information and not causing inconvenience, either through the duration of an exchange or the lack of pertinent content, were respected and valued by the rheumatologists participating in this research.

Value Appraisal and Credibility

Value was a theme denoted by all research participants. However, the relative or absolute value of a given exchange varied between subjects. Social exchange equity is often disproportionate between interchange partners because one party may appraise a specific commodity differently than another (Blau, 1986). Like other historical evidence of social exchange, the expense of a commodity in question must be known, understood, or tangible in order to apply remuneration (Thibaut, 1986). Given the relative corporate goals of drug manufacturers to facilitate sales of their products, the absolute value from the practitioner's viewpoint could be direct profit, educational enhancement, or improved

outcomes for their patients. No study subject indicated directly or indirectly that individual profit was a motivation or outcome of his or her exchanges with agents of the pharmaceutical industry and, therefore, did not serve to influence their selection of a given drug over another.

Although wealth accumulation did not emerge as an influencing tactic employed by drug manufacturers, all 12 rheumatologists discussed information exchange and access-related activities. As such, pharmaceutical agents sought to increase opportunities to facilitate both of these concepts. In fact, most of the subjects indicated that their willingness to meet with such agents often lead to negative outcomes, but allowed the interaction to commence because of the possibility of positive exchange. Ekeh (1974) denoted that individuals engaged in transactions are often willing to accept negative outcomes because the access to the opposing group may have future value. Chen and Choi (2005) also explained that interchanges between trading partners may be financially motivated, but the relative worth of the exchange is often more valuable than the absolute commodity. This philosophical concept may explain why rheumatologists are willing to meet with drug agents they are friendly with, but do not expect the interchange to result in any specific absolute value. Conversely, rheumatologists may then meet with an individual they do not like because the potential exchange could potentially have relative value.

The most notable value of exchanges between rheumatologists and pharmaceutical agents was patient access-related materials or assistance. Of the primary study population, all subjects denoted the importance of medication procurement for their patients. Specific terms provided by this population included “insurance assistance,”

"coupons" and "copay assistance programs." Rheumatologists find value in their exchanges with drug manufacturing personnel when doing so facilitates the access of their drugs for the practitioner's patients. In fact, the only responses concerning financial exchange emanated from subject feedback about how pharmaceutical agents may be able to economically assist their patients. When these comments emerged, specific reference to drug factory financial assistance programs were made.

Over half of this study population indicated that educational exchanges were beneficial. However, the value assessment of these interactions encompassed the full spectrum of potential quality. Three rheumatologists suggested that the majority of their informational exchanges with agents of the pharmaceutical industry were of low or no value. Of note, the same three subjects denoted that their exchanges had no impact on their opinion of a given pharmaceutical organization or their patient treatment algorithms. Bignoux (2006) explained the effects of in-group pressures and how exchanges may occur when no absolute value is obtained. It is the relative value of such interactions that may provide the motivation to engage another. Cook and Emerson (1987) further explained this phenomenon by suggesting that one group may enter into an exchange with the sole purpose of educating the other, with the intent on future profit. Within this concept, the initial party may wish to educate or prepare their exchange partner for future interchange, potentially leading to absolute value conversion over time.

For those remaining subjects indicating educational or informational exchange was of particular value, references were made to their enhancement of treatment knowledge and access. Accordingly, exchanges encompassing new treatment information, potential population niches, and medication limitations of use (e.g.,

reminders) were deemed to be of high value. The outcomes of such reciprocity resulted in statements, such as “better educated,” “keeping up-to-date,” and “staying abreast of new information.” Rheumatologists, therefore, expect their exchanges with agents of the pharmaceutical industry to achieve such goals periodically. Although the inability to acquire such value occurred frequently among the participants’ exchanges, the majority indicated the potential for obtaining profit from their continuous interchanges outweighed the possible negative outcomes.

Authority and Oversight

Previously discussed were the potential negative consequences of exchanges that presented little or no use for rheumatologists, but the prevailing norms governing such interactions requires closer examination. Blau (1986), Cook and Emerson (1987), Ekeh (1974), and Thibaut (1986) explained how unstable social exchanges often lead to conflict and abrogation of future interchange, but are influenced by the prevailing social norms and social institutions overseeing a given activity. As a result, social norms develop into an operative authority, which serve to limit instabilities and to ensure further exchange possibilities remain intact (Cook & Emerson, 1987). Within these themes emerges a context for expectations, legitimacy, and authoritarian structure. After synthesizing the data concerning interactions between rheumatologists and drug manufacturing personnel engagement, these practitioners expect appreciation for their time and value-based exchanges to improve the care provided to their patients. The authoritarian parameters rheumatologists use to dictate potential positive encounters included “meeting with representatives only at scheduled times,” “meeting them only at

their clinic," and disallowing exchanges when they believe the "individual or information is misguided."

Of the primary study population, eight rheumatologists provided input regarding their preferred mechanisms of regulating interactions with pharmaceutical agents. Specific authoritarian statements used to describe these feelings included "on my turf," "I have the advantage," and "I don't care what they think." Other less assertive descriptors included "I use my own filter," "they send mixed messages," and "lack of transparency." The authority rheumatologists place over the individuals they meet with who are affiliated with drug manufacturers constitute the time allotment they are willing to invest, the location of the interaction, and their willingness to repudiate what was exchanged. According to this line of feedback, pharmaceutical agents conforming to a rheumatologist's authoritative preferences were more likely to have greater access, more frequent exchanges, and improved informational correspondence.

In addition to the authoritative processes used by practicing rheumatologists, other distinct regulatory bodies were discussed. Three subjects directly mentioned the "FDA" and "constricting pharmaceutical codes of conduct" as potential barriers to value exchanges between them and drug agents. With regards to the FDA, the three respondents suggested "curtailing pharmaceutical personnel from discussing off-label uses of their products" (e.g., different diseases than what the drug is approved to treat) as a specific impediment to answering their questions regarding this issue. One subject indicated the "FDA seeks to punish drug manufacturers that make quality products so as to serve as examples for other pharmaceutical corporations." Two other subjects

mentioned the FDA during their interviews, with both characterizing the rules this agency enforces when drug representatives engage practitioners.

In addition to regulatory oversight, four rheumatologists denoted the impediment of "pharmaceutical compliance practices" on their employees as a negative attribute. Within these discussions, participants suggested "pharmaceutical sales training" and "adherence to specific procedures" prevent their agents from providing value. Examples of such practices were described as "inability to speak about off label drug use", "protocols on who can and cannot be present during a specific discussion", and that these representatives must "detail us with a sales message instead of assessing what we need." Three rheumatologists directly linked these perceived hindrances with the inability for such agents to discuss important updates on patient access mechanisms and answering their specific drug related questions. Access related discussions emerged in all subject interviews and were important to rheumatologists and the patients they treat.

Rheumatologist's Guidance

Six of the ten participating rheumatologists provided feedback with the intention of improving interactions between themselves and pharmaceutical agents. With regards to the types of interactions and a preferred location for exchanges, participants overwhelmingly recommended "in-office" encounters as their preferred venue. Although several suggested "out-of-office" locales were permissible, each implied meeting away from their clinics was highly dependent on their time allotment and whether they liked the individual. Within the same reference of individual appeal the subject had for a given drug agent, the rheumatologists was more likely to specify positive feelings and attitudes

towards the individual during an exchange. Likewise, such agents were also deemed to be more credible and ethical, and were often allowed additional time with the practitioner.

Perceptions of the pharmaceutical organizations and the personnel sent to engage rheumatologists encompassed a wide range of “likes” and “dislikes.” Rheumatologists did not necessarily correlate their feelings towards the drug agent and the corporation they represent. Instead, preference was given to the actual individual in question; with only two rheumatologists stating their attitudes regarding the agent was a “direct reflection” of their opinion of the company. As such, the quality of each exchange seemed more influenced by the drug agent than the organization they represented. Slight differing impressions were noted for rheumatologists’ opinions regarding the products associated with each pharmaceutical representative. One third of the study population acknowledged their viewpoints regarding the drug representative “directly influenced” their perception of the drug they represented. This indicated a high strategic value for the pharmaceutical agent and the types of exchanges they had with their rheumatology customers. The same subjects indicated his or her “like” or “dislike” for the agent directly influenced whether they used the drug.

The entire study population indicated they believed the primary motivation for sending drug manufacturing representatives to see them was “to facilitate sales.” However, two thirds of the rheumatologists also noted the importance of the “information exchange” as a specific benefit for them and their patients. Although varied statements described the proposed benefit of this exchange, each indicated their willingness to continuously meet with pharmaceutical agents in the hopes that some of the exchanges would present particular value. Such value was represented in statements like “new

updates", 'sampling', "patient education", and "unique perspectives." Therefore, it is logical to conclude rheumatologists were willing to see pharmaceutical agents, but expected some type of value based exchange to warrant their continued willingness to see the same person. Four of the study participants specifically stated drug agents that "do not provide value", but rather only "seek to fulfill organizational objectives" (i.e., corporate messaging) were more likely to be rejected or disinvited for future dialog.

During the discussion of value acquisition for rheumatologists and their patients, four rheumatologists proactively suggested agents of the pharmaceutical industry "do not do enough to demonstrate their value to the larger society." Specifically, references were made towards "patient assistance programs" and "financial support mechanisms." One subject indicated they "could not understand why drug manufacturers would not advertise these programs directly to the public because doing so could facilitate greater use of their products." Given the fact medication access approaches were divulged by all subjects at some point during their interviews as a specific and paramount value set, the processes regarding how drug manufacturers derived and delivered this information for practitioners and the greater public could, and perhaps should, undergo additional scrutiny by leadership within the pharmaceutical industry.

Limitations of the Study

This research examined the influence of pharmaceutical organizations on rheumatologists' patterns of patient care. As such, participants provided feedback from a rheumatologist's perspective, and not from the aspect of the pharmaceutical industry or other institutional entity. Although potential feedback provided by these organizations

and those employees who directly visit with rheumatologists would likely provide useful information and observations, such evaluation was beyond the scope of this research, but could further inform this growing body of knowledge. Additionally, feedback provided by several subjects projected beyond the pharmaceutical industry and towards overarching regulatory agencies, but this too was not within the scope of this research examination.

Profit motives were not a specific pursuit of this research and the interview protocol was not designed to determine if such considerations directly influenced treatment choice. Instead, this research sought to understand what influences were employed by pharmaceutical organizations to engage rheumatologists and how the target study population believed such engagements impacted the care provided to their patients. Nevertheless, when examining rheumatologist's feelings about drug manufacturer marketing processes, direct monetary exchange between a pharmaceutical company and practitioner did not emerge from any discussions. Appelbaum (2010), Cronstein (2007), Fischer et al. (2009) and Kerridge et al. (2005) each denoted the influence of financial incentives for practitioners were commonly used mechanisms employed by the pharmaceutical industry. Although such evidence presided in other investigations similar to this topic, these and other types of financial influences cannot be absolutely dismissed in rheumatology. However, no supporting evidence from this research emerged regarding individualistic profit motives.

This study population resided in the Southeastern United States. Although rheumatology practices differ very little from state to state (American College of Rheumatology, 2012), regional differences may exist in more restrictive environments,

which seek to curtail interactions between the practitioners and agents of drug manufacturers. Given the fact several states have enacted laws regarding physician and pharmaceutical industry interactions, the influences emanating from such exchanges may differ in these varied environments. As such, the availability or frequency to meet with agents of drug manufacturers may differ from region to region and findings from this inquiry may not reflect rheumatologists' opinions of potential pharmaceutical influence in areas where such interactions are highly restricted. Additionally, only one academician enrolled in this research, providing limited insights on this practice setting. However, the dialog and statements provided by this individual differed very little from the other subjects, and no unique codes or outliers were derived during that interview. Nonetheless, this may present limitations on the transferability of these research findings for rheumatologists in academic settings.

Recommendations

The findings from this research illustrated the various influences the pharmaceutical industry has on rheumatologists and the patients they treat. Overwhelming, evidence presented in this study suggests such influence was reliant on the individual pharmaceutical agent visiting rheumatologists' offices and the possible impact made during their encounters. Still, the value of exchanges between these two parties was inherently subjective, but the highest preference of rheumatologists was given to patient access mechanisms and processes to procure medication. The goal of this research was to undercover what influences drug manufacturers have or use rather than categorically listing all possibilities, and given the fact patient access materials notably

resonated with rheumatologists, additional investigation as to the utility of these materials may be warranted.

Although rheumatologists indicated drug access materials were of particular importance, educational and informational exchanges occurred frequently. Within these discussions, transactions resulting in positive or useful informational exchange were considered of particular value. Furthermore, the consensus of this study population suggested these interactions were strongly desired and presented an opportunity for pharmaceutical companies to consider the educational value of the materials they used to engage this customer type. Krumholz et al. (2009), McClure (2009), Naik et al. (2009) and Parker (2007) described the types of instructional materials used by pharmaceutical marketing campaigns, but lacked any specificity for rheumatologists. Intrinsically, the actual types and descriptions of what educational exchange represented the highest value should guide and instruct additional research in this area.

Organizational structures and regions outside of this examination scope limited transferability of these findings. As such, further scrutiny of other institutions interaction with rheumatologists would provide further insights as to their reciprocal relationships and how the pharmaceutical industry acted within that matrix. Specifically, the FDA, academic institutions that limit interactions with drug agents, managed care organizations, and other third-party health care vendors (e.g., hospitals, accountable care organizations, etc.) each represented unique matrix partners for rheumatologists and such relationships may differ little or greatly between each pharmaceutical corporation. Understanding the additional influences these organizations have could provide important opportunities for collaboration and partnership.

Implications

The United States health care system consists of many different individuals, organizations and regulatory agencies; all working collaboratively to ensure the application of health related services remains unimpaired. Information exchange is a paramount necessity within these partnerships to assure fluidity and continuous improvement. The pharmaceutical industry is one such matrix organization and requires various avenues in which to educate medical practitioners about their products. Though regulation over this social institution by regulatory agencies has increased over the last 10 years (Appelbaum, 2010; Crigger et al., 2008; Eichler et al., 2009), drug manufacturers are still largely permitted to exchange information with health care professionals. Many therapeutic medical specialists have lengthy exposure to drug manufacturers, but rheumatologists have experienced an unprecedented rise in the rate of interactions with the pharmaceutical industry over the last decade.

Given the relatively limited time of exposure between these two social roles, investigation regarding the potential influence one has over the other allowed for increased transparency and opportunities for knowledge exchange to increase the potential impact of positive interchange. Doing so could empower rheumatologists and drug manufacturers to improve processes and address areas of needed improvement. Because the potential for enhancements exists, the enriched fulfillment of their social roles to ensure the health of the societal population becomes realized. Innovation in health care is an important condition for all civilizations because increased mortality and additional co-morbidities deprive that population of future advancements. Though this research represented a relatively small investigation regarding the influences one health

care organization may have on another, its scope could be realized on a larger global level with additional rigorous investigation.

Within this inquiry, rheumatologists explained the specific tools and approaches that served to influence their opinions, behaviors, and the care provided to his or her patients. Rheumatologists' preferences and animosities suggested the pharmaceutical industry has options to both improve and curtain specific activities. As such, both pharmaceutical leadership and rheumatologists have the opportunity to collaborate and use such findings to ameliorate processes that resulted in negative outcomes while optimizing positive mechanisms. Doing so could lead to improved practitioner partnerships and potentially improve rheumatology patient outcomes. A potential illustration of this improvement could be correlated to a specific rheumatological outcome. The ACR indicates arthritic conditions are the leading cause of disability in the United States (American College of Rheumatology, 2012). If a correlation between the qualitative improvements proposed in this research demonstrated a decrease in arthritic disability in the United States, the quantitative value of this inquiry would be realized. However, doing such an examination would require an entirely different scholarly approach and would, therefore, be out of the scope of this research.

Conclusion

Given the relationship between a customer and merchant, power differentiation and social exchange mandates begins with the party having the greatest need. Pharmaceutical organizations need to market their products to appease organizational shareholders while rheumatologist must demonstrate value to their patients by improving

their health condition and preventing adverse medical outcomes. Both exchange partners require the other to achieve these goals, but direct solicitation processes often resulted in agents of drug manufacturers proactively engaging rheumatologists to market their products. As such, the influence pharmaceutical organizations wield over rheumatologists and the care provided to their patients is apparently limited, but multi-faceted.

Pharmaceutical organizations demonstrated value in a variety of ways, such as medical access assistance, educational exchanges, access, and solidarity for their rheumatology customers. In exchange, these practitioners expected interchange with agents of drug manufacturers and sought information exchange that enhanced their knowledge of medications and that was free of biased proclivity. Although rheumatologists preferred such interactions, they often accepted negative social exchanges with the expectation future interchange would lead to positive outcomes. In addition, many of the study participants developed kinships with these agents, often leading to fellowship and various levels of social bonds. Through the medium of social exchange theory, such developments were expected between interchange members and served to enhance the bonds shared by each party (Blau, 1964; Cook & Emerson, 1987; Thibaut, 1986).

Opportunities for behavior modification and increased focus of valid educational content abound for the pharmaceutical industry as provided through the findings of this research. Additionally, the quality and codes of conduct rheumatologists preferred from agents of drug manufacturers offered specific views on what this customer type expected and required in order to facilitate the care they provided to their patients. Through the

synthesis of these outcomes, social exchange opportunities could be doubtlessly improved and the potential for improved patient outcomes became apparent. Fundamentally achieving these goals could benefit the larger society through more efficient procedures, enhancement of necessary medical knowledge, and advancement of population level health improvement.

References

Al-Busaidi, Z.Q. (2008). Qualitative research and its uses in health care. *Sultan Qaboos University Medical Journal, 8*(1), 11-19. Retrieved from http://www.researchgate.net/publication/51203014

American College of Cardiology. (2008). Principles for relationships with industry. Retrieved from http://www.cardiosource.org/~/media/Files/ACC/About/2013/05/Principles%20for%20Relationships%20with%20Industry%20130520.ashx

American College of Rheumatology. (2012). What is a rheumatologist? Retrieved from http://www.rheumatology.org/I-Am-A/Patient-Caregiver/Health-Care-Team/What-is-a-Rheumatologist

American College of Rheumatology. (2014). Principles governing industry support for rheumatology fellowship training. Retrieved from https://www.google.com/url?url=https://www.rheumatology.org/ACR/education/supportprinciples.pdf

Appelbaum, P.S. (2010). Contact with pharmaceutical representatives: Where does prudence lead? *The American Journal of Bioethics, 10*(1), 11-14. doi:10.1080/15265160903441046

Bignoux, S. (2006). Short-term strategic alliances: A social exchange perspective. *Management Decisions, 44*(5), 615-627. doi:10.1108/00251740610668879

Blau, P. M. (1964). *Exchange and power in social life*. New York, NY: Wiley.

Bellenger, D. N, Bernhardt, K. L., & Goldstucker, J. L. (2011). *Qualitative research in*

marketing. Retrieved from https://books.google.com/books?hl=en&lr=&id=enQYcBettksC&oi=fnd&pg=PP1&dq=Bellenger,+D.N,+Bernhardt,+K.L.,+%26+Goldstucker,+J.L.+(2011).+Qualitative+research+in++%09marketing&ots=eGFnjSFgMv&sig=-Fkw8X6e26WP7IAmlk91w2CyTuA#v=onepage&q&f=false

Bluhm, D. J., Harman, W., & Lee, T. W. (2011). Qualitative research in management: A decade of progress. *Journal of Management*, *48*(8), 1866-1891. doi: 10.1111/j.1467-6486.2010.00972.x

Boccara, N. (2007). Models of opinion formation: Influence of opinion leaders. *International Journal of Modern Physics, 19*(1), 93-109. doi: 10.1142/S0129183108011954

Cassell, C., & Symon, G. (2011). Assessing ‘good’ qualitative research in work psychology field: A narrative analysis. *Journal of Occupational and Organizational Psychology, 84*(4), 633-650. doi:10.1111/j.2044-8325.2011.02009.x

Chan, Z. C., Fung, Y., & Chien, W. (2013). Bracketing in phenomenology: Only undertaken in the data collection and analysis process? *The Qualitative Report, 18*(59), 1-9. Retrieved from http://www.nova.edu/ssss/QR/QR18/chan59.pdf

Chen, S., & Choi, C. J. (2005). A social exchange perspective on business ethics: An application of knowledge exchange. *Journal of Business Ethics*, *62*, 1-11. doi:10.1007/s10551-005-7056-y

Christensen, C. M. (2009). *The innovator’s prescription: a disruptive solution for health care.* New York, NY: McGraw Hill Books.

Cook, K. S., & Emerson, R. M. (1987). *Social exchange theory*. Newbury Park, CA: Sage.

Creswell, J. W. (2007). *Qualitative inquiry & research design. Choosing among five approaches (2nd ed.).* Thousand Oaks, CA: Sage Publications.

Crigger, N., Barnes, K., Junko, A., Rahal, S., & Sheek, C. (2009). Nurse practitioner's perceptions and participation in pharmaceutical marketing. *Journal of Advanced Nursing, 65*(3), 525-533. doi:10.1111/j.1365-2648.2008.04911.x

Cronstein, B. N. (2007). Cost of a free lunch. *The Rheumatologist*, May 2007, 2-3. Retrieved from http://www.the-rheumatologist.org/article/cost-of-a-free-lunch/?singlepage=1

Deal, C. L., Hooker, R., Harrington, T., Birnbaum, N., Hogan, P., Bouchery, E., Klein-Gitelman, M., & Barr, W. (2007). The United States rheumatology workforce: Supply and demand, 2005-2025. *Arthritis & Rheumatism, 56*(3), 722-729. doi:10.1002/art.22437

Eichler, H-G., Abadie, E., Raine, J. M. & Salmonson, T. (2009). Safe drugs and the cost of good intentions. *New England Journal of Medicine, 360*(14), 1378-1380. doi:10.1056/NEJMp0900092

Ekeh, P. P. (1974). *Social exchange theory: the two traditions*. Cambridge, MA: Harvard University Press.

Fehr, E., & Gintis, H. (2007). Human motivation and social cooperation: Experimental and analytical foundations. *Annual Review of Sociology, 33*, 43-64. doi: 10.1146/annurev.soc.33.040406.131812

Fischer, M. A., Keough, M. E., Baril, J. L., Saccoccio, L., Mazor, K. M., Ladd, E., Worley, A. V., & Gurwitz, J.H. (2009). Prescribers and pharmaceutical

representatives: Why are we still meeting? *Journal of General Internal Medicine, 24*(7), 795-801. doi:10.1007/s11606-009-0989-6

Gallin, J. I., & Ognibene, F.P. (2012). *Principles and practice of clinical research (3rd ed.).* London, England: Elsevier, Inc.

Gearing, R. E. (2004). Bracketing in research: a typology. *Qualitative Health Research, 14*(10), 1429-1452. doi:10.1177/1049732304270394

Goertz, G., & Mahoney, J. (2012). *A tale of two cultures: Qualitative and quantitative research in social sciences.* Princeton, NJ: Princeton University Press.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquires. *Educational Resources Information Center Annual Review, 29*, 75-91. Retrieved from http://www.jstor.org/stable/30219811

Johar, G. V. (2005). The price of friendship: When, why, and how relational norms guide social exchange behavior. *Journal of Consumer Psychology, 15*(1), 22-27. doi:10.1207/s15327663jcp1501_4

Kerridge, I., Maguire, J., Newby, D., McNeill, P. M., Henry, D., Day, R., Macdonald, G, Stokes, B., & Henderson, K. (2005). Cooperative partnerships or conflict of interest? A national survey of interaction between the pharmaceutical industry and medical organizations. *Internal Medicine Journal, 35*(4), 206-210. doi: 10.1111/j.1444-0903.2004.00799.x

Kirschenbaum, B. E. (2009). Specialty pharmacies and other restricted drug distribution systems: financial and safety considerations for patients and health-system pharmacists. *American Journal of Health-System Pharmacy, 66*(24), 13-20. doi:10.2146/ajhp090462

Krumholz, H. M., Coutts, G., Tiner, R., Angell, M., & Gottlieb, S. (2009). Doctors, patients, and the drug industry: Partners, friends, or foes. *British Medical Journal, 338*, 326-329. Retrieved from http://www.bmj.com/content/bmj/338/7690/Analysis.full.pdf

Kuwabara, K., Willer, R., Macy, M. W., Mashima, R., & Yamagishi, T. (2007). Culture, identity, and structure in social exchange: A web-based trust experiment in the Unites States and Japan. *Social Psychology Quarterly, 70*(4), 461-479. doi: 10.1177/019027250707000412

Lacey, C. H. (2009). The road less traveled: A review of Anfara and Mertz's Theoretical frameworks in qualitative research. *The Weekly Qualitative Report, 2*(17), 100-103. Retrieved from http://www.nova.edu/ssss/QR/WQR/anfara.pdf

Larkin, M., Watts, S., & Clifton, E. (2006). Giving voice and making sense in interpretive phenomenological analysis. *Qualitative Research in Psychology, 3*, 102-120. doi:10.1191/1478088706qp062oa

Lawler, E. J., Thye, S. R., & Yoon, J. (2008). Social exchange and the micro social order. *American Sociaological Review, 74*(3), 519-542. doi: 10.1177/000312240807300401

Leeman, J. & Sandelowski, M. (2012). Practice-based evidence and qualitative inquiry. *Journal of Nursing Scholarship, 44*(2), 171-179. doi:10.1111/j.1547-5069.2012.01449.x

Lipsky, P. E. (2009). Bias, conflict of interest and publishing. *Nature Reviews Rheumatology*, *5*, 175-176. doi:10.1038/nrrheum.2009.52

Luo, X., & Donthu, N. (2007). The role of cyber-intermediaries: A framework based on

transaction cost analysis, agency, relationship marketing and social exchange theories. *Journal of Business & Industrial Marketing*, *22*(7), 452-458. doi:10.1108/08858620710828836

Luo, Y. (2007). An integrated anti-opportunism system in international exchange. J*ournal of International Business Studies, 38*, 855-877. doi: 10.1057/palgrave.jibs.8400300

MacKenzie, C. R., Meltzer, M., Kitsis, E. A. & Mancuso, C.A. (2013). Ethical challenges in rheumatology. *Arthritis & Rheumatism, 65*(1), 2524-2532. doi: 10.1002/art.38077

Mason, M. (2010). Sample size and saturation in PhD studies using qualitative interviews. *Qualitative Social Research, 11*(3), Article 8. Retrieved from http://www.qualitative-research.net/index.php/fqs/article/view/1428/3027%20%5BAccessed%20on%2012/02/2012

Maxwell, J. A. (2005). *Qualitative research design: An interactive approach (2nd ed.).* Thousand Oaks, CA: Sage

McClure, D. L. (2009). Improving drug safety. *Pharmaceutical Medicine, 23*(3), 127-130. Retrieved from http://link.springer.com/article/10.1007/BF03256760

McNall, L. A. & Roch, S. G. (2009). A social exchange model of employee reactions to electronic performance monitoring. *Human Performance, 22*, 204-224. doi: 10.1080/08959280902970385

Molm, L. D., Collett, J. L.& Schaefer, D. R. (2006). Conflict and fairness in social exchange. *Social Forces, 84*(4), 2331-2352. doi:10.1353/sof.2006.0100

Molm, L. D., Schaefer, D. R. & Collett, J. L. (2007). The value of reciprocity. *Social*

Psychology Quarterly, 70(2), 199-217, doi:10.1177/019027250707000208

Morse, J. M. (2000). Determining sample size. *Qualitative Health Research,* 10(1), 3-5. doi:10.1177/104973200129118183

Morse, J. M. (2012). *Qualitative health research: creating a new discipline*. Walnut Creek, CA: Left Coast Press, Inc.

Moustakas, C. (1994). *Phenomenological research methods*. Thousand Oaks, CA: Sage.

Muthusamy, S. K., White, M. A., & Carr, A. (2007). An empirical examination of the role of social exchanges in alliance performance. *Journal of Managerial Issues, 19*(1), 53-75. Retrieved from http://search.proquest.com/openview/7bd7ba452309eab16db9882db14f9c40/1?pq-origsite=gscholar

Naik, A. D., Woofter, A. L. Skinner, J. M., & Abraham, N. S. (2009). Pharmaceutical Company influence on nonsteroidal anti-inflammatory drug prescribing behaviors. *American Journal of Managed Care, 15*(4), 9-15. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2860532/

Nakayama, D. K. (2010). In defense of industry-physician relationships. *The American Surgeon, 76*, 987-994. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/20836349

Nur, N., & Ozsahin, S.L. (2009). Physicians' conceptions about various continuing medical education activities and the role of the pharmaceutical industry. *Health Medicine, 3*(3), 219-224. Retrieved from EBSCOhost

Olsen, A. K. & Whalen, M. D. (2009). Public perceptions of the pharmaceutical industry and drug safety. *Drug Safety, 32*(10), 805-810. doi:10.2165/11316620

Parker, J. (2007). The reputation, image and influence of the pharmaceutical industry.

Journal of Medical Marketing, 7, 309-313, doi:10.1057/palgrave.jmm.5050098

Patton, M. Q. (2002). *Qualitative research and evaluation methods*. Thousand Oaks, CA: Sage Publications.

Ritter, G. S. (2010). Are drug companies living up to their human rights responsibilities? The Merck perspective. *PLoS Medicine, 7*(9), 1-3. doi:10.1371/journal.pmed.1000343

Rosenbaum, T. Y. (2009). Applying theories to social exchange and symbolic interaction in the treatment of unconsummated marriage/relationship. *Sexual and Relationship Therapy, 24*(1), 38-46. doi:10.1080/14681990902718096

Rubin, H. J., & Rubin, I. S. (2005). *Qualitative interviewing: The art of hearing data* (2nd ed.). Thousand Oaks, CA: Sage.

Sah, S., & Fugh-Berman, A. (2013). Physicians under the influence: social psychology and industry marketing strategies. *Journal of Law, Medicine and Ethics, 41*(3), 665-672. doi:10.1111/jlme.12076

Shaefer, D. R. (2007). Votes, favors, toys, and ideas: The effect of resource characteristics on power in exchange networks. *Sociological Focus, 40*(2), 138-130. doi:10.1080/00380237.2007.10571303

Schaefer, D. R. (2009). Resource variation and the development of cohesion in exchange networks. *American Sociological Review, 74*, 551-572. doi:10.1177/000312240907400403

Siegrist, J. (2006). Symmetry in social exchange and health. *European Review, 13*(2), 145-155. doi:10.1017/S1062798705000724

Spence, R. (2013). American society of clinical oncology: policy for relationships with

companies. *Journal of Clinical Oncology, 31*(16), 2043-2046. doi:10.1200/JCO.2013.49.5002

Speziale, H. S., Streubert, H. S., & Carpenter, D.R. (2011). *Qualitative research in nursing: advancing the humanistic imperative*. Philadelphia, PA: Lippincott Williams & Wilkins.

Thibaut, J. W. (1986). *The social psychology of groups*. New Brunswick, NJ: Transaction Publishers.

Wechsler, J. (2009). Safety requirements slow drug approvals. *Applied Clinical Trials, 18*(11), p. 24-28. Retrieved from http://www.appliedclinicaltrialsonline.com/safety-requirements-slow-new-drug-approvals

Wertz, F. J. (2005). Phenomenological research methods for counseling psychology. *Journal of Counseling Psychology, 52*(2), 167-177. doi:10.1037/0022-0167.52.2.167

Wertz, F. J., Charmaz, K., McMullen, L. M., Josselson, R., Anderson, R., & McSpadden, E. (2011). *Five ways of doing qualitative analysis*. New York, NY: The Guilford Press.

Wojnar, D. M., & Swanson, K.M. (2007). Phenomenology: An Exploration. *Journal of Holistic Nursing, 25*(3), 172-180. doi:10.1177/0898010106295172

Zhang, Y., & Epley, N. (2009). Self-centered social exchange: Differential use of costs versus benefits in prosocial reciprocity. *Journal of Personality and Social Psychology, 97*(5), 796-810. doi:10.1037/a0016233

Appendix A: Introduction and Agreement to Participate Letter

Frank Bailey, BMST(ASCP), MHA

Date

Re: Letter of Introduction

Dear :

I am a PhD student at Walden University's School of Health Services Program and a full-time employee of Bristol-Myers Squibb working in the Immunoscience division. My research dissertation it titled *The Pharmaceutical Industry's Effect on Rheumatologist's Patterns of Care.* The aim of this qualitative phenomenological study is to describe what effect rheumatologists believe drug manufacturers have had regarding the care they provide to their patients.

In order to gather these perceptions and lived experiences, I will perform a semi-structured interview, using the following research question:

1. What are rheumatologists' lived experiences regarding the influence of the pharmaceutical industry on their pattern of patient care?

You have been selected as a potential candidate for this inquiry because you are a practicing rheumatologist who has experience in interacting with pharmaceutical personnel. The significance of this study will be to articulate the possible impact drug manufacturers have had on rheumatologist's care patterns for their patients in order for health care practitioners and drug manufacturing leadership to learn from this perspective and work toward equitable collaborations between vested stakeholders.

The Walden University Institutional Review Board (IRB) has approved this research endeavor and will ensure the conduct of this research protects your identity and the integrity of the information gathered. In order to assess your interest in participating in this research, I respectfully request you respond electronically to frank.bailey@waldenu.edu. If you agree to participate, I will provide and IRB-approved consent form, which will provide more specifics regarding the conduct of this study.

If you have any questions, I can be reached at the email address listed above or directly via cell phone at 404-217-2772.

Respectfully,

Frank Bailey Walden University PhD Student

Appendix B: Consent Form

A Phenomenological Investigation of the Pharmaceutical Industry's Effect on Rheumatologist's Patterns of Care.

You are invited to participate in a research study that will examine the influence of drug manufacturers on rheumatologist's care patterns. The researcher is inviting rheumatologists who have experience in dealing with representatives of the drug manufacturing industry. The purpose of this form is to obtain your consent to participate in the study and to provide you with an explanation of applicable study procedures and processes, so as to inform you of what to expect during the conduct of this research.

This study is being conducted by Frank Bailey, a doctoral candidate at Walden University.

Background Information:
The purpose of this phenomenological study is to examine the effect the pharmaceutical industry has had on rheumatologist's patterns of care.

Procedures:
If you agree to participate in this study, you will be asked to engage in an interview with the research for approximately 30-45 minutes. The interview will be electronically recorded for transcription purposes by the researcher. The researcher will provide a recap of the dialog upon completion of the interview to ensure the information captured accurately reflects your responses to the interview question. You will not need to prepare for the interview, but rather share your thoughts, ideas and experiences regarding the protocol question.

Voluntary Nature of the Study:
Your participation in this research is strictly voluntary. Your decision whether or not to participate will not affect your current or future relationship with the researcher or any pharmaceutical entity. If you decide to participate, you are still free to withdraw at any time, without affecting those relationships.

Risks and Benefits of Being in the Study:
Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as minor every day risks involving anxiety or stress. In the event you experience anxiety or stress during your participation in the study, you may terminate your participation at any time. Participating in this study would not pose any risk to your safety or wellbeing.

The potential benefits of this research will be the researcher's ability to share information with other health care practitioners and pharmaceutical leadership regarding the effect

drug makers may have regarding the care provided by rheumatologists. Understanding these ramifications may allow for increased collaboration between the pharmaceutical industry and health care practitioners, and/or facilitate positive processes that reflect equitable social exchange conduct.

Payment:
There will be no form of financial compensation, thank you gift, or reimbursement provided to you for your participation in this study. The only benefit to you will be your ability to describe your experiences with agents of the pharmaceutical industry that have impacted your patient care.

Confidentiality:
Any information you provide will be kept strictly confidential. The researcher will not use your personal information for any purposes outside of this research project. Also, the investigator will not include your name or any other related information that could identify you or your organization in study reports. Data will be maintained by the researcher in a locked file. Data retention is expected to be 3 years, as required by the university, and then appropriately destroyed by the researcher.

Contacts and Questions:
The researcher conducting this study is Frank Bailey. The researcher's Walden faculty adviser is Lawrence Fulton, PhD, who can be reached at Lawrence.fulton@waldenu.edu. You may ask any questions you have now. If you have questions later, you may contact the researcher at (mobile number) or at frank.bailey@waldenu.edu. The Research Participant Advocate at Walden University is ______, and you may contact him/her at ______, if you have questions regarding your participation in this study. Walden University's approval number for this research is _____ and it expires on _____.

You will receive a copy of this form from the researcher.

Statement of Consent:

☐ I have read the above information. I have asked questions and received answers. I consent to participate in this study.

Printed Name of Participant

____

Participant Signature

____

Signature of Investigator

____

Appendix C: Interview Protocol

Opening Prompt: Let's discuss your experiences regarding pharmaceutical interactions and its potential impact on patient care.

What types of interactions do you have with agents of pharmaceutical organizations at your center?

Do you have any interactions with pharmaceutical agents outside of your professional environment (e.g., church, neighbors, kid's friends, etc.)?

Tell me about how these interactions make you feel.

What impact, if any, have these interactions had regarding your perceptions of the products these companies represent?

Tell me what you believe motivates the various agents of drug manufacturers regarding their interactions with you.

What value, if any, do you believe these interactions can have for you or your patients?

Tell me how these experiences have impacted the care you provide to your patients.