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# Organizational Learning Through Marketing Analytics In Health Care

Sherry D. Hartnett

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Organizational Learning Through Marketing Analytics In Health Care

By

Sherry Denise Hartnett

A Dissertation Submitted in Partial Fulfillment of the Requirements for the Degree

Of

Executive Doctorate in Business

In the Robinson College of Business

Of

Georgia State University

GEORGIA STATE UNIVERSITY  
ROBINSON COLLEGE OF BUSINESS

2015

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## ACCEPTANCE

This dissertation was prepared under the direction of Sherry Hartnett's Dissertation Committee. It has been approved and accepted by all members of that committee, and it has been accepted in partial fulfillment of the requirements for the degree of Executive Doctorate in Business in the J. Mack Robinson College of Business of Georgia State University.

Richard D. Phillips, Dean

## DISSERTATION COMMITTEE

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## TABLE OF CONTENTS

LIST OF TABLES .....	VIII
LIST OF FIGURES .....	IX
<b>I CHAPTER 1—INTRODUCTION.....</b>	<b>1</b>
<b>I.1 Research Domain.....</b>	<b>1</b>
<b>I.2 Research Perspective.....</b>	<b>2</b>
<b>I.3 Research Question .....</b>	<b>4</b>
<b>I.4 Research Approach .....</b>	<b>4</b>
<b>I.5 Organization of the Study.....</b>	<b>6</b>
<b>II CHAPTER 2—LITERATURE REVIEW.....</b>	<b>7</b>
<b>II.1 Marketing Analytics.....</b>	<b>7</b>
<b>II.2 Marketing Analytics in Health Care .....</b>	<b>13</b>
<b>II.3 Organizational Learning in Health Care .....</b>	<b>15</b>
<b>II.4 Marketing Analytics and Organizational Learning.....</b>	<b>17</b>
<b>III CHAPTER 3—THEORETICAL FRAMEWORK .....</b>	<b>20</b>
<b>III.1 Organizational Learning .....</b>	<b>20</b>
<b>III.2 The 4I Framework.....</b>	<b>24</b>
<b>III.3 Punctuated Equilibrium .....</b>	<b>29</b>
<b>III.4 Analytical Concepts.....</b>	<b>30</b>
<b>IV CHAPTER 4—RESEARCH DESIGN AND METHODOLOGY.....</b>	<b>32</b>
<b>IV.1 Research Design.....</b>	<b>32</b>
<b>IV.2 Data Collection .....</b>	<b>36</b>
<b>IV.3 Data Analysis .....</b>	<b>38</b>
<b>V CHAPTER 5—FINDINGS .....</b>	<b>42</b>
<b>V.1 The UMed Marketing Analytics Learning Journey.....</b>	<b>42</b>
<b>V.2 The Learning Process.....</b>	<b>52</b>
<b>V.3 Description of Cases of Learning .....</b>	<b>56</b>
<b>V.4 Learning During Exploration.....</b>	<b>67</b>

V.5	Learning During Exploitation.....	78
V.6	What Individuals, Groups, and Organizations Learn .....	88
V.7	Organizational Learning Barriers and Facilitators .....	98
VI	CHAPTER 6—DISCUSSION.....	116
VI.1	Combining Theories .....	120
VI.2	Marketing Analytics Support Learning .....	121
VI.3	Barriers and Facilitators.....	123
VI.4	Practical Implications .....	124
VI.5	Limitations .....	125
VI.6	Future Research .....	126
VI.7	Conclusion.....	127
VII	BIBLIOGRAPHY .....	128
VIII	APPENDICES .....	137
VIII.1	APPENDIX A .....	138
VIII.2	APPENDIX B.....	152
VIII.3	APPENDIX C .....	162
VIII.4	APPENDIX D .....	169
VIII.5	APPENDIX E.....	178
VIII.6	APPENDIX F.....	190
VIII.7	APPENDIX G .....	200
VIII.9	APPENDIX H .....	209
VIII.10	APPENDIX I.....	215
VIII.11	APPENDIX J .....	219
VITA.....		227



## LIST OF TABLES

Table 1 Framing of this Research .....	5
Table 2 Key Constructs of Organizational Learning .....	21
Table 3 4I Framework of Organizational Learning .....	25
Table 4 Analytical Concepts .....	30
Table 5 Characteristics of Marketing Analytics Projects .....	35
Table 6 Profiles and Pseudonyms of Interviewees .....	37
Table 7 Number of Interviews and Participants Discussing Each Case .....	38
Table 8 Design Tactics for Case Study Validity.....	41
Table 9 Summary of Marketing Analytics Projects Results .....	53
Table 10 Health Care Project Cases.....	56
Table 11 Clinical Levels of Care .....	56
Table 12 The Nature of Learning.....	95
Table 13 Health Care Marketing Analytics Barriers and Facilitators.....	99
Table 14 Learning Occurs Differently During Exploration and Exploitation .....	118

## LIST OF FIGURES

Figure 1 Patterns of Punctuated Organizational Learning.....	55
Figure 2 Marketing Analytics Pathway to Organizational Learning (MAP2OL) Model.....	97

ABSTRACT

*ORGANIZATIONAL LEARNING THROUGH MARKETING ANALYTICS IN HEALTH CARE*

BY

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*27 MARCH, 2015*

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There is widespread recognition of the importance of organizational learning to organizational performance and innovation. Recent research suggests that the use of analytics can play a critical role in enhancing organizational learning. However, the relationship between marketing analytics and organizational learning has not yet been well studied. More specifically, research is needed to help understand *how* analytics, marketing analytics in particular, facilitate organizational learning to develop a systematic, theoretical explanation of the relationship between organizational learning and marketing analytics. This phenomenon is studied in the very rich context of the health care industry. This research uses a case study to examine how organizational learning involving intuiting, interpreting, integrating, and institutionalizing can be facilitated by marketing analytics. Health care organizations are using marketing analytics to adapt to the changes in their rapidly changing environment. A conceptual framework has been developed to illustrate how marketing analytics capabilities in the organization are used to

facilitate organizational learning. This study also provides recommendations on how health care organizations can enhance organizational learning with marketing analytics to improve their business performance.

**Keywords:** marketing analytics; organizational learning; punctuated equilibrium; qualitative case study; health care

## I CHAPTER 1—INTRODUCTION

### I.1 Research Domain

Marketing analytics lend themselves to organizational learning—to intuiting, interpreting, integrating and institutionalizing information. Organizations profit more and innovate more if they learn better and faster than others (Bell, Whitwell, & Lukas, 2002; Crews, 2010; Ding, 2014; March, 1991; Sinkula, Baker, & Noordewier, 1997). Scholars and senior executives agree that business success increasingly depends on learning, and that the ability to learn faster than competitors may be the only sustainable source of competitive advantage (Argyris, 1991; De Geus, 1988; Slater & Narver, 1995). Organizational learning is the development of new insights and new knowledge that can influence behavior and ultimately lead to meaningful collective action (Slater & Narver, 1995).

Senior executives want their businesses to run on data-driven decisions, so they stress the use of data analytics as a strategic priority (Bekmamedova & Shanks, 2014; Lavalle, Lesser, Shockley, Hopkins, & Kruschwitz, 2011). Analytics let senior executives and decision-makers extract knowledge from data acquired through interactions between the customer and the organization, and then interpret that data to improve decisions and business processes (Bekmamedova & Shanks, 2014; Chen, Chiang, & Storey, 2012).

Analytics research spans multiple disciplines such as computer science, management information systems, and statistics. Recently, the Big Data concept has been spurring greater interest in using marketing analytics to analyze and interpret vast amounts of structured, semi-structured, and unstructured marketing data (Bekmamedova & Shanks, 2014; Chen et al., 2012). Marketing analytics incorporate technology-enabled approaches for capturing customer and market data that support marketing decisions (Lilien, 2011).

It is suggested that analytics play a critical role in enhancing the ability of the organization to learn (Chatterjee, 2011). However, the relationship between marketing analytics and organizational learning has not yet been well studied. More specifically, research is needed to help understand *how* analytics, marketing analytics in particular, facilitate organizational learning to develop a systematic, theoretical explanation of the relationship between organizational learning and marketing analytics. This phenomenon is studied here in the very rich and multifaceted context of the health care industry.

## **I.2 Research Perspective**

Recently, scholars have shown increasing interest in studying organizational learning in health care settings because of its implications for both efficiency and effectiveness in the delivery of care. U.S. health care costs grew to 17.6 percent of GDP in 2013, making efficiency and effectiveness of health care important nationwide ("National Health Expenditure Data," 2014). Successful innovations in health care for individual health care organizations are vitally important in light of the potential cost of failure in terms of money and, more importantly, harm to patients (Scanlon, Ghanayem, Atz, & Cooper, 2009). Two key factors challenge health care senior executives, particularly in hospitals: 1) Health care is a multifaceted and complicated industry, and 2) the health care industry is a relative latecomer to adopting new information communication technologies.

Health care tends to be a complex, high-risk business (Kannampallil, Schauer, Cohen, & Patel, 2011; Rivard, Rosen, & Carroll, 2006). Hospitals in particular “epitomize the definition of a complex service organization” (Tucker, Nembhard, & Edmondson, 2007). Health care is practiced by highly-trained professionals, uses high-tech equipment, and delivers its services in multiple settings. The turbulent environment in which health care organizations operate today is

daunting, and health care senior executives face difficult challenges as a result (Rethmeier, 2010). The health care industry is affected by pressure from sources outside of the organization, such as the Patient Protection and Affordable Care Act legislation and related health care reform regulations (Bolch, 2012). These regulations require hospitals to transform the business models under which they operate (Kellis & Rumberger, 2010; Vo, Bhaskar, & Mihaylo, 2012).

Uncertainty in the health care industry is high as a result of tremendous changes in the regulatory and market environment (Bowden & Smits, 2012; Lipshitz, Popper, & Friedman, 2002) and an amalgam of challenges, such complicated services having convoluted payment structures, ambiguity about who is the customer, professional autonomy, a risk-averse culture, and intricate market dynamics (McNeill, 2013). Change and competition require innovation and adaptation, which in turn requires learning.

According to Dwight McNeill (2013, p. 2), “Analytics in health care is a paradox.” Health care is at the forefront in using scientific analytics to understand diseases and develop new cures and treatments, but it is lagging in using analytics for business practice. The health care industry is a relative latecomer to adopting new information and communication technologies (Timian, Rucpic, Kachnowski, & Luisi, 2013). Health care organizations are facing a tsunami of health care-related content generated from patient health information technology, patient satisfaction surveys, digital and social media, and web-based health communities (Chen et al., 2012). A recent study notes, “Rapid advancements in digitizing, integrating, and exchanging health information have given health care leaders access to an unprecedented volume of data to drive decisions” (Chang, Nielsen, & Macias, 2013, p. 1). According to Kellis and Rumberger (2010), health care is one of the most data-intensive industries in the world, but the industry uses little of this data to manage its businesses. This explosion of data sources can

create a problem of information overload (Bettis-Outland, 2012; Micu et al., 2011; Vo et al., 2012). Health care organizations need specific tools and processes to organize information and to learn from it.

### **I.3 Research Question**

Health care organizations must cultivate a vigilant learning capability to help them see opportunities sooner, think critically, and put learning into action (Day, 2011). Since the relationship between marketing analytics and organizational learning has not been well studied, we seek to develop a framework to explain how marketing analytics help organizations learn. Further, we seek to offer several useful implications for practice on the use of marketing analytics to facilitate organizational learning, and hence sustainable competitive advantage for the organization. Specifically, we endeavor to answer the question: How are marketing analytics used to facilitate organizational learning in health care organizations?

### **I.4 Research Approach**

To investigate the role of marketing analytics in health care organizations and to understand how it contributes to the organization's ability to learn, we used a qualitative case study design. We presented elements of a preliminary version of the research plan to obtain feedback on the approach (Hartnett, 2014). We selected case study as the research method since this investigation satisfies the three conditions Robert Yin (2009) espouses for the use of case study research: a) We pose a "how" research question, b) about contemporary real-world events, c) over which we have no control.

We looked at eight marketing analytics projects embedded in a health care organization through the conceptual lens of the 4I Model of organizational learning (Crossan, Lane, & White, 1999). Using an embedded multiple-case-study approach provided rich insights into the



dynamics of exploration and exploitation and uncovered accelerators and barriers to learning. Punctuated equilibrium theory (Gersick, 1991; Tushman, Newman, & Romanelli, 1986) helped explain the cyclical, punctuated nature of the learning. Thus the study integrates the literature from the areas of organizational learning and punctuated equilibrium and offers new insights into the dynamics of marketing analytics.

Exemplifying engaged scholarship, we worked in close collaboration with the primary stakeholders at multiple levels of the organization to identify cases and collect archival and new data. The project cases represent real stories that most health care executives can identify with, especially when attempting to deal with issues of current importance to their organizations. Table 1 presents the framing components for this study (Mathiassen, Chiasson, & Germonprez, 2012).

**Table 1 Framing of this Research**

<b>Component</b>	
Area of concern (A)	Marketing analytics and organizational learning in health care organizations
Problem setting (P)	Understanding how to improve an organization’s ability to learn in a highly complex health care environment to best serve patients and proactively meet their needs.
Theoretical Framing (F) 1. F <sub>I</sub> : Theory independent of Area of Concern 2. F <sub>I</sub> : Theory independent of Area of Concern	1. 4I Organizational Learning Framework 2. Punctuated Equilibrium Theory
Research Method (M)	Qualitative exploratory embedded case study
Contributions (C) 1. To Theory (C <sub>F</sub> ) 2. To Area of Concern (C <sub>A</sub> )  3. To Practice (C <sub>P</sub> )	1. C <sub>F</sub> : Extending and combining models 2. C <sub>A</sub> : Empirical and theoretical contributions to health care marketing analytics and organizational learning through the development of a model. 3. C <sub>P</sub> : Organizational learning barriers and facilitators
Research Question (RQ)	How are marketing analytics used to facilitate organizational learning in health care organizations?

## **I.5 Organization of the Study**

Chapter 1 contains an introduction, the area of concern and motivation for the study, the context in which the study resides, and the research question. Chapter 2 includes a comprehensive review of the literature related to marketing analytics, the role of marketing analytics in health care, the need for organizational learning in health care, and the usefulness of marketing analytics for organizational learning. In Chapter 3, we outline the theoretical framework, including the 4I Model of organizational learning, the interplay between exploration and exploitation, and punctuated equilibrium theory.

Chapter 4 contains a description of the research design and methods, including how we selected the case site, the forms of data collection, how data were analyzed, and the strategies used to increase the validity of the study. Further, this section explains the use of the engaged scholarship approach in an effort to enhance the relevance of the research by including the perspectives of key stakeholders. In Chapter 5, we describe the eight embedded marketing analytics projects and results of how and what health care organizations learn using marketing analytics, including barriers to, and facilitators of, learning. Chapter 6 contains a discussion of the Marketing Analytics Pathway to Organizational Learning (MAP2OL) model developed in the study, contributions to theory, the area of concern and practice, the limitations of the study, and recommendations for future research. The objective of this study is to contribute to health care marketing research by examining how marketing analytics facilitate organizational learning in a health care organization.

## II CHAPTER 2—LITERATURE REVIEW

The relevance of marketing in the learning organization has been emphasized by Slater and Narver (1995) who argue that because of its external focus, the marketing function is suitably positioned within the organization to identify the benefits of organizational learning activities. While the literature on specialized areas such as strategic marketing (Frankwick, Ward, Hutt, & Reingen, 1994), marketing management (Sinkula et al., 1997), marketing channels (Lukas, Hult, & Ferrell, 1996), market orientation (Bell et al., 2002; Gebhardt, Carpenter, & Sherry, 2006; Slater & Narver, 1995), and relationship marketing (Osarenkhoe, 2008) is extensive, there is very little marketing literature on the use of marketing analytics as a facilitator of organizational learning.

### II.1 Marketing Analytics

During the past few decades, there has been keen interest in analytics from both practitioners and researchers (Bekmamedova & Shanks, 2014; Chen et al., 2012). Analytics have become one of the top strategic priorities of senior executives (Bekmamedova & Shanks, 2014) who want businesses run on data-driven decisions (Lavalle et al., 2011). Analytics are about analyzing data to support organizational needs. Analytics enable senior executives and other decision-makers to extract knowledge from data that come from transactions or interactions between the organization and the customer for improved decision-making and to optimize business processes (Bekmamedova & Shanks, 2014).

Analytics are increasingly being used in organizations for several purposes. Many analytics tools can help an organization automate processes, provide customer insight, and aid in decision-making. Organizations can transform their internal capabilities by developing business-relevant analytics and by viewing analytics as central to solving problems and identifying

opportunities (Barton & Court, 2012). Further, “performance improvements and competitive advantage arise from analytics models that allow managers to predict and optimize outcomes” (Barton & Court, 2012, p. 81). A recent study concludes that analytics-driven organizations have 33% more revenue growth (Sinha, Subramanian, Bhattacharya, & Chaudhuri, 2012).

Technological components of analytics include 1) data extraction and transformation associated with analytic databases, 2) data access tools that typically comprise the front end of analytics systems, 3) data visualization and analysis tools, and 4) a data warehouse (Chasalow, 2009). Data management and warehousing are considered the foundations of analytics (Chen et al., 2012).

The leading obstacle, however, to widespread use of analytics is a lack of understanding of how to make the best use of analytics to improve the business (Lavalle et al., 2011). Many organizations in the health care field, as in other fields, take an information-centered approach to improving performance metrics. They seldom use one technological application at a time; they use a portfolio of software and apps, combine them to suit particular tasks, and regularly communicate and collaborate both inside and outside the organization (Mathiassen & Sørensen, 2008, p. 314). According to Lavalle et al. (2011), organizations can use analytics to build on these capabilities and embed the insights the organization gains into business operations and organizational memory.

Recently, there has been growing interest in marketing analytics to analyze and interpret vast amounts of structured, semi-structured, and unstructured marketing data (Bekmamedova & Shanks, 2014; Chen et al., 2012). Marketing analytics encompass technology-enabled approaches to capturing customer and market data to support making marketing decisions (Lilien, 2011). *Big Data* “requires the capability to manage a huge volume of disparate data, at

the right speed, and within the right time frame to allow real-time analysis and reaction”

(Johnston, 2014, p. 298). Marketing analytics techniques unearth patterns in Big Data that are not discernable, and the findings can be revelatory to gaining insights. These findings help organizations develop a better understanding of the customer throughout their lifecycle and gain unprecedented insights into consumers and market behavior by understanding the data generated across the entire organization (Hauser, 2007). The use of marketing analytics enables organizations to offer services that are better aligned with customer needs and wants, which will yield mutually beneficial relationships and, ultimately, higher profitability (Germann, Lilien, & Rangaswamy, 2013; Harrigan & Hulbert, 2011). Data-driven decisions are better decisions, as they are made on the basis of evidence rather than intuition (McAfee & Brynjolfsson, 2012).

Kennett et al. (2005, p. 423) said, “Understanding customer decision making processes, segmenting customers into groups, and positioning products and services to be attractive to targeted groups is fundamental to the marketing process.” The role of managing customer information, therefore, lies in improving the efficiency and effectiveness of marketing (Harrigan & Hulbert, 2011) and creating an integrated, optimized approach to developing marketing strategies. This results in the ability to work within time and financial constraints to build a brand and engage customers, resulting in improvements in organization performance (Boulding, Staelin, Ehret, & Johnston, 2005).

In an article addressing how marketing academics can best serve marketing practice, Harrigan & Hulbert (2011) underscore the need for marketers to learn about data-driven marketing analytics. The expectation is that marketing analytics allow for the optimization of diverse marketing efforts through learning what marketing practices work best. The more integrated the data, the more opportunities there are to learn and gain interesting insights.

Marketing is all about customers—acquiring, retaining, growing, and optimizing them. While the following are exemplars of how analytics could potentially be used in marketing, there is very little extant research on the use of these marketing analytics techniques for facilitating organizational learning.

**Channel optimization:** Media has long been construed as a set of communication channels through which marketing messages are sent (Mulhern, 2009). *Multichannel* refers to the variety of channels that customers use to interact and transact with the organization (Rangaswamy and vanBruggen 2005). The multichannel nature of marketing is a challenging reality, as is the integration of channels, where online affects offline, and customers expect seamless interaction (Harrigan & Hulbert, 2011). Marketing analytics can potentially help ascertain which media channels are optimal for delivering the best brand building and customer engagement messages at the right times.

**Advertising yield optimization:** The choice of media for communicating messages holds the key to sustaining the interest of customers (Kumar, 2010). With the evolution of new media options, marketing managers have to rethink traditional media mix models in favor of the more holistic strategic allocation methods in place today (Kumar, 2010; Lapointe, 2012). The digitization of media can bring about a more strategic allocation of marketing resources where marketing analytics have the potential to guide media mix decisions and determine budget distribution.

**Content optimization:** The most successful marketing communications should be result-oriented in catering to customers' needs (Kumar, 2010). Value proposition and message effectiveness are the most substantial influencers of customer purchase behavior (Lapointe, 2012). Marketing analytics can be used to analyze results of multi-media promotional campaigns

(evaluating brand elements, messages, concepts, design, and advertising) to learn what best communicates the brand message and captures the responding consumer activity.

**Audience optimization:** Marketing analytics can potentially be used to define high-potential audiences, determine how to communicate with them across a range of media, and make sound decisions about marketing resource allocation (Wiesel, Pauwels, & Arts, 2011). The marketing implication for this is the ability to reach targeted segments and optimize media spending by studying the responses to marketing campaigns (Kumar, 2010). Customer information can be used to create customer intelligence to better profile and classify customers, predict customer behavior, conduct target marketing, and cross- and upsell (Harrigan & Hulbert, 2011).

**Customer response analysis:** Mulhern (2009, p. 94) stated, “Behavioral targeting ... offers great promise [for marketers] because it drives customization of digital media content and ads.” In the digital world, continuous data have the potential to enable ongoing reassessments and adjustments of spending to achieve better efficiency through measuring customer response to marketing communications. Customer response analysis also has the potential to help an organization retain current customers through ongoing personalized communications and better-informed customer service.

**Predictive model optimization:** To better target marketing initiatives, companies need to be able to predict what products and services customers will purchase and when (Kumar, Venkatesan, & Reinartz, 2006). Marketing analytics have the potential to support the identification of patterns in data to predict what customers might do next. The data can help organizations predict when brand awareness is present and when there is an opportunity to cross-sell or up-sell through customer engagement.

**Financial model optimization:** Financial models based on data can guide media spending decisions far more precisely (Mulhern, 2009). Knowledge from marketing analytics can potentially populate financial models with financial metrics used in marketing, such as incremental profit, return on investment, and customer value.

The analysis of data and resulting customer insight have the potential to drive marketing communications; to help organizations understand how, when, and where to use traditional mass-marketing methods to amplify and take integrated marketing campaigns to the next level. New digital marketing techniques are increasingly important for organizations to engage with customers, and the use of marketing analytics practices has the potential to help marketers learn how to dovetail digital with traditional media for a balanced approach. Marketing analytics allow for refinement during the implementation of marketing strategies—a holistic approach towards customer communication that begins with information about customers, involves delivering the message, covers the customer feedback, and provides the organization's response to the feedback (Hauser, 2007; Kumar, 2010).

When implementing marketing initiatives—particularly those with digital marketing—organizational strategy, structure, processes, and capacity need to change to reflect new opportunities for business (Chaffey, 2010). According to David Edelman (2010, p. 1), “Companies that make the deep strategic, organizational, and operational shifts required to become effective digital marketers can be more agile and productive, while also accelerating revenue growth.” Having a continuous, organization-wide process that enhances the combined ability to make sense of and respond to change is a reflection of organizational learning. This suggests that if the application of marketing analytics can help people reason productively, it can also elevate organizational learning. While the organizational learning concept is broad, the



focus in this paper is on illustrating particular practices that health care organizations can institutionalize to facilitate organizational learning.

Marketing analytics have become increasingly vital since technology has made it feasible for marketers to analyze large databases more easily. The analytics processes have been around for years, but the uses of analytics today are new. Marketers must gather relevant information on the customer, analyze and interpret it, link it to the goals and needs of the organization, and then make it actionable (Hauser, 2007).

Chaffey & Patron (2012, p. 7) believe, “Technology and data integration challenges are becoming less of the major barrier they were.... The challenge is becoming one of people and processes.” Recognizing the potential value of information from analytics requires a shared understanding at a strategic level among senior executives (Elbashir, Collier, Sutton, Davern, & Leech, 2013).

Germann et al. (2013) show empirically that to be effective in the use of marketing analytics, an organization’s senior executives must ensure that the organization 1) employs people with necessary analytics skills, 2) deploys sophisticated IT infrastructure and data, and 3) develops a culture that supports marketing analytics so that the insights gained from marketing analytics can be deployed effectively.

## **II.2 Marketing Analytics in Health Care**

The literature on marketing analytics in health care is scant, likely due to its relatively recent use in the industry. However, one can draw from the general marketing analytics literature about how its use can benefit organizational learning. While marketing analytics and organizational learning could be studied in any organization or industry, we chose to narrow our focus and study it in the very rich context of health care.

In complex and uncertain markets such as health care, “closing the widening gap between the accelerating complexity of their markets and the limited ability of their organizations to respond demands new thinking about marketing capabilities” (Day, 2011, p. 1). A particular challenge for health care marketers is that 85% of Americans rate their overall health as good, very good, or excellent; only 4% say they are in poor physical health (CDC, 2002/03). The vast majority of people have little contact with the health care system except for checkups or visits for relatively minor illness.

Health care organizations must listen to, learn from, and be responsive to their customers. The more the voice of the customer, or patient, is brought into an organization and acted upon, the more effective the organization will be in meeting patient needs and the better its performance (Yannopoulos, Auh, & Menguc, 2012). The use of marketing analytics is becoming more prevalent, and in the context of organizational learning, it is critical.

Marketing analytics can prepare the organization to act ahead of rivals (Day, 2011). Collecting data on what patients are seeing, doing, and saying enables organizations to become more patient-centric (Edelman, 2010). While there is limited literature on marketing analytics, and almost none set in the health care realm, other benefits of analytics in general have been cited in the health care literature. These benefits include improved decision consistency (Natter, 2008), improvement in the overall decision-making process (Russo & Schoemaker, 1989), ability to provide precisely targeted, customized information to individuals (Carty, 2013), driving innovation (Clevenger, 2009), and the facilitation of planning, measuring, and learning (Cortada, Gordon, & Lenihan, 2012) by offering not only awareness of current patient behavior but also providing key insights into future behavior (Hauser, 2007).

Health care organizations have been experiencing increased pressure to improve patient satisfaction and quality while being efficient and effective and, as such, are implementing customer relationship management (CRM) solutions (Proctor, 2010). Patients are becoming more knowledgeable consumers of health care services, using technology such as smartphones and social networking to improve, manage, and maintain their health (Bowden & Smits, 2012). As a health care organization's strategy becomes more interactive, leading to increasing dialog and collaboration with patients, there must be greater dissemination of information and decision-making throughout the organization (Day, 1998). Having an advanced CRM platform enables health care organizations to track patient touch points from initial marketing outreach to doctor appointments and screenings (Carty, 2013). Organizations that use this data to understand what patients want, what they will more likely purchase, and when – and then use this knowledge for organizational learning – will likely see a positive impact on the organization's return on investment (Kumar et al., 2006). For health care organizations, improving return on investment, reducing costs, and increasing patient satisfaction are some of the drivers to implement analytics (Cortada et al., 2012).

### **II.3 Organizational Learning in Health Care**

Recently, scholars have shown increasing interest in studying organizational learning techniques in various health care settings due to the tremendous implications for both efficiency and effectiveness of delivery of care. In the context of health care, the impact of organizational learning is significant. Learning has tremendous implications for health care because of the high cost of failure in terms of money and, more importantly, harm to patients (Scanlon et al., 2009). Organizational learning is thus an imperative (Tucker & Edmondson, 2003).

The ability to learn from the past is extremely critical. Specifically, scholars have

examined how hospital units learn to improve efficiencies in settings such as cardiac surgery (Edmondson, Winslow, Bohmer, & Pisano, 2003; Huckman & Pisano, 2006; Pisano, Bohmer, & Edmondson, 2001), CT scanning (Black, Carlile, & Repenning, 2004), total joint replacement (Reagans, Argote, & Brooks, 2005), and intensive care units (ICUs) (Tucker et al., 2007). Other studies have focused on nurses and the tasks they carry out that are knowledge-intensive and highly variable, and the findings conclude that nurses are well positioned to help their organizations learn based on their knowledge of which processes are successful and which are not (Tucker & Edmondson, 2003). Health care senior executives need analytical tools to help inform decision-makers by providing them with better information to aid in changing processes that have been in place for a long time (Santamour, 2013, p. 1).

Learning depends on the integration of varied data (Rivard et al., 2006). As the health care organization acquires better knowledge about multiple stakeholders and procedures in its system, it can embed multilevel learning associated with individuals, processes, and units within the organization to ensure that appropriate actions occur (Crossan et al., 1999). To be more patient-centric in an ever-changing and complex environment, a health care organization must become a learning organization to anticipate the patient's next move (Tucker & Edmondson, 2003). A good place to start a system of engagement with patients is to share data and analytics from an enterprise data warehouse across various areas of the health care organization, including physicians, specialty departments, and outside practices. Possessing an enterprise data warehouse, while commonplace in other industries, has presented a challenge for health care organizations because so much clinical information is in the form of 'unstructured data,' such as physician's notes (Vo et al., 2012).

Providing access to the vast amount of data available and required for learning and

getting it to the ultimate user or decision-maker are both opportunities and challenges for health care organizations (Moore, Eyestone, & Coddington, 2013). Managing information involves a cycle of generating information and deriving meaning from it and then using this information to institute changes or implement plans (Ramaprasad & Rai, 1996). There is strong anecdotal evidence that marketing tools and concepts, which help manage information, could lead to more effective and efficient delivery of health care systems (Lim & Ting, 2012). Mining and analyzing rich data can facilitate and foster long-term patient-physician interactions—another factor leading to improved patient care. For health care senior executives, improving return on investment, reducing costs, and increasing patient satisfaction are some of the key drivers to implement analytics (Cortada et al., 2012).

While the connection between organizational learning and analytics has been suggested in the literature, there are no comprehensive studies of this phenomenon, and in our view there are no systematic, theoretical explanations as to how organizational learning is facilitated by marketing analytics. Therefore, we agree with Lipshitz and Popper (2000) that the field of organizational learning needs in-depth case studies that consider an organization—particularly in the health care setting—to develop an understanding of how marketing analytics facilitates organizational learning. Accordingly, this research studies this phenomenon in the very rich context of a health care organization case study.

#### **II.4 Marketing Analytics and Organizational Learning**

Performance improvements and competitive advantage arise from analytics (Barton & Court, 2012). A real benefit to patients lies in gathering relevant data from individuals (with their consent) and engendering their partnership to engage in data-sharing activities that help them improve their lives (McNeill, 2013). Moreover, analytics play a critical role in an organization to

enhance its learning ability (Chatterjee, 2011). Their application helps an organization to transform knowledge and apply it appropriately so that organizational learning is enriched (Chatterjee, 2011). There is strong anecdotal evidence of the value that organizational learning provides to organizations (Bell et al., 2002; Ding, 2014; Sinkula, 1994; Slater & Narver, 1995).

Huber (1991) identified four constructs associated with organizational learning: knowledge acquisition, information distribution, information interpretation, and organizational memory. These four constructs directly relate to components of marketing analytics. *Knowledge acquisition* may be supported by data extraction, transformation, data mining, and text mining that are typically associated with analytics processes (Chasalow, 2009; Drelichowski et al., 2012). *Information distribution* is embodied in the data access tools that usually comprise the front end of analytics systems (Chasalow, 2009; Drelichowski et al., 2012). *Information interpretation* is what data visualization and analysis tools such as charts and indices perform in order to show clusters or groupings of analyzed data (Chasalow, 2009; Drelichowski et al., 2012). Data warehouses, easily accessible data repositories for data archiving, represent a form of *organizational memory* (Chasalow, 2009). Marketing analytics can exploit organizational data and provide operational and strategic benefits, yet how organizations achieve business benefits from marketing analytics remains unclear (Elbashir et al., 2013). The leading obstacle to the widespread use of analytics is lack of understanding of how to make the best use of analytics to improve the business; this underscores the need for marketers to learn about data-driven marketing analytics.

In summary, health care organizations need tools and processes to organize information and learn from it. The uses of marketing analytics today are new, and there is very little extant research on the use of marketing analytics techniques, even though literature suggests that

analytics play a critical role in enhancing the ability of the organization to learn. Research on marketing analytics in health care is limited, and none to date examines health care marketing analytics and their relationship to organizational learning. With no comprehensive studies of this phenomenon, and in our view no systematic, theoretical explanations as to how organizational learning is facilitated by marketing analytics, in-depth case studies are needed in health care. Research is needed to develop a systematic, theoretical explanation of the relationship between organizational learning and marketing analytics in the very rich context of the health care industry. Our study seeks to develop such an explanation.

### **III CHAPTER 3—THEORETICAL FRAMEWORK**

#### **III.1 Organizational Learning**

Organizational learning is an important activity in complex organizations and is vital to an organization's capability for continuous change and renewal (Flores, Zheng, Rau, & Thomas, 2012). In essence, if one does not learn, one cannot take action. According to Slater and Narver (1995), organizational learning is the development of new insights or knowledge that can affect behavior. Sinkula (1994) defines organizational learning as a way of preserving knowledge so that other individuals can use it. It is an organization-wide continuous process that improves an organization's collective capacity to accept, reflect on, understand, and respond to change. It involves the integration and interpretation of data that leads to meaningful collective action.

Consistent with a significant stream of previous research in this area, Flores et al. (2012) identified five independent but interrelated sub-processes that collectively appear to capture the entire learning cycle identified by extant work in the field—information acquisition, information distribution, information interpretation, knowledge integration, and organizational memory. Many researchers agree that organizational learning begins with some method of information acquisition. The acquired information is subsequently distributed across the organization. Interpretation and integration of the information typically follow. The process concludes as information is stored in organizational memory and institutionalized (Flores et al., 2012).

Table 2 describes key constructs that have been well established in the literature as essential for organizational learning.



**Table 2 Key Constructs of Organizational Learning**

<b>Construct</b>	<b>Definition</b>	<b>Sources</b>
Organizational learning—verb	The learning process within an organization	(Bell et al., 2002)
Organizational learning—noun	That which has been retained by the organization as a result of the learning process	(Bell et al., 2002)
Information	Information is “a flow of messages”	Nonaka (1994, pp. 15-16)
Knowledge	Information becomes knowledge when it is processed by and anchored in the commitment and beliefs of the organization	Nonaka (1994, pp. 15-16), (Flores et al., 2012)
Information Distribution	The processes through which individuals, groups, or different units of the organization share data and information among themselves	(Flores et al., 2012; Huber, 1991)
Information Interpretation	The process through which organizations make sense of, and create a shared understanding of, new information that they have acquired and disseminated, which may lead to a divergence of opinions	(Crossan et al., 1999; Flores et al., 2012; Huber, 1991)
Information Integration	This process occurs when various interpretations converge to form unified understandings, shared observations, discussions, and knowledge among individuals so that organizations may take collective action	(Crossan et al., 1999; Flores et al., 2012; Huber, 1991)
Organizational Memory	Knowledge that is stored for future use; it involves activities that encode and store knowledge	(Flores et al., 2012; Huber, 1991)
Knowledge Institutionalization	The process of converting new knowledge and learning into practice; embedding learning by individuals and groups into the organizations’ systems, structures, procedures, strategies, and cultures	(Crossan et al., 1999; Flores et al., 2012)
Exploration	Refers to learning, improvement, and acquisition of new knowledge gained via planned experimentation and “play” and shifting to a different trajectory	(Baum, Li, & Usher, 2000; Benner & Tushman, 2003; Gupta, Smith, & Shalley, 2006)
Exploitation	Refers to learning, improvement, and acquisition of new knowledge gained via refinement of existing routines and building on an existing trajectory	(Baum et al., 2000; Benner & Tushman, 2003; Gupta et al., 2006)

Argyris and Schön (1978) proposed that organizational learning be considered in two related respects: adaptive learning (single loop) and generative learning (double loop). The most

basic form of learning is about using knowledge gained to improve the quality and efficiency of existing operations (corresponds to exploitation), and the more advanced learning goes further and involves forming new practices, perspectives, and frameworks so as to continuously expand capability (corresponds to exploration) (Argyris & Schön, 1978; Slater & Narver, 1995).

Adaptive learning activities concentrate on making functions more efficient, while generative learning actions create a new way of looking at things, such as crafting a long-term strategic plan or restructuring a position.

The concepts of *organizational learning* and the *learning organization* are different.

*Organizational learning* is a concept used to describe certain types of processes that take place in an organization, while *learning organization* refers to a particular structure of the organization in and of itself. According to Peter Senge (1990, p. 3), learning organizations are “where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free, and where people are continually learning to see the whole together.” Organizational learning is an accumulation of loosely linked sub-processes performed by a broad range of individuals, in which different subdivisions participate in various ways (Popper & Lipshitz, 2000). This research studies the processes of organizational learning.

While there is widespread recognition of organizational learning and its importance to organizational performance and innovation (Bell et al., 2002; Crews, 2010; Ding, 2014; March, 1991; Sinkula et al., 1997), no one model of organizational learning is broadly accepted (Bell et al., 2002; Crossan et al., 1999; Lipshitz & Popper, 2000). Bell et al. attempt to bring coherence to the organizational learning research, arguing that organizational learning is embedded in four schools of thought: an economic school, a managerial school, a developmental school, and a

process school (2002). The Economic School focuses on *learning by doing*, where experience generates unspoken knowledge, with no distinction made between lower and higher order learning. This form of learning only requires that individuals be cumulatively subjected to organizational routines and processes. This reactive learning style centers on incremental gains in the accumulation of knowledge, rather than changes in the nature of learning (Bell et al., 2002). The Developmental School focuses on higher-order learning and a series of related and sequential steps that must be followed to achieve knowledge through *learning by evolution* (Bell et al., 2002). This rigid learning style can be constrictive. The Managerial School also centers on higher-order learning. However, the learning does not need to be in a linear sequence. Instead, the key is to follow a checklist or set of prescriptive guidelines—*learning by management-led change* (Bell et al., 2002). While it is easy to see the strengths of this approach from a managerial perspective, its weakness is that it may lead to changing tactics without changing the necessary corresponding fundamental long-term operating behaviors.

The Process School focuses on all forms of learning, both higher and lower orders. It is conceptualized in terms of the process of information acquisition, dissemination, and utilization, as well as the encoding and retrieval of memory—*learning by information processing* (Bell et al., 2002). Rather than identifying management norms to motivate learning, this approach focuses on the constructs of learning such as information interpretation and integration. Effective management of these constructs provides the organization with the capacity to learn.

Of these four schools of thought on organizational learning, the Process School is most relevant to this study as it focuses on both higher and lower order learning as well as on the constructs of learning. This study will draw on its processes of information acquisition, dissemination, utilization, and memory. These processes by which organizational learning can

achieve success have also been examined in the model proposed by Crossan et al. (1999), the 4I Framework of Organizational Learning.

### **III.2 The 4I Framework**

In this paper, we primarily draw upon the work of Crossan et al. (1999) which suggests a model for effective management of key learning constructs and renewal of the overall organization, and identifies four key processes (intuiting, interpreting, integrating and institutionalizing) as being critical to organizational learning. The 4I Model was chosen based on the following considerations. First, it adopts a process orientation to learning which is aligned with the objective of our study to examine the how analytics can enable these processes. Second, the 4I Model looks at learning as a multi-level process involving individual, group, and organizational learning. Understanding these three levels is important in health care organizations, which tend to employ a large number of people within multiple departments, divisions, and entities. Third, by including the perspective of strategic renewal through exploration and exploitation, we believe we can provide a richer theoretical analysis of the nature of learning. With that view, the authors developed the 4I Model based on high-level connections between the four processes, and through three levels – individual, group, and organizational presented in Table 3.

**Table 3 4I Framework of Organizational Learning**

(Adopted from Crossan et al., 1999)

<b>Learning/Renewal in Organizations: Four Processes Through Three Levels</b>		
<b>Level</b>	<b>Process</b>	<b>Input/Outcomes</b>
Individual	Intuiting	Experiences, Images
		Metaphors
Group	Interpreting	Language, Cognitive Map
		Conversation, Dialog
Organization	Integrating	Shared Understandings, Mutual Adjustment
		Interactive Systems
Organization	Institutionalizing	Routines, Diagnostic Systems
		Rules, Procedures

The three levels (individual, group, and organization) define the structure through which organizational learning takes place. The four processes bind the structure together. Intuiting and interpreting occur at the individual level, interpreting and integrating occur at the group level, and integrating and institutionalizing occur at the organizational level.

- 1) **Intuiting:** “Intuiting occurs when individuals recognize patterns in their own past or present experiences and identify their potential use in their current work environment” (Wiseman, 2007, p. 1114). Information acquired can come from an internally focused experience (exploitation) such as a learning curve, or an externally focused experience (exploration) through experimentation or discovery (Day, 2011; March, 1991; Slater & Narver, 1995).

- 2) **Interpreting:** Interpreting, or sense making (Weick, 1995), is when “individuals verbalize or put into action their own insights and ideas. Language and metaphors are often used to help individuals interpret and share their intuitions with others” (Wiseman, 2007, p. 1114). It is important that this knowledge be shared and disseminated across the organization so that the information can be seen in a broader context by anyone who might use it or be affected by it (Slater & Narver, 1995). As the interpretation process moves beyond the individual, and the ideas become embraced by the group, integration occurs.
- 3) **Integrating:** Integrating is the collective development of a shared interpretation of new ideas and how to put them into action. In order for organizational learning to take place, there must be a collective understanding of the meaning of the information and its resulting ramifications to the organization (Slater & Narver, 1995). When new ways of thinking and behaving are repeated and have a sufficiently significant impact on organizational action, the changes become institutionalized.
- 4) **Institutionalization:** Institutionalization is the process of embedding intellectual capital, the learning that has occurred in individuals and in groups, into the organization so that learning is leveraged and capitalized on (Crossan et al., 1999; Slater & Narver, 1995). This organizational memory is accomplished in the form of policies, procedures, codification, written documents, and organizational stories (Slater & Narver, 1995).

Several scholars assert that the renewal requires organizations to explore and learn new approaches while simultaneously exploiting what they have already learned (Crossan et al., 1999; March, 1991). Recognizing and managing the tension between exploration and

exploitation are two significant challenges of renewal and, therefore, become a central requirement in a theory of organizational learning (Crossan et al., 1999).

The literature on organizational learning theory presents two disparate dynamics of learning: “exploitation of old certainties” and “exploration of new possibilities” (March, 1991). While arguments in favor of the need for both exploration and exploitation are well-established and accepted, the literature also indicates that “the central questions on this subject remain incomplete, at times contradictory, and at best ambiguous” (Gupta et al., 2006).

Crossan et al. (1999) theorize that exploration results from feed-forward learning, while exploitation is an outcome of learning from feedback. However, there is little empirical evidence relating to the 4I Model for the way feed-forward and feedback flows function, coupled with the time-dependent nature of processes and cycles (Bontis, Crossan, & Hulland, 2002; Crossan & Bedrow, 2003; Dutta & Crossan, 2005). Exploration is related to proactive experimentation and innovation, whereas exploitation increases productivity and efficiency through improved responsive execution (March, 1991). Simultaneously pursuing both exploration and exploitation may create internal tensions, conflicting demands, and competition for resources within an organization (Benner & Tushman, 2003; Gupta et al., 2006; Raisch, Birkinshaw, Probst, & Tushman, 2009; Rothaermel & Deeds, 2004).

The ability of an organization to simultaneously pursue, and balance, explorative (revolutionary) and exploitative (incremental) change is defined as organizational ambidexterity (Benner & Tushman, 2003; Tushman & O'Reilly III, 1996). The ability to carry out conflicting demands in chorus with each other, such as the contradictory demands of alignment and adaptability, is another way to describe a form of ambidexterity (Ramesh, Mohan, & Cao, 2011). Ambidexterity theory says one should do both exploration and exploitation simultaneously.

While organizational learning scholars have argued that engaging in both explorative and exploitative processes is crucial for the long-term survival and success of organizations (Gibson & Birkinshaw, 2004), March (1991) asserts that in order for an organization to be ambidextrous, it must split its limited resources and attention between the two learning activities of exploitation and exploration.

Recent literature questions the assumption in the 4I Model that exploration and exploitation occur concurrently in an individual learning cycle. Nielsen, Mathiassen, and Hansen (2014) offer a critique and expansion of the 4I Model. They (2014, p. 46) maintain “the real contribution of the 4I model lies in articulating how individual learning cycles unfold iteratively through intuiting, interpreting, integrating and institutionalizing across organizational levels,” and find the 4I Model does not adequately describe exploration (via feed forward) and exploitation (via feed backward). The 4I Model indicates that learning is one contained, iterative cycle; however, Nielsen et al. (2014, p. 4) suggest that is not true and instead describe strategic renewal as “interactions between *wakes of learning*, in which each wake has a core focused on either exploration or exploitation.” The authors draw on the image of a wake to portray learning processes that play out as multiple, interacting *wakes of learning* across processes and levels, “much as wakes travel through water” (Nielsen et al., 2014, p. 11).

While there is near consensus in the literature about the need for balance between exploration and exploitation (Gupta et al., 2006), in an environment with constrained resources, exploration and exploitation cannot occur concurrently. If there were unlimited resources, an organization could invest in doing both at the same time, but this is not the reality of resources in many organizations. The punctuated equilibrium theory, alternatively, “suggests that cycling



through periods of exploration and exploitation is a more viable approach than a simultaneous pursuit of the two” (Gupta et al., 2006, p. 694).

### **III.3 Punctuated Equilibrium**

Punctuated equilibrium theory initially stemmed from the fields of biology and anthropology in theorizing types of evolutionary phases (Eldredge & Gould, 1972). More recently, punctuated equilibrium theory has emerged as a prominent theoretical framework for explaining how change occurs and how it can be managed (Burgelman, 2002; Gersick, 1991; Tushman & Romanelli, 1985). The punctuated equilibrium theory argues that periods of gradual evolution are “punctuated” by sudden revolutionary periods of rapid change (Gersick, 1991; Van De Ven & Poole, 1995). Tushman and Romanelli's (1985) punctuated equilibrium model of organizational transformation can be viewed as alternating cycles in the operation of organizations, evolving through relatively long periods of stability (equilibrium periods) in basic patterns of activity that are punctuated by disruption and relatively short bursts of fundamental change (revolutionary periods). Periods of discontinuous change exist when an organization's strategies, power, structure, and systems are fundamentally disrupted, transformed, or realigned (Tushman & Romanelli, 1985). Organizations—and projects—cycle through stable and dynamic environments; consequently, punctuated equilibrium is a potentially useful way of examining organizational learning.

Gupta et al. (2006) conclude: 1) The scarcer the resources needed to engage in both exploration and exploitation, the greater the probability that the two will be mutually exclusive; 2) within a single domain, such as a project, exploration and exploitation will generally be mutually exclusive; and 3) across different domains, exploration and exploitation will generally be orthogonal or independent of each other, such that high levels of exploration in one project

can coexist with high levels of exploitation in another project.

### III.4 Analytical Concepts

To pursue our goal of examining organizational learning, this paper draws upon the 4I Model of organizational learning and the punctuated equilibrium theory, involving periods of relative stability or evolutionary change interrupted by periods of quick and extensive, or revolutionary, change (Sabherwal, Hirschheim, & Goles, 2001). We study marketing analytics projects as the structure that undergoes changes over time, assessing the level of effort required for improved performance, the degree of change produced, and the length of the learning cycle.

**Table 4 Analytical Concepts**

<b>Analytical Concepts</b>	
<b>Marketing</b>	Effort Required
<b>Analytics</b>	Degree of Change
	Length of Cycle
<b>Organizational Learning</b>	Intuiting
	Interpreting
	Integrating
	Institutionalizing
	Exploration
	Exploitation
<b>Punctuated</b>	Disruption
<b>Equilibrium</b>	Evolution

During the implementation of marketing analytics projects, the number of people involved, how intensely they are working, and the number of hours involved exemplifies *level of effort* required.

The extent of the increase in acquired knowledge, capability, or skills illustrates *degree of change*. We define this increase in learning as what team members collectively articulate as having learned from their experiences in one or more of three stages: 1. cognitive (when

individuals are exposed to new ideas, expand their knowledge, and begin to think differently); 2. behavioral (when people begin to internalize new insights and alter their behavior); and 3. performance improvement (when changes in behavior lead to measurable improvements in project results).

The *length of a cycle* represents the length of time it takes to complete a phase. A *disruption* is a disturbance or problem, such as strategy change, a problem that needs solving, or the introduction of a new disruptive technology, that interrupts a process. *Evolution* is a process of continual, gradual, progressive change.

In summary, to pursue our goal of examining how marketing analytics enable organizational learning, this research draws upon the 4I Model and punctuated equilibrium theory. The results of this study provide a framework for the adoption of marketing analytics in health care for organizational learning, providing a roadmap for putting ideas into action and a model that health care organizations can adopt.

## IV CHAPTER 4—RESEARCH DESIGN AND METHODOLOGY

### IV.1 Research Design

This research answers the question: How are marketing analytics used to facilitate organizational learning in health care organizations? An embedded exploratory case study design provided deep insights into the use of marketing analytics in the context of the health care organization. A case study approach was used because the research is exploratory rather than confirmatory (Yin, 2009). According to Myers (2010), a well-written case study based on empirical research in an organization represents a real story that most can identify with, especially when attempting to deal with issues of current importance to other organizations, many of which are likely to be in a similar situation. Johnston et al. (1999, p. 203) maintain, “Findings from case research may have more influence on marketing managers than survey results.” As so eloquently put by Robert Dubin (1976, p. 18), “It is exceedingly difficult to say something meaningful about the real world without starting in the real world.”

Using embedded case study research, we sought to develop, inductively, a model and a very rich description of how marketing analytics facilitate organizational learning in a health care organization. The single-site case study of one academic medical center involved units of analysis at the project level in order to examine different aspects of the various processes in organizational learning. Eight detailed embedded case studies were conducted. In studying this “how” question, this research was designed as a rigorous and relevant qualitative study to achieve a deep, credible, understanding of the phenomenon (Trochim & Donnelly, 2008) which allowed for scholarship and practice to come together (Myers, 2010). This research was iterative, working in progressive waves as the study progressed (Miles & Huberman, 1994).

A participative approach was used to increase the study's relevance to practice through gaining the perspectives of key stakeholders in order to understand complex problems (Van de Ven, 2007). More specifically, this was an engaged scholarship study using an informed basic research approach. In this form of engaged scholarship, we solicited advice and feedback from various key stakeholders and informants in each step of the research process: research design, theory building, problem solving, and problem formulation. In this approach, however, we remained in control and directed all research activities (Van de Ven, 2007). This study adopts a critical realist perspective, with “the belief that there is an external reality independent of a person's thinking (realism) but that we can never know that reality with perfect accuracy (critical)” (Trochim & Donnelly, 2008, p. 19).

#### ***IV.1.1 Site Selection***

The context of this study is the UMed (a pseudonym) site. This site was purposefully chosen as the organization worthy of study because its characteristics meet the following theoretically-driven criteria (Miles & Huberman, 1994).

1. It is an integrated health care organization competing in a complex industry.
2. It has developed an enterprise data warehouse. This organization brings together clinical, marketing, and financial data together in one data warehouse—a major feat, particularly in the health care industry.
3. In addition, it has been implementing a plan, over the past few years, to use marketing analytics to increase organizational learning.

Moreover, as an early adopter of digital marketing and marketing analytics, UMed is considered a leader in the field by the top two health care marketing associations in the country—the American Hospital Association's Society for Healthcare Strategy & Market

Development and the Forum for Healthcare Strategists. Every year since 2012, UMed's chief marketing officer, among others, has been a sought-after speaker at these two associations' annual conferences to educate attendees about marketing analytics.

Another reason we chose this site was that we were privileged to have excellent access to potential data, including people to interview and documents to review (Yin, 2009).

Over the years, different departments, including the marketing department, at UMed have collected a tremendous amount of data. In order to make this large amount of data more useful, the chief marketing officer recognized that they needed more advanced marketing analytics.

UMed, an integrated academic medical center in the northeastern United States, is comprised of three hospitals with more than 1,630 licensed patient beds, a medical school, and many smaller medical facilities. UMed has more than 2,250 physicians and nearly 22,000 employees. The health care organization covers a broad range of medical specialties including oncology, cardiology, neurology, and general surgery. In the past year, the health care organization had nearly 76,000 adult admissions, 8890 births, 2.2 million outpatient visits, and 138,000 emergency room visits.

#### ***IV.1.2 Unit of Analysis***

In this research, we studied eight embedded cases at the UMed site. Each unit of analysis is a marketing analytics project during its lifecycle. The multiple marketing analytics project cases include the real-life phenomena of learning in the following clinical service areas: bariatrics, brain tumor, heart transplant, IVF, PCP Finder, physician referral, proton therapy, and smoking cessation. The cases were selected based on a combination of accessibility (to project team members), relevancy (in the issues important to senior executives concerning marketing health care services), and cross-case diversity (in type of medicine, level of care, urgency,

complexity, and success/failure rate). As Johnston et. al suggest, each case serves “a unique purpose within the overall scope of inquiry (1999, p. 206).” We selected a few cases because of their similar characteristics, while we chose others due to their diverse contexts and/or results.

See Table 5 for the characteristics of the eight marketing analytics project cases.

**Table 5 Characteristics of Marketing Analytics Projects**

Marketing Analytics Project	Proton Therapy	Heart Transplant	Brain Tumor	Bariatrics	IVF	Smoking Cessation	PCP Finder	Physician Referral
Project Start Date	October 2011	March 2012	May 2012	March 2012	November 2011	October 2012	May 2013	May 2014
Clinical Service Line	Cancer	Cardiac	Neurosciences	Surgery	Fertility Care	Lung Care	Clinical Practices	Clinical Practices
Marketing Budget: Digital Media	\$\$\$	\$\$\$	\$\$	\$\$\$	\$\$\$	\$	\$\$	n/a
Marketing Budget: Mass Media	\$\$\$\$	\$\$\$	\$	\$\$	\$	\$	\$	n/a
Number of Phases '12 – '14	6	4	4	5	5	1	2	1
Level of Care	Quaternary	Quaternary (Heart Transplant) Secondary (Heart Failure)	Quaternary	Tertiary	Tertiary	Secondary (lung) Primary (smoking)	Primary	Specialist
Type of Care (Insurance)	Emergent/Acute (Insurance Pay)	Emergent/Acute (Insurance Pay)	Emergent/Acute (Insurance Pay)	Elective (Self-Pay)	Elective (Self-Pay)	Preventative Care (Insurance or Self-Pay)	Primary Care (Insurance Pay)	Specialty (Insurance or Self-Pay)
Case Urgency	High	High/Avg.	High	Low	Low	Low	Low	Depends
Case Complexity	High	High/Avg.	High	Avg.	Avg.	Low	Low	Depends

We did not know if or how these differences across the cases would affect organizational learning, and thus the cases provided ample opportunities to confirm or disprove expectations and improve the validity of our findings.

Cases were examined using the 4I Model of organizational learning and the punctuated equilibrium theory, involving periods of relative stability, or evolutionary change, interrupted by periods of quick and extensive, or revolutionary, change (Sabherwal et al., 2001). Case studies of marketing analytics projects over multiple phases/cycles suggest that punctuated equilibrium provides a valuable perspective for viewing these dynamics. Punctuated equilibrium theory helps present and make sense of the process.

## **IV.2 Data Collection**

Prior to data collection, we designed a case study protocol that contained an interview guide, procedures, and general rules that should be followed (Yin, 2009). We reviewed literature on the topics—the 4I Model in particular—to develop the questions in the interview guide in an effort to collect data that would reveal how the learning processes (intuiting, interpreting, integrating, and institutionalizing) develop at the individual, group, and organizational levels. The Institutional Review Board (IRB) at Georgia State University approved the study protocol. We used the interview protocol as a loose agenda for our line of inquiry. The cases were studied through semi-structured interviews with team members of the UMed community involved in marketing analytics projects. These individuals were our unit of measurement. We asked the informants to focus on specific marketing analytics projects but encouraged them to expand their comments into relevant areas. We interviewed multiple individuals from different backgrounds and at varying hierarchical levels. The various participants, along with an examination of internal company documents, provided numerous perspectives on the topic and enabled cross-checking of the perceived relationships among the four processes. In the primary data collection, we conducted 21 interviews with 17 decision makers. The respondents represented typical senior executives and decision-makers in health care organizations involved in marketing analytics projects, and all were involved in one or more of the eight marketing analytics projects. Table 6 provides a summary of the roles of the study participants.



**Table 6 Profiles and Pseudonyms of Interviewees**

<b>Stakeholder Group</b>	<b>Role of Interviewees</b>	<b>Pseudonyms</b>
Senior Executives	Chief Marketing Officer	Mary
	Chief Innovation Officer	Kevin
Middle Management	Associate Chief Marketing Officer(s) – 2	Julie, Donna
	Associate Chief Information & Technology Officer	Tom
	Senior Director of Marketing	Mike
	Director(s) of Marketing – 3	Steve, Kim, Tina
	Director, Interactive Marketing & Web Strategy	Kathy
	Director, Communications Innovation	Rick
	Senior Manager, Market Research & Data Management	Cindy
Staff	Digital/Internet Campaign Manager	John
	Marketing Coordinator(s) – 3	Laura, Michelle, Christine
	Web Content Coordinator	David

The data were collected in cycles, iteratively. First, we learned about many of the health care organization’s marketing analytics projects, after which we selected the eight embedded case study projects. We then interviewed participants about these eight specific cases.

We conducted the majority of the interviews onsite and did a few via phone. Interviews typically lasted one hour each. We explained the purpose of the interview and the terms of confidentiality to the participants. Informed consent was obtained from all study participants prior to data collection. The semi-structured interviews provided some structure but also allowed for improvisation as needed. An interview guide broadly outlined the topics of interest. Pre-formulated questions were crafted, but we did not strictly adhere to them (Myers, 2010). This flexibility enabled us to be open to exploring interesting lines of research as the data revealed interesting avenues for exploration. All interviews were digitally recorded and transcribed, with the permission of the participants being interviewed. We asked follow-up questions via phone and e-mail to gain further insights into the concepts that emerged from initial data analysis and when clarifications were needed. A total of more than 20 hours of interviews was conducted. The

transcriptions totaled 721 pages. The number of interviews and participants discussing each of the eight cases can be found in Table 7.

**Table 7 Number of Interviews and Participants Discussing Each Case**

<b>Embedded Case Study</b>	<b>Number of Interviews</b>	<b>Number of Participants</b>
Proton Therapy	14	12
Heart Transplant	16	15
Brain Tumor	10	9
Bariatrics	11	8
IVF	11	10
PCP Finder	8	8
Physician Referral	4	6
Smoking Cessation	8	7

Interviews were supplemented by a review of documents provided by the participants (working documents, postmortem case write-ups, presentations to senior executives, reports, industry presentations, and other internal records) and a systematic search of relevant documents on the Internet (news accounts, collateral materials, and website content). We collected 39 documents totaling 64,203 pages. The three lengthiest documents were 34660, 19376, and 9774 pages, respectively. The archival data provided evidence that allowed us to build a richer picture than by interviews alone. The documentary materials also provided other specific details to corroborate information from other sources of evidence, which enabled convergence on meaning (Johnston et al., 1999). Overlapping data collection with data analysis allowed us to make adjustments during the data collection.

### **IV.3 Data Analysis**

Within each case study, we examined the way marketing analytics facilitated organizational learning through rigorous analysis of interview transcripts and organization documents, and we crafted detailed case study write-ups for each case. This helped us gain

familiarity with the data and generate preliminary theories (Eisenhardt, 1989). Data collection and analysis were interrelated processes, and the analysis began as soon as the first bit of data was collected (Corbin & Strauss, 1990). Transcripts of interviews constitute the primary data for this study. Following Miles and Huberman (1994), we coded the data to facilitate interpretation. Having chosen the 4I Model, this was the basis for the initial coding scheme. We then revised the coding scheme through dimensions discovered in the data from the field observations (Strauss & Corbin, 1990; Van de Ven, 2007). We coded each interview transcript, which helped us reduce the size of the data, made it easier to retrieve the data, and sped up the analysis. We developed a case study database to organize interview transcripts and documents collected. The QSR International NVivo 10 qualitative data analysis software (2012) was used to code and categorize large amounts of narrative text collected from the interviews.

Participant summary sheets and memos were useful ways for us to summarize what we did and why we did it, to write down ideas about what the data meant, and to list series of events as they were discovered. We also made use of member checking by returning to participants to authenticate the findings as reflective of their views. This helped us clarify key findings. Because all measurement is fallible, we interviewed a variety of people representing different views (Myers, 2010) and triangulated responses against other interviewees' responses and multiple sources of evidence to lessen the bias and improve reliability (Trochim & Donnelly, 2008).

This study followed the data analysis procedures suggested by Miles and Huberman (1994) for qualitative case data consisting of three concurrent flows of activity: data reduction, data display, and conclusion drawing and verification. We used content analysis as a systematic method to analyze and identify patterns in the text. Cross-case pattern searches forced us to look beyond initial impressions for overall themes and major ideas (Eisenhardt, 1989). We identified

and applied the rules that were used to divide each text into segments that were treated as separate units of analysis in the study (Trochim & Donnelly, 2008). We analyzed the coded data to determine themes that occurred, in what contexts, and how they might be correlated. The back-and-forth process included returning to some of the original participants to confirm the accuracy of the data interpretation (Trochim & Donnelly, 2008).

Other analytic strategies that helped us “play” with the data to make discoveries included making a matrix of categories and placing evidence within each category and creating data displays—flowcharts and other graphics—for examining the data (Yin, 2009). These strategies helped us embrace the data and “see” the story.

We examined the evidence from different perspectives and invited key informants—subjects of the study—to provide insights, identify rival explanations, and review draft case reports in order to consider alternative perspectives adequately.

We scanned through notes, attached codes, extracted coded segments, drew conclusions, and wrote case study reports. To reduce the likelihood of bias, we reported preliminary findings—both in the data collection and data analysis phases—to a few informants for alternative explanations and suggestions (Miles & Huberman, 1994; Yin, 2009). Throughout, we remained cognizant that qualitative data evolve, so there were risks in entering the data in a set format too quickly (Miles & Huberman, 1994), so we generated rough formats early on in data collection and revised them to a firmer state closer to the end of data collection.

#### ***IV.3.1 Assuring Rigor and Relevance***

Following the teachings of Yin (2009), we strove to maximize the quality and rigor of our research by designing tactics for four critical conditions: (a) construct validity, (b) internal validity, (c) external validity, and (d) reliability as outlined in Table 8.

**Table 8 Design Tactics for Case Study Validity**

<b>Tests</b>	<b>Case Study Tactic</b>	<b>Application in This Study</b>	<b>Research Phase</b>
Construct Validity	Use multiple sources of evidence	Interviews (informants from various levels of the organization), documents, and archival data for objectivity	Data collection
	Establish and maintain a chain of evidence	Case study questions, protocol, recorded interviews, NVivo database, case study reports	Data collection through Analysis
	Have key informants review draft case study reports	Asked the CMO to review and comment on preliminary findings to ensure we accurately captured the facts, to provide insights and identify rival explanations	Data collection through Analysis
Internal Validity	Do pattern matching	Individual case studies analyzed and then cross-case analysis performed	Data Analysis
	Do explanation building	Used cross-case analysis and triangulated data (interviews, materials)	Data Analysis
	Define and examine rival explanations	Reviewed by key informants for credibility, validated with additional examples	Data Analysis
External validity	Use theory in single cases	Used 4I Model of organizational learning to plan research design	Research Design
	Use replication logic in multiple case studies	Used replication logic in the embedded eight sub-units (projects); predicting results and patterns for generalizability	Research Design
Reliability	Use case study protocol	Case study protocol—with interview guide, procedures, and general rules—for dependability	Data collection
	Create a case study database	NVivo database with audio from interviews, transcripts of interviews, case study notes, case study documents, and narratives	Data analysis

Across the eight cases, major themes regarding organizational learning were discovered.

What follows is an extensive overview of our findings. To keep the narrative concise, the full project case studies are in the Appendices.

## V CHAPTER 5—FINDINGS

### V.1 The UMed Marketing Analytics Learning Journey

#### V.1.1 *Addressing Competitive Pressures*

The UMed market area is very competitive, with more than 80 acute care hospitals and six academic medical centers in the region. As Mary, the chief marketing officer, stated, “It’s a very good place to come or be if you are injured or ill, but it makes it very challenging as a health care marketer to penetrate effectively when it is so crowded, cluttered, and competitive.”

Mass media in UMed’s designated market area is very expensive. As Mary described, UMed is in the fourth or fifth most expensive media market in the United States. In addition, she explained, “We’ve always been, well, conservative in terms of the dollars that we spend on mass media for advertising.” Marketing closely tracks the media expenditures of the top 10 health care systems and hospitals in the market, how the expenditures of each are trending, and how UMed’s expenditures compare. UMed tends to be, as noted by Mary, “sort of in the middle of the pack and sometimes lower” in terms of media spending. Marketing also monitors its overall marketing budgets compared to national averages based on the American Hospital Association’s bi-annual study, *Marketing by the Numbers*.

#### V.1.2 *2008-2010: Evolution of Traditional Marketing*

From 2008 to 2010, UMed focused on traditional mass-media marketing. The Marketing department rebranded the health care organization, changing the original name that was a mouthful to simply “UMed.” Marketing deployed the new name and brand everywhere developing the positioning and what it represented, and creating brand-level communications to carry that new name into the market. As Mary explained, “It was sort of a fresh approach.” UMed had been running pay-per-click advertising since 2005, but Mary noted, “We mostly sent

people to our homepage and said, 'You can take a look around and hang out here if you like,' but we did nothing to really engage them or have a tailored experience when they got to that site.”

### ***V.1.3 2011: Developing a Robust Infrastructure***

About this time came the arrival (in health care) of new disruptive marketing technology in the form of digital marketing and marketing analytics tools. Mary expressed her view that UMed’s marketing needed to be more efficient and effective:

I felt that we needed to find a better, more efficient way to go to market and also be accountable as marketers. Because we’re very much caught up, I think, as so much of the marketing industry is, in not being able to track and measure and know, frankly, what’s working.

Mary felt determined to find a way to do something about that. She made a bold decision, supported by senior executives, to pull back on UMed’s mass-media spending and began a substantial investment in the development of a robust marketing analytics infrastructure.

To begin, Mary articulated a vision of what Marketing ought to look like at UMed in terms of, as she said, “being more accountable, being more strategic, bringing the insight from the market and what marketing knows about that to the table with clinical leaders and Finance and others who were helping to craft a business strategy.” She focused on two things: technology (marketing analytics tools) and people (Marketing staff).

Technology was a foundational component of the marketing analytics infrastructure. UMed had focused over the years on building an integrated enterprise data warehouse. Tom, the associate chief information officer, explained that the data warehouse incorporates clinical data from the operations of the health care organization, financial numbers from billing and payment systems, and patient medical information. UMed developed this data warehouse internally using

industry standard tools, and as Tom explained, they “have been working on this for years.” Now layered onto this data warehouse was a new CRM system purchased from an outside vendor. The marketing analytics CRM system is “fed data” from the enterprise data warehouse. As illustrated by Tom, “It’s collaborative now. It didn’t use to be. It used to be very siloed, and it used to be people doing their own analytics, kind of on the side.”

Tom spoke of the challenges of implementing an integrated data warehouse and CRM system: “There’s a lot of grunt work up front to prepare yourself to do all the analytics on the back end.” If the data are not clean when being entered into the data warehouse, Tom said people will soon realize “Oh my! Our data’s terrible. We can’t do anything with it – it’s terrible!” He further explained that to ensure clean data is “a lot of painful, laborious work. Data governance, ownership of data, rules around data, data stewards – all this is just behind the scenes brutal work; you’ve got to do that first.” However, once the data and the analytics tools are there, Tom emphasized, “Now you can say ‘Find me all the patients that we treated with these same conditions and had this same situation.’ ” The CRM system, as noted by Mary, is “a large number of datasets including patient encounter data, revenue associated with those encounters, and information about the broader consumer market, people who are not yet our patients but who are in our service area.”

UMed has incorporated Contact Center (call center) data, behavioral data from digital marketing campaigns and multichannel campaigns, and purchased data. Marketing is responsible for the integrity of purchased data. IT is responsible for data integration into the clinical systems. The clinical operations team is responsible for training front office staff on patient data input. Moreover, as Mary said, shaking her hands in the air, “Not to completely, go ‘Whaaa!’ but while what we’ve all learned in the process is amazing, now this is part of the fabric of our clinical



operations, it's not just about marketing campaigns anymore.”

Concurrently, the chief marketing officer focused on staff capabilities, adding different skills sets and more technological savvy, and getting the right mix of people in Marketing. Mary described where Marketing staff were in terms of expertise and abilities, and where they needed to be:

For a long time, Marketing here was tactically very strong. We could get the print ad to the newspaper on time, but we were not seen as real contributors to strategic thinking about how to either develop our programs or make them relevant to the market or anything other than saying “What are the marketing implications of an existing business strategy?” So, I felt there was an opportunity to dial that up and have marketers at the table to provide input about our business strategy by clinical service and service line.

Mary put into action a functional staff redesign to get the right competencies on board. She identified three areas of need: 1) find staff more strategically oriented in terms of mindset as opposed to just tactical, 2) find staff with the technical skills to be able to develop and execute digital marketing campaigns, and 3) find staff that understood the information that would be coming from the marketing analytics. Mary spoke of the challenges of executing the staff redesign saying, “We had to, unfortunately, lay off a number of very good marketers, but it was based on a talent assessment to say, 'Are these people going to be able to take us forward with more modern marketing skills and abilities?' ”

UMed is a centralized organization. Just about all the functional services that have anything to do with marketing are based in the Department of Strategic Marketing Services.

After significant structural change, UMed's new Marketing staffing organization, while still centralized, includes the following three groups:

- 1. Marketing Strategy & Communications:** This group is responsible for all offline (mass media), online, and segmentation marketing and communications strategies across the health care organization. In this group, the marketing directors are, as Julie explained, “the quarterbacks of all the work that is being done throughout the divisions.” These directors have supporting staff and “dotted line” reports from other functional marketing areas such as digital specialists and physician liaisons. The marketing directors lead client service teams that have representation from each of the divisions within Marketing and individuals from outside of Marketing. The individuals on the teams, outside of Marketing, include clinical clients such as physicians, chief administrative officers, Finance’s strategic decision support staff, and Public Relations staff. (At UMed, Public Relations does not report to Marketing.) Everyone works together very closely on many things, and as Mary emphasized, “The mantra is, 'How do we bring everybody's expertise together and contribute to the development of a strategy and then the coordinated execution of that plan?’” This approach, while not rigid, does provide a structured approach for keeping people in the know about marketing initiatives.
- 2. Operations & Infrastructure:** This group is responsible for CRM and analytics as well as creative services. Mary spoke of how the marketing analytics staff “evolved from what started out as a market research team to something now that’s really a broader idea, I think, which is customer insight.” This group has access through the marketing analytics tools to more real-time data than it used to have in the past, and the information is more targeted, personalized, and focused on segmentation strategies. Mary elaborated, “They are

responsible for predictive modeling, propensity modeling, analytics and reporting, interpreting claims data, and deploying things using the CRM system.” Creative services staff for areas such as brand management and advertising also reside in this group.

3. **Customer Engagement:** This group comprises three distinct areas: digital and interactive, referral development, and the Contact Center. The digital and interactive staff help Marketing learn from the market through social listening and create and manage websites and social media sites. In addition, Mary said they can “integrate with the CRM to deliver highly personalized messaging in these digital campaigns and elsewhere on our site and in other ways [such as email nurturing].” The referral development group is responsible for physician-to-physician marketing and includes UMed’s physician liaisons and other marketing targeted directly to medical professionals. The Contact Center is, according to Mary, “an important front door to the health system.” Contact Center staff support lead generation to help people know what services are available at UMed and cross-sell and upsell where it makes sense.

This new organizational structure, Mary elaborated, “is emblematic of everything about Marketing in that we have right- and left-brain people here, and I think that’s the secret sauce of marketing; we’re analytical, and we’re creative.”

As an additional resource to Marketing, UMed works with multiple outside vendors. Mary was open to going out and finding external sources that were expert in the areas of digital marketing and marketing analytics that the UMed staff was not familiar with at the time. Some of the expert sources, in particular, Mary stated, “are very much our partner in ... campaign management and execution.” Adding:

[It took] changes in mindset, changes in behavior, changes in what we

thought we could do. [An outside vendor] really taught us that developing a campaign does not have to take many months. When we were working with traditional ad agencies, it would take a long time to develop a strategy and then create a brief and then develop a TV spot or a radio spot.

The importance of marketing analytics tools and technology is clear. UMed can now do analysis in minutes compared to days and years. The time factor is important. Not only do staff have access to data that they did not before, but also they can analyze the data much faster and can process much larger volumes of data.

#### ***V.1.4 2012: Launching and Testing Campaigns***

Digital and social marketing campaigns and the corresponding use of marketing analytics began taking on larger roles in 2012 in Marketing's day-to-day operations. UMed worked with [an outside vendor] to learn how to use the CRM platform, how to integrate data, and how to execute multichannel campaigns. Marketing continued to integrate data and other tools, such as marketing automation for lead nurturing. "We were just trying to get everything to integrate and talk to each other, and make sense of what we had and what we could do," Mary said, "and now we really see all of this as sort of a 'go slow to go fast' sort of framework."

Marketing began to move forward into more personalized messaging and even started moving into supporting health management. UMed began to, as noted by Mary, "move from a volume kind of world to a value kind of environment."

#### ***V.1.5 2013: Revolutionary Changes***

Mary explained that 2013 was the year to take the people, tools, strategy, and business objectives and "work it", to start executing digital campaigns at scale in the context of multichannel work. By 2013, virtually 100% the implementation of multichannel campaigns was

executed by Marketing. UMed did occasionally outsource some work to an outside vendor, but that had more to do with Marketing staffing levels than skills. If Marketing was understaffed for the workload during a campaign period, they might outsource the work to an agency, but it was not because of competency anymore. Instead, it was because of capacity.

For the first time, as a result of being able to prove the effectiveness of marketing through the use of analytics, Marketing was able to justify increases rather than decreases in the department budget. Mary said that when she started working on her budget for 2014, she was asked by senior executives to dial her budget back to fiscal year 2012 levels. However, she used results from marketing analytics to argue against a budget cut. She elaborated:

I was fortunate enough to be able to have an audience with all of our Chairs and our CFO to talk about what strategy we should take, in my view. And, as you can imagine, I spoke a little bit about [marketing analytics]. There was unanimous agreement by everyone present that we had to give it a go and that our budget should be increased to support the kind of activity that we would be able to track and be able to report on. By this time, we already had some internal evangelists who had experienced what we were doing in digital campaigns, and so the buzz was getting out there that these digital campaigns really help generate new business. So, everybody around the table agreed not just that it was a good idea, but they would book incremental volume; they [service lines] would commit to higher volume levels in their budgets to cover the incremental cost of marketing. It was a big deal. Frankly, people said, “we can’t *not* do it.”

Marketing’s plans and budgets for the following fiscal year were tied directly—for the

first time—to volume increases in the clinical service line budgets. As Julie stated, “That was a huge evolution in how we are tied into the organization.” She further explained, “The fact that those Chairs across the board were willing to put their volumes on the line was, I think, a real show of confidence in what we were doing.”

#### ***V.1.6 2014: Keeping the Engine Running***

Not only did Marketing receive incremental dollars for 2014, but the department was also approved to accelerate its spending. The department spent 70% of the Marketing budget in the first six months of 2014 to, as Mary said, “continue to run this engine.” This year the focus was on taking the marketing analytics journey to another level that included executing campaigns, learning from them, being accountable in terms of interpreting the data, understanding the meaning of the information, and getting engagement from across the health care organization and from senior executives. As Mary elaborated, “So, when we embarked on this journey I articulated a vision of what I was hoping we would be able to do, but in the course of executing it, honestly, for a little while I had to say, 'Trust me, I think this is going to work.'”

Throughout the year, Marketing continued to execute campaigns and kept tweaking details to optimize its strategies. As expressed by Julie, “What is the story we are trying to tell? What is the data we need to tell that? Our reporting functions keep getting more and more robust.” Marketing dialed the mass media back up in 2014 and had, as Mary said, “the 1-2 punch of both mass media and digital marketing campaigns, but in a very thoughtful strategic way, without the waste of mass media, but with the benefit in terms of the areas where it would be most relevant and helpful.” At this point in the marketing analytics journey, Marketing learned how to best leverage and allocate media across multiple channels. As a result, Marketing increased the number of digital campaigns per year to more than 40 and shifted a higher portion

of the media spending to digital marketing. This adjustment increased digital media from 7% of the media budget in 2011 to approximately 45% of the media budget in 2014.

Marketing was then able to do real-time campaign management and testing using marketing analytics tools and learn throughout the process. Every time the staff worked on a campaign, they were getting better and better at predicting what kind of response they were going to get because they had more experience under their belts. As Mary said with a laugh, “After *lots* of tests along the way, you just start to get it.”

### ***V.1.7 2015: Optimization and Maturity***

During the interviews in 2014, Mary said of the upcoming year, “Optimization and maturity are really the focus for the year ahead. After that, I think we are going to be ready for the next level of innovation.” At UMed, marketing analytics support the health care organization’s innovative, experimental philosophy. UMed’s entire organization has an innovative mindset. The staff experiment and are innovative clinically, and this mindset carries over into Marketing. As Mary explained, “I think there's a culture here of innovation, and so it is an interesting juxtaposition. We also now have a center for health innovation, and it’s really focused on a lot of the kinds of things we’re doing here.” Our research suggests that having a culture of innovation woven throughout the organization encourages new ways of doing things such as novel (for health care) marketing analytics projects.

The real-time campaign visibility and management made for very efficient and responsible spending in terms of how to go to market, what UMed needed to spend to be effective, and when they needed to do it. When asked about benchmarking and metrics for marketing analytics, Mary stated, “We really haven't found anybody to bench against. I think it's still pretty new [in health care] and comparing to outside of health care seems like a little bit of a

leap. It's like, apples and giraffes or something.”

When asked what tips she would give other health care organizations that are considering a marketing analytics journey, Julie emphasized, “Just don’t wait for it all to be done because you’ll never make any progress. You can’t fail fast enough.”

During follow-up communications with Mary in 2015, she had this to say about the continued progress UMed Marketing is making on its marketing analytics journey:

The past six months have been an incredible period of learning and optimization. We are on track to complete 50 multichannel campaigns this year, and each one has a different “special sauce.” We have “rebalanced” our overall media mix. We’ve learned how to incorporate nurturing and social media and actually reduce the cost of our digital buys and of our campaigns overall. Our Marketing Analytics area has grown (10 FTEs now), and we are incorporating our web analytics into that group. It’s truly been a learning laboratory.

## **V.2 The Learning Process**

In the following section, the learning process itself is described using concepts from the theoretical frameworks that guided data collection and analysis (4I Model, exploration and exploitation, and punctuated equilibrium theory) explained in Chapter 3.

Experience is acquired on an innovative task or on work that has been performed repetitively in the past. Our analysis distinguishes between “exploitation,” which involves learning from repeating the same tasks (little novelty), and “exploration,” which involves learning from new tasks (high novelty). The basic idea of the conflict is that there are not enough resources available to do both exploration and exploitation simultaneously. The marketing



analytics projects described later in this chapter also were constrained by limited staff and financial resources. For this reason, the project teams focused on either exploration or exploitation as need dictated. In this section, we give examples of how the eight projects explore and exploit, and indicate where the projects do—or do not—accomplish each of the four processes (intuiting, interpreting, integrating, and institutionalizing) that are an integral part of the 4I Model. See Table 9.

**Table 9 Summary of Marketing Analytics Projects Results**

Marketing Analytics Project	Proton Therapy	Heart Transplant	Brain Tumor	Bariatrics	IVF	Smoking Cessation	PCP Finder	Physician Referral
Leading Indicators: Mktg. Metrics	Mixed	Disappointing	Mixed	Successful	Successful	Successful	Successful	too early to tell
Barrier to Success	Operational Access/Flow	Message/Funnel	Target Audience	n/a	n/a	Operational Disconnect	n/a	too early to tell
Approach to Leading Indicators	Modified Strategy	Modified Strategy	Modified Strategy	Maintained Strategy	Maintained Strategy	Ended Project	Maintained Strategy	Maintained Strategy
Lagging Indicators: Business Metrics	Successful	Successful	Mediocre	Successful	Successful	Disappointing	Mediocre	too early to tell
Marketing Analytics Tools Used	Google Analytics, HealthConnect, Tableau	Google Analytics, HealthConnect, Tableau	Google Analytics, HealthConnect, Tableau	Google Trends, HealthConnect, Radian6, Tableau	Facebook Insights, GoogleAnalytics, HealthConnect, Tableau	Google Analytics, HealthConnect, Tableau	Google Analytics, HealthConnect, Tableau	HealthConnect, PRM, Tableau
Intuiting	yes	yes	yes	Yes	yes	yes	yes	yes
Interpreting	yes	yes	yes	Yes	yes	yes	yes	yes
Integrating	yes	yes	yes	Yes	yes	no	yes	yes
Institutionalizing	yes	yes	no	Yes	yes	no	yes	no
Phases/Cycles:								
<i>Pre-Mktg. analytics</i>	Exploitation	Exploitation	Exploitation	Exploitation	Exploitation	Exploitation	Exploitation	Exploitation
1	Exploration	Exploration	Exploration	Exploration	Exploration	Exploration	Exploration	Exploration
2	Exploration	Exploration	Exploration	Exploitation	Exploitation	n/a	Exploitation	n/a
3	Exploitation	Exploitation	Exploration	Exploitation	Exploitation	n/a	n/a	n/a
4	Exploitation	Exploitation	Exploitation	Exploitation	Exploitation	n/a	n/a	n/a
5	Exploitation	n/a	n/a	Exploitation	Exploitation	n/a	n/a	n/a
6	Exploitation	n/a	n/a	n/a	n/a	n/a	n/a	n/a

The punctuated equilibrium theory offers an additional lens that explains how individuals, groups, and organizations learn. We use concepts from the two theories in a complementary way to provide a fresh interpretation of organizational learning processes. Our study suggests that within projects, organizations may cycle through periods of exploration and exploitation. Specifically, adaptation and innovation are both required to achieve success. A key

contribution of this research is a nuanced understanding of how learning can be achieved during both exploration and exploitation.

For years, UMed incrementally improved (exploited) the effectiveness of its traditional multi-media campaigns. All eight marketing analytics project cases were in the exploitation mode prior to UMed's marketing analytics journey. The relatively recent arrival of new, transformational digital media options and marketing analytics tools were disruptors that triggered UMed's determination that traditional multi-media marketing campaigns alone were not sufficiently effective, and it was necessary to rethink the marketing strategy. So began the digital marketing and marketing analytics journey.

As each project launched with a new digital marketing and marketing analytics strategy, the learning was exploratory. However, this study found that projects do not flow through the process in one straight cycle, as Crossan et al. describe in the 4I Model. Instead, marketing analytics projects move through cycles of learning. Moreover, the cycles of learning differ in terms of their scope—small incremental changes involving doing what one knows how to do better (exploit cycles) versus large strategic changes – doing something very innovative (explore cycles). Punctuated equilibrium better reflects each project's progression through time and how each project progressed through periods of evolution (exploitation) and revolution (exploration). Figure 1 illustrates the patterns of organizational learning found in each of the eight cases, through 39 different phases in all. In the following sections, we describe how organizational learning was facilitated by marketing analytics in the eight cases and then present a conceptual model derived from the analysis of these cases.

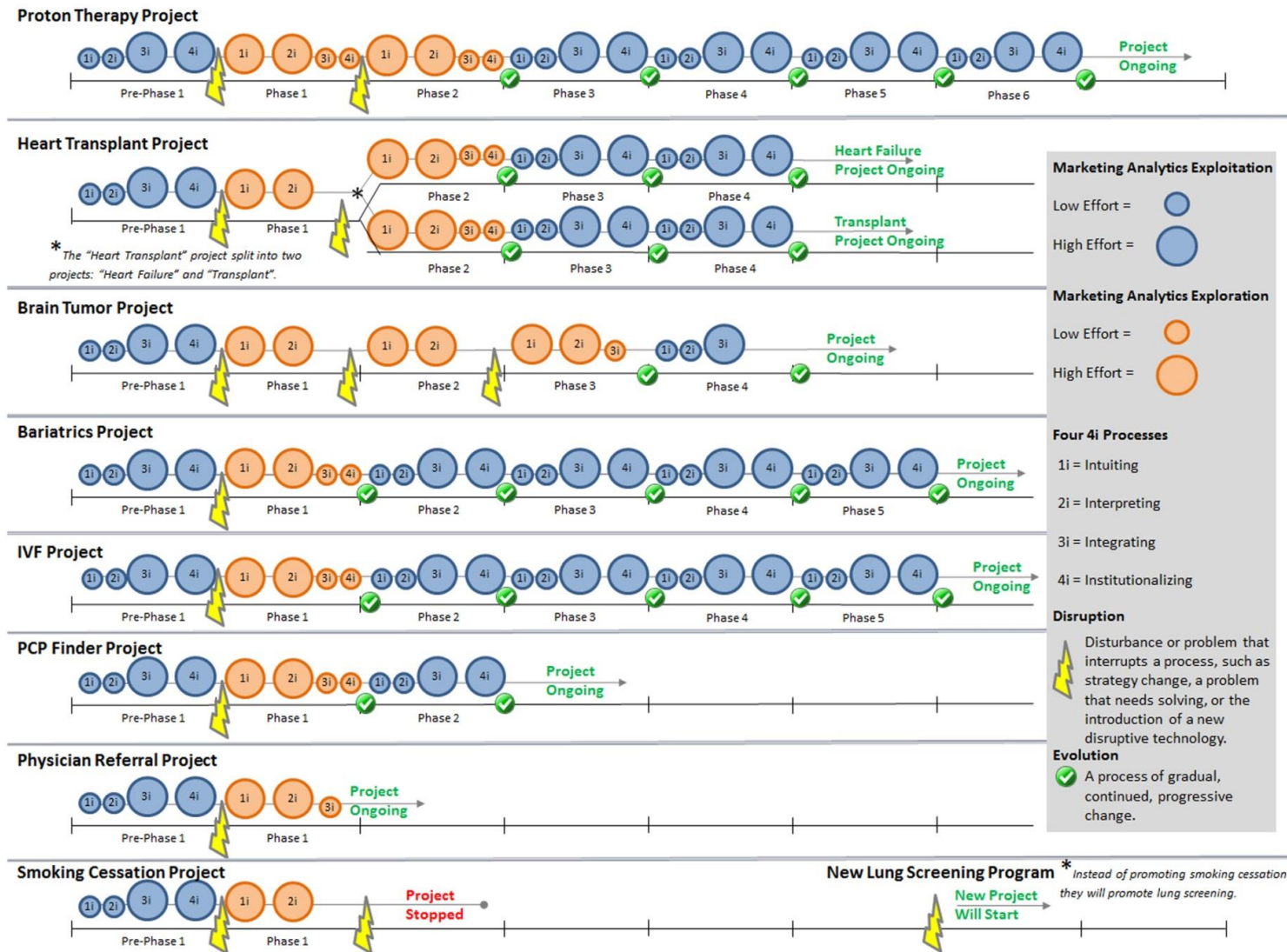


Figure 1 Patterns of Punctuated Organizational Learning

### V.3 Description of Cases of Learning

At UMed, we investigated eight embedded marketing analytics project cases as defined in Table 10.

**Table 10 Health Care Project Cases**

#	Marketing Analytics Project	Clinical Service Line	Level of Care	Alignment with Business Strategy	Appendix
1	Proton Therapy	Cancer			B
2	Heart Transplantation	Transplant	Quaternary	Very closely aligned	C
3	Brain Tumor	Neurosciences			D
4	Bariatrics	Surgery			E
5	IVF	Fertility Care	Tertiary	Closely aligned	F
*	Heart Failure	Cardiac	Secondary	Aligned	C
6	PCP Finder	Primary Care Practices	Clinical Practices	Very closely aligned	G
7	Physician Referral	Specialist Practices			H
8	Smoking Cessation	Lung Care	Primary	Loosely aligned	I

\*This additional case became apparent during the data collection and analysis, as explained later.

**Table 11 Clinical Levels of Care**

Level of Care <sup>1</sup>	Refers to:
<b>Quaternary</b>	Advanced levels of medicine which are highly specialized, such as experimental medicine and uncommon surgical procedures.
<b>Tertiary</b>	Specialized consultative health care in a facility that has personnel and facilities for advanced medical investigation and treatment.
<b>Secondary</b>	Health care services provided by medical specialists who generally do not have first contact with patients; this includes acute care—necessary hospital treatment for a short period of time for a brief but serious illness, injury or other health condition.
<b>Primary</b>	Work of health professionals who act as a first point of consultation for patients within the health care system; this includes routine check-ups, preventive care, and initial consultation about new health problems.

<sup>1</sup> [http://en.wikipedia.org/wiki/Health\\_care](http://en.wikipedia.org/wiki/Health_care)

### ***V.3.1 Case Study 1: Proton Therapy***

The UMed Proton Therapy Center is one of a limited number of proton therapy centers in the United States and one of the largest, most innovative, advanced centers of its kind in the world. Proton therapy, one of the most advanced radiation therapies for the treatment of cancer, is part of the health care organization's cancer service line and is at the quaternary level of care. (See Tables 10 and 11) Having made a significant financial investment in the Center and technology, proton therapy is closely aligned with UMed's business strategy and core mission.

The Center had been initially successful meeting volume goals with a combination of internal specialty referrals and patient self-referrals for prostate cancer. Three developments in the spring of 2012 caused a decline in volume and became UMed's compelling need for change: 1. Proton therapy became a flashpoint in the national health care debate regarding the high cost of care compared to clinical outcome; 2. New "watchful waiting" prostate cancer screening guidelines resulted in fewer referrals for treatment; and 3. Some of the community urologists who owned or had a financial interest in their uroradiology practices actively resisted referring prostate cancer patients for proton therapy.

An integrated marketing campaign around proton therapy was executed in six phases from October 2011 to Fall 2014, and is ongoing. The campaign sought to address the decline in volume and achieve revenue goals for the program. Marketing developed and executed a comprehensive and strategic approach with three goals: 1. Build awareness of this novel treatment; 2. generate qualified self-referred leads for proton therapy, increasing weekly leads at least three times the previous weekly average; and 3. achieve a lead inquiry to patient appointment conversion rate of 10%. As Mary explained, UMed felt it had a window of opportunity "to create awareness for something that was not well understood as a therapy or a

modality – proton therapy for the treatment of people who have certain cancers. We wanted to create awareness about our proton therapy center and what it was for and what it did. And then we moved to a conversion strategy... to put people who either have cancer, or they care for someone who has cancer, to say, ‘I want to learn more about proton therapy at [UMed].’ ”

To create awareness and increase patient/prospective patient consultation conversions for the proton therapy program, Marketing implemented a multichannel marketing campaign. Television anchored the offline mass-media campaign, which also included print, radio, billboards, and transit. The online (digital) campaign was highly integrated with the offline channels and included a website, search engine optimization (SEO), search engine marketing (SEM) with pay-per-click (PPC), display ads, and video, CRM, and social media (Facebook, Twitter, and YouTube). While working on the proton therapy project, UMed used a variety of marketing analytics tools, including Google Analytics, HealthConnect, Tableau, and Webtrends.

For the complete case study, see Appendix A, Proton Therapy Case Study: *The Proof is in the Math*.

### ***V.3.2 Case Study 2: Heart Transplant***

The UMed Transplant Institute ranks among the top 10 transplant centers in the country. Heart transplantation is a complicated procedure, and UMed has one of the top three heart transplant programs in the nation. The service is part of the health care organization’s Transplant service line and is at the quaternary level of care. (See Tables 10 and 11) This type of advanced medicine is closely aligned with UMed’s business strategy and core mission.

The UMed Heart Failure Program is part of a comprehensive range of heart and vascular services. UMed provides patients a continuum of care from early-prevention strategies to end-stage options. The Heart Failure Program is part of the cardiac service line and is at the

secondary level of care. While UMed's overall business strategy focuses on advanced medicine, such as heart transplantation, heart failure care does directly align with the core mission.

A heart transplant (and subsequent heart failure) integrated marketing campaign was executed in four phases from March 2012 to Fall 2014, and is ongoing. As part of UMed's business strategy to elevate and support advanced medicine, Marketing developed an integrated plan to market heart transplantations with two goals: 1. Build awareness of UMed's experience and expertise, and 2. drive new patient appointments for the Transplant service line specific to heart transplantation. The ultimate objective of the marketing plan was to increase heart transplant volume.

From the UMed provider perspective, the cardiac service line covers the gamut from heart failure all the way to end-stage options, with a hand-off to the transplant service line for heart transplantation. The marketing strategy was to promote the entire continuum of heart care services.

UMed had pulled back on its mass media advertising prior to the campaign to prepare for data-driven analytics. The year this project began, UMed was ready to add mass media back to the mix, selectively. To create awareness and increase patient/prospective-patient appointments for a heart transplant, along with all the other services offered, Marketing implemented a multichannel marketing campaign with trialability in mind. *Trialability* is 'the degree to which an innovation may be experimented with on a limited basis before a decision to adopt the innovation fully is made' (Freeman, 2012).

Television anchored the offline mass media campaign, which also included print and radio. The online (digital) campaign was highly integrated with the offline channels and included a website, SEO, SEM with PPC, display ads, and video, CRM, and social media (Facebook,

Blogger, YouTube). UMed also included a nurturing [email] campaign and used a variety of marketing analytics tools while working on the heart transplant project, including Google Analytics, HealthConnect CRM, Tableau, and Webtrends.

For the complete case study, see Appendix B, Heart Transplant/Heart Failure Case Study: *Developing a Patient-Centric Campaign*.

### **V.3.3 Case Study 3: Brain Tumor**

The UMed Brain Tumor Center is recognized nationally as being in the forefront of the field of neuro-oncology and tumors originating in the brain. The Center's mission is to advance new therapies from the laboratory to clinical practice, and new research discoveries translate to innovative care and better treatment options for patients. The Brain Tumor Center is part of the health care organization's Neurosciences service line, is at the quaternary level of care, and is closely aligned with UMed's business strategy and core mission (See Tables 10 and 11).

A brain tumor digital media campaign was executed in four Phases from May 2012 to Fall 2014, and is ongoing. The objective of the marketing campaign was: 1. To educate people about why they should choose UMed for non-urgent brain tumor care, and 2. to increase new patient appointments at the Brain Tumor Center. With relatively few brain tumor cases in the local area each year, the market size for this service is small.

Marketing launched a digital media campaign built with trialability in mind. The campaign focused primarily on driving traffic to the UMed website. In planning the campaign, the team knew that the strategies needed to be low-cost and targeted, since the market is very small and spending big money on mass media would not be effective. Understanding key factors about the audience helped drive campaign strategy. Kathy said: "We know that people who have brain tumors are often searching for the best care and willing to go wherever it takes to get the



right level of specialist. Our strategy with brain tumor was [to] make sure that when people are looking online and searching for these things, that we have a presence both in a paid and organic way.” UMed used a variety of marketing analytics tools while working on the brain tumor project, including Google Analytics, HealthConnect, Tableau, and Webtrends.

For the complete case study, see Appendix C, *Brain Tumor Case Study: A Hands-On, Learning-by-Doing Approach*

#### ***V.3.4 Case Study 4: Bariatrics***

Bariatric surgery affects people from both a physical and emotional perspective. Patients typically have an extended eight-month conversion to surgeries, and during that time, are often influenced by a variety of people. As a national leader in weight-loss research and clinical trials, UMed offers patients access to the latest bariatric surgery options at the forefront of innovation. Bariatrics are part of the organization’s surgery service line, is at the tertiary level of care and is closely aligned with UMed’s business strategy and core mission. (See Tables 10 and 11)

UMed felt it had an ample window of opportunity to engage with potential bariatric patients and developed a marketing plan with two goals: 1. Increase attendance at information sessions, and 2. drive new patient appointment volume. A bariatrics social media campaign was executed in five phases from March 2012 to Fall 2014, and is ongoing.

UMed team retained a leading software-as-a-service (SaaS) company serving health care providers to assist with the development of a social media strategy for the first phase of the campaign. The team designed the marketing campaign with trialability in mind.

Social media was used to engage with people in the community around the topic of bariatric weight loss surgery. This strategy was also selected as a way to aid in softening the market before launching the paid media initiatives. In the second phase, bursts of paid media

were added in while the social media remained constant. Social media channels used in the marketing campaign included Facebook, YouTube, Blogger, Twitter, and Pinterest. Other media efforts used in bursts included print, television, website, and information session events. UMed used a variety of marketing analytics tools while working on the bariatrics project, including Google Trends, HealthConnect, Radian6, Tableau, and Webtrends.

For the complete case study, see Appendix D, Bariatrics Case Study: *Social Listening Helps Craft a Patient-Centered Campaign*.

### **V.3.5 Case Study 5: IVF**

UMed has pioneered the development of new and innovative approaches to managing infertility and is a leader in reproductive medicine. Having a high success rate, in vitro fertilization (IVF) is frequently used as a first line of treatment for infertility. IVF is part of the health care organization's fertility care service line, is at the tertiary level of care and is closely aligned with UMed's business strategy and core mission. (See Tables 10 and 11)

An IVF social media campaign ran in five phases from November 2011 to Fall 2014, and is ongoing. Full ascription of return on investment (ROI) on an IVF patient cannot be attributed until the patient has had the baby and been released from the hospital. From a business perspective, a long delay from the time a marketing campaign launches until a patient is admitted to the hospital is a communication challenge with the service line. Even the patients who enroll immediately "are no less than ten months out from actually having an admission. And that is if you get pregnant on your first appointment," Cindy said. The ability to effectively track someone through the process of being a prospective patient through being a patient and onto delivery is important.

The Internet offers a growing stream of medical information about IVF. The anonymity possible on the Internet provides people with very sensitive and private health issues, such as infertility, the opportunity to open up and ask for information. Additionally, potential IVF patients tend to feel comfortable in the company of others who understand what they are going through. UMed felt that this online IVF community provided a window of opportunity to join the conversation. Marketing developed a strategy with two goals: 1. increase engagement with prospective patients that are in the research, exploration, and engagement mode of IVF, and 2. drive new patient requests for consultation/appointments.

Marketing implemented a campaign that started as a social media campaign and then added a modicum of mass media and nurturing to the mix, analyzing results through each phase. The digital campaign included a website landing page, SEO, SEM with PPC, display ads, video, CRM, and social media (Facebook, Twitter, YouTube, and Blogger). Offline media – print – was used intermittently, as was an email nurturing campaign.

The marketing campaign design kept trialability in mind. Adjustments have been made along the way. UMed used a variety of marketing analytics tools while working on the IVF project, including Google Analytics, HealthConnect, Tableau, and Webtrends.

For the complete case study, see Appendix E, IVF Case Study: *Joining the Online Conversation*.

### **V.3.6 Case Study 6: PCP Finder**

A strategic imperative for UMed is primary care (see Tables 10 and 11). UMed's network of primary care providers employs approximately 150 physicians at more than 30 locations throughout the 18-county region. A primary care provider (PCP) is a health care practitioner who sees people in non-emergency situations. PCP's help patients maintain overall health by focusing

on preventive care. The role of primary care is essential to the health care organization to access new patients, secure downstream revenue, and stem patient referral leakage. According to Ashleigh Finley (2013, p. 85), *patient referral leakage* is “when patients are being referred to specialists affiliated with competing health systems when they could just as well be referred to the same type of specialists within the health system.”

As the health care industry evolves to a new pay-for-performance model, a primary care network that can acquire, aggregate, and manage the health of a population will likely have significant strategic advantage. That level of care starts with getting people in the door at a primary care physician’s office, often before the individual even has a health concern.

Beginning in May 2013, Marketing created a digital media campaign to help increase primary care patient volume, thereby increasing the health care organization’s competitive advantage overall. The team launched the UMed Primary Care Physician Finder (PCP Finder), a website where consumers can easily search for a primary care physician by geographic location. The principal goals were to 1. increase awareness of the many convenient office locations around the market, and 2. generate appointment requests.

Potential patients were invited to search for a nearby physician or download a guide on “How to Choose the Best Primary Care Physician.” The home page of the PCP Finder website featured individual physician practices and an easy-to-use search tool allowing prospective patients to search by location and other factors.

Drawing engagement from potential patients was done with a nurturing (email) component. Email nurturing used marketing automation technology that was “potential patient”-centric to generate leads and convert them. Marketing used the intensely data-driven automation to continue the efforts of the digital campaign through ongoing email nurturing. The goals were

to 1. ensure individuals did not drop out of the appointment funnel, and 2. ensure potential patients had continued exposure to UMed’s primary care offerings. The team used marketing analytics to map the patient nurture journey. UMed used a variety of marketing analytics tools to measure the success of the PCP Finder project, including Google Analytics, HealthConnect, Tableau, and Webtrends.

For the complete case study, see Appendix F, PCP Finder Case Study: *Developing a Community Strategy Around Primary Care*.

### ***V.3.7 Case Study 7: Physician Referral***

Physician-to-physician referrals transfer responsibility of care along the patient's care continuum. When choosing specialists and hospitals for medical procedures, many consumers rely on physician referrals. In addition to ensuring appropriate care, physician referrals build awareness of clinical practices, facilitate new appointments, and can increase in-network transfers of care, which reduces revenue outflow by keeping patients in-network. As health care organizations strive to retain existing patients and attract new ones, the importance of a reliable physician referral program is crucial and closely aligned with UMed’s business strategy (see Tables 10 and 11). The majority of practicing physicians at UMed – about 90 percent – are employed by UMed. Moreover, most are on the same electronic medical record (EMR) system which helps business development teams watch referral patterns.

A physician referral marketing initiative began in May 2014. UMed invested in an integrated physician relationship management (PRM) tool with the goal of increasing physician referral volume for the health care organization. The objective of the referral marketing strategy was twofold: 1. Drive referral volume to UMed physicians, and 2. reduce leakage of patient referrals outside the system. Marketing analytics help the team develop a better understanding of

physician referrals. The primary marketing analytics tool for the physician referral project is PRM, in conjunction with HealthConnect CRM.

For the complete case study, see Appendix G, Physician Referral Case Study:

*Discovering Opportunities and Reducing Patient Leakage.*

### **V.3.8 Case Study 8: Smoking Cessation**

Smoking is one of the leading causes of preventable illness and death in the United States. Physicians often say, ‘When you stop smoking, you lengthen your life.’ UMed’s Comprehensive Smoking Treatment Program helps patients quit smoking by designing plans to meet patient needs, including smoking cessation classes. These classes are at the primary level of care and are part of the health care organization’s lung service line (see Tables 10 and 11). The Lung Center, which is at the secondary level of care, aligns with UMed’s business strategy and core mission. However, while smoking cessation classes are indeed mission-based, the classes are not closely aligned with the health care organization’s advanced medicine business strategy. Providing smoking cessation programs is not unique, and the programs are relatively inexpensive to implement.

According to the Centers for Disease Control and Prevention (CDC), UMed’s market has the highest rate of adult smoking among the 10 largest U.S. cities, at 25.2%. This high number of smokers provided a window of opportunity for smoking cessation classes.

A smoking cessation digital marketing campaign was implemented from October 2012 to December 2012. The objective of the campaign was to encourage smokers to attend a smoking cessation class. The hope was that after the class, attendees would make a physician appointment for lung screening and ultimately, enter the lung cancer program. UMed used a variety of marketing analytics tools while working on the smoking cessation project, including Facebook

Insights, Google Analytics, HealthConnect, Tableau, and Webtrends.

For the complete case study, see Appendix H, Smoking Cessation Case Study: *Marketing Analytics Make Case for New Clinical Program*.

The relationship between marketing analytics and organizational learning in each of the four 4I processes, during both exploration and exploitation, can best be illustrated by findings from the UMed marketing analytics story.

#### **V.4 Learning During Exploration**

In revolutionary phases of exploration, the following describes the nature of learning, and how it moves through the four 4I processes in bursts of learning (see Figure 2). In general, in an exploration cycle, the intuition and interpretation processes require high effort and result in a high degree of change. Whereas, the integration and institutionalization processes require low effort and result in a low degree of change. During exploration, project cycles are likely to be short, and renewal tends to be rapid and transformational.

Marketing analytics projects did not all develop their respective strategies in linear sequences. The project teams often stopped a failing activity after an exploratory phase and integrated the new ideas generated. Organizational stakeholders reached agreement on a concrete goal that formed the basis for the next phase of work. When projects are in the exploration mode, the following is how the 4I's unfold.

##### ***V.4.1 Intuiting***

If the current digital marketing strategy is not working, it needs to be dismantled and quickly transformed. Team members' inexperience shapes the strategy formed at the beginning of the first phase of the projects, as does their need to get started, and their untested expectations and goals. Marketing analytics enable individuals to rapidly uncover inadequacies in the current

strategy and identify new business processes. For example, the results from the initial heart transplant marketing campaign were disappointing. Marketing analytics enabled individual heart transplant project team members to see quickly that the campaign was generating few prospective patient appointments. The marketing analytics from Webtrends and HealthConnect revealed that, although the campaign successfully drove visits to the web landing page, prospective patients were not converting. Intuition, based on marketing analytics, caused a noteworthy change in the project—discovering a disruption completely stopped the project (which was significant) until the team could ascertain what the problem was.

Rather than conveying a particular message to a micro-target market, the project team had attempted to communicate a broad message addressing the breadth of the Cardiac-to-Transplant service lines to a wide-ranging audience. Each member of the team put a great deal of effort into quickly figuring out what was wrong. Julie explained how she personally grappled with understanding what the issue was: “Heart’s kind of a tricky one for us to get at, and I never thought it would be tricky. We were taking the approach of telling them everything we had in our heart program up to advanced VAT [Video Assisted Thoracic] implants and transplants. Why would you go anyplace else for your heart treatment? And it just wasn't working.” The disruption was an unsuitable messaging strategy for the target audience.

Performance pressures and failures can be critical in setting the stage for revolutionary change. For example, while the UMed proton therapy marketing campaign successfully achieved two of its goals (increasing awareness of the program and bringing in thousands of leads), the conversion to patient appointments was not as high as project team members had expected. Through the use of marketing analytics in HealthConnect, they immediately “saw that we were handing off so many more leads than the nurse in the Proton Center was actually converting – in



some regards even talking to,” said Julie. Team members closely studied all the patterns and trends in the thousands of leads generated, discovering where patients ended up. The process improvement efforts took a lot of energy, as explained by Cindy: “We did a lot of analyses initially to understand the gap between people who are coming in, asking for a consult, and then not having a consult. We worked a lot analyzing the data. 'What is going on?' ”

In exploration, learning is gained through processes of concerted variation, planned experimentation, and trial of new alternatives. All the projects put into action “trial and error” as a strategy during exploration. The initial brain tumor marketing campaign was another project that had mixed results, and the team members approached this campaign through trial and error.

Marketing analytics also enabled a thorough analysis of content and messaging, whereby UMed could begin to intuit from abundant keyword searches that perhaps the project team should modify messages based on the patterns they were seeing.

Marketing analytics provided rapid insights on what potential patients searched for online and what action potential patients took as a result of their web searches. The team also tracked potential patients to ascertain whether or not they made an appointment. Having the ability to observe patterns of potential patient behavior, and to know what potential patients were searching for, enabled the team members to sense that there was a hitch between getting a potential patient to make an appointment. Moreover, while the team members put much effort into determining what the issues were, finding the causes of disruptions was imperative.

The marketing analytics tools give team members the analytic insights needed to monitor trends in the market. This understanding of patterns provides actionable insights that are powerful. The wealth of insights enables team members to identify patterns, reduce patient referral leakage, increase profitability, and strengthen physician alignment.

As described, wading through the volumes of information available requires quite an effort, but, fortunately, with the marketing analytics tools available, it is now possible. This analysis would not have been imaginable without the marketing analytics tools to electronically compile, sift, sort, and extract information.

#### ***V.4.2 Interpreting***

When in exploration mode, the project can seem temporarily disorganized as team members juggle concerns that arise, learn about the issues, and search for solutions. When a marketing project appears harried and a little unsystematic, it can be perceived by clinicians that the project team members are unskilled—which is not the case at UMed—leading to reduced personal credibility. It is during this learning process that marketing analytics provide the tools to help individual project team members interpret various issues, findings, and possible solutions and to share this knowledge with the group. The marketing analytics results enable project managers to show that the disorganization is reflective of a new and innovative business process still being perfected, not a lack of expertise. For example, when the heart transplant campaign did not produce the results expected, marketing analytics helped the team members interpret and share their questions and intuitions with others within the group. John spoke of the intense interest in understanding what was not working in the new marketing approach: “The [clinical] director is like, 'What’s going on with Heart? It’s not producing any leads, so what’s the problem?’ And as soon as someone asks, 'What’s the problem?’ We all start to dive in and really look.” The team members quickly communicated within the group about the outcomes, using marketing analytics tools to help them interpret the findings and ask critical questions.

Through marketing analytics, the team was able to determine the opportunity for content optimization and audience optimization by segmenting the audience more finitely and changing

the messaging strategy. Team members swiftly dug into the marketing analytics to learn more about keywords on the landing page. Kim shared her interpretation based on extensive analysis:

Bounce rates were ridiculously high. [We] realized from the keywords that people were looking for "What is heart failure?" The landing page was all about converting to "and you have heart failure; maybe you need a transplant." So, they were like, "Ugh! I don't want to know about transplant; I just want to know what congestive heart failure is."

The results from marketing analytics helped the project team come to the sudden realization that their digital marketing strategy had been provider-centric rather than patient-centric and that they needed to implement a substantial change. As Mary explained, "Heart failure and transplantation—we talk about that as one clinical unit, but in terms of communicating to the public, that doesn't really jive. People live with heart failure for a very, very, very long time, and they're not necessarily thinking about transplantation." Donna elaborated on this saying:

With Cardiac, people call different things differently. That's a challenge for AMCs [academic medical centers] because, particularly working with clinicians, they want you to be really technical in your description. And then you've got the consumer on the other side, and it's just like, "That's doctor speak. I'm turning it off. I don't understand" or "My heart hurts." You know, just [keep it] simple.

When the fundamental premise changes, all the principles contingent on that foundation are affected. Therefore, goals of the heart project changed to 1. build awareness of UMed's heart experience and expertise, and 2. drive new patient appointments for heart failure. (The team split

off the transplant promotions to a separate marketing campaign.)

When proton therapy team members were in the process of interpreting findings, they used the HealthConnect marketing analytics to help guide their conversations with the clinical staff and the rest of the group. Cindy explained they would say with urgency, “We're bringing in thousands of leads. I mean, we're talking like 3,000, 4,000 people at this point. We're not converting a lot of them; let's keep working this.” In the exploration mode, things can also seem to be in disarray until choices about a new strategy are formed. As the team dug into the analytics a little deeper and pulled data to follow patient leads, they discovered a significant, and tremendously disruptive, operational flow problem.

Individual team members learned about a very important process improvement change that needed to be made. Right away, the analysis led the team to understand the leakage of patients. Due to the overwhelming number of new leads, the triage nurse was often unable to call patients back more than once. Since the triage nurse only made one call, if a patient was not home at the time, the patient potentially fell out of the system.

During the interpretation process, organizational leaders play a significant role in encouraging revolutionary, exploratory change. When senior executives request an explanation and understanding of what is taking place, marketing analytics tools enable team members to interpret and share new findings. Kim, describing the urgency in learning what was happening said, “There was really a point about a year ago when our senior VP said, 'I want to know the disposition of every single damn patient that called or filled out a form, and I want to know what happened to them!' ” When something is broken, and no future direction is set yet, team members can experience uncertainty and powerful feelings. As Donna explained, “We were looking at the data knowing people are responding, and then 'Where the hell did they go?' I

mean, we were bringing in all these people, but then we weren't getting appointments. And people were yelling, 'This isn't working!' Then we found out 90% of the calls were going to voicemail.”

Marketing analytics helped team members develop a better understanding of operational issues and acquire the resources needed to solve them. In this exploration mode, it was “all hands on deck,” and many people at all levels were involved in the project, as Julie said:

The head of the department, the clinical chair of the department and the business development leads and the hospital administrators were all just saying, “Tell us what you need. Tell us if there's an extra resource that you need,” and “Just get it done” kind of thing. So, being able to really track and assess that, what happened to each of those patients, and where some of the barriers were, was really important.

The brain tumor project team members were looking at the conversion optimization strategy and realizing that somehow the message was not resonating. Marketing analytics helped the team develop a better understanding of target audiences and key messages for each. “I remember for brain tumor spending a lot of time looking at the keywords and looking at some of the reports,” said Cindy. “Heavy, heavy analysis on the Google Analytics keyword reports,”

Disappointing results such as these are not uncommon in exploration. Outcomes are not predictable and may or may not leave the project better off. The disruption of the project “not working” pushed it into another cycle of exploration. Marketing analytics helped a team member interpret and share intuitions from Phase 2 that had enormous implications with others on the team:

We were starting to learn more and more about the people who are coming

into that landing page; we were finding there were a lot of caregivers. It wasn't the patient calling in. It wasn't the individual who was responsible. It was loved ones; it was family members. It was a huge deal, and that was one thing I don't think we could have fully realized at the beginning until we started pouring through the data.

At its inception, the central premise of a new paradigm or strategy is untested; its merit (or lack of) is demonstrated as the project rebuilds around it. An idea must feel right to an individual or small group who will then risk the elevated effort to pursue it.

Marketing analytics help team members learn about previously unknown shifts, such as a shift in the perspective of the audience searching for a procedure, which can make the current strategy inappropriate. This finding, by itself, does not cause a change but can create the need for change. As Mary noted, “And that got us thinking, ‘Well, are they caregivers, even an adult child, perhaps, who did the inquiry?’ And so now, we’ve learned very quickly –that it was about 50/50, caregiver and patient responding to the campaign.”

In exploration, sometimes one needs to reframe the experience to move ahead. The new concrete goal forms the basis for moving ahead.

The smoking cessation team realized without delay that the source of disruption for its project was internal, not part of the marketing campaign. The analytics indicated that the marketing messages and content were relevant to the target audience. However, departments were out of alignment with each other and the external environment. Mary explained:

We thought that it [smoking cessation class] would be a good front door for people but it is not linked clinically to pulmonary medicine. So really, identifying the fact that we have an amazing program in smoking

cessation, but it's not really connected to the other parts of the clinical program, I think has had them take a look at it and say, "Hmm, what should we do about that?"

#### **V.4.3 *Integrating***

In exploration, the group can take a subset of the old pieces, along with the new learning, and rapidly put it back together in a different configuration with a new set of rules. Kathy spoke of how easy it was to get rapid results from the modified heart campaign:

We turned it into a more of a general heart failure campaign. We took all of the transplant stuff out and pointed that to another campaign ... just more generally around organ transplant. And so now, instantly, within the first month of that campaign, it outperformed the whole duration of the past campaign.

In exploration, marketing analytics can suddenly turn the flow of information from confusion to insight. The project pivots on the insight around which a new structure/strategy will crystallize.

During exploration, there is discontinuous change of plans, power, and structure. For example, the proton therapy project team instantly understood from the analytics the opportunities for changing operational flow and structure, without much effort, across the organization to take better advantage of the patient leads. As Julie explained, "We then used our call center nurses to place up to two or three phone calls just to kind of close the loop."

To address patient leakage, Marketing established a simple outbound call protocol, using registered nurses (RNs) in the Contact Center to reach back out to individuals who expressed interest in proton therapy and try to re-engage with them. The outbound calls increased the

conversion rate.

Often in exploration there is a relatively rapid close to the exploratory phase after discovering a new strategy. The proton therapy team wasted little time improving triage protocols across the organization to address the operational flow issues. Initial results showed a higher conversion from lead inquiry to patient appointment.

While marketing analytics helped individuals learn during the brain tumor project, it does not appear that learning was well-integrated into the project group or cross-functional teams. When the brain tumor project was discussed, only two respondents mentioned being involved in integrating their learning from the marketing analytics during the exploration phase, and the only changes made were two slight improvements to the website.

While marketing analytics helped individuals on the smoking cessation team learn, it does not appear that learning was integrated into the cross-functional team. One of the project team members gained insight from additional research and analysis that led her to recognize that another option is to have a lung screening program, but that still did not produce change. As Julie noted, “We surveyed some of the people that were in this [smoking cessation class], and they wanted to hear about lung screening. And we could've gone back out and communicated that, but we don't have a [lung screening] program, so it was, you know, sort of an [operational] disconnect.”

#### ***V.4.4 Institutionalizing***

After each phase of the heart and proton therapy campaigns, UMed teams documented what they learned through marketing analytics with a description of what the project team did in the case write-up. The case write-up included the corresponding results, along with a section called “Key Learnings” that includes recommendations for future campaigns. According to



Mary, this document has “been very helpful as we’ve tried to communicate internally as a team but also with leadership.” Julie added:

Sometimes we're trying to tell a particular story, so we make the case study tell that story. You know, like, “This is an example of something we did wrong” or “This is an example of a campaign evolution.” Or we'll just straight up do it, you know. This is what happened in this particular case study.

In addition, UMed shares the campaign stories across departments and the organization. The goal is that people across UMed will not forget what was learned. In addition, Kathy elaborated, “We're starting to create those benchmarks for ourselves. Even though we don't have as many as we would like, we're building them. Then, you can make sure your learnings aren't lost.”

During exploration, if the trial of a new way of doing things was not successful, UMed did institutionalize the findings not by implementing, but rather by simply having one person documenting what did not work so that would not occur again. As Steve explained, “That's my job: to piece all those things together and make a judgment on whether or not we change things, or we continue with things. I'll share things with [my supervisors] sort of as these things come through, but there isn't a formal process to sort of track all those things.”

UMed plans to document what the physician referral team learned through marketing analytics with a description of what the team did, the corresponding results, and recommendations for the future. This level of institutionalization is not in this team’s organizational routines yet but is something they are trying to grasp and get to for this project.

## **V.5 Learning During Exploitation**

In evolutionary phases of exploitation, there is pursuit and acquisition of new knowledge, although of a kind different from that associated with exploration. The knowledge gained from exploitation tends to be incremental improvements along the same course of action, whereas knowledge gained from exploration tends to be on an entirely different trajectory.

The following describes the nature of learning and how it moves through the four 4I processes in incremental learning over time (see Figure 2). In general, in an exploitation cycle, the intuition and interpretation processes require a low effort and result in a low degree of change, whereas the integration and institutionalization processes require a high effort and result in a high degree of change. During exploitation, project cycles tend to be longer, and each adjustment (of many) tends to be smaller and more deliberate than during exploration.

UMed leverages marketing analytics during what tend to be longer cycles of exploitation to gather the critical insights needed to optimize revenue, minimize unnecessary media dollars, and manage marketing campaigns. When projects are in the exploitation mode, this (following) is how the 4I's work.

### ***V.5.1 Intuiting***

In exploitation, learning is gained via refinement and reuse of existing routines. For example, UMed used Google Trends and Radian6 to evaluate easily where conversations were occurring over time around bariatric surgery and what topics were trending. Julie spoke of how she did social listening in the initial phase of the bariatrics campaign:

We used Radian6, which is our social media tool, to understand who was engaging out there in a social media. What were they talking about? And then [we] built a content plan around those conversations.

Marketing analytics helped individual project team members process volumes of social media conversations about bariatrics over the sequential phases of the project. There was such a deluge of unstructured data that team members could not process and learn from it all; they needed to have a tool, Radian6, to process and organize the information. Kathy explained what she learned: “What are people talking about? It's a level of insight that we can have now that we could never have before.” The bariatrics campaign is an example where the focus was on straightforward, continual improvements to the existing marketing campaign.

The initial IVF marketing campaign successfully increased engagement with prospective IVF patients, but marketing team members were convinced that the results could have been even better. During exploitation, incremental adjustments were made without changing primary strategy or structures. A basic process improvement was illustrated by John:

So, for IVF, the one component we really didn't use [in Phase 1] that we probably should have up front was a Facebook component. For us, it has been a pretty good lead generator that you don't really see in other campaigns. I think the reason was that we looked at Facebook Insights, and we saw that the demographic there was perfect for IVF for our audience. There was a higher engagement in those demographics that we were looking for.

Marketing analytics enabled intuiting to occur on this project as team members were able to identify patterns across multiple marketing channels in the steps potential patients took from expressing interest in the topic to making an appointment.

Marketing analytics helped one team member realize the straightforward importance of using actual photos of real patients in UMed's marketing campaign to improve the credibility of

the content. John mentioned how this one simple, but insightful, interpretation struck him on the most recent phase of the campaign:

We used a stock photo for one of the pictures. The actress in the stock photo ... someone recognized her, and they had a little conversation in the comment section about it. It's learning too because we are, hopefully, going to be all about personalization, right? So we can't have stock photos anymore. We need actual people and actual photos.

As a result of the tracking, individual team members can see patterns in the data over time that let them know how effective certain marketing tactics are at moving potential patients along the continuum.

### ***V.5.2 Interpreting***

Understanding the conversations in social media helped project team members learn which content would appeal to potential patients and which social media sites to use. Marketing analytics allows a team member to analyze painlessly marketing activity, online behavior, and engagement, as well as pull patient data, billing, and insurance information, to show ROI for the campaigns. It also helps identify campaign tactics that work better than others. For example, small things such as efforts to engage on Pinterest were more favorable than Twitter for the bariatrics marketing campaign. As expressed by Kathy:

Pinterest has been really, really successful [especially] pictures of some food items. We have a pumpkin pie [recipe] that's a 5-calorie pumpkin pie. I didn't think that was possible, right? A lot of people clicked on that.

Marketing analytics tools provided one project member the ability to discover, unexpectedly, the impact that current news events can have on marketing campaign results. John

explained how he interpreted skyrocketing website activity during the bariatrics project:

I look for irregularities. So when [New Jersey Governor] Chris Christie announced that he had bariatric surgery, we saw a big spike in our bariatric lead requests, and we were like, “What is going on?” We didn’t do any other marketing anywhere. We just saw this big jump and we were like, “Hmm.” So I used Google Trends. It’s a really cool tool. I went on Google Trends, and I searched lap band surgery, and I saw that the traffic for that day was just through the roof.

Even though things may seem turbulent at times, in exploitation, the structure and strategy remain stable.

Marketing analytics provided IVF team members insight into the demographics and interests of potential patients. This respondent profiling enabled team members to optimize the audience over time by intermittently crafting messages that would appeal to them. As Mike explained, “We just kind of created a bit of a digital picture based on what we can gather from the information that they readily supplied while they’re searching.”

Marketing analytics helped the team efficiently interpret, communicate, and confirm intuitions with others across the organization. For example, on the PCP Finder campaign, marketing analytics brought to light a reduction in website activity for a physician practice due to a doctor leaving the practice. Marketing analytics helped team members interpret the simple, but relevant, finding and then confirm with the physician practice. “In some instances, it was because we had a physician who left [the practice]. Well, that makes sense if one-fifth of the practice just walked away,” Tina noted.

Marketing analytics provided team members with insights on the people searching for

brain tumor information and helped the team understand and tweak messages to interest them. Steve spoke about how the team – once they had determined the correct target audiences – “listened” to the information from Google Analytics to learn how to refine the copy in their marketing messages:

This is a very specific example: glioblastomas are also abbreviated GBM. We didn't have GBM anywhere in the landing page. So we started putting GBM into the copy. We started really calling out these specific tumors where before it was a little bit generic.

### ***V.5.3 Integrating***

Exploitation tends to enable significant continuing improvements in a project while staying on the same course. This is true for the bariatrics project that remained on an unchanged trajectory, even as the project team cycled through numerous phases and implemented incremental enhancements to the project. For example, as the idea of connecting current, relevant media topics to services the health care organization provides was shared within the group and the organization, integration started to occur. People across the division took what the Bariatrics team learned about monitoring media outlets for current news related to the project and began to integrate that concept into ongoing marketing campaign processes for other service lines. As Kathy elaborated on the amount of effort they are putting in on this part of the project and its importance:

It's huge in terms of informing content strategy because you can really see though, people's conversations where people have gaps in knowledge or the kinds of things that they're looking for in a way that you couldn't before. For all of our campaigns right now, our goal is to also have a

social listening aspect. We're going to be monitoring conversations that are happening around those particular topics, monitoring what our competitors are doing and saying, and see if there [are] any competitive advantages. Looking for those spikes with things like Chris Christie where, "Oh my God, something crazy just happened!" and then being able to be responsive to "What can we do to address it?"

Marketing analytics allowed for better planning for future campaigns, forecasting results, and justifying levels of investment in the marketing campaign. Kim shared how the project team used this information to spend time and energy mapping out future expectations and scheduling for the bariatrics campaign:

By taking those various campaigns and running them together and trending them, it actually allowed us to go back and ask for more dollars. We presented the case to Administration, and it was clear to us that it was one of those campaigns that we should just never probably turn off. You saw an immediate drop in volume the second it went off. Showing that to the clinical teams, and using their clinical data with our marketing data, I think they've drunk the punch. They do not want the campaign turned off because they see the value in that.

"[It is] Magic!" emphasized Michelle, referring to the success of the campaign, and the buy-in the team received from the clinical team and the organization as a consequence of sharing the results from marketing analytics. The high incidence of change and learning during the integration process in each phase is significant across the division and organization.

During the exploitation phases of the IVF campaign, the team tried tweaking

approaches a variety of ways, such as shifting the media mix from mass media to digital and social media to learn how make the marketing campaign more efficient and effective. Over time, the IVF team learned from marketing analytics how to optimize media channels and advertising yield. Julie explained the efforts the team put into improving the processes and outcomes:

We started with a pretty traditional digital campaign and added some nurturing onto it. Then we, on occasion, added in some mass media, maybe some print advertising that was significantly more expensive than digital. Then in this last phase, we added social media without the mass media and were able to drive even more leads. It worked really well, and we found we didn't have to do the mass media at all. We could augment, grow, and make even better use of the assets through social media than we did through expensive mass media.

Marketing analytics helped the team develop forecasts of expectations for new patient appointments and in-depth financial model optimization. Mike explained how UMed uses financial models to determine how much the project team spent per respondent on promotion and learn what slight changes can be made to the marketing campaign to reduce the cost per respondent, which is a significant change in the knowledge base:

I can tell you, the next time we run it, “Okay, we spent \$180 per respondent this time. Is there a way that we can either spend less to get the same number of respondents or spend at the same level and increase our number of respondents?” So that’s another way for us to evolve how we are doing this.

In exploitation, people respond to obstacles by inventing ways to persist within the



structure, not by changing the fundamental direction. For example, in the PCP Finder project, Cindy explained how the team took what it had learned from marketing analytics and created an automated notice that would indicate capacity issues, saying:

I mean, if you call primary care downtown, you have to wait six months for a new patient appointment. So that's not good. We use that data to weed out practices from the Finder itself. I have a flag in the database of who can show up. If they didn't have capacity or there were issues, we would un-flag the practice, and they would not come up in the Finder.

While this was a simple change, it was a vital one.

The proton therapy project moved to an exploit cycle after an explore cycle. Once the organization eliminated the original operational barriers, marketing analytics then helped the proton therapy team learn strategies for continued marketing channel optimization. For example, throughout the exploitation phases of the proton therapy project, the team routinely worked to improve the processes, as noted by Mary:

We cast the net pretty broadly with keywords, but then over time, we were able to narrow them. It's sort of like a self-correcting process. You cast the net pretty widely; you see what performs, and you narrow it down. Then you optimize on those keywords, and then you really take those folks, and you target and re-target them and then try to increase a conversion.

Marketing analytics allowed team members to see the results of all the marketing channels at once in order to see how one influenced another, the sequencing over time, what was most effective at driving requests for appointments, and to learn strategies for advertising yield optimization. Kim illustrated how the visualization of the data in Tableau helps show everyone—

within the group and across the organization—the detail connecting media used to the resulting appointment requests: “It's this beautiful funky graph, and when you first see it, it kind of hurts your eyes because it's got all these colors all these different kind of media outlets that we use.”

Kathy talked about what a big impact the ability to visualize the data had on integration:

So, you could see for the first time, all matched in one place, these correlations where media were influencing media. It was a really complex multichannel campaign that really allowed us to see how each thing played a role and impacted the other and also, what's our total reach? So you could really see your total reach and total impact in one report, and it allowed us to also see which channels were most effective at conversion.

#### ***V.5.4 Institutionalizing***

UMed's case write-ups are surprisingly candid, particularly considering they share them with the highest levels of the health care organization. Julie was very upfront about the fact that sometimes the case write-ups clearly outline what didn't work, saying bluntly, “You know, like, 'This is an example of something we did wrong.'” Then Mike added they usually follow that up with, “Well, this is what we did last time, and this is what we're going to try new this time.” The case write-ups note what worked well in the last phase of the project and what did not work well, along with a section called “Key Learnings” that includes recommendations for future phases of the campaign and new projects. The final draft goes out to all team members, directors of clinical service lines, and senior executives. Most project teams hold postmortem meetings at each milestone in order to make course corrections as needed.

After each phase of the bariatrics campaign, the organization documented what was learned through marketing analytics with extensive description of what the project team did, the

corresponding results, and “Key Findings” and recommendations for future campaigns. Kathy explained the breadth and depth of the learning that is institutionalized, saying:

It's all written down and saved. The landing page is there. All the pieces and parts are there. The keywords are saved, and it's just literally, like, we already created it, just keep it going ... all the assets are there and you just kind of hit play and go.

In addition, UMed tells the bariatrics campaign story across departments and the health care organization and has been doing so for years. The goal of sharing the stories is to ensure that what was learned is not forgotten. Mary spoke to the fact that Marketing is not just sharing this within the project teams, or even just the marketing department, instead, she explained, they are sharing it across the organization:

It's not uncommon for us when we're walking in the halls... where faculty will see one of the marketers, and they'll say, “Can you turn that campaign back on?” Bariatrics is a good example [of what we call] spigot campaigns or faucet campaigns, because we see that when we pause or stop, the leads dry up. When we turn them back on, the leads go back up.

As a result of institutional exchange, the PCP Finder team realized other groups within the organization could benefit from the insights that were gained from this campaign. Other project teams used components of the campaign for the PCP Finder project as a “template” for a heart campaign as well as for a new Cardiologist Finder campaign. As Kathy elaborated:

We basically took that formula and are now applying it to a heart nurturing campaign. We're able to take learning from other campaigns and say, “Okay that worked,” or we're able to work out

the logic of these steps in a way that's repeatable for another campaign.

As illustrated by Mike, “We actually used the same construct and infrastructure [as the PCP Finder] for a Cardiologist Finder.”

Overall, Marketing was able to increase the number of digital campaigns since, as expressed by Julie, “Once you have ’em, [digital campaigns], they’re enduring assets in a way. It’s easier to say, ‘Let’s turn that one back on because they need a little business,’ and then pulse it throughout the year and manage the flow of new patients a little better.”

## **V.6 What Individuals, Groups, and Organizations Learn**

### ***V.6.1 Marketing Optimization***

Marketing analytics initiatives were created to help improve the effectiveness of marketing campaigns. The potential lies in information gathered from individuals. Marketing is all about acquiring, retaining, growing, and engaging customers/patients.

Marketing analytics enabled UMed to optimize diverse marketing efforts through learning what works best for projects. UMed demonstrated sophisticated methods to collect and integrate customer/patient data from all corners of the organization and apply the analytics for segmentation, multichannel matching, messaging, and interventions. The following are examples of how UMed used marketing analytics techniques to facilitate organizational learning.

***Channel optimization.*** Individuals have preferences on how to receive information. Marketing delivers messages through the audience’s preferred channel, such as television, radio, newspaper, mobile device, outbound call, web portal, e-mail. Marketing analytics helped teams ascertain which media channels were optimal for a multi-media mix and how the channels complimented one another. As Mary explained about the proton therapy campaign, “This really

was the first time that we were ever able to see, in one place, the full mix of impressions for media types by, in this case, week.”

Marketing analytics helped teams ascertain which media channels were optimal for delivering the best brand building and customer engagement messages at the right times. On the IVF project, marketing analytics helped teams determine which media channels had the most people viewing their messages. As Kathy elaborated, “We are looking at the activity, how much traffic, how long people are staying on the pages, how they are engaging, if they're downloading a guide. We're often going back out to them with email campaigns. Are they opening the emails?”

***Advertising yield optimization.*** Marketing analytics brought about a more strategic allocation of marketing resources, guiding media mix decisions and determination of budget distribution. For example, in the proton therapy campaign, marketing analytics helped the team realize that due to a halo-effect, it could reduce the length of time needed to run mass media without negatively impacting the campaign. Julie explained how this helped the team better manage its advertising spend:

It really gets you very scientific about being very efficient with your marketing spend, because you can track and see how long the halo of the mass media will last. For that particular campaign, it was about a two-and-a-half-month, three-month window. So, you don't have to spend that level all the time, but you know exactly when you have to go back up, so it was really kind of fun. It was a neat mixture of media types and marketing science to get at a particular goal.

***Content optimization.*** Marketing messages are crafted to fit the target audience in

terms of language, argument, and specific offering. Marketing analytics was used to analyze the results of multi-media campaigns; to evaluate brand elements, messages, concepts, and design; and to learn what best communicates the brand message and the responding consumer activity.

The team used Radian6 on the Bariatrics project to evaluate what topics were trending in order to know what content was relevant to potential patients. As Julie noted:

We had this huge initiative upfront with that campaign to really do a lot of social listening and used Radian6, which is our social media tool, to understand who was engaging out there in a social media? What were they talking about? Who was active? And then build a content plan around those conversations.

On the IVF project, marketing analytics helped the team better understand what content appeals to this audience. The team learned that potential patients were less interested in hearing that UMed has expertise in the IVF area and more interested in “what’s in it for them”—how to solve an infertility problem. Kathy elaborated on what they discovered about their blog content strategy: “Talking about ourselves as the experts didn't prove to be as interesting to people as how to deal with hard conversations around infertility, for instance.”

***Audience optimization.*** Marketing analytics was used to isolate distinct clusters of homogeneous customers, define high-potential audiences, and determine how to communicate with them across a range of media. Patient and potential-patient data were used to generate intelligence to profile potential patients, launch micro-marketing efforts, and predict potential patient behavior. As Cindy elaborated, “We've really dug into understanding the patient persona, the average patient, so that we could do a better job of targeting our message and targeting the tactics that we have.” Marketing analytics enabled customer insight and audience optimization

during the IVF campaign through respondent profiling. Mike spoke of how marketing analytics helped the team take the information gathered from individuals and use it to “paint a picture” of them: “ We’ve done some respondent profiling that steers where we bid for particular search terms. [We] created a bit of a digital picture based on what we can gather from the information that they readily supplied while they’re searching.’ Crazy stuff, like, they tend to have pets.”

On the brain tumor project, a team member discovered that the audience for this particular campaign was different than whom the team had initially assumed. The project team had thought patients were the ones reaching out for information about brain tumor care; when in reality it was caregivers. As Steve explained, “It wasn't the patient calling in. It wasn't the individual who was responsible; it was loved ones; it was family members.”

*Customer response analysis.* Having access to real-time data enabled ongoing reassessments of spending and adjustments to achieve better efficiency through measuring customer response to marketing communications. Facebook and Twitter were used to inform friends, families, and colleagues about issues of importance to them. These networks can be enormous and can create an epidemic of good or bad will. Through the use of marketing analytics, UMed was able to listen to the conversations, to induce dialog, and to manage the buzz.

During the Bariatrics project, marketing analytics using Google Trends and Radian6 helped the team members evaluate conversations around bariatric surgery. “What are people talking about? It's a level of insight that we can have now that we could never have before,” said Kathy. Understanding the conversations helped UMed learn which content would engage potential patients.

Marketing analytics for the PCP Finder campaign helped the team map the patient

journey based on response analysis. The team analyzed customer replies to website messages, social media posts, and emails. Email nurturing used marketing automation technology that was “potential patient”-centric, for lead generation and lead conversion. As Kathy explained:

We created an email nurturing campaign that was pretty elaborate that basically had some branch logic that said, “Well, if someone came in and downloaded a guide, they're going to get this message. If someone came in and requested an appointment but didn't actually follow up and get the appointment, they're going to get this message, and then based on the way that they respond to those messages, they'll get different messages.” There was sort of a three-level deep chain of email correspondence that was very logic-based depending on the way they responded to us.

***Financial model optimization.*** Knowledge from marketing analytics, such as how many leads it takes to get to a certain number of appointment referrals, helped create financial models with financial metrics. These financial models helped the team better plan for future campaigns, forecast results, and justify levels of marketing investment. For example, on the proton therapy project, Julie illustrated:

If you really want to get 25 [appointments], we have to back this up and get this to 150-per-week leads to get to 25 new starts. And that means if you just look at the dollar amount that we spent to get to the 15, the budget is going to have to be \$2 million, or something like that. And they said, “Okay.” So, we did it, and sure enough, it was amazing. We got to 25 – it was math, and the more



you put into it, the more you get out of it. We focused on what the goal was and backed up what we knew in terms of the conversion rates at every point in the campaign, and [we] were able to come to a budget that would get us there.

### ***V.6.2 Operational Optimization***

In addition to optimizing efforts on marketing initiatives, findings from marketing analytics led to the realization that operational barriers were in place. The analytics facilitated the generation of strategies to institutionalize for the optimization of operations in the health care organization. During the proton therapy project, marketing analytics led the team to understand that operational flow problems were causing a leakage of patients. As Julie explained, “There’s an access issue. There’s something happening between people calling and wanting an appointment and them getting it.” Due to the overwhelming number of new leads, the triage nurse was often unable to call patients back more than once, so many patients “fell out of” the system.

Kim explained how marketing analytics helped the smoking cessation team learn about strategy changes that were needed operationally. More significant than simple adjustments to the marketing campaign, “we found out that ... people were searching [for lung cancer]. We have the data to show it.” This case was uncommon because instead of trying to create a campaign for an existing service, smoking cessation, team members learned about what the customers wanted and were able to offer suggestions to clinicians for a new service—lung screenings. “That kind of learning helped change it from a bigger strategy perspective,” Kim said.

### ***V.6.3 Physician Relationship Management***

UMed recently implemented a new marketing analytics tool—PRM—with additional

purchased claims data to enable the health care organization to have access to pertinent physician referral data. PRM analytics will help team members understand physician referral patterns and take action steps accordingly. PRM helps team members understand referral patterns not just as a whole within the organization, but also specific to each service line. As Julie explained, “We [can] look at the relationship between referrals amongst doctors whether they are affiliated with us or not. We can see shared patient patterns, and we can dig down into different service lines.”

“Integrated PRM also provides greater visibility about the cases that may not have been referred,” Mary explained. “Plus, with claims data, we can now have a more complete and more sophisticated picture of the entire referral process through PRM.”

In summary, the analysis of data, and thus customer insight, helped UMed understand how, when, and where to use traditional mass-marketing methods to amplify and take integrated marketing campaigns to the next level, and to learn how to dovetail digital media with traditional media for a balanced approach. Marketing analytics allowed for refinement during the implementation of these marketing strategies. This holistic approach towards customer communication began with information about customers, delivering the message, customer feedback, and the organization’s response to the feedback. Marketing analytics helped the teams execute strategic initiatives and understand their data with unique visualizations. Through the research, it was also discovered that marketing analytics provided a rapid way to gain insight and learning for more than just marketing campaigns. Clinical operations, patient flow, and service offerings were all positively impacted by the knowledge generated from marketing analytics.

#### ***V.6.4 Marketing Analytics Pathway to Organizational Learning Model***

We have developed the Marketing Analytics Pathway to Organizational Learning (MAP2OL) model (see Figure 2) based on our data/findings to explain the cycles of learning in

the course of health care marketing analytics. The model explains organizational learning through exploration and exploitation in an integrative and parsimonious conceptual framework.

At the beginning of each cycle, the decision is made to explore or exploit. If there has been a disruption, exploration is usually necessary to discover innovative new processes. If the existing processes are working and evolving, exploitation is essential to refine existing routines. The cycles loop, switching from exploration to exploitation, or vice versa, based on what is needed (see Table 12 and Figure 2.)

**Table 12 The Nature of Learning**

During Exploration	During Exploitation
<ul style="list-style-type: none"> <li>• Intuiting               <ul style="list-style-type: none"> <li>– Effort: <b>High</b></li> <li>– Degree of Change: <b>High</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Intuiting               <ul style="list-style-type: none"> <li>– Effort: <b>Low</b></li> <li>– Degree of Change: <b>Low</b></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Interpreting               <ul style="list-style-type: none"> <li>– Effort: <b>High</b></li> <li>– Degree of Change: <b>High</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Interpreting:               <ul style="list-style-type: none"> <li>– Effort: <b>Low</b></li> <li>– Degree of Change: <b>Low</b></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Integrating               <ul style="list-style-type: none"> <li>– Effort: <b>Low</b></li> <li>– Degree of Change: <b>Low</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Integrating               <ul style="list-style-type: none"> <li>– Effort: <b>High</b></li> <li>– Degree of Change: <b>High</b></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Institutionalizing               <ul style="list-style-type: none"> <li>– Effort: <b>Low</b></li> <li>– Degree of Change: <b>Low</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Institutionalizing               <ul style="list-style-type: none"> <li>– Effort: <b>High</b></li> <li>– Degree of Change: <b>High</b></li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Length of Learning Cycle               <ul style="list-style-type: none"> <li>– <b>Short</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Length of Learning Cycle               <ul style="list-style-type: none"> <li>– <b>Long</b></li> </ul> </li> </ul>

In general, we find that the nature of the learning is different during exploration and during exploitation. And, that in the eight cases, the nature of learning during exploration unfolded in a similar way; the nature of learning during exploitation unfolded in a similar way.

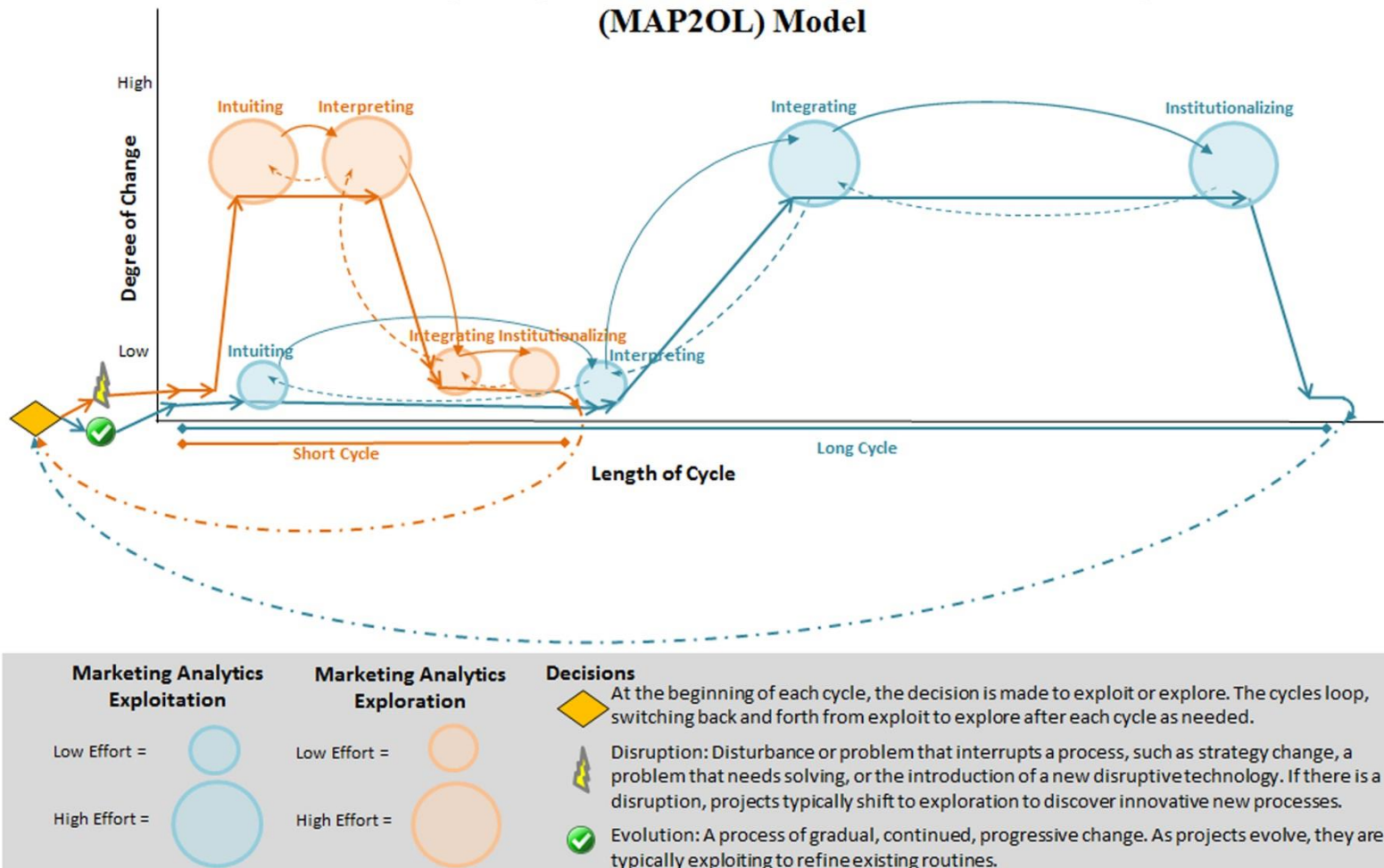
During exploration, the level of effort required and the resulting degree of change are high during the intuiting and interpreting processes. During the integrating and institutionalizing processes, however, the required level of effort and resulting degree of change are low. Cycles of

exploration tend to be short.

In contrast, cycles of exploitation tend to be long, and the characteristics of the learning are different than in exploration. In exploitation, the level of effort required and the resulting degree of change are low during the intuiting and interpreting processes. During the integrating and institutionalizing processes, however, the required level of effort and resulting degree of change are high.

This MAP2OL Model was developed based on the findings to explain the cycles of learning. It is a composite view of all of the cycles in all of the 39 cases illustrated in one conceptual framework. This model can help researchers and practitioners identify, study, and introduce organizational learning through marketing analytics to health care organizations.

## Marketing Analytics Pathway To Organizational Learning (MAP2OL) Model



**Figure 2 Marketing Analytics Pathway to Organizational Learning (MAP2OL) Model**

The nature of the learning at the level of exploiting is more granular and micro, and often focused on how to perform a process better. The nature of learning at the level of exploration involves different ways of thinking about solving a problem and creating processes that have not been tried before.

Marketing analytics complement and support important business needs and opportunities. Because they are used to solve business problems, they are an essential investment. The value proposition for marketing analytics is understanding business challenges and opportunities and providing tools and expertise in the right way and at the right time to support the organization. The pathway to growth in terms of appointment requests and ultimately patient volume is realized by understanding customers and responding in ways to earn their business. Patient data and boundless personal data from social and digital media feed health care marketing analytics engines and allow unprecedented insight into what patients are looking for and how to engage with them about their health.

## **V.7 Organizational Learning Barriers and Facilitators**

UMed strives to create conditions to facilitate organizational learning. When planning and managing marketing analytics projects, one should be cognizant of organizational defenses—barriers—that are likely to exist and which can inhibit organizational learning. Moreover, one should also be familiar with solutions—facilitators—that provide guidance about how to reduce organizational defenses to bring about improved organizational learning and performance.

Table 13 indicates the lower order and higher order constructs of barriers and facilitators.

**Table 13 Health Care Marketing Analytics Barriers and Facilitators**

<b>Barriers to Organizational Learning</b>	
<b>Higher Order Construct</b>	<b>Lower Order Constructs</b>
Intuitive rather than data-driven decision-making	Autonomy, Trust, Emotions
Provider-centric instead of patient-centric orientation	Informed Consumers, Structure, Vernacular
Complex as opposed to simple infrastructure	Multi-faceted Organization, Technology, Data Sources
<b>Facilitators of Organizational Learning</b>	
<b>Higher Order Construct</b>	<b>Lower Order Constructs</b>
Technology tools to tame Big Data	Enterprise Data Warehouse, EMR, Marketing Analytics Tools
Willing and able talent	Individual Acceptance, Skilled
Strategic attention	Alignment with core business strategy, Senior Executive commitment
Rapid-cycle test and learn culture	Fast-pace, Inquiry, Trialability, Fail Forward

### ***V.7.1 Barriers to Organizational Learning***

The following three barriers inhibited organizational learning during some of the eight project cases. These barriers are worthy of attention as their existence caused challenges for UMed during the implementation of, and subsequent learning from, health care marketing analytics projects. A deeper appreciation of these barriers provides organizations with the knowledge of what could be considered “un-supportive to learning” environmental factors.

**Intuitive rather than data-driven decision-making.** Having people who are willing and able to embrace data-driven decision-making is critical to the success of marketing analytics projects. Sometimes individual behaviors, particularly of physicians, as a barrier to the use of marketing analytics proved to be harder to manage than the technical ones.

Not uncommon in health care, there is a hierarchy of power and influence from the doctor downward. There is an inherent autonomy in the medical profession that makes it particularly

impervious to change. While UMed had to deal with the usual problems of siloed systems, data interoperability across IT systems, and data quality issues, the hardest element was getting the parts of the organization to embrace data-driven decision-making based on a unified set of information. The prevailing view in some business units was, "If it's not my report, I don't trust it." Kim, referring to making strides in getting buy-in for making decisions based on data-driven marketing analytics, elaborated, "It's taken a really painful, long time to get them to say, 'Oh, you're not presenting garbage. You are not presenting something to sell me. Using this [information], we can do something better.' "

Even if trust-worthy information is available, it is not always used. Physicians are trained in and have a strong preference for intuitive thinking (McNeill, 2013) and sometimes let their emotions guide their thinking. Mike discussed an example of how a heart physician's instinctive focus on his or her own need to meet a particular number of surgeries can be a barrier to concentrating on overall marketing analytics results:

[Physicians] care about – "I was supposed to do 150 surgeries this year. I've done 90. I'm 60 behind. How are you helping me get those extra 60?" The effort has been to take all of the data that we need to make the decisions about what we're doing and communicate that in a way that's relevant from a business perspective. So, "Yes, I understand your need to meet your volume goals, but can I now tell you about how we are getting there?"

It is not a quick, easy process, and project team members can sometimes feel as if they take one step forward and two steps back when emotions supersede data, as Kim elaborated:

[Sometimes] there is an emotional piece in there that they just want



to do what they want. Sometimes not all the data in the world can get people off a need for a billboard. So, the comment I heard today was that this doctor's family couldn't believe how small his ad was. I'm like, "Oh, I didn't know that the doctor's family was who we were marketing to, but okay, fantastic. Now that I know who the audience is, we can change this conversation." No data is going to change that.

UMed has made great strides in changing behaviors in proton therapy as it relates to the use of marketing analytics and in recalibrating the physician mindset. Project team members help others adapt and feel comfortable making data-driven marketing decisions. Laura emphasized, "Data wins clinician support." As Kim elaborated:

Conversations on the cancer service line are much more robust now. It's not about "We need an ad." In fact, it's like 180s on some of these doctors. "We do not go market anything until we fix this [operational issue]." Which is glorious!

**Provider-centric instead of patient-centric orientation.** The strategic focus of marketing analytics projects and the services they are promoting, and how customer-oriented the services are, is essential to achieving the projects' goals. There is a characteristic orientation in health care to be provider-centric rather than patient/customer-centric. At times, this can create organizational impediments to getting people to work together.

The Internet and social media change the locus of control for patients, enabling them to become more informed health consumers. As such, patients assume a more active role in their own health care, which increases the need for health care organizations to be more patient-

centric. As an example, for the smoking cessation project, Kim noted the response from clinicians when the project team suggested providing lung screening information in the smoking cessation classes, since patients had been searching “lung cancer” online: “They [physicians] didn't want it; they said, 'No, it's too soon. They [the attendees] don't want to know about it.' 'We are just going to talk about smoking cessation.' ”

Marketing analytics led the proton therapy team to understand organizational structure was causing the leakage of patients. The clinical department was structured to meet operational needs and the administrative budget by having just one triage nurse answer phone calls for proton therapy appointment requests in a very provider-centric manner, rather than providing enough staff to answer and field all the phone calls from patients. This meant that many phone calls either went to voice mail, or the consumers hung up without talking to anyone. Due to the overwhelming number of new leads, the triage nurse was often unable to call patients back more than once. Since the triage nurse only made one call, if a patient was not home, the patient potentially fell out of the system without having ever talked with anyone from UMed. The handling of phone calls, with patients either going to voice mail or going unanswered and not getting a follow-up phone conversation, was not orientated to the patients’ needs.

From the UMed provider perspective, the Cardiac service line covers the gamut from heart failure all the way up to end-stage options, with a hand-off to the Transplant service line for heart transplantation. This arrangement was built around the specializations and staffing structure of the provider departments, not designed around the needs of patients and the way—and the words—they search for health care in these areas. As Cindy emphasized, “So, really, for Cardiac, it has been around messaging.” One of the challenges the team faced was the use of provider-centric, rather than patient-centric, language. The language used in the original heart transplant

marketing campaign was the vernacular used by clinicians and providers rather than the vernacular used by patients.

**Complex as opposed to simple infrastructure.** Complexity refers to the degree to which marketing analytics and corresponding technology and tools are perceived to be difficult to understand and use in particular situations. Overly complex marketing analytics techniques can be difficult to execute and master.

Large multi-faceted health care organizations bring an added level of complexity. Internally, many diverse people with different backgrounds and skills, at various levels in the organization, from different departments and divisions, with many different perspectives, collaborate on teams. Added to this intricacy, external experts are often also involved in supporting and guiding these teams, providing their individual points of view. As expressed by Kim, “The proton campaign was our first dive into this, and it was so painful and complicated.”

While many of the technological tools available are quite intuitive, there is still a steep learning curve to master the technology and corresponding effective strategies. Moreover, when talking about the heart transplant campaign, Mike spoke of the complexity of new systems, along with new personnel, and the need to get up to speed on the marketing analytics platform, even though it was not easy: “I don’t think that’s anybody’s fault. [We have] new systems ... we’re trying to figure that out.”

The complexity of the data available for analysis can be a barrier, especially in a large academic medical center with a number of employees, physicians, projects, and data sources. On the physician referral project, Mary emphasized the complexity of even determining a “single source of truth” concerning the data, saying:

That has been a very, very, very hard nut to crack because different

systems would have their own [truth], and then you could never really reconcile reports very well, and so on. We have successfully done this [clean integrated data], and it's a very exciting advancement. It wasn't easy; it was very, very, very hard to do. If someone comes in and [says] that their referring physician is Dr.[X] , who is also known as Michael [X], who's also known as M. Sean [X], and Sean [X], and we've all of these variations [in the data], then it's hard for us to ... know who were talking about and who we should be talking to. It has been a really heavy lift.

Recognizing and working with these barriers to organizational learning can ensure a smoother transition to embracing marketing analytics, improved learning through marketing analytics, and a resulting powerful impact from marketing analytics on project achievement.

### ***V.7.2 Facilitators of Organizational Learning***

This section provides facilitators for progressing learning from an intuitive thought to successful institutionalization into the operations of the organization. While some factors that facilitate organizational learning can be considered universal and have been reported in the literature, in this paper we focus on factors in a specific context: marketing analytics projects within a health care organization. Understanding these factors is useful when planning and executing marketing analytics initiatives.

**Technology tools to tame Big Data.** Technology advances accelerate the use of data for marketing analytics. Three particular areas of importance in this scenario are integrated enterprise data warehouses, EMRs, and marketing analytics tools.

Use of huge volumes of different, but highly relevant, types of data leads to significantly

better predictions to inform an array of health care strategies and decisions. However, if the various segments of the system do not communicate well, it makes it problematic to foster integration. Integrating data from across the organization is a major undertaking, involving the building of sophisticated data warehouses that bring together a broad scope of information from clinical, financial, administrative, and other systems. Creating a data analytics infrastructure is vital for successful marketing analytics.

UMed epitomized the forward-thinking health care organization by instigating a review of the legacy data warehouse and a rethinking of IT capability and functionality. Building the UMed enterprise data warehouse was expensive and took years to complete. The result was a warehouse containing quality data with marketing analytics software running on top of the warehouse. The real worth of analytics comes into play now when the organization can make use of the data and turn it into useful, accessible, timely, and user-focused information for decision-making. As Mary explained, “It evolved as our strategy evolved. And it has grown as our execution has grown, and it is becoming increasingly important as we have more and more data in our data warehouse.” UMed did not wait for the ‘perfect’ integrated data warehouse; it jumped in and learned along the way.

In provider settings, integrating the data often starts with an electronic medical record (EMR) software tool. Digitization of patient medical records accelerated because of the Health Information Technology for Economic and Clinical Health (HITECH) Act, which was enacted as part of the American Recovery and Reinvestment Act of 2009 (Stark, 2010).

UMed leveraged the system’s clinical EMR—Epic—with marketing analytics that help process information about patient flow. As Mike elaborated:

The majority of our health system operates on the same EMR system.

What we can see very clearly is how patients walk through the different levels of care—where they start, what exact test they are doing, which leads to a particular diagnosis, [and the subsequent continuum of care].

UMed generates vast amounts of data from health care providers, insurance companies, health care consumers, and service providers such as labs and pharmacies. Marketing understands the need to master the landslide of electronic health care data. Kathy noted, “Tools are relatively intuitive but require training and constant use.” In order to dig through the mountains of data and make this data usable, UMed has transformed its business intelligence landscape to self-service with marketing analytics tools.

Everyone on the marketing analytics project teams consumes the information that the marketing analytics produce. Through trial and error, UMed has learned what its real information needs are and how to access that information. Today’s technology provides marketing analytics tools that support data analysis across the health care organization, generating detailed reports and helping to identify patterns in data. It is not easy to bring data elements together from across a number of information technology systems without a substantial amount of synthesizing and transformation; however, the opportunity to exchange information is enormous. Real insight, though, comes from being able to see data across systems in order to detect trends and identify root causes. In fact, UMed also learned what questions they should be asking of the data – it is about discovery.

In order to tame big-data, UMed maintains a marketing analytics platform comprised of an assortment of marketing analytics tools that connects to a wide variety of data sources. The tools allow the teams to drill down into the data and generate reports that are trustworthy and give them timely access to accurate information so that they can quickly try different strategies.

UMed collects massive amounts of information and uses marketing analytics tools to analyze it for:

- *Reporting* to look at data to determine what happened and to evaluate campaign performance;
- *Monitoring* using recent and near real-time data to provide insight into what is happening now;
- *Data mining and evaluation* to determine why a particular event occurred and cause-and-effect relationships;
- *Attribution* to quantify the contribution of each element of advertising;
- *Optimization* to run scenarios for business planning;
- *Allocation* to redistribute resources across marketing activities in real time;
- *Prediction* to crunch massive amounts of data to predict which individuals are most likely to make an appointment for a particular service.

Speed is important in this context. The technology of marketing analytics tools is an enabler of both scalability and speed. Using these tools, UMed can process significant amounts of information it could not process before, and it can be done very quickly.

Marketing analytics tools in use at UMed provide crucial capabilities to the project teams that did not exist before. Marketing analytics tools enable learning by facilitating the acquisition, storage, and sharing of information. UMed used a variety of marketing analytics tools including Facebook Insights, Google Adwords, Google Analytics, Google Trends, HealthConnect CRM, Hootsuite, Moz, PRM, Tableau, and Webtrends. See Appendix I: Marketing Analytics Tools for descriptions of each of these tools.

**Willing and Able Talent.** UMed spent time building analytics muscle by getting the

right skills on the team. Having capable talent with high levels of expertise is a major component of embracing marketing analytics. Employees must have a high degree of competence and be capable of understanding and making full use of the results generated by analytics. A strong analytical acumen is critical to being able to leverage the appropriate tools to develop consumer, and subsequently business, insights. The real key is that staff need to be willing (individual acceptance) and able (skilled).

UMed understood the need to build a culture of engaged employees and physicians who possess individual acceptance and trust. Health care organizations, and academic medical centers in particular, are complex adaptive systems that do not respond or adapt well to a linear, rational, mechanistic, and command-and-control management approach. Plsek (2003) states that “a decision to change is ultimately made by individuals in a complex system according to personal mental models about such things as the benefits and risks associated with the change.” The willingness of team members to adapt is a foundational element needed for the successful use of marketing analytics for organizational learning.

The decision to adopt marketing analytics at UMed came from senior executives, particularly the chief marketing officer. As expressed by Mary, “So, when we embarked on this journey, I articulated a vision of what I was hoping we would be able to do, but in the course of executing it, honestly, for a little while I had to say, 'Trust me, I think this is going to work.'” The decision was expected to be carried out and embraced by the team. Since it was a senior executive priority, adequate tools were provided (although people resources were still somewhat slim), and performance was monitored. Some of the original team members did not fully accept the new approach and soon parted ways with the organization. UMed’s results show that marketing analytics projects are more successful once there is buy-in from the team on a new



approach.

Equally important, staff must be technically and tactically proficient in order to create analytic solutions and the programmatic interventions. New technology and data sources place new demands on individuals engaged in the adoption of marketing analytics. A good model and plan will not succeed if the right talent is not available. Developing the marketing analytics platform required UMed to invest in, as Mary explained, “the technical, analytical and strategic [people] skills to be able to use that CRM framework and infrastructure for targeted marketing.” She was intent on acquiring expertise from within and outside the company for these high-priority projects. UMed has found that training through directly observing experienced members is more effective than stand-alone, offsite training sessions. Through observing experts perform tasks, UMed staff can acquire tacit or difficult-to-articulate knowledge. The proton therapy team had a direct, hands-on approach to the use of marketing analytics, and this learning-by-doing approach enabled learning. As Laura noted, “There's not a lot of formal training on marketing analytics here. You get thrown in, and you learn by asking and by asking again and by getting the right people in the right room at the right time.” Kathy explained that the right people are an essential component of success:

Find good outside partners. Innovate together. [Teams] need people who learn and adapt quickly to new technology. Information architects are very helpful in campaign architecture and developing decision trees.

To maximize the value of analytics and Big Data, an organization must have staff who can identify emerging trends and grasp pattern recognition. Marketing analytics users can find the information they need using the marketing analytics tools, without the routine help of IT staff. They are also likely to be inspired by an insight and ask questions on an impulse. This

capability enables staff to ask and answer their own questions, accelerating the entire team's insight, action, and business results.

**Strategic Attention.** Even though UMed has a mission-based reason for existing, as a well-run business, it focuses the organization's resources not only on the greatest health care needs in the market, but also on the greatest opportunities. UMed senior executives are attentive to prioritizing, concentrating on projects that have the potential for the desired end results such as increased volumes and revenues, and more satisfied patients, in a competitive market. As a result, learning accelerates when marketing analytics projects are closely aligned with the health care organization's core business strategy, helping gain the strategic attention and support of senior executives.

A marketing analytic project's close proximity to the health care system's advanced medicine business strategy increased the likelihood at UMed that learning will occur. UMed found that when goals and strategies aligned, everyone from senior executives to front-line team members dedicated greater attention to learning from marketing analytics.

Health care organizations face a plethora of demands and give attention to the highest priorities. UMed's overall business strategy focuses on advanced medicine. The most advanced medicine is quaternary care which is highly specialized, treating uncommon diagnostic or surgical procedures, sometimes with experimental medicine. Consistent with this position, the UMed projects studied focused on services at the levels of care indicated in Tables 10 and 11.

UMed senior executives facilitate organizational learning by owning the vision, providing the proper resources, ensuring an accepting culture, and overseeing the organization's performance. Succeeding at marketing analytics requires a senior executive team that creates an environment that welcomes and encourages new ideas and change. Senior executive-level

advocacy for, and active involvement in, marketing analytics helps promote a data-driven culture and supports significant business performance developments.

At UMed, senior executives' ability to secure alignment, integration, and coherence across multiple strategies and divisions was essential to facilitate the analytics journey. As Mary explained, "This is a very well-run institution from an operations sense and from a financial sense. Our senior leaders are very mission driven, God's work, you know, and the critical importance of running a very efficient operation. We're very, very mindful of running this enterprise in a way that's very responsible. And, as a result, UMed, for its size, financially performs extremely well." The chief marketing officer, with full support of senior executives, placed an emphasis on the development of new organizational capabilities such as marketing analytics, which offers executives greater transparency and insight, delivered through executive dashboards and powerful, real stories. Mary regularly presents to senior executives:

[We talk] about the case studies, the results, how they align with the health system performance that senior leadership is very much in tune with. So, they really have a conversation around what is Marketing's contribution with each and what does that say about what our approach should be in the year ahead.

UMed's results stem from encouragement and attention from the senior executives of the organization.

**Rapid-cycle test and learn culture.** Punctuated equilibrium theory surmises that organizations can acquire learning at a steady rate, or they can obtain learning at an uneven rate, with interruptions in creation. It is theorized that the faster the pace, the more knowledge organizations acquire. At UMed, it is rapid-cycle test and learn. Punctuated equilibrium explains

fundamental changes in patterns of organizational activity. The health care industry had a relatively long period of stability (equilibrium) in its basic patterns of activity. These patterns are now being punctuated by relatively short bursts of fundamental change in how health care systems operate, how consumers/patients behave, and how employees/physicians behave, as well as the rapid change and uncertainty in the industry. Health care organizations cannot be complacent; they need to be innovative and be able to respond instead of react to a shift in the environment and a change in how patients behave. Health care organizations need to understand how people behave, and these marketing analytics are extremely relevant in today's world and economy. As Mary emphasized:

It's really to teach our organization and everybody in it how to think in an innovative way, about how you move quickly and deploy an idea quickly. That doesn't mean you don't think it through, but it does mean that you test, learn, test, learn, and have that quick cycle of implementation and innovation. We can see what's working, what's not working. We can change call to action. We can change creative. We can do that ourselves pretty much on the fly. It's being able to be nimble and swift, and that's fun.

Having a culture of inquiry is likely to produce valid information and commitment to corrective action conducive to productive learning. Inquiry is persisting in asking questions until a full understanding is achieved. It implies a willingness to accept a degree of uncertainty and to suspend judgment until achieving a satisfactory understanding (Lipshitz et al., 2002). Questions can ensure success, engaging in dialog, not coercion, and conducting autopsies without blame. The proton therapy case demonstrated inquiry as the staff attempted to learn why the campaign

was not working as they had expected. As Cindy elaborated:

The overlap between calls to the contact center and web form submits—I never once even thought to myself, “I wonder what that looks like” until I started to look at this data and started to understand. I merged it all together, and then I saw a bunch of dupes. I said, “Why do I have a bunch of dupes?” Did I do something wrong in my database? I remember specifically doing it three times, redoing my query three times, and really looking at it, and then finally I was like, “That’s because they called *and* filled out a form.” Why would you do that? And that sort of led to a lot of things that come into play to get a patient here.

Exemplifying inquiry on the heart project, John illustrated: “The [clinical] director was like, ‘What’s going on with Heart? It’s not producing any leads, so what’s the problem?’ And as soon as someone asks, ‘What’s the problem?’ We start to dive in and really look.”

The team communicated with each other and asked critical questions. As John explained, “So, you know, we’re just like, ‘This isn’t working.’ What are they searching on again? What is driving them to this page?”

As another example, on the heart transplant project, everyone asked questions as he or she rallied around the issue, as Kathy elaborated:

I think the thing about the analytics—all of the parties have an interest in the campaigns performing well. So, what brings us together is if the campaign is not performing from a conversion perspective. Mostly because that is usually the metric that we care most about, we want that form completed – then everybody kind of rallies around the idea of “What

should we do different?” What do we think would work if this isn't working?

The evolution of the digital world has created a high degree of immediacy, helping health care marketers make critical decisions quickly and effectively. Equally important, digital marketing is particularly suitable for campaign trials prior to scaling up.

The trialability of digital marketing projects allows them to be tried and evaluated via marketing analytics on a small-scale basis as a test before a full-scale rollout, which diminishes the potential risk of failure. Trialability supports the notion of rapid experimentation to learn and adapt and finds possible failure points by directly testing how the project might fail (better to “fail safe and fail fast”). UMed approaches innovative marketing projects in incremental stages, beginning with small-scale pilots, with the advancement to the next phase contingent on the results of learned experience to that point. For example, in the heart transplant project, Marketing implemented a multichannel marketing campaign with trialability in mind. As Kim explained, “We have to be really nimble with our dollars. We said we wanted to pilot a digital campaign and see what's out there. Long story short, we put it out there, and we tried.” As John elaborated, “[We] wanted to test this out, this theory before we got into something even bigger in the fall.” On the proton therapy project, Donna noted, “A lot of it is trial and error and learning.”

Organizations learn from both successes and failures. Sitkin (1992) proposed that learning from failure is more effective than learning from success because failure motivates deeper search and richer understandings than success. A successful organization encourages “failing forward” by making people feel safe and respected—ensuring psychological safety. A culture of psychological safety that lacks defensive routines enables learning (Argyris & Schön, 1978). Argote (2013) said, “When members feel psychologically safe and free to express their

ideas, organizations are more likely to learn from experience than when members do not feel safe.”

UMed’s chief marketing officer is an advocate of failing forward. The “trickle down” of her encouragement to fail forward was noted in the proton therapy project, where one can infer that Julie and the other team members felt safe and respected, not at fault, as Julie revealed:

Being able to really track and assess where some of the barriers were, was really important. This isn’t about anybody not doing their job. This is just to say, “If you need something more” or “If there’s something more we could add to this process to close the loop a little better.” Leadership is very interested in us doing that.’

At UMed, failing is considered an opportunity for learning. Leadership behavior influences the way an organization handles failures. UMed’s results show that team members pay more attention and are more likely to engage in learning after failure. The learning process through marketing analytics has much to do with communication and feedback loops; therefore, being able to communicate effectively is a crucial competence.

In summary, organizational defenses, such as the barriers listed earlier, likely exist in other health care organizations and can inhibit organizational learning. The facilitators noted in this section provide guidance about how to reduce organizational defenses to bring about improved organizational learning and performance. UMed strives to create conditions, such as those listed above, to facilitate organizational learning.

## VI CHAPTER 6—DISCUSSION

We use the 4I Model and punctuated equilibrium theory as theoretical lenses to examine how marketing analytics facilitate organizational learning. In the following, we explicate the contributions of our research by comparing our results, first with other studies on organizational learning, and second, with the extant literature on punctuated equilibrium. Eight case studies were used to understand the processes used in organizational learning in a health care system. The results provide new insights into the successful implementation of marketing analytics in general and in health care marketing, in particular.

The organizational learning 4I Model (Crossan et al., 1999) identifies four processes (intuition, interpretation, integration, and institutionalization) and three levels (individual, group, and organization) that are critical to organizational learning. Our findings indicate that marketing analytics facilitate organizational learning through these four processes and three levels as described in the 4I Model. However, our study uncovers differences in the way these processes unfold from how these processes have been discussed in the literature. This research contributes to the literature on organizational learning by directing attention to the cycles of learning. It also provides a new lens to look at marketing analytics literature. We have proposed a composite model that explicates the marketing analytics pathway to organizational learning (see Figure 2) during both exploration and exploitation.

In this discussion, we focus on three general conclusions that are drawn from the results of our study that have implications for organizational learning and the use of marketing analytics. First, we explicate the complementarity of two well-established theories, 4I Model and punctuated equilibrium theory. Second, we illustrate how a health care organization learns



through the use of marketing analytics during times of exploration and exploitation. Third, we identify barriers to and facilitators of organizational learning in health care. We then address the implications for marketing analytics practice.

### **Organizational Learning**

Extant literature has traditionally focused on the widespread recognition of the critical role of organizational learning to organizational performance. However, no one model of organizational learning is broadly accepted (Bell et al., 2002; Crossan et al., 1999; Lipshitz & Popper, 2000). Several scholars assert that change and renewal require organizations to explore and learn new approaches while simultaneously exploiting what they have already learned (Crossan et al., 1999; March, 1991). The implicit implication in the organizational learning literature is that learning occurs in a continuous evolutionary process.

However, there is little empirical evidence presented in the literature, and specifically relating to the 4I Model, for the way learning happens through exploration and exploitation functions, coupled with the time-dependent nature of processes and lifecycles (Bontis et al., 2002; Crossan & Bedrow, 2003; Dutta & Crossan, 2005). While arguments in favor of the need for both exploration and exploitation are well-established and accepted, the literature also indicates that “the central questions on this subject remain incomplete, at times contradictory, and at best ambiguous,” (Gupta et al., 2006). Recent studies question the assumption in the 4I Model that exploration and exploitation occur concurrently in one contained iterative cycle of learning. For example, Nielsen et al. (2014, p. 4) instead describe renewal as “interactions between wakes of learning, in which each wake has a core focused on either exploration or exploitation.”

We agree with Nielsen et al. (2014) that the learning stages of the 4I Model are not as

linear or contained in one cycle of learning as the 4I Model suggests. Instead, our examination of health care marketing analytics projects suggests that learning cycles through phases of exploration and exploitation occur differently (see Figure 2). Moreover, while learning, change, and renewal exist in all processes identified in the framework, the nature of learning differs depending on whether the effort centers on innovating or improving processes. In essence, the inference in existing studies is that the degree of change, the length of cycles, and the effort required during improvement efforts are uniform during each of the 4I Model processes. However, our study extends the 4I Model by illustrating that the effort required for renewal, the degree of change, and length of cycles occur differently during exploration and exploitation. Table 14 indicates where the learning occurs differently during exploration and exploitation.

**Table 14 Learning Occurs Differently During Exploration and Exploitation**

<b>Construct:</b>	<b>Value:</b>	<b>During:</b>
<b>Effort</b>	High	Exploration: Intuition and Interpretation Exploitation: Integration and Institutionalization
	Low	Exploration: Integration and Institutionalization Exploitation: Intuition and Interpretation
<b>Degree of Change</b>	High	Exploration: Intuition and Interpretation Exploitation: Integration and Institutionalization
	Low	Exploration: Integration and Institutionalization Exploitation: Intuition and Interpretation
<b>Length of Cycle</b>	Short	Exploration cycles
	Long	Exploitation cycles

The number of people involved and how intensely they are working exemplifies level of effort. The extent of the increase in acquired knowledge, capability, or skills illustrates degree of change. The length of a cycle represents the time it takes to complete a phase. While digital marketing and marketing analytics technologies have enabled the speed of marketing cycles, in general, to increase tremendously, there remains a distinct difference between cycles of exploration (which tend to be shorter) and exploitation (which tend to be longer).

## **Punctuated Equilibrium**

Our research complements existing literature on punctuated equilibrium, which is a prominent theoretical framework for explaining how change and renewal occurs and how to manage it (Burgelman, 2002; Gersick, 1991; Tushman & Romanelli, 1985), where renewal is viewed as a product of alternating cycles in the operation of organizations, evolving through relatively long periods of stability (equilibrium periods) in basic patterns of activity that are interspersed by relatively short bursts of fundamental change (revolutionary periods) (Tushman & Romanelli, 1985). Our findings suggest that a punctuated equilibrium in relation to organizational learning resonate conceptually with Nielsen et al. (2014) who suggest waves are an alternative or supplement to a linear single-cycle configuration. Specifically, our study suggests that projects move through learning cycles in a punctuated equilibrium where change and renewal evolve in a steady state of incremental improvements over time in a continual flow. This flow is every so often disrupted (by new strategies, technologies, or complications) and transformed into an alternate cycle consisting of a surge of revolutionary learning and change. It then cycles back to a steady incremental pace until another disruption occurs. Our findings reinforce earlier studies that suggest “cycling through periods of exploration and exploitation is a more viable approach than a simultaneous pursuit of the two (Gupta et al., 2006, p. 694).” The implication is that during a project, the team shifts resources and focus depending on the nature of their learning, for exploration or exploitation.

However, what is distinctive from the literature, in this case, is that this is the first study that reveals that learning through the four 4I processes (Crossan et al., 1999) follows a punctuated equilibrium model, and that the nature of learning differs between exploration and exploitation.

The 4I Model and punctuated equilibrium model, in isolation, are insufficient to explain how organizational learning unfolded in our study sites. Our model, which synergistically combines the two, offers a fresh perspective on the complex process of organizational learning in health care organizations.

## **VI.1 Combining Theories**

The implicit assumption in much of the organizational learning literature is that learning occurs in a continuous evolutionary process. The 4I Model (Crossan et al., 1999), in particular, is more of an “evolutionary” model, implying that the four processes happen in a linear sequence at a steady pace in micro steps. We found that learning occurs differently than the 4I Model implicitly suggests during exploration and exploitation. Projects do not flow through the processes in a singular cycle, as the 4I Model indicates. UMed operates in a resource-constrained environment (staff and financial resources) that makes it difficult for it to pursue exploitation (learn from repeating the same tasks) and exploration (learning from new tasks) simultaneously on a project. For this reason, the staff switch from exploration to exploitation and back again, as the need dictates. Our findings suggest the punctuated equilibrium theory (Gupta et al., 2006; Tushman & Romanelli, 1985) better reflects how organization learning evolves.

In contrast to the organizational learning literature, our study suggests a steady state for a while, and then a disruption occurs, which typically causes a spurt of learning. The 4I Model does not elaborate on how this transformation happens. While the 4I Model implies uniformity from one process to the next, our study suggests that the degree of change and the effort required for improvement and renewal differ across the four 4I processes—and change during exploration and exploitation. Moreover, learning happens at a steady pace for a time during cycles of exploitation and then in spurts of learning during cycles of exploration (Figure 2).

During exploration, the intuition and interpretation processes require high effort and produce a high degree of change, whereas the integration and institutionalization processes require low effort and produce a low degree of change. During exploration, projects are likely to move quickly through the cycle in a relatively short period with bursts of learning that fundamentally change the way teams execute organizational processes. This more rapid pace is likely due to the need to respond quickly to market dynamics and new windows of opportunity.

During exploitation, the intuition and interpretation processes require low effort and produce a low degree of change, whereas the integration and institutionalization processes require high effort and produce a high degree of change. During exploitation, projects are unlikely to move quickly through the cycle. They do not emanate in bursts of learning, but rather in incremental improvements to current processes, which accrue significant change over a longer period of time. Such continuous and incremental improvement has been shown to be characteristic of exploitation (Tushman & Romanelli, 1985).

Our research uses the punctuated equilibrium theory by juxtaposing it with the 4I Model. Our contribution to theory is the use of punctuated equilibrium as another lens to understand how organizations learn. This conceptualization better reflects marketing analytics projects' progression through time as the projects cycle through periods of exploration and exploitation. The projects did not develop their respective strategies in linear sequences. Our model (see Figure 2) extends the 4I Model by using punctuated equilibrium to explain the cycles of learning.

## **VI.2 Marketing Analytics Support Learning**

The model (See Figure 2) provides researchers with a theoretically based explanation of how marketing analytics facilitate organizational learning during exploration and exploitation. This model, which draws on scholarly organizational learning and punctuated equilibrium

literature (Crossan et al., 1999; Flores et al., 2012; Gupta et al., 2006; Huber, 1991; Tushman & Romanelli, 1985), key informants' accounts, and our own experiences as researchers and practitioners, is among the first attempts at extending theoretical frameworks, focusing on marketing analytics in health care. The key concepts in the framework, namely, organizational learning processes, exploration and exploitation, process improvement efforts, degree of change, and length of cycle, provide researchers with an explicit and systematic means of understanding the complex phenomenon of organization learning.

The current literature on marketing analytics lacks an understanding of how to make the best use of analytics to improve the business (Lavage et al., 2011). Marketing analytics can exploit organizational data and provide operational and strategic benefits, yet how organizations achieve business benefits from marketing analytics remains unclear (Elbashir et al., 2013). This study contributes to a descriptive understanding of our area of concern, and the findings answer the research question “How are marketing analytics used to facilitate organizational learning in health care organizations?” A key contribution of this research is a nuanced understanding of how to achieve learning during times of exploration and exploitation.

Our study highlights how marketing analytics help teams leverage data to an unprecedented degree, enabling the project teams to be passionate drivers of revolutionary change. At the outset of all the marketing analytics projects studied, the teams needed to learn how to change the way they marketed in order to make the best use of new disruptive technology – digital marketing and marketing analytics tools. Our findings suggest that after a disruption in a process, such as operational disconnects or off the mark strategies, innovative new ways of doing things are discovered through exploration. Once new ideas are implemented and working, projects shift into exploitation mode to take advantage of new organizational processes and

routines.

Through the use of marketing analytics, the project teams could connect their actions and small incremental improvements over time to results. These findings were very similar for each of the projects during exploitation. The teams continued to tweak and change the marketing campaigns over time, in some cases many months to a couple of years, in order to improve their results. During exploitation, there are no substantial strategy changes and no major process transformations; instead, the teams focused on process improvement efforts during integration and institutionalization to optimize everything from marketing channels and content to customer responses and financial ROI. Exploitation continues until there is a disruption that necessitates a change, such as a strategy change (for instance, splitting campaigns in two or creating a new service), a problem that needs solving (such as fixing access issues so patients can easily request appointments), or the introduction of a new disruptive technology (for example, social listening tools like Radian6).

These findings have implications for facilitating and supporting learning, particularly if a disruption occurs. Our model illustrates the ability to improve current processes and seek innovative new ways of doing things and thus provides valuable insights to help scholars and practitioners who are keen to understand this from an organizational learning perspective.

### **VI.3 Barriers and Facilitators**

When managing during times of exploration and exploitation, health care practitioners implementing marketing analytics projects need to be mindful of barriers and facilitators that either inhibit or support learning. As a contribution to practice, this study describes specific barriers and facilitators to learning in this context. (See Table 13.) We can now predict three obstacles that create barriers to learning: how complicated it is to use the technology, how

receptive individuals are to making data-driven decisions, and whether or not the strategy focuses on what is best for the provider (health care system) versus what is best for the patient (consumer). From our research, we also discovered four areas that will help health care practitioners to control what is happening to facilitate learning: employing willing and able talent, obtaining the technology tools to tame Big Data, ensuring projects are in alignment with the organization's core business strategy and receive the strategic attention of senior executives, and finally, possessing a culture of rapid-cycle test and learn. Table 13 notes the conditions under which health care organizations are more – or less—likely to learn.

This adds knowledge for health care marketing practitioners to help their organizations achieve business benefits from marketing analytics; these are concepts we did not know before (Lavallo et al., 2011, Elbashir et al., 2013). This will help practitioners with the planning, analysis, and control of marketing analytics projects.

#### **VI.4 Practical Implications**

The practical implications of this research are that health care organizations can use marketing analytics to seize the opportunity to facilitate learning about diverse marketing efforts such as channel optimization, advertising yield optimization, content optimization, audience optimization, customer response analysis, and financial model optimization.

Concepts in the framework provide health care organizations with a means to understand the planning, coordination, and execution of marketing analytics projects. The UMed example is a revelatory case study, as UMed is an early adopter of marketing analytics within the health care sector. Being in the forefront of the health care industry on this topic, UMed Marketing leaders are frequently recruited to speak at national conferences about marketing analytics.

The model (see Figure 2) provides practitioners with a systematic means of thinking



about marketing analytics and how to use them for both exploration and exploitation to create value and competitive advantage. The identified barriers to and facilitators of organizational learning enable practitioners to recognize, study, and introduce organizational learning within organizations.

Through the use of marketing analytics, marketers now have the unprecedented ability to adjust their resource allocation decisions while making course corrections in real time. That sort of insight represents the Holy Grail in marketing—knowing precisely how all the moving parts of a multi-media marketing campaign collectively drive results and what happens when making adjustments. In addition to optimizing efforts on marketing initiatives, marketing analytics also facilitate learning about optimization of operational processes and physician relationship management. All of these uses improve the fiscal fitness of the health care organization.

## **VI.5 Limitations**

As with any research, there are limitations that may offer opportunities for future studies. Our findings should be viewed in the light of the study's limitations, which restrict its generalizability. First, the research draws on a small number of projects from one health care organization. As such, the applicability of the findings to different settings such as health care systems that differ in size, location, environment, and organizational structure, may require further examination. To address this issue of limited generalizability, we provide detailed contextual facts about the case (Devers, 1999). The information may help researchers and practitioners in assessing the transferability of our findings to other contexts (Lincoln & Guba, 1985). Second, the cases were studied retrospectively. Some of the cases involved data about actions two to three years prior, but our focus was on learning that occurred over the entire period. To minimize the recall bias, we interviewed multiple stakeholders about the same events,

triangulated between different data sources, checked against “hard facts” (such as published documents), used multiple methods to interpret the data, and iteratively sought feedback on our interpretations from the chief marketing officer and other key stakeholders (Miles & Huberman, 1994; Yin, 2009). Third, although we collected the data using key informants for each case, a wider set of informants may have provided additional insights. For example, the majority of the informants were from the Marketing division. We made an effort to mitigate this bias through triangulation and verification using multiple data sources (Johnston et al., 1999).

**Generalizability.** Firestone (1993) suggests that with only one case, research will not be generalizable from the sample to the population but will strive to have analytic generalizability. However, one can generalize from qualitative research to a theory, and this can be done from just one case study (Myers, 2010; Yin, 2009). The choice of the case was based upon conceptual grounds, not on representative grounds. The limited sample to population generalizability of case study research should be balanced against the advantages of its attention to context, dynamics, and multiple stakeholder perspectives (Mason, 2002). We triangulated between different data sources, checking against multiple interviewees, feedback from key stakeholders, and archival documents to ensure rigor (Yin, 2009).

## **VI.6 Future Research**

This study has several implications for future research. First, future research could further explore organizational learning in conjunction with punctuated equilibrium in other settings and industries. Second, another promising avenue of research to explore is a fuller assessment of organizational learning through marketing analytics during exploration and exploitation by means of a wider set of informants and sites within the health care industry. Third, studies that examine the processes and flows associated with how organizations balance the tension between

exploration and exploitation are scarce, so a sound base for future research is to hold the empirical findings in this research up to other theoretical bases such as Nielsen et al's "wakes of learning" (2014) for further reflection and review.

## **VI.7 Conclusion**

In conclusion, the results of our study extend the literature by developing an empirically well-founded conceptual basis for understanding organizational learning in the health care marketing analytics domain. The key contribution is a parsimonious framework that can help complement our current understanding of the role of marketing analytics to support organizational learning. As our discussion suggests, we have demonstrated that organizational learning through the use of marketing analytics involves a number of key variables: exploration and exploitation, efforts required to improve processes, degree change, and length of cycles. We trust that this study will stimulate other researchers to examine marketing analytics further in the context of organizational learning because this model provides an understanding of how patterns of renewal and change take place during cycles of exploration and exploitation.

An important objective of our engaged scholarship research was to enhance senior executive usage of marketing analytics within health care organizations. Our model of organizational learning during exploration and exploitation, while novel, also provides a basis for developing strategies to use marketing analytics to facilitate organizational learning in health care organizations.

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## VIII APPENDICES

## **VIII.1 APPENDIX A**

### Case Study 1: Proton Therapy Case Study

*The Proof Is in the Math*

## Appendix A

### Proton Therapy Case Study:

#### *The Proof Is in the Math*

The UMed Proton Therapy Center is one of a limited number of proton therapy facilities in the United States and one of the largest, most innovative centers of its kind in the world. Proton therapy, one of the most advanced radiation therapies for the treatment of cancer, is part of the health care system's cancer service line and is at the quaternary level of care. (See Tables 10 and 11.) UMed has made a significant financial investment in the Center and technology, and proton therapy is closely aligned with the business and core mission. Proton therapy is typically, but not always, covered by insurance policies.

The Center had been initially successful meeting volume goals with a combination of internal specialty referrals and patient self-referrals for prostate cancer. Three developments in the spring of 2012 caused a decline in volume and became UMed's compelling need for change: 1. Proton therapy became a flashpoint in the national health care debate regarding the high cost of care compared to clinical outcomes; 2. New "watchful waiting" prostate cancer screening guidelines resulted in fewer referrals for treatment; and 3. Some of the community urologists who owned or had a financial interest in their uroradiology practices actively resisted referring prostate cancer patients for proton therapy.

A proton therapy integrated marketing campaign was executed in six phases from October 2011 to Fall 2014, and ongoing. The campaign sought to address the decline in volume and achieve revenue goals for the program. Marketing developed and executed a comprehensive and strategic approach with three goals: 1. Build awareness of this novel treatment; 2. generate

qualified self-referred leads for proton therapy, increasing weekly leads at least three times the previous weekly average; and 3. achieve a lead inquiry to patient appointment conversion rate of 10%. As Mary explained, UMed felt they had a window of opportunity “to create awareness for something that was not well understood as a therapy or a modality – proton therapy for the treatment of people who have certain cancers. And so, we wanted to create awareness about our proton therapy center and what it was for and what it did. And then we moved to a conversion strategy to put people who either have cancer or they care for someone who has cancer, to say, ‘All right, I want to learn more about proton therapy at [UMed].’ ”

Kim explained that the team worked with several external agencies to develop the campaign: “We had an ad agency helping us do the branding. We had a digital agency helping us do our campaigns and our [media] buys. We had a media agency. We were bringing all of them together under the pressure of trying to grow volumes. It went from testing it in proton to then learning and saying, ‘All right, this is what we know, the mix we need for cancer.’ ”

To create awareness and increase patient/prospective patient consultation conversions for the proton therapy program, Marketing implemented a multichannel marketing campaign. Television anchored the offline mass media campaign, which also included print, radio, billboards, and transit. The online (digital) campaign was highly integrated with the offline channels and included a website, SEO, SEM with PPC, display ads, video, CRM, and social media (Facebook, Twitter, and YouTube). Kathy explained: “The nature of this campaign was really complex because you had so many different channels. All of the offline channels were pointing to a single landing page. All of the digital channels that were running tandem with the offline stuff were leading to different places depending on how targeted they were.”



The proton campaign was the “highest investment for the year in terms of a traditional media campaign and an online campaign,” Julie said. “We had TV, radio, billboards, train stops – the works.”

UMed used a variety of marketing analytics tools while working on the proton therapy project, including Facebook Insights, Google Adwords, Google Analytics, Google Trends, HealthConnect, Hootsuite, Moz, Tableau, and Webtrends.

The initial marketing campaign performance results were mixed. While the UMed marketing campaign successfully achieved two of the goals – increasing awareness of the program and bringing in thousands of leads – the conversion to patient appointments was not as high as the team would have liked. Mary stated, “We were not meeting our target numbers for the number of patients to be evaluated for their suitability for proton therapy.” Through the use of marketing analytics, Julie said, “We saw that we were handing off so many more leads than the nurse in the Proton Center was actually converting – in some regards even talking to.”

Marketing analytics helped the team develop a better understanding of the issues behind the disappointing campaign results. They analyzed the progression of leads, discovering where patients ended up. Cindy explained: “We did a lot of analysis initially to understand the gap between people who are coming in, asking for a consult, and then not having a consult. They're not getting what they needed. So, we worked a lot analyzing the data. So, 20% of the group who end up filling out a form, and then filling out a form again three weeks later, and then calling the contact center two weeks later, asked, ‘What is going on?’ ” Kim shared that there was a point about a year ago when “our senior VP said, ‘I want to know the disposition of every single damn patient that called or filled out a form and I want to know what happened to them.’ ”

The team had a direct, hands-on approach to the use of marketing analytics, and this learning-by-doing approach helped them learn and adjust. Laura said, “There's not a lot of formal training on marketing analytics here. You get thrown in, and you learn by asking and by asking again, and by getting the right people in the right room at the right time.”

Marketing analytics helped team members sort out information about the proton therapy marketing campaign and lead-to-conversion process in multiple ways. They used it to answer questions they had, but they also made unexpected discoveries – discoveries they would not have been able to make without the use of marketing analytics. There was so much data that they could not just look at it and learn. The team needed to have the tools to process and organize the information so they could learn from it. Cindy said: “The overlap between calls to the contact center and web form submits – I never once even thought to myself, ‘I wonder what that looks like’ until I started to look at this data and started to understand. I merged it all together, and then I saw a bunch of dupes. I said, ‘Why do I have a bunch of dupes?’ Did I do something wrong in my database?’ Finally I [realized] ‘that's because they called *and* filled out a form.’ Why would you do that? And that led to a lot of things that come into play to get a patient here.”

Team members were transparent about the results and used the marketing analytics to help guide their conversations with the clinical staff to say, “We're bringing in thousands of leads. I mean, we're talking 3,000, 4,000 people at this point. We're not converting a lot of them; let's keep working this,” said Cindy.

As the team dug into the analytics a little deeper and pulled data to follow patient leads, they discovered operational flow problems. Julie gave an example: “We would hand off a lead to [the triage nurse], she might call them back, and they might not answer. Now we have such data that we can say, ‘We know that we sent this person over.’ And we get – from our call center, and

often from the navigators – [information on] what happened with each patient. That’s really helpful because we read through all of the comments and say, ‘Here’s a hole, or here’s a gap, or there’s a pattern here’ that we need to either do something about or fix it with the operations.”

Donna explained: “When we were first doing our proton therapy, we found out there was only one person who was handling all these calls, and 90% of the calls were going to voicemail. So, we’re bringing people in, but it looked like we weren’t. It was really kind of digging down, looking at the data [and asking] ‘Where the hell did they go?’ ”

Ultimately, the analysis led the team to understand the leakage of patients. Due to the overwhelming number of new leads, the triage nurse was often unable to call patients back more than once. Since the triage nurse only made one call, if a patient was not home, the patient potentially fell out of the system.

Open and effective communication was an essential element of the ultimate success. Julie explained: “We kind of had this conversation with the operational leadership to say, ‘There’s an access issue. There’s something happening between people calling and wanting an appointment and them getting it.’ So, we’ve really begun that process of breaking down how to get people into the clinical areas.” The feedback from administrators, according to Julie, has been very supportive: “If we needed more resources the head of the department – the clinical chair of the department and the business development leads and the hospital administrators – were all just saying, ‘Tell us what you need. Tell us if there’s an extra resource that you need. Just get it done.’ ”

The findings from marketing analytics led the team to realize operational barriers were in place and to generate strategies they could institutionalize for operational optimization.

According to Julie, the proton therapy leaders and administrators are “very anxious and eager to

hear when there is a barrier like that.” She further explained: “Being able to track and assess what happened to each of those patients, and where some of the barriers were, was really important because we could identify [that] this isn’t about anybody not doing their job. This is just to say, ‘If you need something more’ or ‘If there’s something more we could add to this process to close the loop a little better, leadership is very interested in us doing that.’ ”

There was constant communication within the team, with outside vendors (including a leading software-as-a-service [SaaS] company serving the health care provider), and across the organization as the team interpreted the findings from marketing analytics. Kathy stated: “We share reports. We share some of the findings where we've learned, you know, it takes this many leads to get this many patients. We have a third party media buyer, so then it becomes an exercise with them to say, ‘Our goal is to drive this many leads. What is it going to take? What does our media buy have to be in order to drive this many leads so that we get that many patients?’ ”

As Kim explained: “Sometimes it looks like trends are going down, and you have to get the right people across entities and administrations to get [to], ‘Oh! Well, that's why they were down.’ So that you understand the reasoning behind it and – we don't have to freak out, or we do freak out because, you know, sometimes data aren’t just numbers.” Michelle agreed: “We have to discuss in various entities and groups and departments in order to understand the data correctly.”

The organization collectively understood the meaning of the information and its resulting opportunities for changing operational flow to increase conversions among the patient leads coming in. Julie said: “It’s like, wait a minute, that's a lead; you can’t just not follow-up on that person. So, we then used our call center nurses to place up to two or three phone calls just to

close the loop. And if they weren't able to reach (the leads), then we put them into an email-based nurturing campaign." She explained that the nurturing campaign was short, about a month, "because people with cancer, you don't want to nurture them for a long time."

Partnering with the call center and clinical service areas helped to ensure that leads were not being "left behind." Julie explained that there were many changes in process along the way in terms of how the leads were managed. Marketing helped discover and correct gaps in communications, such as when a prospective client called and reached the triage nurse's voicemail. Julie stated: "We were like, 'No, it should never go into voicemail; you should always have a live person on the line.' And so, they changed their process. If she wasn't at her desk immediately, it would go to two or three other people. It's just how you manage this process of being available and accessible."

To address the patient leakage, Marketing established an outbound call protocol using registered nurses (RNs) in the Contact Center to reach back out to individuals who expressed interest in proton therapy. The outbound calls significantly increased the conversion rate.

Because all of the data were available in the UMed CRM system, using marketing analytics, the team was able to modulate their investment and maximize their response in real time. Kim explained: "From all those learnings, we actually shifted our campaign triaging completely. We wanted proton to be what got them to call us, but if there was something else we could offer them, and likely there was, we needed that handled now. So we shifted from everyone coming through proton to a better way, we feel like, coming through disease. So, if you have lung cancer, you come in through the lung cancer nurse navigator. And if you happen to be right for proton, they're going to figure that out when you come in for your lung cancer

consultation because the radiation oncologist for lung cancer is going to be there and put you in. It was a shift , and you literally saw the call center volumes just shift in where they went.”

The team modified part of its strategy regarding handling the leads as a result of the analytics. Cindy explained that they discovered that when a patient was not eligible for proton, the system was losing them as a patient altogether. She asked: “Why aren’t we nurturing them? They might not be eligible for proton, but they can still get their radon treatment here. They can still get surgery here. They can still have other things here. Why are we losing them all together?” The analytics pinpointed gaps in patient navigation and patient communication. Marketing worked with other departments to “close some of those gaps so that we weren’t losing as many patients through the process,” Cindy stated. This was done by creating triage protocols to ensure patients were referred to the right treatment teams when proton therapy was not an option. Kim stated: “It’s a better patient experience. You get them where they need to go first.”

Phase two of the proton campaign focused on disease-specific marketing in order to create a better patient experience and help increase conversions across all treatment options. Starting with lung cancer and GI (gastrointestinal) cancer, the second phase featured proton therapy as a differentiating treatment modality. All leads were managed by a nurse navigator specific to the disease type. Initial results showed a higher conversion from lead inquiry to patient appointment.

The team designed the marketing campaign with trialability in mind. Once UMed eliminated the operational barriers, marketing analytics helped the team learn about marketing channel optimization and advertising yield optimization. Donna said, “A lot of it is kind of trial and error and learning.” According to Mary, “We cast the net pretty broadly with keywords, but then over time, we were able to narrow them. And it’s like a self-correcting process. But you cast

the net pretty widely, you see what performs, and you narrow it down. Then you optimize on those keywords, and then you really take those folks, and you target and re-target them and then try to increase a conversion.” Kathy added: “You could see for the first time all matched in one place these correlations where media was influencing media. It was a really complex multichannel campaign that really allowed us to see how each thing played a role and impacted the other.”

Marketing analytics allowed the team to assess “the whole proton therapy picture.” Kathy explained: “You could really see your total reach and total impact in one report, and it allowed us to also see which channels were most effective at conversion.”

Mary added: “This really was the first time that we were ever able to see, in one place, the full mix of impressions for media types by, in this case, week.” Kim shared: “It's this beautiful, funky graph, and when you first see it, it kind of hurts your eyes because it's got all these colors all these different kind of media outlets that we use, then our weekly leads that came in.”

The marketing analytics also helped the team learn about advertising yield optimization. Julie explained: “You can see the conversion rate. So, by [media] spending— which is really fascinating, you can see over a period of time. We spent a lot of money here, and then we started spending less and less money. Our conversions remained up here until a certain point ... then we had to go back out in the market with a bigger spend, and then the conversions picked up again.”

Marketing analytics also helped the team better plan for future campaigns, forecast results, and justify levels of campaign investment. Julie said the data helped the team be “very scientific” and “efficient” with spending. She explained: “You can track and see how long the halo of the mass media will last. And for that particular campaign, it was about a two and half-

month, three-month window. So, you don't have to spend that level all the time, but you know exactly when you have to go back up, so it was really kind of fun. It was a neat mixture of media types and marketing science, I would say, to get to a particular goal. A lot of analytics. They had a very defined number of what they're calling PROPS<sup>2</sup>. They have to present to the PROPS committee to see if this person was a candidate for proton therapy. So, they needed 25 PROPS per week, and we are averaging around 15 with our current level of budget spend.” She explained how the team was able to show the PROPS committee the math behind the results: “[We said] ‘If you really want to get 25, we have to back this up and get this to 150-per-week leads to get to 25 new starts. And that means if you just look at the dollar amount that we spent to get to the 15, the budget is going to have to be like \$2 million or something like that.’ And they said, ‘Okay.’ So, we did it, and sure enough, it was amazing. We got to 25. In that particular situation, we really focused on what the goal was and backed up what we knew in terms of the conversion rates at every point in the campaign and were able to come to a budget that would get us there and we did do that. So it was kind of exciting to say, ‘Hey, it worked.’ ”

UMed has made great strides in changing behaviors as it relates to the use of marketing analytics, but some physicians have been slower than others adapting to the new realities of making data-driven marketing decisions. According to Kim, “I think the challenges we've had to overcome in the last couple of years are moving away from this idea that Marketing – just, we tell you what to make. Go make a billboard.” Kim stated the Marketing team brings more value than ever before because it comes to the table “with data that actually means something to them and can help them do their business better.” Laura agreed saying, “Data win clinician support.”

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<sup>2</sup> ‘PROPS’ are people whose case evaluations deem them appropriate for proton therapy. The patient moves from New Patient Visits (all radiation patients) to PROPS.



Kim shared a story about being in a cancer service line meeting where the clinicians were highly engaged. “It's taken a really painful, long time to get them to say, ‘Oh, you're not presenting garbage. You are not presenting something to sell me. Using this [information], we can do something better,’ ” she said. The team is usually able to use the data to help make decisions, including budgetary determinations. Nevertheless, it can still be a challenge. Explained Kim: “We [Marketing] own the budget from a Marketing perspective. It comes from the health system and into ours. So that was kind of the push and pull today because there is an emotional piece in there. So, yes we do use the data to make a lot of decisions, but sometimes not all the data in the world can get people off a need for a billboard. No data is going to change that.”

Overall though, Kim said: “There's been a shift in tone. Now, we come [to the meeting], and the last time we were there, [the physician leader] bought us lunch. It was finding the data that connected the dots for them. We couldn't just come with marketing data. They don't care, and they shouldn't care. We were like, ‘Let us show you all this amazing data we can now get.’ But it didn't help them. When we started connecting, this is how we looked at this to impact your volumes. And when we started telling that story, it just resonated. When they realized that we were also being accurate with that they could trust it and then realize why we're doing it. Conversations on the cancer service line are much more robust now. It's not about ‘We need an ad.’ In fact, it's like 180s on some of these doctors: ‘We do not go market anything until we fix this,’ which is glorious. We don't hear it enough, but it's nice when we hear it.”

After each phase of the proton therapy campaign, UMed saves what they learn through marketing analytics with a description of what they did in a case write-up. This includes the corresponding results, along with a section called “Key Learnings” that includes

recommendations for future campaigns. Donna explained that it took “quite a while” to fix the initial problem of only one person handling such a large call volume, but “proton is very committed to making operational changes.”

In addition, UMed tells the proton therapy campaign story across departments and the organization. As a result, the people in the organization do not forget what was learned. In addition, said Kathy, “We’re probably going to do more of those [case write-ups] because we’ve set a template in place. And we’re starting to create those benchmarks for ourselves. Even though we don’t have as many as we would like, we’re building it. And then you can make sure your learnings aren’t lost.”

According to Kim, it took the team about two years to figure out how to tell the stories of this campaign. She explained: “We really stumbled the beginning. I think there was this pressure that we have all this data and this great CRM system, so we better show it. And all it did was infuriate clinicians and administrators ... not that there wasn’t analysis there, but we were trying to say, ‘Look at all the marketing that’s working.’ And they’re like, ‘Great, but my surgeries aren’t there, so I don’t care about all that.’” Kim stated the team had to determine “what data we use for what.” She explained: “So, we now have our indicator data. How’s the campaign going? Versus our attribution data, which is normally six to nine months after the campaign is going. And we now know we don’t make promises about getting attribution data a month into the campaign because you are not going to get that. But there are certain indicators: Are your patient visits up? Are the calls to the call center up? We also have learned how we tell that story.”

### **Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

More than 2,800 patient leads were generated and tracked by the Contact Center and online forms. Content marketing efforts resulted in Top Three rankings on Google Search for “proton therapy.”

### **Lagging Indicators: Resulting Business Performance Outcomes:**

Approximately 10% of all leads became new patients for proton therapy. This number continues to rise as prospects from the later stages of the campaign continue to convert to patients. There was also an increase in patients receiving other cancer therapies, across all cancer types. Said Kathy: “Analytics shows the results and sometimes our ROI will be based on 30 patients. So, the numbers are not big. Often what you get in return for just one patient can justify the cost of, at least, a portion of the campaign. You're looking at every lead as gold, and it's not about the sheer numbers; it's more about the quality of that lead. I think that was one of the big learnings and eye openers for a lot of people. It's like, ‘Wait, I can't go to my boss and say we did a great job, we drove 30 leads,’ which seems like nothing, but then, when you actually see how that converts into actual business, then you say, ‘Oh, okay. Well, yeah, you can have another million dollars around that campaign then.’ ”

## **VIII.2 APPENDIX B**

### **Case Study 2: Heart Transplant/Heart Failure Case Study**

#### *Developing a Patient-Centric Campaign*

## Appendix B

### Heart Transplant/Heart Failure Case Study:

#### Developing a Patient-Centric Campaign

The UMed Transplant Institute ranks among the top 10 transplant centers in the country. Heart transplantation is a complicated procedure, and UMed has one of the top three heart transplant programs in the nation. The service is part of the health system's transplant service line and is at the quaternary level of care. (See Tables 10 and 11.) This type of advanced medicine is closely aligned with the business and core mission. Transplantation is a covered expense for most insurance companies.

The Heart Failure Program is part of UMed's comprehensive range of heart and vascular services. UMed provides patients a continuum of care from early-prevention strategies to end-stage options. The Heart Failure Program is part of the cardiac service line and is at the secondary level of care. While UMed's overall business strategy focuses on advanced medicine – such as heart transplantation – heart failure care does directly align with the core mission. Insurance policies usually cover heart failure care.

A heart transplant (and subsequent heart failure) integrated marketing campaign was executed in four phases from March 2012 to Fall 2014, and ongoing. As part of UMed's business strategy to elevate and support advanced medicine, Marketing developed an integrated plan to market heart transplantations with two goals: 1. Build awareness of UMed's experience and expertise; and 2. drive new patient appointments for the Transplant service line specific to heart transplantation. The ultimate objective of the marketing plan was to increase heart transplant volume.

From the UMed provider perspective, the cardiac service line covers the gamut from heart failure all the way to end-stage options, with a hand-off to the transplant service line for heart transplantation. The marketing strategy was to promote the entire continuum of heart care services. Kathy said: “We ran a campaign with paid advertising – Google advertising – to a landing page. The landing page was trying to address a very wide audience because heart failure can be something you manage as just a part of your life, or it can be very critical. We were trying to address that whole spectrum with just one page.”

UMed had pulled back on its mass media advertising prior to the campaign to prepare for data-driven analytics. The year it began this project, UMed was ready to add mass media back to the mix, selectively. To create awareness and increase patient/prospective-patient appointments for a heart transplant, along with all the other services offered, Marketing implemented a multichannel campaign with trialability in mind. Kim explained: “We have to be really nimble with our dollars. So, we said we wanted to pilot a digital campaign and see what's out there. And, to be honest, we were a little suspect of it because we don't know a lot about that patient pathway.”

Television anchored the offline mass media campaign, which also included print and radio. The online (digital) campaign was highly integrated with the offline channels and included a website, SEO, SEM with PPC, display ads, video, CRM, and social media (Facebook, Blogger, YouTube). UMed also included a nurturing [email] campaign. UMed used a variety of marketing analytics tools while working on the heart transplant project, including Google Analytics, HealthConnect CRM, Tableau, and Webtrends.

Before UMed ever launches a marketing campaign, Marketing first analyzes accessible data to determine opportunity and direction. Mike shared: “It’s looking at data [to determine] is

there an area of opportunity? Or is there an area under competitive threat? And we start there. There's a lot that we can look at for how referral patterns happen and how patients progress through the treatment continuum, especially in heart.”

Marketing analytics enabled intuiting to occur on this project as the team was able to identify patterns. As Julie said, “We get [referrals] from a three-state radius, so it's very discrete. It's so hard to see patterns when you're only doing 60 of something a year.” She explained that the team looked at all of UMed’s heart failure doctors and used a population ratio to referral equation to determine the baseline and whether the referrals were growing or shrinking. “We had some markets that we could focus into an opportunity. [So we said:] ‘Let's see what the data says say around the competitor in that area, and then we can find who the splitters are there, and see if we can focus that information on a strategy for that particular market.’ ”

The messaging in the campaign was broad due to the breadth of the Cardiac-to-Transplant service lines. It was not a micro-segmentation strategy. Julie explained: “Heart failure is kind of a tricky one for us to get at, and we never thought it would be tricky. We didn't really know why they were a hard group to engage with. We were taking the approach of telling them everything we had in our heart failure program up to advanced VAT [Video Assisted Thoracic ] implants and transplants.”

The initial marketing campaign results were disappointing. Marketing analytics enabled the team to see that the campaign was generating few prospective patient appointments. The analytics revealed that although the campaign successfully drove visits to the web landing page, prospective patients were not converting.

“Nobody was converting on it,” Julie said. “I think we finally paused it [the campaign] in March, and we had maybe six people fill out the form requesting an appointment or consultation.

It was a hard conversion versus a soft [conversion]; download the guide or something like that.”

John said, “The [clinical] director is like, ‘What’s going on with heart failure? It’s not producing any leads, so what’s the problem?’ And as soon as someone asks, ‘What’s the problem?’ we start to dive in and really look.” Marketing analytics tools helped the team follow patients through the process (from a prospective patient through the procedure) to understand what was happening. The analytics enabled team members to interpret and share intuitions with others within the department and across the organization.

Numerous clues in the analytics helped the team identify why the campaign was not working. The team communicated with each other and asked critical questions. When they discovered that the landing page had a high bounce rate, they knew it was time to make some significant changes. “I think it was [a] 95% bounce rate,” Julie said. “People were getting there and then not spending time. It wasn't what they were looking for.” The team identified the need for content optimization and audience optimization, which led to segmenting the audience more finitely and changing the messaging strategy.

Kim said, “People were looking for ‘What is heart failure?’ and the landing page was all about converting ‘and you have heart failure, maybe you need a transplant.’” John explained: “We had good traffic, but there was a disconnect between what we were promising in the ads and what we were delivering. So we stopped the campaign; we took another look.”

The team examined in detail the keywords of the campaign. “People were not looking really for anything we had on the landing page,” John said. “They were looking for very general information, very Wikipedia-type, ‘what is heart failure, what is congestive heart failure?’ stuff. We didn’t have anything like that on the landing page. It was very [UMed, UMed, UMed], and ‘We are a program,’ and this and that.”



The team realized the strategy had been provider-centric rather than patient-centric. Mary explained: “Heart failure and transplantation: We talk about that as one clinical unit, but in terms of communicating to the public that doesn’t really jive. People live with heart failure for a very, very, very long time, and they’re not necessarily thinking about transplantation. So how do we develop that as a product? How do we communicate it to referring physicians? To patients? To caregivers?”

Open and effective communication was an essential element of the team’s ultimate success. The team members were transparent about the results, and while everyone was accountable for solving the issue, there was a commitment to learning, not blame.

Kathy explained: “All of the parties have an interest in the campaigns performing well. So, what brings us together is if the campaign is not performing from a conversion perspective. That is usually the metric that we care most about, we want that form completed – then everybody rallies around the idea of ‘What should we do different? What do we think would work if this isn't working?’ And that's what happened with heart.”

Reworking the campaign to include patient-centric language was critical. Donna said, “With cardiac, people call different things differently. That’s a challenge for AMCs [academic medical centers] because particularly working with clinicians, they want you to be really technical in your description. And then you’ve got the consumer on the other side, and it’s just like, ‘That’s doctor speak. I’m turning it off. I don’t understand. My heart hurts.’ You know, just [keep it] simple.”

The team collectively understood the meaning of the information and what needed to change. Kathy said, “We basically stopped the campaign, stopped spending money the way that we were and said, ‘we need to rewrite the landing page and change the strategy.’” The goals of

the project changed to 1. Build awareness of UMed's heart experience and expertise, and 2. drive new patient appointments for heart failure. Kathy said: "We turned it into more of a general heart failure campaign for that audience on the 'sort of managing it every day' side. Took out all of the stuff about transplant."

Cindy said, "We've done a lot of work around the clinical data to understand profiles of patients. We've really dug into understanding the patient persona, the average patient, so that we can do a better job of targeting our message and targeting the tactics that we have."

The landing page was transformed to provide information relevant to the keyword results from the paid search campaign. Kathy explained: "More general, like, the earlier diagnosed people. We made the landing page all about that. The first paragraph says, 'What is heart failure?' There are some very high-level points like that and then a guide to download all about the different ways you can treat heart failure and manage heart failure. It was answering the questions that people were asking."

The first month of the modified campaign saw better results than the six months prior, Kathy said, "because it just became very targeted. We took all of the transplant stuff out and pointed that to another campaign." She explained: "So, our strategy was, let's separate these two audiences. So we did; it completely changed the strategy and approach. We changed it from driving business to that advanced, highly-specialized heart failure care more to almost like a specialist or even general cardiologist level of bringing people in. And, again, it was just about that – because we knew there was an opportunity for that based on what we were seeing from search activity."

The team quickly noticed a reduction in bounced site visitors and an increase in conversions. John explained: "We had, I think, like 95% bounce on the last one, and it was under

1%, I think, conversion rate. We turned that around; we're at about 70% bounce and, four-point-something percent conversion rate. So, you know we are actually giving people what they are looking for. We are getting the right traffic. We [had been] trying to grab people that weren't looking for symptom information, and it was a very small bucket and we weren't getting them."

The health care organization's EMR, along with marketing analytics, helped the team process information about patient flow. Mike said, "What we can see very clearly is how patients walk through the different levels of care – where they start, what exact test they are doing, which leads to a particular diagnosis, what happens from the point where they get a diagnosis. Are they treated locally by a local cardiologist or is there something that causes them to be going down to a secondary or tertiary level of care? EMR also helps us watch referral patterns." Additionally, the team utilized patient preference data from the strategic decision support team in Finance.

UMed changed the strategy to create different targeted messages depending on where the patient was within the funnel. Julie stated the team focused on integrating the clinical patient process through the application of the marketing analytics. She explained: "Going back to the clinical team and saying, 'What are those key milestones in somebody's disease?' Obviously we were engaging people at the 'what is heart failure?' stage very early. Do they tend to stay on medication for a long time? What happens then? Can we begin to segment these audiences into newly diagnosed, versus, 'I've had heart failure for 10 years.' And if those are two different audiences, what are the opportunities for us to communicate with them? What other information are they seeking, and then work with the clinical team to try to experiment more and understand these people more."

UMed has made significant improvements in changing behaviors as it relates to the use of marketing analytics – both of marketing managers and physicians – although barriers to progress

can sometimes remain. Mike said, “My clients on the clinical side, they care about – ‘I was supposed to do 150 surgeries this year. I’ve done 90. I’m 60 behind. How are you helping me get those extra 60?’ ” This was the physicians’ top priority. “The effort has been to try to help communicate, down to taking all of the data that we need to make the decisions about what we’re doing, and communicate that in a way that’s relevant from a business perspective,” Mike stated. “And I think we swung the pendulum all the way over to here to say, ‘You know, the one thing we can report on is, let’s see if we can show clinical attribution, too. We did this campaign, so this patient showed up.’ So, ‘Yes, I understand your need to meet your volume goals, but can I now tell you about how we are getting there?’ instead of just answering. We have to show that we understand that all this has to drive down to the business aspect.”

The exciting result of the use of marketing analytics for heart was that the team completely changed the approach based on the information learned from the analytics. Kathy said, “The heart one was a good example where our strategy completely changed. From a business perspective, the goals were more to drive those more advanced heart failure cases, ultimately leading to driving transplant volumes, heart transplant volumes. When we realized that wasn’t working to convert in the way that we had tried it, we changed the strategy completely.”

After each phase of the heart campaign, UMed saves what they learned through marketing analytics with a description of what they did, corresponding results and recommendations for the future. [This document has] “been very helpful as we’ve tried to communicate internally as a team but also with leadership,” said Mary. Julie explained: “Sometimes we’re trying to tell a particular story, so we make the case study tell that story like, ‘This is an example of something we did wrong’ or ‘This is an example of a campaign

evolution.’ ” Mike stated that quarterly reviews with clients were helpful to him. He explained: “Seeing documents that were done for those quarterly reviews and saying, ‘What is it that we were saying about the program to our clients at that time versus what are we doing now?’ ”

### **Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

From the wrap-up report for the fourth phase of the campaign (February 2014—August 2014), the results were robust and continued the increase from phase-to-phase:

- Total visits to heart failure page: 2531
- Unique visits to heart failure page: 2,112
- Conversion rate: 4.21%
- Search clicks: 30,845
- CTR: 2.46%
- Facebook clicks: 6,444

### **Lagging Indicators: Resulting Business Performance Outcomes**

Kim explained: “The attribution based off of a portion of the spun off transplant campaign \$70,000 investment we got 11 patients. [The] contribution margin for transplant is high, so 11 patients, they were like, ‘This is phenomenal.’ Those are people that actually converted into the program. The transplant teams felt for a while they've been pretty frustrated. They haven't been able to get more dollars. As opposed to feeling like marketing isn't serving them, we said, ‘All right, we agree you need some more dollars. And we think this campaign is helping, if nothing else, from awareness.’ You could see on a monthly basis, they were exceeding their budgetary goals for transplants. They've had a couple really amazing months. So, transplant, we were able to go midyear and get an incremental amount of money to keep the campaign going. But it was by showing this case study and we had to work with them to do it.”

### **VIII.3 APPENDIX C**

Case Study 3: Brain Tumor Case Study

*A Hands-On, Learning-by-Doing Approach*

## Appendix C

### Brain Tumor Case Study:

#### *A Hands-On, Learning-by-Doing Approach*

The UMed Brain Tumor Center is recognized nationally as being in the forefront of the field of neuro-oncology and tumors originating in the brain. The Center's mission is to advance new therapies from the laboratory to clinical practice, and new research discoveries translate to innovative care and better treatment options for patients. The Brain Tumor Center is part of the health care system's neurosciences service line, is at the quaternary level of care, and is closely aligned with the business and core mission. (See Tables 10 and 11.) Health insurance plans will typically cover some of the brain tumor treatments, but the costs associated with treatments can be astronomical, and there are usually some out-of-pocket expenses for patients.

A brain tumor digital media campaign was executed in four phases from May 2012 to Fall 2014 and ongoing. The objective of the marketing campaign was to 1) educate people about why they should choose UMed for non-urgent brain tumor care, and 2) to increase new patient appointments at the Brain Tumor Center. Steve said, "We're looking to grow the brain tumor program here at [UMed] by attracting new patients. I think annually the amount of discharges is at around 4,000 brain tumor cases each year in the [market] area. So, it's a very small market."

There are more than 100 types of brain tumors, in different parts of the brain. Some are malignant; some are benign. "Even the benign ones can be difficult to manage just because of where they are located," Steve said. "So, our goal is to really help – through the digital ad campaign – educate folks as to why they should choose [UMed] for the non-urgent part of the brain tumor care continuum."

Steve stated the team was aware that patients experiencing a brain tumor likely are not searching online for treatment information initially. He stated: “As they are being rushed into the hospital when they are seizing, having a severe, acute neurological event ... they are not searching ‘I’m having a brain tumor.’ They're not thinking that. But, after they get their diagnosis, after they get to the point where they say, ‘Okay, how do I beat this? How do I overcome this? What are my next steps?’ That is where we are looking to get them into our system. Get them in front of our team of specialists.” As team member Mary said, “It’s not every day that you need a neurosurgeon ... thank goodness.”

Marketing launched a digital media campaign, built with trialability in mind. The campaign focused primarily on driving traffic to the UMed website.

In planning the campaign, the team knew that the strategies needed to be low-cost and targeted since the market is very small, and spending big money on mass media would not be effective. Understanding key factors about the audience helped drive campaign strategy. Kathy said, “We know that people who have brain tumors are often searching for the best care and willing to go wherever it takes to get the right level of specialist. Our strategy with brain tumor was [to] make sure that when people are looking online and searching for these things, that we have a presence both in a paid and organic way.” The team opted mostly to avoid social media for the brain tumor campaign. “I think we just assumed that that channel wasn't appropriate for brain tumor,” Kathy said.

UMed used a variety of marketing analytics tools while working on the brain tumor project, including Google Analytics, HealthConnect, Tableau, and Webtrends. Initially, the campaign had mixed results. Steve said, “It's a big funnel, right? And I think it's taken a little bit of time for us to really refine what that looks like. But there are some leading indicators, things



like calls to the contact center for appointment requests, visitors to the website.”

Steve explained that the end objective was to generate new surgical cases. Marketing analytics helped the team follow the flow from appointment requests and new patient visits all the way to surgical cases. Steve stated: “If I showed [the results of the first campaign] to you, you would've been like, ‘That's not all that impressive.’ We had one surgical case and five appointment requests. I was convinced, though, that based on the number of people coming to that page, that we had to get more out of that.” He explained that the health care system is “doing a better job” through CRM of tracking clinical attribution metrics. “So even though the first results didn't look good, I felt confident based on the 10,000-plus visitors that [we were] still getting the name out there and still finding ways to push the UMed Brain Tumor Center.”

Marketing analytics also helped the marketing director gather and use data from a variety of sources across the system. During the project, they gathered information from the digital ad campaigns, from the market in general, and from the clinical team to optimize the campaign for best results.

Kathy explained that the team learned from analytics the importance of quick follow-up with brain tumor patients. “You don't want to follow up a year later. I think in the original campaign, we were still learning about this,” she said. “We missed that window, but now we have an opportunity with the new campaign to follow-up very quickly. With IVF, you have time. We could follow up periodically over a couple of years. With brain tumor, you probably want to consolidate that to two, three months.” She explained that the team learned from “watching what works” about how and when to follow up with brain tumor patients.

After seeing the results from the first phase of the campaign, the team determined that a change in messaging was needed. Steve said, “With the first campaign we featured the co-

director of the UMed Brain Tumor Center. It was just his big 'ol mug right on there, and it just didn't feel right.” Based on the marketing analytics, “it just felt very focused on the doc,” Steve said. “We were asking people to convert by scheduling an appointment initially, and we were seeing that the conversion metrics were low.” The use of analytics helped the team “form a better and more complete picture about who's searching online.” “[That] has been very influential in guiding our thinking [and the] general strategic direction we're taking,” Steve said.

The brain tumor project managers were looking at the conversion optimization strategy. When they realized that a particular message was not resonating, they dug deeper to uncover the reasons why more appointments were not being scheduled. “Maybe they need more information. Maybe they are still in research mode,” said Kathy. The team spent hours reviewing the Google Analytics keyword reports, uncovering in-depth information about the specific terms being searched for related to brain tumor. Marketing analytics helped the team develop a better understanding of target audiences, specific terms to use, and key messages for each.

Analyzing the data prompted the team to make changes to the website landing page. Kathy explained: “The second iteration we [used] a team photo and the masthead. So, it sort of said, ‘There is a team of folks here to take care of you; it's not just about one guy.’ We also included a patient story. It was this really charming elderly couple. She was talking about her husband and what he went through with his brain tumor. It was actually really powerful. When you have others saying those kinds of things, it means a lot more.” Kathy stated the team then brainstormed ways to generate more conversions without making a direct appeal for an appointment request. “We said, ‘What if we offer them something?’ Can we give them something they'll fill out a form for? And so that's where the idea of the guide came in, and it's a really thorough, long guide about brain tumor and treatment options, essentially. We didn't really

change the key messages; it was still, ‘We are a great place to get treated and seen for brain tumor.’ But it was changing the call to action.”

The change in call to action was “good progression for that campaign,” Steve said. However, according to Julie: “We could not connect the dots very well. The numbers of the program were going up, and we seem to have driven a lot of activity. But it doesn't seem like many patients have actually ended up coming here because of it.”

The team discovered something important that could explain why: It wasn't necessarily the patient who called in. Steve explained: “We were finding there were a lot of caregivers. It wasn't the patient calling in: It was loved ones; it was family members.” “Now we ask if you are a patient or a caregiver,” Mary stated. “And that became important because when we would try to do the attribution analysis on the other end, with what campaign affects it, we very often couldn't match any names of people who came in through the campaign – they weren't patients. And that got us thinking, well, are they caregivers, even an adult child, perhaps, who did the inquiry? Maybe with a different last name? And so now, we've learned very quickly that it was about 50/50 caregiver and patient responding to the campaign.”

The team understood the meaning of the information and opportunities for better targeting of brain tumor patients. Cindy said, “It's figuring out who to target and what's the most efficient way to target because you don't want to cast too wide a net. You really want to be much more focused. You also need to consider in the past what's worked, what hasn't worked. It really varies by the specialty.”

Throughout the campaign there were many opportunities for “testing,” Steve said. “We tested in this last iteration sort of a nurturing piece. What we are doing now is sending an email within 48 hours of someone completing the form. We are pushing hard now the call to action.

Request an appointment, come in, let us build a rapport with the patient and their family members, as opposed to just sort of information seekers. So, it's that mindset, again, sort of subtle. The call to action, schedule a consultation, versus schedule an appointment; that's a huge difference.”

Google Analytics has helped the team refine the message. Steve gave an example: “Glioblastomas are also abbreviated GBM. We didn't have GBM anywhere in the landing page. If someone types in something in Google, the ad that shows up is going to receive a better quality score if the copy is matching up [with] what they're searching. So we started putting GBM into the copy. We started really calling out these specific tumors where before it was a little bit generic. In the first campaign, we talked about tumors as a sort of blanket, you know, ‘There are over 100 tumors.’ We started putting in these specific tumor types and found that they match in the Google search. So, that was an important lesson for us, and I think this is an important tool to help us think about ways to more accurately bring in the folks we want.”

Steve summarized that the team’s direct, hands-on, learning-by-doing approach to the analytics helped the team improve the campaign over time. “I think we are able to better harness the profile of the individuals who are coming to the UMed page,” he said. “The analytics piece has been huge. Having the data and analytics to help form a better and more complete picture about who's searching online has been very influential in guiding our thinking for knowing the creative, content, [and] general strategic direction we're taking.”

## **VIII.4 APPENDIX D**

### **Case Study 4: Bariatrics Case Study**

*Social Listening Helps Craft a Patient-Centered Campaign*

## Appendix D

### Bariatrics Case Study:

#### *Social Listening Helps Craft a Patient-Centered Campaign*

Bariatric surgery affects people from both a physical and emotional perspective. Patients typically have an extended eight-month conversion to surgeries, and during that time, are often influenced by a variety of people. As a national leader in weight-loss research and clinical trials, UMed offers patients access to the latest bariatric surgery options at the forefront of innovation. Bariatrics is part of the health care system's surgery service line, is at the tertiary level of care, and is closely aligned with the business and core mission. (See Tables 10 and 11.)

Since bariatric surgery is an elective surgery, it is pre-arranged non-emergency care. Some insurance plans do not cover weight loss surgeries, meaning it is the responsibility of the patient to cover the costs. UMed felt they had an ample window of opportunity to engage with potential bariatric patients and developed a marketing plan with two goals: 1. Increase attendance at information sessions, and 2. drive new patient appointment volume. A bariatrics social media campaign was executed in five phases from March 2012 to Fall 2014 and ongoing.

The UMed team retained a leading SaaS company serving health care providers to assist with the development of a social media strategy for the first phase of the campaign. They designed the marketing campaign with trialability in mind. "The first phase was all social media, no paid advertising, no offline or online paid advertising," Kathy said.

Social media was used to engage online with people in the community around the topic of bariatric weight loss surgery. This strategy was also selected as a way to aid in softening the market before launching the paid media initiatives. In the second phase, bursts of paid media

were added in, while the social media remained constant.

Mary said, “We used Blogger and our own care providers to participate as experts, not to sell, but to participate and educate, and we had outstanding results from that campaign. We were involved in online communities consisting of people who were specifically talking about and interested in weight loss surgery and bariatrics.” Kathy stated: “Twice a day, we were writing blog posts and posting them, and not just disseminating them through an RSS Feed, which we had, but also going out and putting them in different places where people could access them. And then the blog was linking back to that social media landing page.”

Social media channels used in the marketing campaign included Facebook, YouTube, Blogger, Twitter, and Pinterest. Other media efforts used in bursts included print, television, website, and information session events.

According to Kathy, during the first phase, the team joined the online community to “find out who was talking about things, and then plant links back to a social media landing page [where] people could find information about health, weight-related healthy topics and programs and offerings.” Consumers were then encouraged, as the conversion continued, to sign up for a bariatric information session.

The campaign’s landing page was more focused on information than sales, Kathy said. It also included opportunities for consumers to engage, such as through a bariatric-specific Twitter feed and Pinterest. In addition to softening the market prior to paid advertising, the goal of the first phase was to “get an understanding of what people were talking about what kind of activity we could generate back to the page,” Kathy said.

In the next phase of the campaign, they launched paid online advertising to complement the social media. Kathy explained that the service line leaders were “very engaged in the

process.” “[They] gave us some freedom to move forward with this blog writing. We had an assigned writer and community manager, and she had direct access to the right people. She would go directly to the doctor or to the clinical manager or whoever it was, make sure they were on board with what we were going to do, and then come back and report that to both the web team and to the marketing team.”

UMed used a variety of marketing analytics tools while working on the bariatrics project, including Google Trends, HealthConnect, Radian6, Tableau, and Webtrends. The analytics showed that the initial marketing campaign was successful in educating prospective patients about weight loss options and UMed’s bariatric surgery program, with increases in multiple marketing performance outcome metrics. Twitter followers, Facebook “likes”/friends of fans, and blog page views all increased.

“We saw a pretty significant increase in calls to our call center around bariatric surgery,” Kathy said. “The digital ads and the social were running at the same time, which led to another pretty significant increase in the web conversion opportunities. So web form completions for appointment requests and information session requests and then also calls to the call center and then it kind of just leveled out and stayed steady for a long time.” As Julie explained, the “social listening” component of Phase One helped the team build an effective content plan around the conversations of real-life patients.

A telltale sign of the campaign’s success occurred when it ended. “When we pulled out of the social conversation, and then digital media stopped running, it just plummeted back to where it was before,” Kathy said. “We could see the ROI from that effort, and I think it was like a 6-to-1 ROI.”

Using marketing analytics, the bariatrics project managers tracked results and saw that



the launch of social media efforts at the beginning of the campaign helped create a resulting lift in the leads. During the pre-test (six months), the bariatrics program averaged 20 requests per month. After the launch of social media efforts (six months), the number of requests increased to an average of 40 per month.

With a great deal of unstructured data, the team relied on tools such as Radian6, a social media tracking tool, to process and organize the information so they could learn from it. Kathy said Radian6 allowed the team to understand what people online were talking about regarding weight-loss surgery options. “It's a level of insight that we can have now that we could never have before,” she said.

Such marketing analytics helped the team develop a better understanding of their potential bariatric patients, which allowed them to optimize the digital channels and campaign content. UMed used Google Trends and Radian6 to evaluate where conversations were occurring and what topics were trending around bariatric surgery. Understanding the conversations helped UMed focus on a micro-segmentation strategy, learning which content would appeal to potential patients and which social media sites to use. Marketing analytics allowed UMed to analyze marketing activity, online behavior, and engagement as well as pull patient data, billing, and insurance information together to show true ROI.

With a six- to nine-month lag between the lead generated and a potential surgery in bariatrics, the team had to be patient for the true ROI results. Julie explained: “We just saw this spring the results of our social media efforts and digital campaign, and the chair of surgery was like, ‘Gosh, what’s happening with Bariatrics? It’s exploding this spring.’ Well, that’s the work that we’ve been doing for the last year and a half coming to fruition.”

Each team member had a hands-on approach – learning-by-doing – and was able to

identify patterns and escalate their individual learning curves. Mary said, “We’ve been running the [bariatrics] campaign in several phases now, and in each phase, we learn something about the messaging, the call to action, the design, the content of both the marketing – the display ads, the keywords, the optimization around the keywords, how people react to a landing page, how it fits with the whole media mix – and then what the results are – how people respond, how many people make appointments, how many convert to surgeries or whatever the case may be.”

Marketing analytics helped the team pinpoint what was and what wasn’t working. For example, efforts to engage on Twitter were not as successful as Pinterest. Kathy elaborated on the success of using Pinterest: “Where there will be pictures of some sort of food item [for instance] a pumpkin pie that’s five calories ... a lot of people clicked on that. [Pictures of] food or weights or somebody’s dress size or something like that have been a new and a different engaging way to get messages across.”

The team also made an important discovery while working on this project. Said John: “I look for irregularities. Bariatrics has a good story. So, when Chris Christie announced that he had bariatric surgery, we saw a big spike in our bariatric lead requests, and we saw the spike before we really made the connection, and we were like, ‘What is going on?’ And we didn’t do any other marketing anywhere. We just saw this big jump.”

John explained that Google Trends helped them discover what had led to the increased numbers that day: “I searched lap band surgery or whatever he had, and I saw that the traffic for that day was just through the roof. I think in that case we were in the perfect spot because we had a campaign in the market; we were buying that keyword. We had a lot of money. We had maybe \$300, \$400 we were paying a day on it. We were in the right place at the right time for [that] traffic to happen.”

A lightbulb came on with that discovery. John stated: “It got us to think about Angelina Jolie had her BRCA [breast cancer] thing in the news, and we didn’t have the money to jump on that. I think we missed an opportunity there because we do have the [named] Research Center, and we needed that agility to kind of just turn it on today because we knew that there were going to be people searching for it.” The bariatrics project provided the team a great example of the importance of staying on top of current, relevant events and using that information to buy keywords strategically.

The team interpreted and shared their intuitions and discoveries with others across the organization. Kathy explained: “There’s so much collaboration, and [UMed] is such a big place, it can be tricky sometimes. First off, there’s a ton of collaboration just between the marketing team and the web team. Even though we all report to the chief marketing officer, we do have separate teams that are run separately with separate directors. The collaboration effort is not as easy as it might seem because we have to be very purposeful about connecting and make sure we are on the same page in the goals.”

As the idea of connecting current, relevant media topics to services the health care system provides was shared across the team and the organization, integration started to occur. The team collectively understood the meaning of the information and the resulting opportunities for bariatrics and for the organization. John said, “Things in life come up, and we want to be there if we’re not there already. Luckily, we were there for bariatrics, and we had a bunch of leads, thanks to Chris Christie and his announcement. But it got us thinking about just the whole world and having an ear in the news. PR [Public Relations] is probably our best ally.”

The team is now making a strategic effort to discuss how current events can complement a campaign. Kathy said, “It’s huge in terms of informing content strategy because you can really

see though people's conversations where people have gaps in knowledge or the kinds of things that they're looking for in a way that you couldn't before.”

Through marketing analytics from the bariatrics campaign, the Marketing team is better equipped to plan future promotions, forecast results, and justify levels of marketing investment. Kim explained: “There's a whole kind of path and a timeline associated with that. We know that normally after someone comes to a [bariatrics] consult, about six to nine months later, a percentage of those people get surgery. We were able to use that and then literally look at the calendar year and trend new patient visits to when we had the campaigns on and off. So, if we were running a campaign in June, you could expect that in spring we were going to be doing well surgery-wise.” The forecasted data presented an opportunity for the team to ask for more funding to continue the marketing campaign. “We presented the case to Administration, and it was clear to us that it was one of those campaigns that we should just never turn off,” Kim said. “Some campaigns probably make sense to pause, but there was a never-ending need. [There was] an immediate drop in volume the second it went off. While we picked up some organically; showing that to the clinical teams and showing it using their clinical data with our marketing data, I think they've drunk the punch. They do not want the campaign turned off because they see the value in that.”

After the success of the bariatrics campaign, a “social listening” component is now being utilized for other campaigns. Kathy stated: “We're going to be monitoring conversations that are happening around those particular topics, monitoring what our competitors are doing and saying, and see if there's any sort of competitive advantages.”

The team saved what it learned from marketing analytics through each phase, along with a description of what everyone did, the results, “Key Findings” and recommendations for future

campaigns. Moreover, Kathy said, “It’s all written down and saved. The landing page is there. All the pieces and parts are there. The keywords are saved, and we already created it, just keep it going ... all the assets are there, and you just hit play and go.”

In addition, UMed tells the bariatrics campaign story across departments and the health care system. As a result, what was learned is not forgotten. Mary explained: “It’s not uncommon for us when we’re walking in the halls, especially down at [the hospital] or at the [named] Center, where faculty will see one of the marketers, and they’ll say, ‘Can you turn that campaign back on?’ Bariatrics is a good example. We call them spigot campaigns or faucet campaigns, because we see that when we pause or stop, the leads dry up. When we turn them back on, the leads go back up, and a lot of our case studies show that.” “It is a magical campaign,” said Kim.

#### **Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

The launch of social media efforts at the beginning of the campaign helped create an overall lift to the leads when paid digital and offline media were incorporated.

- Baseline pre-campaign: 20 requests per month
- Social Media: 40 requests per month
- Social Media + Digital Media: 87 requests per month
- Social Media + Digital Media + Mass Media: 121 requests per month

#### **Lagging Indicators: Resulting Business Performance Outcomes**

John said, “[The bariatrics] metrics are great. [They are] pumping in leads, so we’re just going to leave it be, but we could make it better if we tried. But there are other campaigns that are flailing, so they require more attention.”

## **VIII.5 APPENDIX E**

Case Study 5: IVF Case Study

*Joining the Online Conversation*

## Appendix E

### IVF Case Study:

#### *Joining the Online Conversation*

UMed has pioneered the development of new and innovative approaches to managing infertility and is a leader in reproductive medicine. Having a high success rate, in vitro fertilization (IVF) is frequently used as a first line of treatment for infertility. IVF is part of the health care system's fertility care service line, is at the tertiary level of care, and is closely aligned with the business and core mission. (See Tables 10 and 11.) IVF, typically considered elective, is pre-arranged non-emergency care. As such, some insurance plans do not cover IVF, so it is the responsibility of the patient to cover the costs.

An IVF social media campaign ran in five phases from November 2011 to Fall 2014 and ongoing.

Full ascription of ROI on an IVF patient cannot be attributed until the patient has had the baby and been released from the hospital. From a business perspective, a long delay from the time a marketing campaign launches until a patient is admitted to the hospital is a communication challenge with the service line. Even the patients who enroll immediately "are no less than ten months out from actually having an admission. And that is if you get pregnant on your first appointment," Cindy said. The ability to effectively track someone through the process of being a prospective patient, to patient, to delivery, is important.

The Internet offers a growing stream of medical information about IVF. The anonymity possible on the Internet provides people with the opportunity to open up and ask for formation regarding very sensitive and private health issues, such as infertility. Additionally, potential IVF

patients tend to feel comfortable within the company of others who understand what they are going through. UMed felt that this online IVF community provided a window of opportunity to join the conversation. Marketing developed a strategy with two goals: 1. increase engagement with prospective patients who are in the research, exploration, and engagement mode of IVF, and 2. drive new patient requests for consultation/appointments.

The IVF social media project was one of UMed's first explorations into micro-segmentation, digital marketing, and marketing analytics. Mike explained: "The IVF community is online and is social, so our goal was to try to have a lot of the channels activated. People are researching, and we wanted to have blog content if people were looking. We wanted to have comments on Facebook. We have had the same campaign for IVF running intermittently for two and half years. We refer to it as different phases. The first phase was really at the very beginning of [UMed] doing digital campaigns. In fact, IVF was one of the very first campaigns and we were cutting our teeth."

Marketing implemented a promotion that started as a social media campaign and then added a modicum of mass media and nurturing to the mix, analyzing results through each phase. The digital campaign included a website landing page, SEO, SEM with PPC, display ads, video, CRM, and social media (Facebook, Twitter, YouTube, and Blogger). Offline media – print – was used intermittently, as was an email nurturing campaign.

The marketing campaign design kept trialability in mind. Adjustments have been made along the way. Julie said, "So, the media mix question is, even if you take something away that you don't feel is quite as impactful ... it's not as easy as that to say, 'This one drove more than this one.' It's really about looking at the synergy of those tactics together."



UMed used a variety of marketing analytics tools while working on the IVF project, including Google Analytics, HealthConnect, Tableau, and Webtrends. Marketing analytics helped the team process information for preplanning the campaign, such as selecting target audiences. Later, marketing analytics enabled intuiting to occur as team members were able to identify patterns and both high-level and front-line data.

Kathy stated the analytics helped the team present clinical attribution and reconciliation from the various “channels” of the campaign. She explained: “There's an email marketing component. There's a landing page. There's just website content, and now we're really focused more than we have been in the past on the blog and content strategy around the blog content. We're measuring and looking at all of that. So, from the initial stage of acquisition, someone searching for something, if they land on the landing page, what do they do? How do they do it? How do we benchmark? So if the last six months people have been converting at a certain percentage rate, how do we keep improving upon that? Then ... when the forms are completed online, or people call to the call center, how do we reconcile that against actual activity in the system?”

Mike said the hope originally was for patients to see the digital landing page and sign up for an appointment right away. “Based on the response of that first phase, it was recognized that that is not the mode that patients are in,” he said, “There was a good amount of time spent on the pages, so they are reading the information. There was good click through, so it was relevant to the customers that [we] are going for, but it wasn't taking the action of ‘let me sign up for an appointment.’ And that's where I think [we] recognized the difference between the first phase and the second phase was the inclusion of a very strong nurturing component.” Kathy explained:

“Some of it was just intuition. But also, we were faced with social being such a big component of searchability now. And things that work in social environments are topics that are relevant, valuable, conversational (sort of at the same level that people talk), have search engine optimization-friendly terminology -- things that people are searching for.”

The initial marketing campaign successfully increased engagement with prospective IVF patients but could have been better. John said, “The one component we really didn’t use [in the first phase] that we probably should have was a Facebook component. In IVF, in particular, it’s been a pretty good lead generator that you don’t really see in other campaigns. We looked at Facebook Insights, and we saw that the demographic there was perfect for IVF for our audience. There was a higher engagement in those demographics that we were looking for.”

Marketing analytics helped a team member realize the importance of original photos to optimize content. John said, “We used a stock photo for one of the pictures. Someone recognized [the actress] in [the photo], and they had a little conversation in the comment section about it. So we can’t have stock photos anymore; we need actual people and actual photos.”

Marketing analytics helped the team interpret and share intuitions with others across departments, across the organization, and with outside partners. Mike said, “We talk about and walk through with our digital partner all of the analytics that we have. So, we are looking at bounce rates, click-through rates, keyword performance ... looking at it in diagnostic evaluation of what’s happening.”

The team also learned from marketing analytics how to optimize media channels and advertising yield. Julie said. “We started with a pretty traditional digital campaign and added some nurturing onto it. And then we, on occasion, added in some mass media, maybe some print advertising.” She explained that in the most recent phase, the team used social media without

mass media and was “able to drive even more leads. It worked really well and we found we didn't have to do the mass media at all,” she said. “We could augment, grow, and make even better use of the assets through social media than we did through expensive mass media. So, that's an instance where we really did shift the media mix to a more efficient one and created better results for that particular campaign.” Donna added, “Placing Facebook ads was really, really successful.”

Kathy explained how the team studied the online traffic, length of time spent on pages, and how potential patients engaged. Then, for those who engaged, she explained: “We're often going back out to them with email campaigns. Are they opening the emails? Are they not opening the emails? Blogs – are people looking at them?” The team changed its blog strategy based on the analytics. “Talking about ourselves as the experts didn't prove to be as interesting to people as how to deal with hard conversations around infertility, for instance. We changed our blog strategy to be more about topics that we know are interesting and beneficial to the IVF community,” Kathy said.

Respondent profiling helped steer the team toward particular search terms. Mike explained: “We basically created a bit of a digital picture based on what we can gather from the information that they readily supplied while they're searching.” With detailed customer insight, such as the knowledge that potential IVF patients tend to have pets, the team had a more accurate patient profile.

The success of the IVF project was, in part, a result of effective research, in particular about the patient profile. Cindy explained: “A lot of analysis early on to understand how long it takes for somebody to actually end up being a profitable patient. It takes a long time because

they go through a lot of treatments. So, we're trying to learn more and more about these IVF patients.”

Communication amongst the team was also a critical component in successfully onboarding a new marketing director and getting the director up to speed on the IVF project. The team’s direct, hands-on approach to the use of marketing analytics and learning-by-doing helped him learn and adjust. Mike said as he asked questions, team members explained, “Well, this is what we did last time, and this is what we’re going to try new this time.”

The team collectively understood the meaning of the information and opportunities. Mike stated: “It was recognized (that) the difference between the first phase and the second phase was the inclusion of a very strong nurturing component. So, it was, ‘Let’s adjust the landing page a bit to show we’re still providing relevant information. What does a fertility care program look like? What is involved in the overall process? How can I still get some of that information and then sign up to be on a newsletter that will give me regular updates?’ From that standpoint, we went from, ‘We’re looking for them to hopefully sign up and come in’ to ‘Let’s gather them – let’s guide them through that particular process.’ ”

Mary explained: “In our first three phases of the IVF campaign, with essentially the same amount of time for the digital campaign and the same amount of money for a digital spend, our conversion rates went up significantly by the third phase. And it was really that we learned how to optimize things like keywords. We learned how to optimize the look of the landing page. We learned how to be better at tracking inquiries from the integrated Web form as well as from the Call Center. We learned how to script things both to email, as well as with our Call Center, to move to conversion to request an appointment – those kinds of things.”

John explained how \$2,000 in Facebook marketing generated 25 leads: “We don’t expect much from Facebook. It’s more awareness, more first interaction, but a lot of people were digging it, and they were signing up for [the] fertility chronicle. So someone signs up; they have the option to make an appointment, but they’ll sign up, and they’ll get emails, really patient stories depending on what criteria they filled out on the form. So, it’s relative to them but a lot of people signed up for that – again, 25 leads. I think we’ve found a gem in Facebook.”

Donna said: “IVF is one of the campaigns [the chief marketing officer] refers to as a ‘spigot campaign.’ They were getting really high volume during the campaign. Then they needed to turn it off, and then turn it back on because they can’t accommodate the appointments which tend to be a problem here overall. It’s probably not unique to AMCs [academic medical centers] in general.”

Marketing analytics enabled the team to put learning into action from phase-to-phase of the campaign, modifying along the way. Mike explained:

- From Phase 1 to Phase 2: “We learned that we had to put in a nurturing component.”
- From Phase 2 to Phase 3: “We were able to dig a little bit more into understanding patterns of how searches were happening. And, that again, is in the optimization of the content standpoint. It is an amalgamation of ‘what (are) the keywords? What’s causing an action that makes them click through to additional information?’”
- From Phase 3 to Phase 4: “We recognized the need that (a) we had a relatively high competitive push in the marketplace. But (b), it was more if we could get into areas where we could generate a little bit more interest or areas where we anticipated people.

The discussion around IVF was happening offline; get there with some very targeted

media, we might be able to draw those patients into our conversation and looking at our landing page.”

- From Phase 4 to Phase 5: “The marketing analytics were drawing us to ‘We’re at the right place when they’re in the activity of looking for information, but are we at the right place when the conversation is happening?’ Ultimately in this fifth phase, we’ve gone much heavier into the social side because we recognize that infertility is an ongoing discussion, and there’s stress involved with it. There is try and fail and all of the things that go around fertility. It’s a conversation that happens not just when I’m looking for information about who’s got the best fertility program or, frankly, even pricing information. We have to start where they are starting their conversation.”

Marketing analytics helped the team develop a better understanding of volume and expectations. Marketing analytics also enabled financial model optimization. Mike said, “I can tell you, the next time we run it, ‘Okay, we spent \$180 per respondent this time. Is there a way that we can either spend less to get the same number of respondents or spend at the same level and increase our number of respondents?’ So that’s another way for us to evolve how we are doing this.”

After each phase of the IVF campaign, UMed saves what it learned through marketing analytics with a description of what everyone did, corresponding results, and recommendations for the future. Kathy explained that all of the details of the campaigns are saved as well: “The landing page is there. All the pieces and parts are there. We’ve made little tweaks along the way ... we’ve made those kinds of changes but not a lot; it has pretty much kind of stayed intact.” A campaign wrap-up report, as well as quarterly reviews with clients, helped the team understand the impact of the campaign’s evolution.

Also, after seeing the results based on the use of marketing analytics, they have invested in promoting a web team member to focus on marketing analytics, someone with significant expertise in that area. “He has now been placed in this position to be able to support all campaigns, to take our diagnosis or dissection of what’s happening to another level,” Mike said.

Kathy explained: “In the future we’ll be actually doing even more analytics around social listening, so we’ll be monitoring online conversations and seeing what people are saying. Are they talking about hard conversations around IVF, for instance, and if so, maybe that’s a content opportunity.”

The chief marketing officer regularly makes presentations to the senior executive team to ensure learning across the organization. The case studies and dashboard reports help facilitate understanding across the various teams.

### **Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

The marketing campaign for IVF has been consistently successful in each phase of the campaign. Mary said, “We’ve done five phases of our IVF campaign. I think when you do one phase or one campaign, you might have something interesting to show and to share. But what we’re seeing is the learnings over time. And IVF is a fascinating example of it. The management and the success of the campaign have gotten better and better and better over time. We’re better at knowing what keywords work, (which) don’t, what call to action works, what about nurturing in terms of how the outbound email communications work, how to fine tune it. What about adding social? How does that work?”

UMed implemented email nurturing through all five phases of the IVF campaign, and the results were impressive: total emails delivered, 20,000; total opens, 6,000 (20%); appointment requests directly from email, 45.

Phase Five of the IVF campaign ran for nine weeks from April 20, 2014 to June 23, 2014. The results were strong: conversions/members, 250; conversion rate, 5.43% (the highest of all five phases); total landing page visits, 5,797; unique visits, 4,607; CTR (click-through-rate), 0.43%. Mary said, “Each phase ... on average, they are three-month campaigns. It’s about 3,000 to 4,000 landing page visits in a three- to four- month campaign. But here’s where it gets really interesting, how our respondents per week have quadrupled with essentially the same financial investment for each campaign. But what we’ve done is we’ve gotten better at campaign optimization and nurturing, and if you take a look at the cost per acquisition, it has gone down significantly by about two-thirds.”

**Cost per Acquisition:**

- Phase 1: \$370
- Phase 2: \$270
- Phase 3: \$268
- Phase 3 (extended): \$257
- Phase 4: \$183
- Phase 5: \$170

**Lagging Indicators: Resulting Business Performance Outcomes**

John said, “We projected about 92 [leads]. So, I think the philosophy, too, of these campaigns is to do better than your last phase. We totally crushed that projection. We’re over 200 leads right now with that campaign.” Mary added: “And so the response rates and appointment rates, and then, ultimately, the number of IVF cycles, have gone up a lot.”

**Requests for consultation/appointment:**

- Phase 1: 47
- Phase 2: 95
- Phase 3: 81
- Phase 3 (extended): 193
- Phase 4: 124
- Phase 5: 200+



Marketing analytics enables data-driven conversations about the value of analytics to sharing ROI results. Donna said, “It’s very, very important, and I think because marketing has always been really kind of a squishy discipline, in terms of looking at our ROI. Because it’s not like you’re selling widgets. And in all my years here, people say, ‘How do you know these people wouldn’t have come anyway?’ It’s proof. So they want us to keep doing more because we’ve really now demonstrated that we can bring the patients in because when we stop doing it, the patients don’t come. It’s really exciting to now be able to say what you know intuitively is working, but [it’s] just really hard to prove. It’s like, ‘Now we can prove it. Now we can really show we know what we’re doing.’ ”

## **VIII.6 APPENDIX F**

### **Case Study 6: PCP Finder Case Study**

*Developing a Community Strategy around Primary Care*

## Appendix F

### PCP Finder Case Study:

#### *Developing a Community Strategy around Primary Care*

A strategic imperative for UMed is primary care. UMed's network of primary care providers employs approximately 150 physicians at more than 30 locations throughout the 18-county region. A primary care provider (PCP) is a health care practitioner who sees people in non-emergency situations. PCPs help patients maintain overall health by focusing on preventive care. Many insurance plans cover the cost of primary care but limit the providers one can choose from, or provide financial incentives for one to select from a specific list of providers. As the health care industry evolves to a new pay-for-performance model, a primary care network that can acquire, aggregate, and manage the health of a population will likely provide significant strategic advantage. That level of care starts with getting people in the door at a primary care physician's office, often before the individual even has a health concern.

Beginning in May 2013, Marketing created a digital media campaign to help increase primary care patient volume, thereby increasing the health care system's competitive advantage overall. The team launched the UMed Primary Care Physician Finder (PCP Finder), a website where consumers can easily search for a primary care physician by geographic location. The principal goals were to 1. increase awareness of the many convenient office locations around the market, and 2. generate appointment requests.

Before the campaign launched, pre-planning helped determine the most strategic approach. Team members stated the idea of building a community strategy around primary care was essentially a new concept. Though, of course, the health care system had always had a

network of PCPs. With a window of opportunity to create awareness of PCPs and increase appointment requests, the team determined that generating traffic was a primary goal. Mike said, “If we believe, which we do, that [primary care is] where the funnel starts ... we need to be doing what we can to get patients into those offices.”

The digital marketing campaign was launched with trialability in mind. Potential patients were invited to engage in searching for a nearby physician or downloading a guide on “How to Choose the Best Primary Care Physician.” Tina said, “Our messaging point was really that ‘We’re in your neighborhood’ but then also a lot around choosing a primary care physician, really emphasizing [that] the relationship that you build with your doctor is important.” One of the key messages of the campaign was “Don’t just choose a doctor; choose a partner.” The home page of the PCP Finder website featured individual physician practices and an easy-to-use search tool that allowed prospective patients to search by location and other factors.

Drawing engagement from potential patients was done with a nurturing (email) component. Email nurturing used marketing automation technology that was “potential patient”-centric to generate leads and convert them. Marketing used the intensely data-driven automation to continue the efforts of the digital campaign through ongoing email nurturing. The goals were to 1. ensure individuals did not drop out of the appointment funnel, and 2. ensure potential patients had continued exposure to UMed’s primary care offerings. The team used marketing analytics to map the patient nurture journey.

Kathy explained the elaborate logic behind the email nurturing analytics: “If someone came in and downloaded a guide, they’re going to get [one] message. If someone came in and requested an appointment but didn’t actually follow up and get the appointment, they’re going to get [a different] message. And then based on the way that they respond to those messages, they’ll

get different messages. There was a sort of three-level deep chain of email correspondence that was very logic-based depending on the way they responded to us.”

The campaign evolved into a true nurturing campaign, David explained, beginning with a “soft call to action” and resulting in a third email where an individual signed up directly through the landing page. Christine explained that content was based on individual audiences: “The content of each nurturing email was targeted toward a specific group. We determined the segments and then determined the content.”

The content changed throughout the year, and as relationships with prospective patients developed, a social component was incorporated. The campaign started with paid media. “Now, we are trying to build relationships using our blogs, Facebook, Twitter,” David said. “And together that really has been pretty successful for us.”

UMed used a variety of marketing analytics tools to measure the success of the PCP Finder project, including Google Analytics, HealthConnect, Tableau, and Webtrends. The initial performance outcomes were mixed. Compared to industry standards, the PCP Finder campaign “had a very surprisingly high open rate,” Mary said. “It was double what they would have expected.” In addition, the blog posts “were really successful for us,” David said. “With each post, we were reaching about 300,000 people and getting a lot of engagement.”

Physician involvement was one factor that helped the campaign. Christine stated that a female physician volunteered to write a blog post every month on a topic of her choosing. The team prepared it for the web then posted it along with her name, photograph, and practice information, utilizing Facebook and Twitter to push it out to consumers.

Even though the digital statistics from the campaign were acceptable, conversions were not. Marketing analytics enabled intuiting to occur on this project as the team could identify

patterns that told a story. Cindy said, “PCP Finder was not telling a good [business performance] story from the beginning. We weren't getting high conversions; we weren't increasing volumes. So, we started looking at new patient visits.”

Looking at operations data showed that some areas were doing better than others. The team noticed that call volume was going up in some areas, but the operations volume was not increasing. Tina explained that the team then began utilizing a short survey to understand better why the targeted consumers did not make an appointment. The survey also sought information on how the team could improve the consumer experience.

The analytics and survey results helped team members develop a better understanding of patient pathways and primary care physician referral patterns. The system had been dealing with a leakage of patients to providers who were outside the system. “There's been a conscious effort to make sure that [our PCPs] are referring within the system,” Christine said. The team utilized the system’s EMR database to see how patients moved through the different levels of care, Mike said. The EMR data pinpoints how a patient enters the system, the tests conducted, the diagnoses made, the physicians involved and so forth. It allowed the Marketing team to see referral patterns clearly.

Similar to a health care organization’s EMR, HealthConnect tracks everything about marketing campaigns. Christine explained: “We look at how many hits per month from our health and wellness blog. And then how many hits a specific blog post gets, and then we also track how many hits, shares, likes, and comments the social media Facebook posts get that are attaching to that blog. And then in the same regard, how many times or if our tweet is re-tweeted. Every blog we post is accompanied with at least two to three social media posts through

Facebook and Twitter.” By tracking everything in HealthConnect, the team was able to study what happened after a potential patient clicked on a specific component of the campaign.

In addition to the overall number of campaign leads, the team looked at the success of the individual inputs (for instance, keywords for Google search) and the resulting outcomes (how many new patients generated and what other parts of the health system impacted). The team carefully analyzed the keywords used in the campaign. “That's a huge piece because we're spending most of our money on Google,” Christine said. The team looked at whether it was optimizing the right keywords by studying which ads resulted in conversions.

Marketing analytics helped the team efficiently interpret, communicate, and confirm intuitions about what had occurred with others across the organization. Cindy said, “In some instances, it was because we had a physician who left [the practice]. That makes sense if one-fifth of the practice just walked away.”

Looking at the media mix allowed the PCP Finder team to learn about channel optimization. Tina explained: “The Google search terms are really successful for us. But we had some Facebook display ads as part of the media mix, and we knew that they weren't successful.”

Time spent on analysis allowed the team to understand the impact of its efforts, Cindy stated. She recalled the feeling of letdown after a similar campaign in the past: “We did all this work. We spent all this money. And I can't show any impact at all. A few physicians left. There were a lot of areas where there was no correlation [between] bumps in new patient visits but no requests on the web.”

Through analytics, the team collectively understood the meaning of the information and opportunities for the use of social media for primary care physician practices. They focused on translating that into clinical analysis to take to Operations. Cindy explained how the team studied

the data by service line and tried to understand new patient volume and other factors. The team built the tools to be responsive to the health care system's needs. She explained: "If you call primary care downtown, you have to wait six months for a new patient appointment. So, that's not good. We use that data to actually weed out practices from the Finder itself. If they didn't have the capacity, or there were issues, we would unflag the practice, and they would not come up in the Finder."

Throughout the campaign, there were numerous conversations on the operational side to ensure that Marketing was aligned with clinical operations. While the PCP Finder team learned and dealt with the operational issues of capacity, marketing analytics also enabled the team to learn how to optimize the audience and corresponding content. Christine said, "I think one of the biggest things we've learned is about our audience, specifically that it is a female-dominated audience. We had an inkling about everything, and then, through analytics, we got all that confirmed. On Father's Day we did a series of posts – different kinds of posts – talking about Father's Day, honoring it in different ways. One of the posts included a picture of one of our physicians with her dad. She said a little something about her dad, and that was the post that spread like wildfire. It was an organic post. It got over 108 shares. Through analytics we saw, 'Yes, our suspicions are once again confirmed. People really like to put a personal angle and a face to that messaging.'"

The use of marketing analytics also helped the team quickly analyze unstructured data in an actionable way. An example was the way the team reacted to negative consumer interactions. Christine said, "When we did get a negative response or someone put in the comment section, for example, 'We had billing issues, and so we had a negative experience, and that's why we rated you on this scale,' we had the opportunity to actually get back in contact with them and help



them walk through whatever challenge they faced. We worked with our call center, and I think turned at least two people who had previously had a negative experience with us around.”

The team used what they learned in Phase One of the campaign to make adjustments going into Phase Two. Team member David stated that the campaign “really took a huge jump” from the first phase to the second phase. Tina explained: “After Phase One, we started embarking on a nurturing campaign as part of that. So, to use the leads that we gathered ... and then some of the other initiatives that we've done ... bringing all those leads into a nurturing campaign and then segmenting them out. So, say they didn't make an appointment in the first phase, but they filled out a form and downloaded the guide that we had. We have their information. We want to know why didn't they make an appointment or what could we do to keep them with [UMed]?”

The nurturing campaign sought to “manage relationships,” and it was a joint effort between marketing and the web team. Tina stated: “[The chief marketing officer’s] vision is for the web team, our creative services team, the marketing strategy team ... having us all work together. [This] was a really good example of how we had built that up.”

As a result of actual institutional exchange, the PCP Finder team realized other groups within the organization could use the learning from this campaign. Other teams used components of the PCP Finder project for a heart campaign, as well as for a new Cardiologist Finder campaign. Kathy said, “So, we're able to take learning from other campaigns and say, ‘Okay that worked,’ or we're able to work out the logic of these steps in a way that's repeatable for another campaign.”

Kathy summarized some of the team’s important learnings, specifically related to digital marketing and nurturing campaigns. She broke the findings into three vital areas: process,

people, and technology. When implementing processes, Kathy said, “Marketing automation saves time and resources on the back-end but requires a lot of front end planning. Staying on top of email best practices is key. Never stop optimizing. Email contacts are gold!” The right people are an essential component of success. “Find good outside partners. Innovate together. [Teams] need people who learn and adapt quickly to new technology. Information architects are very helpful in campaign architecture, and developing decision trees,” she said. Moreover, last, but certainly not least, about technology, Kathy said, “Tools are relatively intuitive but require training and constant use.”

After each phase of the PCP Finder campaign, the team saved what it learned through marketing analytics. A case write-up report included a description of what everyone did, the corresponding results, and recommendations for the future.

**Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

The PCP Finder digital marketing campaign’s performance metrics indicate success.

Campaign wrap-up reports show better performance from Phase One to Phase Two:

	<b>Phase Two</b>	
• Total conversions/member count:	197	(Phase One = 187)
• CTR (click through rate):	0.45%	(Phase One = 0.10%)
• Cost per acquisition:	\$223.35	
• Total appointment requests:	77	
• Total visits:	24,650	
• Unique visits:	17,064	
• Conversion rate:	1.15%	

The Facebook conversion rate of 0.20% was significantly lower than the overall rate of 1.15%. The nurturing campaign results over both phases of the campaign were a particular achievement.

- Total emails delivered: 12,334
- Total emails opened: 6,600
- Percent of emails opened: 55% (The industry standard is 15-30%.)

- Emails forwarded: 80
- Appointment requests directly from email: 9

According to Christine: “It's nice to get that confirmation, and it's nice to put that behind our plans and our strategy to know we're not only doing this, and it makes sense to do it, but we have proof that it works. So even though we knew that this was the right path to go on, it's really nice to have that confirmation with the numbers and the analytics. We know that social media is a big part of marketing right now and we have the numbers to prove it. It's something that we're spending our time on, and it's worthwhile. So, it adds value in a lot of ways, like tangible value to what we do.”

### **Lagging Indicators: Resulting Business Performance Outcomes**

While the business performance outcomes were initially deemed disappointing, this was due to the baselines being off (since physicians had left practices). After accounting for physician baselines, the PCP Finder campaign was viewed as successful. The campaign was structured to drive customers where they are most needed. “We just finished Phase Two of the campaign,” Tina said. “We have 30 primary care practices in the region, so we're looking at who needs to build [their] business. We can hone in on specific practices through this campaign.” Christine added: “In our first campaign, one of the locations that we featured was our [a local city] location. And now in the second campaign, we are making a conscious effort to not feature them because they are at capacity, which is wonderful news.” The PCP Finder campaign, Tina said, “keeps motoring” and “we're showing that we are generating leads.”

## **VIII.7 APPENDIX G**

### **Case Study 7: Physician Referral Case Study**

*Discovering Opportunities and Reducing Patient Leakage*

## Appendix G

### Physician Referral Case Study:

#### *Discovering Opportunities and Reducing Patient Leakage*

Physician-to-physician referrals transfer responsibility of care along the patient's care continuum. When choosing specialists and hospitals for medical procedures, many consumers rely on physician referrals. Insurance policies usually cover physician appointments to specialists, if a primary care physician refers the patient. In addition to ensuring appropriate care, physician referrals build awareness of clinical practices, facilitate new appointments, and can increase in-network transfers of care, which reduce revenue leakage by keeping patients in-network. As health care systems strive to retain existing patients and attract new ones, the importance of a reliable physician referral program is crucial and closely aligned with the business. (See Tables 10 and 11.)

The majority of practicing physicians at UMed – about 90 percent – are employed by UMed. Moreover, most are on the same electronic medical record system (EMR), which helps business development teams watch referral patterns.

A physician referral marketing initiative began in May 2014. UMed invested in an integrated PRM tool with the goal of increasing physician referral volume for the health care system. Mary described PRM as “a primary tool for CMOs, physician liaisons, marketing staff and a decision support team in effectively increasing physician referral volume.”

The objective of the referral marketing strategy was twofold: 1) Drive referral volume to

UMed physicians, and 2) Reduce leakage of referrals outside the system. Mary explained: “The referral development group is about physician-to-physician marketing, B-to-B. It includes our physician liaisons and other marketing directly to medical professionals.” Tina said, “We have our own base of primary care physicians. There's been a conscious effort to make sure that they are referring within the system.” UMed expects the physician referral initiative to boost referrals, admissions, and profitable revenue.

The UMed Marketing Department had been working on the physician referral initiative for more than a year, beginning with the development of a dataset that combines multiple data sources about physicians. Mary said, “We've been working with [an outside agency] to really develop and enhance this tool for about a year ... we are now rolling it out to our marketers. We just started last month doing in-depth training to teach them how to use the tool.”

Marketing analytics from the PRM will help the team develop a better understanding of physician referrals. Mary expounded on this: “We know a lot about our own docs. So what we really are looking to [the outside agency] for is for the data, the validated data, of non-employed physicians in our market. Actually, we buy it for five states.” She explained that the purchased data are imported into UMed’s EMR system, creating a “single source of truth about physician data.”

The external data come from the outside agency and go into UMed’s CRM and PRM systems. The data are transferred into Epic (UMed’s electronic medical record) and into the radiology system and then enter a change queue when new information is obtained. Julie stated: “My team, here in marketing, is responsible in that process for data integrity. IT is responsible for data integration into the clinical systems. And then our clinical operations team is responsible

for training front-office staff and to make sure that we do that change queue process appropriately and well.”

With validated external data that are “constantly refreshed,” the team felt that the dataset might be an asset to the health care system as a whole. Mary explained: “We embarked on an effort to say, ‘What if we could make it that way?’ It wasn’t easy. It was very, very, very hard to do. But we had a lot of people come along and now recognize that it was a really big, huge positive lift. On the claims analytics piece ... the ability to seek patient referral leakage analysis in terms of, we employ docs, but some of them may refer elsewhere, not within the system. Maybe there’s a good reason for it. Maybe there’s not.”

Marketing analytics from the PRM will help the team process information about physicians at many levels. According to Mary: “You can log a call, and then specify the call type and so on ... it’s so cool; you can do a territory builder. You can say, ‘Who has what level of loyalty to UMed within what mile radius’ for certain specialties, and that’s just amazing.” She went on to describe how the tool showcases information about individual physicians: “So, this shows from January 2013 through the end of the calendar year – now we can change the date range – how many patients she sees each month. The blue represents in-network, meaning how many patients she sees at a UMed location versus out-of-network. You can click on any of these and get the drill down and filter.” The dataset features numerous sort options. Mary stated: “[You can] dig in and you see how many claims are associated or referrals are associated [with] interventional versus medical cardiology. You can sort it by claims. You can sort it by procedures.”

This dataset will also be helpful as UMed analyzes “splitters,” physicians who split their time and referrals between competitive health systems. Mary explained: “Why marketing was

interested in it is because if we wanted to do referral analysis, and if we don't list on our side who was the referring physician properly – so if someone comes in, and they say that their referring physician is Dr.[X] , who is also known as Michael [X], who's also known as M. Sean [X], and Sean [X], and we've all of these variations, then it's hard for us to, in a business development sense, know who we're talking about and who we should be talking to, with outbound referring physician communications to issue admission notifications, discharge summaries. All of those things which we haven't been very good at that are part of it, is because we haven't had the systems to enable it. And then for compliance and billing and things like that, the clinical operations team was interested in partnering with us so that they could be even better in that regard.”

The first and the biggest barrier to success was the implementation of such a complex, detail-oriented system. As Julie described it, the PRM dataset has been a “bear of a system.” However, with the PRM in place, along with additional purchased claims data, the team can analyze pertinent physician referral data. PRM analytics will help managers understand referral patterns and take action steps accordingly.

As Julie explained: “It's not 100% of the market, but it's a big chunk. We should be able to look at the relationship between referrals amongst doctors whether they are affiliated with us or not. We can kind of see shared patient patterns, and we can dig down into different service lines. It's really tricky data to work with and it's just getting to the point where we can use it, so that will be really exciting.”

PRM gives UMed the analytic insights needed to monitor referral trends in the market. This understanding of referral patterns enables team members to identify outmigration and utilization patterns, reduce patient referral leakage, increase profitability, and strengthen



physician alignment. Mary pointed to a report showing referrals to and from a UMed general cardiologist and explained: “Here's where you can see her referral relationships. You can see what kind of referral she's making, 384 in-network, and 69 out-of-network. You can see the subspecialties; you can click on any of this and see the underlying data. You can sort different ways by referral count, claim dollar total, procedure count, inbound, outbound, just look at in-network sites, out-of-network sites. You can dig into the providers that are part of her referral network inbound or outbound, the number [of] procedures referred one way or the other, the claims value there. That is important because it might be fine if a lot of the bread-and-butter work is in the community hospital, but hopefully they would be sending more advanced cases to UMed. So the number may be small, but sometimes the claims dollar is high.”

Integrated PRM also provides greater visibility about the cases that may not have been referred. Mary explained: “With claims data we can now have a more complete and more sophisticated picture of the entire referral process.” The tool allows the teams to look at a multitude of different information sets, such as calls to the Contact Center, the campaigns in the patient CRM, and detailed physician profiles updated by physician liaisons. Mary stated: “You can look at an individual provider ... this woman is one of our cardiologists. Let's just pull her up. This is actually where the liaisons enter information about their outreach to her. Activity history is the liaison outreach. And so, if they find out something personal, something about their daughter or where they go to college or wherever, they can start adding that information in here. Or if they were invited to a CME program, or if they attended a dinner, or if they called with a complaint or anything.”

The team is beginning to discover new opportunities for increased physician referrals from the data. Julie stated: “We do a lot of patterning of where our patients come from ... often

we come across, 'Here's an underserved population' [or] 'We're not getting a lot from here, but we don't have a program here.' ”

Marketing analytics provides team members with an understanding of which physicians send what kind of business. “But the reason that PRM takes on a new level of importance now, compared to the past,” Mary explained, “is due to the changes in many market areas, and because of the changes that are occurring under national health care reform. “Although these changes are appropriate in a business sense, they may be interrupting – perhaps permanently changing – the traditional referral patterns. An integrated PRM system not only tracks calls, but also identifies issues, opportunities and questions of referring physicians. We can also track the services and programs that we are promoting” (Hirsch, 2014).

Marketing analytics helps the team members interpret and share their intuitions with others across the organization. Mary stated: “It is amazing for the marketing directors and the service line directors. So, when I was talking about strategy, having marketers be strategic and help provide insight from the market to inform our strategy, as well as our products and programs, this is an essential tool .”

Julie agreed, saying, “Here's the competitive situation; there's an opportunity. We do a lot of opportunity assessment from that perspective, from more like a marketer community location perspective. We've certainly pointed many of those opportunities out to the clinical teams, like, ‘A practice here would be really helpful,’ or ‘We have twelve primary care doctors here. We need an orthoped to kind of capture some of the business there.’ ‘All of our referring physicians are asking the liaison for X in this market, and we don't have it.’ ”

Marketing analytics also helps the team better understand what is happening and communicate with the physicians and practices. Julie explained: “They were looking at one

doctor down at [a UMed hospital] who's a private doc but on our staff, and the conversation was something around, 'He's sending a lot out.' 'But you don't know where he's sending ... we don't have that data.' 'Actually we do, and we see exactly –' 'Oh, he's referring them to, oh my God –' 'Oh, we've got to stop that.' ” She explained that the PRM data help the system pinpoint suspected issues and address them quickly.

The team collectively understood the meaning of the information and opportunities for physicians. Julie stated: “They [docs] can't just go out there expecting to see joint replacement people that are ready to go in and have the surgery the next day. They have to practice a little differently within the community than they would in their subspecialty practices there. So, those kinds of elements of feedback of what makes a product marketable, what did they have to do to the product to make it marketable. We've definitely worked with clinical teams on that kind of thing.”

UMed is in the early stages of using this new marketing analytics tool and establishing a physician referral strategy around it. It plans to save what was learned through marketing analytics with a description of what everyone did, the corresponding results, and recommendations for the future.

### **Leading Indicators: Resulting Marketing Campaign Performance Outcomes**

UMed had the PRM software up and running for only a few months at the time of the interviews, but there are expectations of how this will be successful. According to Mary, it will help team members learn about physicians who are not affiliated with UMed but refer in system: “What's their level of loyalty to UMed versus elsewhere, and what can we learn about that?” She stated it will also help drive discussions “about whether we should buy, build, or compete in different markets, and how and when” and “what should our marketing messages be, whether

through a liaison or through other physician marketing kinds of activities.” She stated: “I think [the outside agency] has learned a lot from us about that.”

### **Lagging Indicators: Resulting Business Performance Outcomes**

At the time of the interviews, it was too early to have quantifiable outcomes data. Nonetheless, the chief marketing officer has an expectation of results. Said Mary: “An integrated PRM system is useful as a management tool to identify areas of productivity, efficiency, and possible improvement. It is useful for the marketing team to develop programs and strategies. Moreover, finally, it is used for a deeper level of business awareness through analytics and details.”

## **VIII.9 APPENDIX H**

### **Case Study 8: Smoking Cessation Case Study**

*Marketing Analytics Make Case for New Clinical Program*

## Appendix H

### Smoking Cessation Case Study:

#### *Marketing Analytics Make Case for New Clinical Program*

Many believe that smoking is the leading cause of preventable illness and death in the United States. Physicians often say, “When you stop smoking, you lengthen your life.” UMed’s Comprehensive Smoking Treatment Program helps patients quit smoking by designing plans to meet patient needs, including smoking cessation classes. These classes are at the primary level of care and are part of the health care system’s lung service line. (See Tables 10 and 11.) The Lung Center, which is at the secondary level of care, aligns with the business and core mission. However, while smoking cessation classes are indeed mission-based, the classes are not closely aligned with the health care system’s business strategy of advanced medicine.

Attending smoking cessation classes is considered personal health management or preventative care. [This state] does not require private health insurance plans to cover smoking cessation treatments, and smoking cessation coverage varies by employer and plan. Providing smoking cessation programs is not unique, and they are relatively inexpensive to implement.

According to the Centers for Disease Control (CDC), [this market] has the highest rate of adult smoking among the 10 largest U.S. cities, at 25.2%. This large number of smokers provided a window of opportunity for smoking cessation classes.

A smoking cessation digital marketing campaign was implemented from October 2012 to December 2012. The objective of the campaign was to encourage smokers to attend a smoking cessation class. The hope was that after the smoking cessation class, attendees would make a physician appointment for lung screening, and ultimately, enter the lung cancer program.

According to Julie: “Our ultimate goal was to grow our lung cancer program.”

Kim said: “We did a lot of research about what are their biggest concerns? We were trying to get people to quit smoking. They don't want to be bullied into it. All that becomes noise to them. So we came up with messaging that was, ‘We love smokers, but we hate smoking,’ or ‘We hate cigarettes,’ but ‘We like you as a person; we want to help you.’ ”

UMed used a variety of marketing analytics tools while working on the smoking cessation project, including Facebook Insights, Google Analytics, HealthConnect, Tableau, and Webtrends.

The initial marketing campaign was successful, with increased website traffic and high attendance at the smoking cessation classes. Said Kim: “It was an amazing campaign.” Julie agreed saying, “There was a huge response to it. We had really great messaging in that campaign, but I also think it was a big audience.”

Marketing analytics enabled intuiting to occur on this project, as the team was able to identify patterns, trends, and the most frequently searched keywords. Said Kim: “We were able to test it because of the different keywords – people that converted on the smoking cessation and went to smoking cessation were searching ‘lung nodules’ and came to smoking cessation and converted. They know it. They know that cancer is a risk.”

From the marketing analytics, team members could see that patients had an interest in knowing more about lung cancer. The feeling was that these patients would consider getting a lung screening if making an appointment for that test was recommended by the physician leading the smoking cessation class. However, there was some concern from clinical team members. Kim stated the clinicians were concerned that discussing lung cancer and nodules in a smoking cessation class would be too “scary” for the audience of individuals focusing on trying to quit

smoking.

Marketing analytics helped the team members interpret and share their intuitions with others on the team. The team realized that there was an operational barrier to getting the patient from the smoking cessation class to making a physician appointment for a lung screening. The team was transparent about the findings and spent time explaining the discoveries to the clinical teams and educating the clinicians about what the consumers wanted. Kim explained: “They [smokers] know that cancer is a risk. They may not want to acknowledge that cancer is a risk, but they know it's a risk. And that was actually a huge learning for our clinical teams – which was interesting for us because, in fact, we were trying to get [clinical staff] to use smoking cessation collateral and have it – or some of our lung screening program information – in a smoking cessation clinic. And they [physicians] didn't want it. It's just [the physician] wants to have a different kind of conversation with smokers that's more supportive and encouraging than 'you should really get yourself checked for lung cancer.' ”

Mary said, “We thought that it [smoking cessation class] would be a good front door for people, but it is not linked clinically to pulmonary medicine. So really, identifying the fact that we have an amazing program in smoking cessation, but it's not really connected to the other parts of the clinical program, I think has had them take a look at it and say, ‘What should we do about that?’ ”

The team used the analytics to answer these questions. They collectively understood the meaning of the information and its ramifications. Julie said, “It was great that we were so successful [in bringing more people into the smoking cessation classes], but that is where it sort of ended in terms of where our ultimate goal was, which is to grow our lung cancer program.”

The team learned from additional research and analysis that another option for



progressing smoking cessation attendees to lung screening is to have an easily accessible lung screening program. Julie said, “It’s funny because we surveyed some of the people that were in this [smoking cessation class], and they wanted to hear about lung screening. And we could’ve gone back out and communicated that, but we don’t have a [lung screening] program, so it was sort of a disconnect. If we had had a program, we could go back and communicate with these smoking cessation people. We could still help support the smoking cessation program and get them into lung screening. There (were) also a lot of people that were searching on lung nodule... and we were like, ‘People are interested. We need to have a solution for them.’ ”

The team considered changing the digital marketing campaign strategy, but as Kim explained: “To be honest, clinically, we didn’t have the capacity. The lung nodule program is at high capacity and can’t take more patients. That is not an ideal state from the care continuum perspective, so we had to pull off of that. But we thought, ‘This is where there’s a big group [of prospective patients].’ ”

After the smoking cessation campaign, the team saved what it learned through marketing analytics with a description of what everyone did and operational recommendations for the future. According to Julie: “Others were starting lung screening programs that had been shown to be very effective at catching early-stage lung cancer but were not yet approved by insurance, and still are not, and we did the initial studies here at UMed on that new screening protocol. So people were starting to offer these \$99, \$100 pay out-of-pocket lung screening programs that would be run through Radiology. So, we talked a lot, and the clinical team has finally launched a lung screening program here. Because we were like, ‘We can really market this part; this would be better than the smoking cessation. We can build this if you have this program.’ ”

This case was uncommon because instead of trying to create a new campaign for an

existing service, smoking cessation, the team learned about what the customers wanted and was able to offer suggestions to clinical practice. Kim said, “So, that kind of learning helped change it from a bigger strategy perspective. We are about to relaunch this campaign again. So it is in our fiscal year ’15 plan to reinitiate the lung screening and smoking cessation portions of the lung campaign.”

**VIII.10      APPENDIX I**

Marketing Analytics Tools

## APPENDIX I

### Marketing Analytics Tools

Marketing analytics tools provide crucial capabilities to the UMed team that did not exist before. If UMed did not have these tools, it would have been nearly impossible, and certainly impractical, to have done the marketing analyses manually.

**Epic:** UMed uses Epic software, an integrated electronic medical record system (EMR). The tool is designed to create one unified patient record system for the entire organization and to incorporate scheduling and registration, clinical documentation, computerized provider order entry, and billing. Epic provides an abundance of data — data that can be used to learn how to better direct marketing efforts toward prospective patients.

**Facebook Insights:** UMed uses Facebook Insights to track online user interaction on Facebook. The tool tracks the number of active users so that UMed can learn about page performance, determine the best day of the week to post, the best time of day to post, and what type of content is most popular. UMed can track: 1) The virility of posts, which provides the knowledge to create more content that UMed fans like, which will then increase the health care system's branding, reach, and traffic. 2) "Likes", with associated demographics and location, which allows UMed to build personas of the audience they are targeting. This is beneficial when creating landing pages, home page copy and overall marketing messages. 3) Reach, so UMed can understand which media channels are the most effective. 4) "Talking About This", to understand how the UMed content trends over time.

**Google AdWords:** UMed uses the Google AdWords web-based tool to see how many people notice the UMed online ads and what percentage click to visit the website. Google AdWords gives UMed the opportunity to tweak the ads, try new search terms, pause the

campaign, and re-start at any time. It creates a supportive learning cycle.

**Google Analytics:** UMed uses the Google Analytics web-based tool to build its website's audience. Google Analytics shows UMed the full online scope across websites, social sites, ads, and videos. Google Analytics also enables UMed to improve website conversions, a measurable way to improve campaigns and reach new audiences. The tool also gives UMed insights on content, messaging, channels, and marketing campaign performance that helps team members compare different approaches to see which performs best.

**Google Trends:** UMed uses the Google Trends online search tool to see how often individuals query specific keywords and phrases over a specified period. Knowing more about keywords helps UMed learn about messaging and content management.

**HealthConnect:** UMed uses the HealthConnect customer relationship management (CMR) cloud-based software-as-a-service (SaaS) application. The platform provides UMed with a cohesive look at the entire marketing and business development ecosystem. There is an awareness that ads increasingly interact. For example, a television commercial can prompt an online search that leads to a website or social media site that, ultimately, ends in a patient appointment. The tool allows UMed to leverage data, digital marketing, e-mail, and landing page design, while the platform's filtering and segmentation tools improve targeting and response rates. HealthConnect includes a patient volume analytics and reporting engine that helps UMed predict how marketing decisions will drive future revenue. UMed can analyze and quantify marketing results through intuitive, interactive dashboards and reports and make data-driven decisions about resource allocation.

**Hootsuite:** UMed uses Hootsuite, a social media management system, for brand management. The system supports social network integrations for Facebook, LinkedIn, Google+,

Twitter, YouTube, and many others.

**Moz:** UMed uses Moz (formerly SEOMoz), a SaaS tool for searching, filtering and managing Twitter functions. It has a series of tools, including a Term Extractor, which help UMed learn about the importance of particular words and phrases.

**Physician Solutions Platform:** UMed uses the Physician Solutions Platform, a SaaS application, as a physician referral management and claims-based physician referral analytics tool. This data-driven platform allows UMed to leverage its data to drive profitable physician relationships. The software supports many aspects of physician administration, including the capacity to evaluate physician-to-physician relationships, understand the value that loyalty and influence of an individual doctor has on a health care organization's service line(s), and the discovery of market opportunities or leakage of referrals.

**Radian6:** UMed uses Radian6 from the Salesforce Marketing Cloud for social media listening with the purpose of engaging with the online community. Social media analytics helps to identify trends in order to learn about customers' needs. UMed can quickly and efficiently track, monitor, and respond to comments, questions, and complaints in real time. The organization can tap into sources from Twitter, Facebook, YouTube, blogs, news, and more to hear what is being said about the UMed brand. Then, it can take action by routing important social media posts to any user across the organization for insight or follow-up.

**Tableau:** UMed uses Tableau software to help individuals "see" and understand data. Using Tableau, UMed develops visualizations for team members to analyze quickly, visualize, and share information. Data visualization allows UMed to access analysis quickly and make decisions.

**VIII.11      APPENDIX J**

The Role of Marketing in Health Care

## APPENDIX J

### **The Role of Marketing in Health Care**

While little is written in the health care literature specific to marketing analytics, much has been written about the importance of marketing in health care, and studies have shown that investments in health care marketing are directly related to increased profits (Naidu & Narayana, 1991; Shepherd & Fell, 2003). For years, health care organizations have had a marketing strategy of building the organization's brand (Chahal & Bala, 2012), typically accomplished through traditional mass-marketing channels. Now, with the advent of new digital marketing channels, there is an expectation that health care organizations additionally implement a distinctly different marketing strategy of interactive customer engagement (Carty, 2013). Accomplishing both of these important marketing strategies simultaneously – brand building and customer engagement – can be challenging. Marketing analytics insights provide the knowledge that is essential to narrow the focus of marketing efforts efficiently and effectively, to create an integrated, optimized approach to marketing strategies. Branding is about building relationships with customers at an individual level (Harrigan & Hulbert, 2011). Marketing seeks to establish a health care organization's brand in consumers' minds, so that when they find they do in fact need a service, they know which health care organization to choose. Branding plays a special role in service organizations such as health care as it increases customers' trust (Berry, 2000), enables customers to better visualize the services offered (Kim, Kim, Kim, Kim, & Kang, 2008), acts as a means of differentiation among competitors (Reza, Motameni, Manucmehr, & Shahrokhi, 1998), and delivers value to the customers.

Building the brand has traditionally been accomplished through mass-marketing channels for the purpose of creating or improving consumers' awareness and brand image of the



organization (Keller, 2008). Studies have shown that trust, customer satisfaction, relationship commitment, perceived quality, brand awareness, brand image, and brand loyalty are major factors affecting a health care brand (Harrigan & Hulbert, 2011; Hong-bumm, Kim, & An, 2003; Kim et al., 2008). The brand is what resides in the customer's mind due to, among other things; the impressions made because of marketing campaigns. When marketing their services, health care organizations strive to get a controlled brand message, with polished content, out to a large population (Mulhern, 2009). Mass-media communication techniques (a media mix of television, print, radio, and direct mail) have been the only real option to reach a huge swath of customers simultaneously with one-way communication (Hair Jr, 2007; Kumar, 2010; Mulhern, 2009; Rust, Moorman, & Bhalla, 2010). This brand building approach has offered a decidedly effective way to reach a broad consumer audience and differentiate a health care organization from its competitors. This approach has served the industry well by building brand differentiation and market share and remains the bedrock of advertising and media planning (Mulhern, 2009).

In the emerging model for health care delivery, brand plays a significant role in influencing “market essentiality” as defined by patients. The role of patients is changing to become one of more informed consumers along both cost and quality dimensions. In the fee-for-service, “wholesale” business model, insured patients have not paid directly for care and have been responsible for a relatively small share of costs. Most people have little concept of true health care costs, as a result. With the advent of public health insurance exchanges and continued growth of private exchanges, coupled with an expansion of enrollment in high-deductible health plans, individuals are assuming more responsibility in paying for their care. With that responsibility comes greater awareness of cost versus quality—that is, the value—of that care.

Whereas consumers once relied primarily on their physician, a family member, or friend

for health care recommendations, they now can turn to online sites for comparative information with which to make treatment and care site decisions. Consumers confronted with complex health care decisions will be looking to trusted sources for quality care in their communities. It is up to marketing teams to develop an effective framework to connect, communicate, and collaborate with consumers across all multimedia channels, including social media (Kumar, 2010). Social media solutions, due to their individual interactive capabilities, are well suited helping keep people healthy as organizations move toward a new care delivery model (Carty, 2013). Micu et al. (2012) said, “Although social-networking sites have become ubiquitous, the full marketing utilization of these sites is still untapped.”

The road to customer-centricity lies in interaction orientation, and now that health care organizations can interact directly with customers, they must blend cultivating relationships with building brands (Rust et al., 2010). The proliferation of media devices has made media consumption far more complicated and nuanced (Mulhern, 2009), but, on the bright side, today's database-driven digital marketing tools make it possible for consumers to connect with their health care providers in ways that were nearly impossible not that many years ago. As in other industries, this “shifts the marketing role from one of aggregating audiences to one of responding to consumer desires with relevant information and services that are highly customized” (Gal-Or & Gal-Or, 2005).

Engaging customers is a targeted marketing strategy that directly connects with and nurtures consumers, inviting and encouraging them to develop an active relationship with the health care organization to shape the services they use (Rust et al., 2010). One caveat to communicating directly with the patient is “The Handcuffs of HIPAA” (Rooney, 2009). The Health Insurance Portability and Accountability Act (HIPAA) represents a tangible barrier in the

implementation of health care marketing plans. For providers, health care relationships place emphasis on collecting and applying data effectively through database techniques that aim to improve health outcomes, as well as marketers' overall return on investment. This form of relationship building is highly dependent on abiding by the regulations imposed by HIPAA. From a patient's perspective, health care relationships are forged in the exchange of information. Patients want knowledge of, access to, and the power to participate in health services that can help and heal them.

Health care organizations now emphasize authentic content and unstructured two-way conversations when implementing patient engagement tactics using interactive media, often in real-time (Kumar, 2010). New digital marketing channels such as social media have emerged as a force in communication between hospitals and patients, assisting in cultivating a relationship with the consumer and allowing health care organizations to boost relevance by delivering a personalized experience (Timian et al., 2013). Huang & Dunbar (2013) state, "Hospitals' performances on Facebook have clearly demonstrated that listening to and interacting with social media visitors is an effective way to engage the visitors."

Health care organizations use the wider reach provided by traditional mass-marketing channels to create broad brand awareness and use it to drive consumers to the digital experience. It is important not to look at brand building vs. consumer engagement as an either/or proposition, and instead look at it as an opportunity to market to consumers as a whole and individually; traditional channels complement new online channels (Harrigan & Hulbert, 2011).

The role of marketing in health care today has transitioned to one of blending emerging and traditional evidence-based methods within organizational policies and cultures (Rowley, 2012). The challenge is how to accomplish it all with limited dollars and resources. As

competition intensifies, health care organizations know that they cannot solve their problems just by delegation to a traditional marketing department; success lies in understanding that everyone associated with the health care organization—employees, management, board members, volunteers, vendors, physicians and other stakeholders—is a member of the marketing team (Berthon & Hulbert, 2003). Everyone has a role to play in transforming communication and improving patient care (Weiss, 2013). When there is effective “communication between an organization and its customers, a better relationship will result and customers will have a tendency to display greater loyalty” (Ndubisi, Malhotra, & Chan Kok, 2009). “Managing the customer experience across channels is a key challenge” (Harrigan & Hulbert, 2011).

### **The Role of Digital Marketing in Health Care**

Digital marketing is the use of all kinds of digital and social media technologies that allow an organization to foster targeted interactions with customers, acquire and retain customers, and build deeper relationships with them (Järvinen, Tollinen, Heikkikarjaluoto, & Jayawardhena, 2012; Wymbs, 2011) Digital marketing has revolutionized marketing across industries (Kumar, 2010). Health care marketers can leverage these technologies to communicate brand strength in the marketplace by integrating health information technology into existing marketing and communications channels. The Internet holds great potential to support patient information gathering and decision-making surrounding health information for a variety of purposes, including learning about a new symptom or diagnosis, treatment options, and medications; 64.4% of individuals who seek health information reported using the Internet to locate this information (Rice, 2006; Soederberg-Miller & Bell, 2012; Ybarra & Suman, 2008). (Fox, 2011; Fox & Rainie, 2000) And, better yet, seeking health information has been shown to be related to gains in healthy lifestyle behaviors (Minsun, Kelly, & Hornik, 2006).

Marketing campaigns should include an online component focused on connecting with people. When consumers share links to health care campaigns and websites, talk about health care brands or specialties in blogs and on social networks, read and interact with online content and videos related to the health care brand, or become a follower of the brand via Twitter, they are generating mindshare for the health care organization's brand and product names. Online channels can enhance an organization's customer orientation, improving sophistication and engagement (Brodie, Winklhofer, Coviello, & Johnston, 2007; Harrigan & Hulbert, 2011)

The social network has emerged as an important tool for hospitals to embrace as an integral part of any health care communication plan, and this is occurring with greater scale and frequency (Aras, 2011; Popovic, Smith, & Hellebusch, 2013). Social marketing is a tool for health care organizations to help increase recognition, educate the public, and reach new patients (Coustasse & Slack, 2013). Hospitals, public health researchers, and health care consumers use these data as an additional source of information on patient satisfaction and hospital quality to complement traditional data sources (Timian et al., 2013). For any health care program or project to be successful, consumer participation is required. Social marketing can optimize public health by facilitating relationship building with consumers and making their lives healthier. Social marketing is needed to motivate people towards healthy behaviors and to increase participation in health care programs. Social marketing works to help people change their behaviors to become healthier (Aras, 2011). Social media enables health care organizations to improve their customer relationships through better engagement on a real time basis (Bekmamedova & Shanks, 2014).

Using digital marketing channels, marketing professionals can now leverage their brand message to educate, inspire, motivate, and engage their target audiences, so that patients have a

more positive impression and feel more connected to the hospital or health care institution. The measurability of digital media has been heralded as one of its greatest benefits compared with other media (Chaffey & Patron, 2012). Through communications and interactions with patients comes valuable digital media data which greatly improve consumer understanding (Jayachandran, Sharma, Kaufman, & Raman, 2005; Mulhern, 2009).

Health care organizations must make use of technology and tools readily available, including vast amounts of patient data and rich analytics, to reach the right consumer at the right time, using the right marketing methods and tools.

## VITA

A marketing and leadership consultant, executive mentor, and educator, Sherry Hartnett is one of those leaders who finds personal satisfaction in assisting individuals, teams and organizations in achieving solutions that benefit both the employee and the organization. Sherry was born January 4, 1964 in Alexandria, VA. She holds a Master of Science degree from Johns Hopkins University in Management and a Bachelor of Science degree from Towson University in Marketing. A lifelong learner, Sherry is always interested in learning something new.

As a senior-level executive for more than 20 years, Sherry has led and coached teams in various not-for-profit and for-profit industries. As owner and principal consultant for Hartnett Marketing Solutions, Sherry consults with clients, helping them to think critically and holistically about markets, opportunities and possibilities; expand and diversify revenue streams; build and lead teams of marketers; brand companies and their products; market to both businesses and consumers; develop high performing executive teams; facilitate the strategic planning process; and craft marketing communications that inspire action. Her areas of specialization include Corporate Strategic Planning, Marketing Strategy, Marketing Research, Marketing Analytics, Brand Development, Communications, Team & Leadership Development, Organizational Learning, and Executive Mentoring.

Sherry has extensive professional experience in the marketing field. Prior to her consulting work, she was Vice President, Chief Marketing & Development Officer at Baptist Health Care, a highly regarded Northwest Florida healthcare system that has been recognized as a Malcolm Baldrige National Quality Award winner and as one of FORTUNE Magazine's 100 Best Places to Work. Prior to that Sherry was a marketing executive for Gannett Co., Inc., one of the world's largest media companies; The Baltimore Sun; and Faulkner Advertising Associates,

a national advertising agency based in Baltimore, MD.

She has been a speaker, trainer, coach and facilitator of workshops across the country. Sherry has addressed groups ranging from senior level executives to front line staff to large association conference audiences. She has been an invited speaker at more than 20 conferences at the local, regional, state, and national level on topics ranging from the interwoven arts of marketing and development to branding, strategic planning and organizational communication.

With her marketing teams, Sherry has won more than 100 local, regional, national, and international marketing and advertising awards. Sherry received the national Distinguished Marketing Achievement Award, one of the highest honors bestowed by the Newspaper Association of America, and has received numerous awards and recognitions for excellence in innovation and for marketing leadership.

Wanting to make a difference in the lives of the next generation, Sherry has joined academia – in addition to her consulting work – to help prepare students for successful careers and lives. She teaches at the University of West Florida. Courses she has developed and taught at the undergraduate and graduate level include Internet Marketing Principles, Leadership and Management Practices, Theories of Leadership, Introduction to Business, and Professional Development. She also developed and now directs an innovative high-impact experiential learning Executive Mentor Program that provides professional development mentoring to graduate and undergraduate students. Business executive mentors serve as coaches and role models to students, sharing personal, and professional experience, knowledge and skills to help students prepare for and be ready to enter the business world.

Sherry's refereed intellectual contributions include presenting papers and posters at the International Conference on Engaged Management Scholarship, the Engaged Management



Scholarship Doctoral Consortium, and the University of West Florida Scholar Symposium and Faculty Showcase.

An active leader in Pensacola's business, civic and charitable communities, Sherry serves on boards and committees including the Greater Pensacola Chamber, United Way, Junior Achievement, and the Rotary Club of Pensacola. Nationally, she is a member of the American Hospital Association's Society for Healthcare Strategy and Market Development and the American Marketing Association. Sherry resides in Pensacola, Florida (6240 Dunlieth Place, 32504) with her husband and two sons.