Influencing Successful Organizational Change Through Improving Individual and Organizational Dimensions of Health

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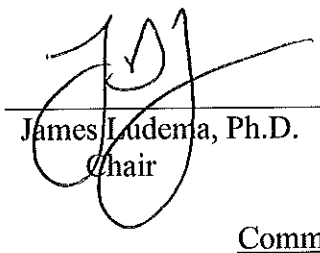

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Abstract

In both academic and management literature it has been often stated that 70% of change efforts are not successful (Kotter, 1995; Smith, 2002). And while this failure rate may not be empirically tested, it points to a reality that most change efforts are not only difficult, but they are often unsuccessful (Hughes, 2011). When an organization undergoes a major organizational change process, the expected impacts include increased employee stress and overall productivity dips in the midst of the change (Dahl, 2011; Elrod II & Tippett, 2002). Measuring the impacts of change on employees and on organizational effectiveness during the change can add value and help increase the chances for change initiative success by allowing necessary adjustments and identifying and leveraging additional business improvement predictors along the way.

In this dissertation, I answer the question "What is the impact of going through a major organizational change on business outcomes and employee and organizational health?" My results suggest that an organization can transform the expected negative effects of a major change effort to positive effects by focusing on three things: 1) Improving employee mental health; 2) Increasing positive practices, including leadership's impact on the organization; and 3) Improving employee involvement, communication, and teamwork. Finally, the results also show that improved employee mental health and improved positive practices are significantly related to

improved business outcomes. Organizational change outcomes can be successfully informed by linking business outcomes with change impact measures.

Dedication

To the love of my life—Jacqueline—thank you for blessing my life with your profound love and support.

To my parents—my impact in the world starts from the shoulders I stand on—yours—thank you.

To my siblings—family by birth, close friends by choice. I am blessed.

Acknowledgments

This journey would not have started nor completed without the support of Jacqueline; my best friend and my wife. In the midst of this program we were married—the best day of my life! There will never be words sufficient for my gratitude or love.

A single sentence shared by Dr. David Cooperrider at the end of a course 24 years ago planted the seed to pursue doctoral study. One may never know the impact of a single sentence on another; this one was profound, and for this I am grateful.

This journey started in started in my late 20s, it would not have been possible without the support of my first true academic mentor, Dr. Peter Sorensen. His belief in my pursuit of ongoing study was unwavering, creating a myriad of opportunities for my growth and development.

My Center for Values Driven Leadership (CVDL) cohort provided me the opportunity to rediscover and celebrate my innate leadership capacity; you may never know how deeply this will impact the rest of my life.

My committee was very supportive: Dr. Lumpkin introduced me to the field of Social Entrepreneurship; I hope Tom is ready for a couple of decades of collaboration! Dr. Mora's brilliance in statistical analysis and the ability to mentor my progress are only outdone by his enthusiasm and consistent positive support.

Dr. Ludema, my chair is personally responsible for absorbing the better part of the last three years of my life. First he co-created this CVDL center and doctoral program, which seduced me to join by its principles of sustainable impact. Then he joined collaboratively in my study and pushed me to finish; without his support and mentoring, this dissertation would not have achieved completion. I look forward to supporting and being part of the CVDL family, and working on many projects with Jim in the future.

My colleagues in Integrated Care Management L3C (ICM3) graciously supported and participated in my research, encouraged me along the way, and celebrated our outcomes and my completion. This research is only possible because you trusted; I honor that trust, and am deeply grateful. We have saved a few lives, positively transformed dozens of others, and facilitated healthy life changes in hundreds of participants in our programs. I pray these figures increase a thousand fold by 2020, and that ICM3 is a place where all employees and participants flourish!

Life's trajectories are altered in profound ways by profound events. SMK—this would not have been possible if our paths had not met; my soul and the world thank you.

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Chapter 1: Introduction

Change can be difficult both for organizations and the individuals that make up an organization (Fishman, 1997; Miller, 2002) . Then again from some perspectives, life can be difficult (Peck, 1985). This is a paradox in that “difficult” is not necessarily something to be avoided, it is signal that success will require skillful engagement. Successful organizational change requires successful change at the group or team level and at the individual level (George & Jones, 2001). Actual behaviors have to be different for change to occur. A major organizational change requires that one considers the multiple dimensions of change; organization, group, and individual change needs to be taken into account to increase the chances for success (Rafferty, Jimmieson, & Armenakis, 2013).

In both academic and management literature it has been often stated that 70% of change efforts are not successful (Kotter, 1995; Smith, 2002). And while this failure rate may not be empirically tested, it points to a reality that most change efforts are not only difficult, they are often unsuccessful (Hughes, 2011). When an organization undergoes a significant organizational change process, the expected impacts include increased employee stress and productivity dips in the midst of the change (Dahl, 2011; Elrod II & Tippett, 2002; George & Jones, 2001; Jimmieson, Terry, & Callan, 2004). Measuring the impacts of change on employees, on team performance, and on organizational effectiveness is one way to better understand how a change initiative is

impacting all three levels; this measurement will allow for adjustments that can increase the possibility of a successful outcome.

In this dissertation, I answer the question “What is the impact of going through a major organizational change on business outcomes and employee and organizational health?” This was done in an attempt to identify ways to improve the possibilities of achieving success in the midst of and at the conclusion of these initiatives.

I am the founder and owner of Integrated Case Management L3C (ICM3), a mid-sized healthcare company that helps patients with multiple chronic conditions improve their lifestyles and health. In May 2012, I decided to convert ICM3 from a limited liability company (LLC) to a low-profit limited liability company (L3C) because of my commitment to social entrepreneurship, that is, my commitment to using the creativity and discipline of business to address the world’s most pressing problems. In the case of ICM3, the pressing problems we address are the suffering of people with multiple chronic illnesses and the rising costs of healthcare.

To make the transition from the LLC to the L3C, we used an appreciative inquiry approach (Cooperrider & Srivastva, 1987), which started with a two-day all-organization appreciative inquiry summit (Ludema, Whitney, Mohr, & Griffin, 2003) in which we set the vision and priorities for the change. This was followed by quarterly full-day all-organization mini summits in which teams shared best practices

and lessons learned from piloting changes, and the organization as a whole reflected on what was working and identified and prioritized next steps. To make the transition successful, we needed to radically lower our cost to customers. Our stated change target was to improve productivity by 500% with a quality reduction no greater than 20%; this would let us lower our price point by about 75%. This major change would touch every ICM3 employee because all our work processes needed radical restructuring to achieve our targets.

I used a quantitative research design to examine the impact of the change process at the individual and organizational levels. I collected quantitative data one week prior to launching the change process (T1) and one year later (T2). At the individual level, I used Wilmar Schaufeli's Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003) to measure employee engagement and QualityMetric's SF36v2 Health Survey (Maurish, 2011) to measure employee health. At the organizational level, I used the Positive Practices Survey supplied to me by Kim Cameron to measure positive organizational practices. Finally, I used the Human Synergistics® (2012, 2013) Organizational Effectiveness Inventory® (OEI) to measure overall effective organizational behaviors. I collected business performance metrics at the team level: the number of new patients enrolled; the time it takes for a patient to finish the ICM3 assessment phase; the time it takes for a patient to complete the ICM3 action phase; and, the average additional benefits dollars spent per patient.

My quantitative results measuring the individual level impact T1 to T2 on the instruments demonstrated:

- Overall improvement.
- Several dimensions changed significantly on the OEI, showing both increasing and decreasing effectiveness.
- Overall decline with no significant change in employee engagement on the Utrecht Work Engagement Scale.
- Some significant improvement in employee mental health on the SF36v2.
- Non-significant improvement in all the categories of positive organizational practices on the Positive Practices Survey.

There were also significant relationships between business outcomes and team level outcomes on certain dimensions of health as measured by the SF36v2, and between business outcomes and team-level positive practices as measured by the Positive Practices Survey.

On the organizational level, I used the OEI to measure overall organization impact. It was included in this study because of its ability to empirically measure a broad range of behavioral causal and outcome dimensions in an organization; it has dimensions that will allow us to infer the impact of the change on the organization at the end of the first twelve months. It was designed to be an efficient means to identify important levers for change and improvement (Szumal, 2012). Using this instrument over time, we can hopefully identify additional levers to improve this change initiative and

position ICM3 for increased future effectiveness. Five of the 39 dimensions changed with enough coherence to reach the .05 level of significance and one more approached this threshold. Three dimensions moved in the expected direction of reduced effectiveness: “identity” decreased highly significantly (.006); “role clarity” decreased significantly (.03), and “significance” (a dimension called “significance”) decreased significantly (.029). Three dimensions changed in the opposite direction of expectations, or improved at T2: “personal bases of power” improved highly significantly (.002); “upward communication” improved significantly (.043); and, “inter-unit coordination” improved nearly significantly (.055). The other 33 dimensions did not show a change T1 to T2 meeting the significance thresholds.

Another way to look at the data is to compare ICM3 to the OEI benchmark of effective organizations (Human Synergistics, 2013). At T1, ICM3 had exceeding the instrument benchmark in 25 of these 39 dimensions with only 3 dimensions below 90% of the benchmark figure. At T2, ICM3 had 26 of these 39 dimensions exceeding the benchmark, with only 3 dimensions below the 90% threshold. This perspective suggests that ICM3 both in 2012 and 2013 appears to resemble other effective organizations in almost every dimension measured on the OEI. This further suggests that the major organizational change underway at ICM3 was not having a significant negative impact on the organization as a whole at T2.

The mean scores for the “mental composite score” dimension on the SF36v2 increased by 2.21 points (3 points is a full category of improvement at the group level), and this change was significant at the .0028 level. This means that the organization as a whole moved toward better mental health from T1 to T2. Further, the SF36v2 subcategory called “role-emotional,” which measures mental health related to work role, improved by 1.16 points, at a level approaching significance with a p-value of .057. On two measures of mental health employees at ICM3 were healthier at T2, which is movement in the opposite direction of expectations for an organization in the midst of a major organizational change.

The Positive Practices Survey did not have any dimensions T1 to T2 that reached the significance threshold. The “positive energy” dimension was approaching significance at .059. This dimension is a measure of the impact leadership has on the organization; it measures whether the impact with employee interactions with leadership are energy giving or not. On the descriptive level it is important to note that all the categories of the Positive Practices Survey had a higher or more positive mean score in T2. There was just too much variance to meet the significance threshold. My population N is small, which impacts this outcome. Descriptively, the organization looks more positive.

Further, I identified several dimensions of mental health as measured by the SF36v2 and a couple of positive practices as measured by the Positive Practices Survey that

were shown on bivariate regressions to be significantly related to three of the ICM3 business outcomes. From a sustainability of the business perspective, the most valuable of these relationships, from the business perspective, was found in the Positive Practices Survey, because these results were not only statistically significant, but they were also immediately actionable and would lead to increased patients, therefore increased impact and increased revenue.

There are business outcomes significantly related to instrument outcomes on the SF36v2 in supporting a reduction in time in both the assessment phase and the action phase at ICM3. In both cases it is a bi-directional relationship with two different variables. This means that in order to improve the business metric, you have a counteracting effect between two dimensions where improvement in one dimension improves the business outcome and improvement in the related dimension limits some of this improvement.

With the assessment phase, the average patient time reduces at the team level when you simultaneously improve the subcomponent dimensions of “social functioning” (dimension improvement reduces phase time) and “mental health” (dimension improvement limits phase-time reduction). In this case it is the physical health portion of social functioning that influences this result. The ICM3 assessment phase is the most rigorous, procedure-driven phase, with higher levels of organizational visibility, accountability, and time pressure. It makes sense that improving employee physical

health would positively impact this phase, because it requires the most overall employee energy in a relatively short period of time to complete.

In the action phase of our program, a better outcome occurs when you simultaneously improve the subcomponent dimensions of “mental health” (dimension improvement reduces phase time) and “physical functioning” (dimension improvement limits phase time reduction). In this phase of our program the team is spending nine months to two years with the patient while they attempt to successfully make and sustain healthy life change. As the employees’ mental health improves, their ability for increased compassion, empathy and tolerance, and presence improves, which helps the patient make and sustain the desired changes.

Because all the means in T2 in the Positive Practices Survey improved, it was decided to explore this instrument in greater depth, I aggregated dimensions following a factorial analysis which led to the creation of two new composite variables each aggregating three of the original Positive Practices Survey variables. These clustered as the more emotionally centric outcomes (inspiration, caring, and forgiveness), which I called the “emotional-composite,” and the more cognitively centered outcomes (positive practices, positive energy, and meaning), which I called the “cognitive-composite.” Regressions with the “emotional-composite” variable showed a very strong relationship with our number of new patients business metric. This composite was significant at the $p = .019$ level. Diving deeper into the three

components of this composite revealed that two of these dimensions, inspiration and caring, emerge as drivers of the increased levels of new patients. The third dimension of forgiveness did not measure as significantly related to this business metric. Because the individual variable regressions were impactful but a bi-variate regression with inspiration and caring was not significant, I created a new composite variable called “inspired-caring,” which was very strongly related to our number of new participants. This direct relationship between a new composite dimension of “inspired-caring” with an improving number of new patients in our program made business sense. In looking at the combined dimension, it is about sharing enthusiasm, co-inspiring, and being responsive to each other. A team that is increasing in this dimension would have better outcomes in making the invitation follow-up cold calls to prospective new patients. Not only did this give us a new way to improve outcomes, it was immediately actionable. In fact, ICM3 made a significant change to our business process in the last calendar quarter of 2013 in alignment with this “inspired-caring” to new-patient relationship, and we saw improvement in the number of new patients on the teams where this change was implemented.

In summary, there was overall improvement seen in effective organizational behaviors and several dimensions showing changes meeting the significance threshold in both the expected direction of reduced effectiveness and the unexpected outcome of improved effectiveness on the OEI. Non-significant reduction was seen in employee engagement on the Utrecht Work Engagement Scale. Significant

improvement in employee mental health was seen on the SF36v2. Non-significant improvement in all the categories of positive organizational practices was seen on the Positive Practices Survey, and, finally several of the instrument dimensions were significantly impacting improved business outcomes.

These findings are significant as we tied business outcomes to the Positive Practices Survey in a meaningful way and the literature on major organizational change shows that these types of measures traditionally decrease rather than stay steady or go up as they did in this case (Dahl, 2011; Jimmieson et al., 2004). My results suggest that an organization can not only mitigate the expected negative effects of a major change effort, but it can transform these outcomes to positive effects by focusing on three things: 1) Improving employee mental health; 2) Increasing positive practices, including leadership's impact on the organization; 3) Improving employee involvement, communication, and teamwork. Finally the results also show that certain aspects of employee mental health and positive practices are significantly related to business outcomes. Major organizational change outcomes can be successfully informed by linking business outcomes with instrument dimensions. This will both support future organization business success and reinforce the value of measuring the impact on people and the organization as an integral part of a major change.

The following chapters include a literature review, the research design, results of study, discussion of results and implications for research and practice. Chapter 2, the literature review, looks at the success rates of major organizational change, the impact of change on individuals and organizations, and positive organizational scholarship as an alternative approach to organizational change and study. Chapter 3, the research design chapter, looks at each of the selected instruments and how they are appropriate for use in this study. Chapter 4, the results chapter, provides a summary of the data output, descriptive statistics, data analysis. Chapter 5, the discussion chapter, provides review of the results and sense making for each of the hypotheses and reviews the limitation of the study. Chapter 6, the final chapter, contains implications for future research and practice and finally outlines the contribution to the field.

Chapter 2: Literature Review

This chapter reviews the relevant literature from various fields to ground this study. The primary focus of this study is to better understand the impact of going through a major organizational change on business outcomes and employee and organizational health.

To support this understanding, I will take a look at the success rates and impacts of change from the individual level to the organizational level. I will look at what has been identified as contributing factors to both successful organizational change as a way to mitigate some of the negative impacts of organizational change. Finally, this chapter will conclude with an overview of positive organizational scholarship and why the different viewpoint this approach takes is valuable. The support for the instruments used in this study will be covered in the Research Design Chapter.

Change—Outcomes and Impacts

Change is change; the context of this initiative, whether it be the individual, the dyad, a group, or an organization in many ways does not matter. There are similarities in making a decision to initiate a change, the dynamics that exist during a change, and the outcome or results of these initiatives. Each of these contexts involve people who have to attempt to change behaviors for the initiative to be successful; the dynamics of change increase in complexity as more people are involved (Van De Ven & Poole, 1995).

When an organization undertakes a major change, the status quo is no longer desired, and for an almost infinite number of reasons, a future state is more greatly desired. This leads to actions being put in place to enact movement towards this desired future. This same decision process occurs regardless of the context. Individuals deciding to implement a significant personal lifestyle change, such a significant weight loss, go through a similar process, as do couples deciding major life events such as getting married, or groups in the workplace looking to change a central work process. Also similar is the optimistic bias present at the start of most change initiatives. When change initiatives are launched, the expectation is mostly only for success whether change is a major organization redesign (Lovallo & Kahneman, 2003), a new business startup (Cooper, Woo, & Dunkelberg, 1988), a new marriage (Boyer-Pennington, Pennington, & Spink, 2001), or a personal lifestyle change program (Polivy & Herman, 2002). The reality in all these areas is that a successful sustainable outcome happens much less often than projected at the start of each event.

Individual behavior lifestyle change success rates are very low; for example, for lifestyle changes such as weight loss or smoking cessation the sustained success rates are less than 20%; or an 80% failure rate (Jeffery et al., 2000; Zhu, Melcer, Sun, Rosbrook, & Pierce, 2000). Better, about 60% of marriages sustain, the often cited divorce statistic of 50% is actually overstated, as the actual success rate is 59%; or a 41% failure rate (Hurley, 2005). Similarly, 60% of new business startups make five

years; but under 30% of new business startups make 10 years; this is a 40% to 70+% failure rate, depending on your time frame (Xanthopoulou, Bakker, & Ilies, 2012). Finally, it is often stated that only 30% to 50% of organization change interventions are successful (Kotter, 1995).

The endpoint of most organization change efforts is failure, and regardless of the context, the endpoint of about half of any type of change effort is failure. According to Decker, et al. (2012) the complete range of estimated organizational change failure rate is between 28% and 93%, with the higher end of the range coming from consulting company reports and executive opinions. It is not surprising that an exact success or failure rate is difficult to establish. In all of these contexts there is not any clear methodology for knowing how many change attempts there are, who succeeded, and who failed.

Given the challenges of change, it is not surprising that organizational change appears to most often end unsuccessfully. The path to failure in organizational change is not discriminatory; the poor success results apply uniformly for total quality management, joint ventures, advanced manufacturing technology approaches, information system implementations, and organizational culture changes (Burnes, 2011; Cândido & Santos, 2011; Goodman & Dean Jr, 1981; Kotter, 1995). Smith, (2002) created a summary showing the aggregate success rate of all types of changes was 33%; see Table 1.

Table 1. Success Rates of Change

Type of Change	Number of Studies	Sum of Sample Sizes	Median Success Rate
Strategy deployment	3	562	58%
Restructuring and Downsizing	9	4,830*	46%
Technology Change	5	1,406*	40%
Mixed Collection of Change Efforts	1	23	39%
TQM-driven Change	5	863	37%
Mergers and Acquisitions	9	395*	33%
Re-engineering and Process Design	7	3,442*	30%
Software Development and Installation	6	31,480	26%
Business Expansion	1	200	20%
Culture Change	3	225*	195
All	49	43.426*	33%

*One or more reports did not state the sample size.

Source: Smith (2002, p. 27)

Hughes (2011) questioned the oft-cited 70% figure for organizational change failures and traced back the citations for these figures to five frequently-used references. In each of these originating articles, the failure rate was either explicitly stated as unscientific, was stated as a range, or was provided as an opinion with no supporting empirical evidence for this metric. Regardless of the actual percentage, the high failure results for organizational change efforts should not be surprising. As discussed previously, change at any level is difficult, organization-level change is more difficult

than individual, dyad, or group change because as the nested levels of people involved increase, so does the complexity of the dynamics involved (Van De Ven & Poole, 1995). At the organization level, in order for successful change to occur there has to be successful change at the individual and group levels (George & Jones, 2001; Rafferty et al., 2013). Framing an organization change as a collection of individual changes, where some percentage of these individuals and then groups have to successfully change in order for the organizational change to be successful (whether this is a 51% majority or the 20% tipping point) could lead to a conclusion that even a one-third success rate is actually not an abysmal failure rate but an outcome that is incredible (Gladwell, 2000).

The impact of change on people

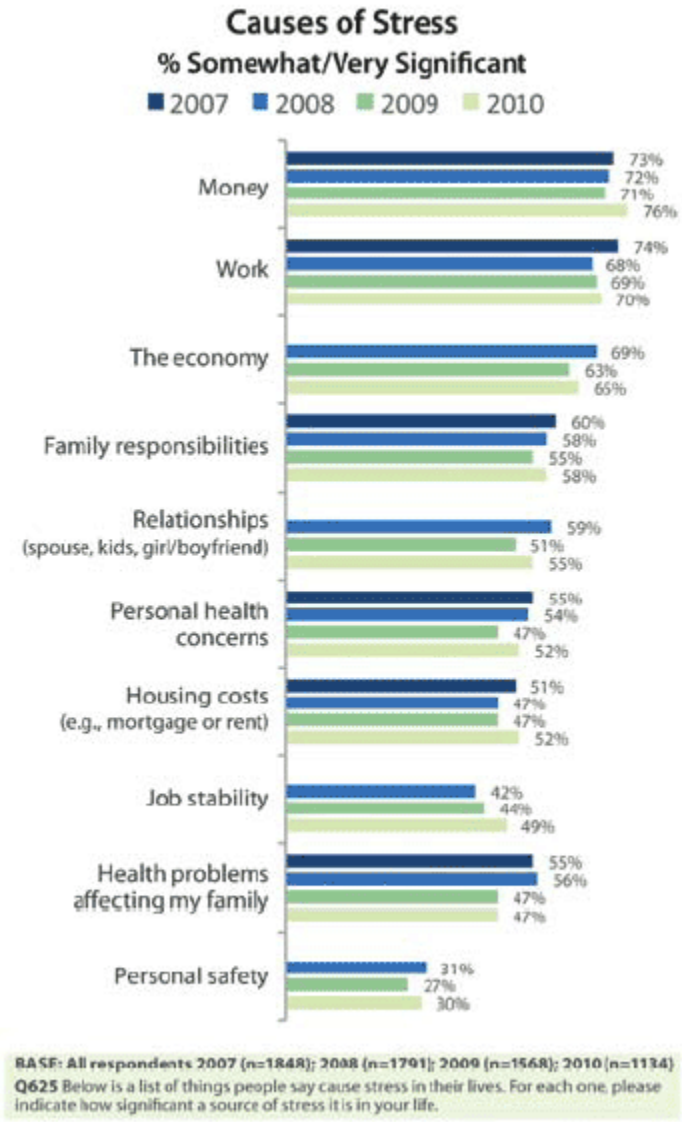
During any significant change process, individuals experience an increased level of stress. All forms of change are transitions that create stress (Bridges, 1986). *Stress* at its root definition is a neutral term—it is neither a positive nor a negative outcome; it can be viewed as merely being subject to additional pressure. If this additional stress creates positive outcomes, it can be called *eustress*; if it creates negative outcomes it is called *distress*. A positive example at the individual level is if an individual desires to improve their fitness level, what occurs is putting the body through a series of actions that over time add more stress to the body and as the body acclimates (improves the level of fitness). The amount of stress that can be added can be increased to continually improve the fitness level, within limits.

In the organizational literature, the impact of stress is almost always defined with negative loading, such that when stress is mentioned it is actually pointing to a level of stress that is creating negative individual health outcomes. In health literature, stress is nuanced as *distress* and *eustress* (McVicar, 2003; Simmons & Nelson, 2001; Simmons, Nelson, & Neal, 2001). It is not insignificant that in the organization literature, the nuanced difference between eustress and distress is not commonplace and distress is simply referred to as stress. The agreed definition in the organizational literature is to look at stress as something to be minimized (Le Fevre, Matheny, & Kolt, 2003). Occasionally the organizational literature will refer to eustress, but only rarely. In the organizational context, if change generates a positive feelings such as increased sense of meaning, hope, or vigor, it is referred to as eustress (Nelson & Cooper, 2005).

In a recent review, Ganster and Rosen (2013) looked at work stress and employee health and summarized the last 20 years of research into an organizing framework using the stress Allostatic Load model. The Allostatic Load model shows that there are three ways stress (distress) impacts individuals: primary processes, secondary processes, and tertiary processes. Primary processes are in what is called the initial adaptation phase, where the impacts on the individual happen on the psychological (fear, tension, anxiety); the physiological (cortisol, epinephrine, interluken-6); and the psychosomatic (sleep disturbance, headache, fatigue) levels. Ganster and Rosen's (2013) review showed that there is consistent evidence supporting a link between

work stressors and affective outcomes such as anxiety, job attitudes, and job related tension. The primary process impacts are relevant in this study, because the impacts in the secondary and tertiary levels take longer to manifest than the time period we are studying. As this project continues beyond this dissertation the secondary and tertiary processes in the Allostatic Load model may become more relevant.

The American Psychological Association (APA) and the Centers for Disease Control both cite chronic work related stress as impacted over 40% of the workforce. The APA further stated that even in exemplary organizations this figure is still at 30% and that overall stress is a burden impacting more than 75% of the population (American Psychological Association, 2010). See Figure 1 for the current (2011) US adult population stress measures, per the APA, on stress.



Source: American Psychological Association (2010, p.8)

Figure 1 Causes of Stress per APA

The relevance of this to the impact of significant organizational change is to realize that any change initiative happens in an environment where most of the workforce already has significant stress and any additional stress may lead to negative personal

health outcomes for employees or more quickly lead to negative responses to the additional change from the employees. Finally, Manning participated in several studies looking at the impacts of stress in the workplace, focusing on business outcomes related to health care costs and absenteeism (Manning, Jackson, & Fusilier, 1996; Manning & Osland, 1989).

Change creates stress. The primary impact on individuals is increased stress. Can we in the field of organizational change find a way to create organizational change in such a way that we need to nuance the difference of distress and eustress? Can we build a possibility where we are trying to identify the causes in organizational change that are improving individual health outcomes in the employees? We will never know if we don't start to measure health outcomes. If we are only measuring distress, we will most likely only find varying levels of distress. Heaphy and Dutton (2008) put out a call that management researchers should pay more attention to human physiology in understanding the impacts of organizations on people. I suggest we answer and expand this call to include physical and mental health impacts, particularly in the area of organizational change.

The impact of change on organizations

This section will look at what happens in the midst of a change on the organization level. A little forewarning: It is not pretty. An organization is made up of the people who work there; understanding all of the dynamics involved in a major organizational change would be impossible. From a systems perspective, it is an overwhelming

aggregation of the dynamics of relationships and responses of all the individuals, including their personal response to change, to each other, and to the organization (Senge, 2006). Again, from this perspective, a 1/3 success ratio is beginning to look more like it should be defined as an immensely positive outcome.

In the workplace it is not unusual to see major change efforts leading to increased grievances, higher turnover rates, low efficiency levels, and restriction of output (Elrod II & Tippett, 2002). Elrod and Tippett (2002) also state that there is a well-known dip in performance during the implementation of significant change; they summarize fifteen different change models and identify the negative impacts during the transition process; see Figure 2 for the 15 outcomes that occur in the midst of the change process or during the transition period:

Resistance	Anger, bargaining, chaos, depression, resignation	Defensive retreat	Moving	Anger, bargaining, depression
Negative independence	Defensive retreat	Reaction or rebellion	Depression/ incompetence	Anger, bargaining, grief
Dodging	Confusion, immediate criticism, denial, malicious compliance, sabotage, easy agreement, deflection, silence	Pseudo-team	Crisis, muddling through and procrastination, chaos	Double-loop unfreezing

Source: Adapted from Elrod and Tippett (2002)

Figure 2. Organizational Outcomes During the Change Process

The transition period is the space between the start of the change initiative and when the change is considered done or is abandoned. In Lewin's (1947) words it is step two in his unfreeze-change-freeze change model. During this transition time period people enter into a place of letting go of the known and entering the unknown. It can be a time that for some is exciting, for others is terrifying; some will do everything possible not to change (Bridges, 1986).

Next I will summarize some more recent articles documenting these same impacts. What has evolved in the field is a more nuanced understanding of these negative

outcomes, the development of new constructs to explain these negative outcomes, and new ways to measure these negative outcomes. The field's ability to identify what is not working is impressive.

Vakola and Nikolaou (2005) show the relationship between stressors and attitudes toward change that lead to decreased commitment and increased reluctance to accept organizational change interventions. Grady and Grady (2013) bring an individual psychological model and apply it to organizations, showing that Attachment Theory can be used to explain such organizational outcomes as loss of productivity, lower morale, increased conflict, higher turnover, higher absenteeism, and lower motivation. Whelan-Berry, Gordon, and Hinings (2003) cite a variety of negative outcomes including organizational ineffectiveness, customer dissatisfaction, low morale, high turnover, and wasted resources.

One approach that has quite a bit of attention is an organizational application of an individual psychological construct, readiness for change (Prochaska & DiClemente, 1984). In the organizational literature, this construct has been utilized for the last twenty years evolving to incorporate not only the five stages of readiness for change but also a host of constructs that have been found to be barriers to achieving this change readiness. For a change to be successful, an organization has to ensure that readiness for change exists at all levels of the organization (Rafferty et al., 2013); it

must address factors such as employee cynicism (Reichers, Wanous, & Austin, 1997) and employee resistance to change (George & Jones, 2001; Maurer, 2010).

There is interdependency between the organization dealing with change and the individuals in the organization dealing with change. One perspective is that organizational change can be viewed as a critical life event that has the potential to evoke stress reactions and other negative consequences in employees (Jimmieson et al., 2004). Dahl (2011) studied organization change as related to employee health problems he showed that there is a relationship between the breadth and depth of the change and the negative impacts. In fact he measured health outcomes and saw more prescription use for anxiety, insomnia, and depression correlated with the depth of the change.

After more than six decades of study we can frame the dynamics of what happens in an organization change in a much more nuanced and sophisticated manner, but the hoped for outcomes of consistent success remain elusive. The field of organizational change has built a broad repertoire of constructs and models. Most of the models to not take into account the messiness of organization change in an attempt to simplify the endeavor to a more linear concise, publishable, teachable, sellable model (Fishman, 1997; Miller, 2002).

It is not surprising that if you know that change is difficult on the individual level, and groups are made up of individuals, and organizations are made up of groups, that all the difficulties and dynamics at the individual level are aggregated and potentially magnified at the organizational level. If 30% to 40% of employees are already chronically distressed because of work and if we add those that are somewhat distressed for any reason, the percentage increases to 75% or higher. Understanding the baseline stress level of the workforce is important. Organizational change is an additional stressor to the employee, but not the only stressor.

This is the context in which organizations attempt to initiate major organizational changes. I will mention one final perspective on change outcomes integrating a social constructionist framework (Gergen, 1978). The reality is that most of the employees involved in a major organizational change have been involved in previous organization change initiatives, either in their current organization or a previous one. This is important because, as I have shown, most change initiatives are not successful. This creates an abundant history of failed changes that inform the employee narrative on organization change. This narrative creates employee expectations upon the announcement of an organizational change, which in turn informs what employees pay attention to during an organizational change. It also prioritizes or normalizes what is discussed by the employees—all of which will impact a change, usually negatively. Much of this negative impact lies dormant, ready to be engaged even before an organizational change is ever started.

It appears that the optimistic bias in prospective change success outcomes is necessary for an organization to even consider undertaking a significant change initiative. If an organization had to sign a release stating it understood the likelihood of success was less than 30% to 50%, that even if the final outcome is successful there was a virtual certainty that from start to finish the organization would wade through the set of negative organizational outcomes that negatively impact most of their employees, only the organizations that were at the brink of survival or those run by delusional individuals would willingly engage in a major change effort. Six decades of research has identified some moderators to the negative impacts of a major change effort, which I will discuss in the next section

Mitigating the negative impacts and outcomes of change

There are hundreds if not thousands of change models written about in the organizational literature or sold by consulting firms. Many of them include a few core elements that are important to have a more successful change outcome. These core elements include leadership commitment, employee involvement, improved communication, and improved teamwork.

These are important points of reference in the context of the preceding two sections and in the context of this study. The role of leadership is to create the need for the change and to stay committed to the change process (Goodman & Dean Jr, 1981;

Kotter, 1995; Miller, 2002). Too often changes are initiated then abandoned or undermined along the way, leading to failure.

Improvement in employee involvement was another factor that could help either improve the success of the change initiative or help mitigate the negative impacts along the way (Hugentobler, Israel, & Schurman, 1992; Soumyaja, Kamalanabhan, & Bhattacharyya, 2011). Making the case for change and including employees in the process of identifying what needs to be changed and helping build the plans to implement this change will help reduce resistance and show the employees that the organization values their input and is willing to share control of the change initiative. Changes that do not involve the employees in the identification of options or the plans for implementation, if those changes are dependent on employees to be successful, have a much higher chance of failing.

Improved communication was mentioned in almost every article—first focusing on how communication is needed to create the need for change and then on how critical it is to keep lines of communication flowing up, across, and down the various levels and departments in the organization (Decker et al., 2012; Elving, 2005; Kotter, 1995; Soumyaja et al., 2011). In the midst of a change process, the organization needs to be communicating with the employees constantly—holding up the vision for the change; reporting on how the change is going; identifying what needs to be done next; sharing

what has been learned throughout the organization; and sharing best practices where have others been successful.

The next element mentioned was that organizations that improve teamwork are supporting better organizational change outcomes (Rafferty et al., 2013; Ramanujam & Rousseau, 2006; Whelan-Berry et al., 2003). In the nested loops concept of individuals, dyads, groups, organizations; improvement in a smaller level unit promotes improvement in the next level up. Increasing the effectiveness and collaboration within and across teams will help organizations with their change initiatives. The preceding four elements are factors that in other studies have suggested better change outcomes.

There is one additional construct worth mentioning because of the amount of research published: Resilience has been studied at both the individual and the organizational level. Resilience has roots in both the physiological and the psychological literatures (Tusaie & Dyer, 2004). Physiologically, humans have built in mechanisms to foster resilience in the face of adversity; psychologically it is the capacity to move positively in the face of traumatic or stressful experiences (Tugade & Fredrickson, 2004). It is different than recovery, which means there is a period of time where normal functioning is suspended. Resilience involves the maintenance of equilibrium with no loss of functioning (Jackson, Firtko, & Edenborough, 2007). Interestingly the notions of recovery seems similar to what is mentioned in the traditional organization

change literature where there is a decrease in productivity, or a suspension of normal functioning, and then an eventual return to the previous levels, or if optimal the achievement of a more effective level.

On the individual level, resilience can be seen as a combination of self-esteem, optimism, and perceived control. It has been shown to be related to higher levels of change acceptance; however it was not predictive of a more positive view of organization change (Wanberg & Banas, 2000). On the organizational level there are two perspectives: the ability to rebound from adversity quickly (similar to hardiness), and the ability to capitalize on the challenges to expand capacity (Lengnick-Hall, Beck, & Lengnick-Hall, 2011). In order to be able to do the latter, four essential contextual conditions are needed: psychological safety, deep social capital, diffuse power and accountability, and broad resource networks (Lengnick-Hall et al., 2011). I have looked at the chances of overall success in organizational change. I reviewed how change impacts individuals and how it impacts organizations in particular during the transitions period or in the middle of the change process. I identified four processes that can help improve the success factors and or mitigate some of the expected negative impacts of change. Those four elements have been identified and in practice for a long time such that the overall 30% to 50% organizational change success rates mentioned already fully integrate the academic and consulting field's awareness of and use of these four (and many other identified) elements in attempts to achieve successful change outcomes. This suggests that these elements, while helping

at some level, are not a complete answer to the challenge of organizational change. There is a more recent approach to change and the study of organizations that is generating interest and may offer improved outcomes called positive organizational scholarship, which I will look at in the next section.

Positive Organization Scholarship

Up to this point, this chapter has reviewed the most frequently cited impacts of organizational change on the individual and the organization level, showing that the chances for successful outcomes were low; that the impacts of change on the individual were primarily distress inducing; and, on the organization level, even for those changes with successful outcomes, mostly negative impacts occur in the middle of the change. The above understandings form the core of the organization change or management understandings. We have been studying organizations for over fifty years, and still mostly are not that proficient at orchestrating organizational change. We would be more successful at change if it weren't for the people involved; they confound the outcomes—a paradox that will never change. In the traditional organizational change approaches we identify the problems and attempt to fix or correct the deficiency.

We then use this same model of fixing a problem or deficiency to evaluate the unsuccessful change intervention itself. We identify what went wrong with an organization change process and construct nuanced understandings of things like employee resistance, or employee cynicism, or employee commitment, or the impact

of employee stress. Then we develop solutions to those problems. This is a cycle that seems never ending. Fortunately, there is another approach.

This section will take a look at a different way of understanding organizations and the dynamics therein—positive organization scholarship. The positive organization scholarship field's origins are with the positive psychology movement, whose initial framing is often linked to Seligman (Seligman, 1990), and appreciative inquiry developed by Cooperrider. Appreciative inquiry is a mode of organizational intervention that was designed to be co-inquiry with all organization members focused on the best of what exists then jointly co-creating an organization's future (Cooperrider & Srivastva, 1987). For the sake of balance alone, a conscious step into the possibility of positive outcomes is a refreshing offer with a different perspective. I will explore in greater depth one of the initial and most popular change approaches in this field as an example of taking a different approach, appreciative inquiry. In their initial writing, Cooperrider & Srivastva (1987) used the core principles of action research as the premise for a new model that changed from the objective of solving "an endless stream of problems" (p.151) toward an approach that accepts that there are many ways of *knowing*, and any one way may be accurate and valid when considered through the lens of the background, experiences, assumptions, and objectives that surround the knowledge. Through an in-depth analysis and review of the tenants of action research, they reviewed the development of the action research approach, culminating in the proposition that the field was ripe for a new perspective

or approach to action research, and that new approach should be one founded in the generative approach of appreciation. This new approach was called *appreciative inquiry*.

This approach holds nine principles as important. The four original principles from Cooperrider and Srivastva (1987) are:

- The inquiry must begin with appreciation,
- The inquiry is applicable,
- The inquiry is provocative, and
- The inquiry is collaborative.

The most important of these is the first one, as it sets this approach in a different direction than the change models reviewed previously. It does not start with problem solving or deficiency identification. Rather, this approach starts with looking for when an organization was operating at its best. The remaining three original principles follow the common definitions of applicable, provocative, and collaborative. Five additional principles were added by Cooperrider and Whitney (2001):

- The constructionist principle,
- The principle of simultaneity,
- The poetic principle,
- The anticipatory principle, and
- The positive principle.

I will expand on these five briefly as they are less commonly used.

Bushe and Kassam (2005) explain the constructionist principle as an acceptance of the social constructionist perspective as a core assumption of appreciative inquiry including recognition that "how we know and what we do are closely interwoven" (p. 166). This idea has been supported by Ludema, Cooperrider, and Barrett (2001/2006) who suggest that "human systems grow in the direction of what they most persistently, actively and collectively ask questions about" (p. 24). As such, the inquiry must include as many members of the organization as possible so that all participate in the construction of the new reality (Ludema, Cooperrider, & Barrett, 2001/2006).

Bushe and Kassam (2005) continue on to explain the principle of simultaneity as recognition that an inquiry is, in and of itself, an intervention. Essentially, the argument is that once an individual begins to ask questions, the system begins to change; therefore, the questions themselves are of the utmost importance and must be chosen from that framework (Cooperrider, Whitney, & Stavros, 2008).

The poetic principle argues that organization itself is constantly being developed by and through the individuals within it and the stories they tell about and within the organization. This supports the constructionist principle in the idea that the topics chosen and words used in conversation have an impact on the organization, and

therefore the language used in the inquiry is important and impactful. Care must be used to select words that emphasize and inspire the best in people (Bushe & Kassam, 2005; Cooperrider et al., 2008).

Finally, the anticipatory principle says that what we do today is guided by our image of the future and the positive principle states that momentum and successful change require positive affect and social bonding (Bushe & Kassam, 2005). We live in the world we imagine, and this determines what we pay attention to, how we interpret it, what we discuss, how we discuss it. We do this in relationship with others. If our change models are about problems, we will look for problems and talk about problems and find problems. If we only measure stress we will find stress; if we measure health we may find health. If we measure eustress and distress we may find both.

Appreciative inquiry was framed at about the same time that the field of positive psychology emerged. One of the first positive psychology writings is attributed to Seligman. In his book *Learned Optimism,* Seligman (1990) states that there are benefits to an optimistic outlook, including higher achievement and better health. As this positive psychology expanded, it began to develop organizational applications and theorists who were searching for ways to enhance the positives or leverage individual strengths instead of “fixing” the negatives. An important concept that was more easily linked from the personal frame of reference to the organizational was

Csikszentmihalyi's (1997, 2005) concept of *flow* describing times when an individual is operating from their strengths and is in a place of full engagement in the present moment. Organizations that could help create contexts where employees could operate in a flow state, or where a culture of optimism exists, would theoretically have better performance.

After 2000 the positive organizational scholarship field started to take root and a host of organizational constructs were developed to begin to look at not only change but organizational life from a positive lens. Instead of focusing on the negative impacts on employees the focus included positive emotions and work outcomes (Staw, Sutton, & Pelled, 1994) or the impact of positive affect (Fredrickson, 1998; Fredrickson & Losada, 2005). Instead of looking at employee burnout or exhaustion the new lens looked at work engagement (Bakker, Tims, & Derks, 2012; Schaufeli, Martínez, Pinto, Salanova, & Bakker, 2002). Instead of looking at resistance to change the viewpoint included the amplifying and buffering impacts of Organizational Virtuousness (Bright, Cameron, & Caza, 2006; Cameron, Bright, & Caza, 2004). In the place of readiness for change, Cameron, Mora, Leutscher, and Calarco (2011) suggested Organizational Positive Practices. Instead of looking at the negative impacts of change, this new field suggested constructs such as flourishing (Bono, Davies, & Rasch, 2011; Fredrickson & Losada, 2005); as well as links to well-being and stress (Harter, Schmidt, & Keyes, 2003).

There is a sister field to positive organizational scholarship called positive organizational behavior. It is “the study and applicability of positively oriented human resource strengths and psychological capacities which can be measured, developed, and effectively managed for performance improvement” (Luthans & Church, 2002, p.59). This area has further created a specific set of criteria for inclusion. A construct from this field that may be relevant to this research is Psychological Capital, which is a second order construct made up of four positive organizational behavior constructs: hope, efficacy, resilience, and optimism. (Avey, Wernsing, & Luthans, 2008; Luthans & Avolio, 2014; Youssef-Morgan, 2014) Psychological Capital is operationally defined as

> an individual’s positive psychological state of development that is characterized by: (1) having confidence (self-efficacy) to take on and put in the necessary effort to succeed at challenging tasks; (2) making a positive attribution (optimism) about succeeding now and in the future; (3) persevering toward goals, and when necessary, redirecting paths to goals (hope) in order to succeed; and (4) when beset by problems and adversity, sustaining and bouncing back and even beyond (resilience) to attain success. (Luthans, Youssef, & Avolio, 2007, p. 3)

While not directly researched in this study, this construct will be mentioned later as a possible explanation for some of the outcomes seen at ICM3.

Finally, because at ICM3 we shifted from an LLC to an L3C, there is a single article explicitly linking positive organizational scholarship to social entrepreneurship (Hoffman & Haigh, 2011). Where the discussion is around positive deviance

(Spreitzer & Sonenshein, 2003, 2004), Hoffman and Haigh (2011) state that the most evocative are those organizations that create business models straddling the for-profit and nonprofit worlds.

As with any new academic approach, criticisms have emerged challenging the validity of the approach. The primary criticisms include that separating the positive from the negative creates a conceptually truncated picture (Fineman, 2006; George, 2004); that the differences in organizational power are not taken into account and it is an imposition of positivity (Fineman, 2006); and that there is no look at outcomes like profitability, productivity, or performance (Hackman, 2009).

If separating the positive from the negative creates a pathway for understanding another way to help organizations successfully change, I do not see the weakness in that approach. The current or traditional approaches to organizational change have yet to identify a process, a methodology, a series of constructs that supports consistent successful outcomes. The criticisms feel a little over dramatic. This is not looking for an immunization that will prevent and then therefore eventually cure smallpox; this is about finding another pathway to facilitate greater success in organizational understanding and organizational change. If the methods that were researched, known and practiced were working with a greater success rate than 30%, there might be a criticism that the positive organizational scholarship field was a reality-denying, feel-good repackaging of organizational change constructs. But the reality is that

traditional methods have lots of room for improvement, that the people working in organizations do not have a lot of capacity for additional distress, and that if the constructive principle is correct, looking at problems and deficiencies will only guarantee that problems and deficiencies are found and what we do with them will lead to more of the same. This creates an unending process of correcting our errors, both in how we initiate and survive organizational change and in what we do in organizations. It is no wonder we ended up studying concepts of the struggle with employee commitment and the resistance created by employee cynicism to change.

Measuring the Impact of Change on My Organization

Given the high rates of failure in organizational change initiatives cited above, as we at ICM3 embarked on our change process, I wanted to study its impact on employee mental and physical health, employee engagement, positive practices, organizational effectiveness, and business outcomes of new patient enrollment, assessment time, time to independence, and additional benefits dollars spent per patient. Based on the literature, my concern as owner of the business was that taking us through such a significant change might be detrimental to employee and organization health and hurt our long-term performance. My goal was to have the change be as close to neutral as possible—at worst to see less than a 20% overall reduction in employee health, organizational effectiveness, and business outcomes during the change. I felt that if the negative impact were less than 20%, we would be able to recover quickly and still have capacity for ongoing changes that were targeted. If nothing else, I felt that if we could pinpoint the negative effects of the change on specific dimensions of employee

and organizational health, we would be able to do things differently in future change initiatives and also contribute to the literature on successful organizational change.

Secondarily, I was interested to see if the specific process we were using to make the change would be reflected in our scores on employee and organizational health and business outcomes. As mentioned in Chapter 1, to make the transition from the LLC to the L3C, we used an appreciative inquiry approach (Cooperrider & Srivastva, 1987; Ludema, Whitney, Mohr, & Griffin, 2003). Based on the literature reviewed above, I believed that the appreciative inquiry approach would help to mitigate some of the negative effects of the change because it supports leadership commitment, employee engagement, improved communication, improved team work, and positive practices (Cameron et al., 2011), all of which have been associated with increased performance. While this study was not designed to explore statistical relationships between the appreciative approach and measures of personal and organizational health and business outcomes, I wanted to explore the possibility that there is an association between the two. In the next chapter, I turn to the methods I used to conduct my study.

Chapter 3: Research Methods

Research Design

In this dissertation, I use a quantitative research design to examine the question of what is the impact of going through a major organizational change on business outcomes and employee and organizational health.

Integrated Care Management L3C (ICM3) was changing organizational form and business processes from an LLC to a L3C. I collected data one week prior to launching the change process (T1) and one year later (T2). At the individual level, I used the Utrecht Work Engagement Scale to measure employee engagement and the SF36v2 to measure employee mental health. At the organizational level, I used the Positive Practices Survey to measure positive organizational practices and the Organizational Effectiveness Inventory® (OEI) to measure overall effective organizational behaviors. I also measured business performance indicators at the team level. These performance indicators included number of new patients (i.e., the number of new patients enrolled), assessment time (i.e., the time it takes for a patient to finish the assessment), time to action (i.e., the time it takes for a patient to achieve some independence), and additional benefits dollars spent per patient (i.e., the amount of additional benefits dollars spent per patient).

Instrumentation

The instruments used in this study are the Human Synergistic® Organizational OEI, the Schaufeli (2003) Utrecht Work Engagement Scale; QualityMetric's Short Form 36 Version 2 (SF36v2); and Kim Cameron's Positive Practices Survey.

This study was done inside a single organization, Integrated Case Management L3C (ICM3). All the employees were invited to participate in this project. This study used a series of instruments (Utrecht Work Engagement Scale, SF36v2, and Positive Practices Survey) that were either embedded in an online survey via Survey Monkey. The OEI was directly administered by Human Synergistics® via an email electronic link. At the front end of both the Survey Monkey online instrument and the OEI from Human Synergistics® was study participation consent language stating that all this information would also be used in research, a statement that participation is voluntary and could be discontinued at any time, and a statement regarding confidentiality. This consent required an affirmative reply in order to continue.

Since the principle researcher was a complete member of the organization, (Brannick & Coghlan, 2007) and the owner of the organization, all the data was directly gathered by a secondary researcher. The principle researcher was blinded this data to protect the identity of the employees. In both 2012 and 2013 all the employees participated in the Survey Monkey administration; in 2012 all the employees in ICM3 participated in the OEI and in 2013, one employee was unable to complete the OEI

due to technical computer connection issues. The surveys were available for one week, and the secondary researcher did follow up emails one time as a reminder. Complete organization participation was not expected but strengthens the possibility of finding more meaningful outcomes, at least as related to ICM3.

Organizational Effectiveness Inventory®

The Human Synergistics® outcomes reports (2012, 2013) discuss 31 specific factors that are causally related to culture. These causal factors are organized into five general categories:

> **Mission and Philosophy** focus on the extent to which the organization has successfully defined its identity and values to its members. The Organizational Effectiveness Inventory examined mission and philosophy in terms of how clearly they are articulated to members and their focus with respect to customers.
>
> **Structures** refer to the ways in which people, roles, and activities are ordered and coupled to create organization. The Organizational Effectiveness Inventory examined structures in terms of the extent to which they permit (or restrict) influence, empowerment, and employee involvement.
>
> **Systems** refer to the inter-related sets of procedures that an organization uses to support its core activities and to solve problems. The Organizational Effectiveness Inventory examined aspects of ICM3's human resource management, appraisal and reinforcement, and goal-setting systems.
>
> **Technology** refers to the methods used by the organization to transform inputs into outputs. The Organizational Effectiveness Inventory examined technology in terms of various job design characteristics the degree of interdependence among members.
>
> **Skills/Qualities** refer to the skills and qualities exhibited organizational members—particularly those in leadership positions. The Organizational Effectiveness Inventory examined skills and qualities in terms of communication, leadership, and sources of power within ICM3. (Human-Synergistics, 2012, pp. 3–4)

The OEI measures 12 specific outcomes that are related to the operating cultures of organizations. These outcomes are organized into three general categories:

> **Individual outcomes** focus on the extent to which ICM3 has a positive, rather than a negative, impact on the personal states and attitudes of its members. Positive measures include role clarity, motivation, satisfaction, and intention to stay; negative measures include role conflict, stress, and job insecurity.
>
> **Group outcomes** focus on the extent to which ICM3 effectively integrates and coordinates the efforts of its members and units. Specific measures include intra-unit teamwork and cooperation, inter-unit coordination, and department-level quality.
>
> **Organizational outcomes** focus on ICM3's effectiveness with respect to its external environment. Specific measures include organizational-level quality and external adaptability. (Human Synergistics, 2013, pp. 4- 5)

Although not as extensively used in academic research as its sister instrument, the Organizational Culture Inventory® (OCI®), possibly because of its length (120 questions), the OEI has reliability and validity measures done by Szumal (2012). It has been used to help determine organization effectiveness when combined with the OCI® in literature (Murphy, Cooke, & Lopez, 2013; Oakley, 2011). It was included in this study because of its ability to empirically measure a broad range of behavioral causal and outcome dimensions in an organization; it has dimensions that will allow us to infer impact of the change at the end of the first twelve months. It was designed to be an efficient means to identify important levers for change and improvement (Szumal, 2012). Using this instrument over time we can hopefully identify additional levers to improve this change initiative and position ICM3 for increased future

effectiveness. Appendix A lists the 39 dimensions measured in the Organization Effectiveness Inventory and their definitions.

The OEI also has comparative and benchmark information; they are referred to as the historical average and the constructive benchmark. The historical average is based on over 1,000 organizational units completing the OEI. The constructive benchmark is based on 172 units with predominately constructive cultures as measured by the OCI® (Human Synergistics®, 2012). A constructive culture is considered, in western societies, to be the ideal cultural style (Cooke & Szumal, 2000). I will look at ICM3 compared to both the historical averages and the constructive benchmarks at T1 and T2 as a means to help understand the context of ICM3 in relationship to other organizations. I will also look at the change in the gap from the constructive benchmarks at both T1 and T2 to understand the impact of the change at the one-year time period.

In this study we will be looking at the impact on the 39 dimensions of the OEI with two different lenses. What is the impact on employees through the ICM3 change—Are there results that achieve the threshold for significance? First, do these findings make sense in the context of ICM3? Second, how does the literature explain these results? If the results make sense in the context of ICM3, this is a form of ecological validity for the instrument outcomes. Without the ability to draw this connection, either further analytics are required to uncover a rationale or without this rationale it

could be a Type I error. I will be using the organization effectiveness inventory as a broad measure of the impact of this change on ICME3. I am not using this instrument as part of the business outcomes explorations because it is too general in nature.

Utrecht Engagement Scale

Work engagement is defined as a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption (Schaufeli & Bakker, 2004). Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective cognitive state (Schaufeli, Bakker, & Salanova, 2006). This survey instrument, comprised of 17 questions, was developed to find a way to measure, from a positive organizational scholarship framework (Schaufeli et al., 2006), the constructs others looked at as burnout with the core dimensions of exhaustion and cynicism. (Maslach, Schaufeli, & Leiter, 2001). This survey provides four measures, an overall work engagement measure and three components: vigor, dedication and absorption. Each question is rated on a seven-point Likert Scale. According to Schaufeli,

> Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge. And absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. (Schaufeli et al., 2006, p. 702)

The reliability and validity of the Utrecht Work Engagement Scale has been shown several times (Schaufeli et al., 2006; Schaufeli, Salanova, González-romá, & Bakker, 2002; Seppälä et al., 2009) and has been used successfully in several countries.

While the 17-question version was used in this study, the nine-question shorter version has also been proven valid as a general measure of engagement (Seppälä et al., 2009). With a differential of only eight questions, I decided the longer version was not any additional burden for the employees. The outcomes of work engagement include positive attitudes towards work and the organization, such as job satisfaction, commitment to the organization, and engagement is positively associated with work performance (Tomic & Tomic, 2011). Finally, there are indications that work engagement is positively related to health (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001).

In this study we will be looking at the impact on engagement with two different lenses. First, what is the impact on employees through the ICM3 change: Are they more engaged, not impacted, or less engaged? We will look at all four dimensions: overall engagement and the subcomponents vigor, dedication, and absorption. Second, we will conduct an exploratory investigation to see if there are any indications that changes in engagement are driving changes in ICM3 business outcomes.

SF-36v2® Health Survey

The QualityMetric Short Form 36v2® Health Survey (SF36v2®) is a multipurpose, short-form health survey with 36 questions that yields an eight-scale profile of functional health and well-being, as well as two psychometrically based physical and mental health summary measures and a preference-based health utility index (Maruish, 2011). It is a generic measure of health status and has proven useful in comparing general and specific populations, estimating the relative burden of different conditions, and differentiating the health benefits of various treatments. It has been used extensively in the US as well as having been translated, validated, and normed for extensive international use and comparison studies (Keller et al., 1998; Ware Jr & Gandek, 1998).

Permission to use the SF36v2® requires a license from QualityMetric Incorporated (now part of OptumInsight); this license was obtained in April 2012. This instrument remains one of the most widely used measures of health functioning and well-being. As of July 2011 it has been used in more than 17,000 publications (Maruish, 2011). It is the most widely used instrument in clinical trials for patient reported outcomes (Scoggins & Patrick, 2009). It is used as part of the Medicare Health Outcomes study because it was so well developed, is short and easy to administer (Jones, Jones, & Miller, 2004).

Because of their psychometric foundation, oft-proven validity, and frequent incorporation into studies published in peer reviewed journals, the SF36v2® is part of a group of surveys considered by many to be the gold standard of health-related, quality-of-life surveys (Brazier et al., 1992; Jenkinson, Wright, & Coulter, 1994; Keller et al., 1998; McHorney, Ware & Raczek, 1993; Ruta, Abdalla, Garratt, Coutts, & Russell, 1994). Because of its overwhelming acceptance the SF36v2® is often used to support the construct validity of other instruments. Because health plans, disease management programs, and employers use predictive modeling to ascertain risk and future costs, the SF36v2® can be used in areas to measure or forecast job loss, return to work and work productivity (Maruish, 2011).

The SF36v2® has been used a few times to measure an organizations culture (Shortell et al., 2000) or in looking at creating a healthy work site (Wilson, Dejoy, Vandenberg, Richardson, & McGrath, 2004), this study will be one of the only ones that attempts to link the measure of an employee's health as measured by the SF36v2® to organizational productivity and business outcomes.

The SF36v2® norming sample is representative of the US non-institutionalized adult population (over the age of 18). There are 36 items with one scale for each of eight measured health domains: physical functioning, role participation with physical health problems (role-physical), bodily pain, general health, vitality, social functioning, role participation with emotional health problems (role-emotional), and

mental health. All health domain scales are scored such that higher scores indicate better health (Maruish, 2011).

The SF36v2® utilizes norm-based scoring involving a linear T-score transformation method so that scores for each of the health domain scales and component summary measures have a mean of 50 and a standard deviation of 10, based on the 2009 U.S. general population. Thus, scores above and below 50 are above and below the average, respectively, of the 2009 U.S. general population. Also, because the standard deviation is 10, each one-point difference or change in scores has a direct interpretation; that is, one point is one-tenth of a standard deviation, or an effect size of .10 (Maruish, 2011).

For this study I will pay more attention to the Mental Composite Score and its subcomponents, in particular Role-Emotional. I focus on these two because in the twelve months between T1 and T2 there is not enough time for the negative impacts of stress or change to causally manifest into changes on the physical health dimensions as measured on the SF36v2® (Ganster & Rosen, 2013). Any changes on the physical health would not be able to be appropriately linked to the ICM3 change. As the study lengthens to measures in years four and five the physical health dimensions become salient. This follows the Allostatic Load Model of understanding the impact of stress and physiology (Ganster & Rosen, 2013).

The aggregates of the health domain scales are referred to as component summary measures, physical component summary, and mental component summary, because they were derived and scored using a factor analytic method called principal components analysis. Although they reflect the two broad components, or aspects, of health—physical and mental—all of the eight health domain scales are used to score both component summary measures. All but one of the 36 items (Item 2, Self-Evaluated Transition) are used to score the eight health domain scales (Maruish, 2011).

According to the SF36v2® user manual (Maruish, 2011):

> Factor analyses of correlations among the eight health domain scales of each version of the survey have consistently identified two factors (Ware et al., 2007; Ware Jr et al., 1995). Based on the strength of the pattern of their correlations with the eight scales, the two factors have been interpreted as physical and mental components of health status. (p. 16)

The physical composite score and mental composite score results provide, as their labels suggest, a summary of the respondent's health status from both a broad physical health perspective and a broad mental health perspective, respectively. Results on the physical and mental composite score measures should serve as a starting place for determining whether functional limitations exist in either of the two major components of health (Maruish, 2011). The subcategories and how they relate to the composite scores are shown in Appendix B.

The subcomponent Role-Emotional assesses mental health-related role limitations in terms of time spent on work, amount of work accomplished, and the care with which work was performed. Low scores reflect problems with work due to emotional problems (Maruish, 2011). Since this was a direct work-related mental health measure, even though it is subsumed by the mental composite score dimension, it was looked at independently for impact as well.

In this study we will be looking at the impact on the mental composite score and role emotional dimensions of mental health with two different lenses. First, what is the impact on employees through the ICM3 change—Are they healthier, unchanged, or less healthy in the composite mental health summary score or in their role emotional score? If so, are there variances in any of the eight sub-dimensions that add value to our understanding? Second, are any indications that changes in self-reported mental health outcomes, either of the composite scores or any of the eight subcomponents that are driving changes in ICM3 business outcomes?

Positive Practices Survey®

Cameron, et al. (2011) published an article about the Positive Practices Survey to help fill the gap of empirical knowledge linking behaviors to business outcomes in the positive organizational scholarship field. In this article the Positive Practices Survey® was used in two organizations, where it was shown that positive practices lead to business outcomes. The reliability and validity of the instrument was documented (Cameron et al., 2011). The instrument has not been used in follow-up published

articles since. The original article has been referenced 12 times according to Scopus as of March 2014.

The instrument has 42 questions that, according to Cameron et al. (2011) are categorized into eight dimensions:

> **Caring**—People care for, are interested in, and maintain responsibility for one another as friends
>
> **Compassionate support**—People provide support for one another, including kindness and compassion when others are struggling
>
> **Forgiveness**—People avoid blame and forgive
>
> **Inspiration**—People inspire one another at work
>
> **Meaning**—The meaningfulness of the work is emphasized, and people are elevated and renewed by the work
>
> **Respect, integrity, and gratitude**—People treat one another with respect and express appreciation for one another. They trust one another and maintain integrity (p. 271)

Two additional categories were included in the version of the instrument I used:

- **Positive energy**—A look at the impact the leaders of an organization have on the employees, do their interactions improve the energy or do they deplete the energy in the organization
- **Positive Organizational Practices**—Each category of the initial 6 categories above plus a question on virtuousness are asked if the organization supports or demonstrates each positive focused dimension.

This instrument was selected for use in this study to investigate positive organizational scholarship outcomes and in an effort to extend the value of the

Positive Practices instrument. This instrument looks at the organization level versus the individual level behaviors—a perspective that is relatively rare in this field. Further, I will be looking to link it directly to organizational level business outcomes, if this relationship is found to help ICM3 create value for the instrument, and address a call in the positive organizational scholarship field.

This instrument is not publically available; it was used with permission of the primary author. For the Positive Practices Survey there is no user's manual, and only one published article on instrument outcomes. Consequently, the ability to interpret the changes in this instrument will be narrower and more exploratory in nature. The version of the instrument used by ICM3 appears to have two additional categories from the one used in the Cameron et al. (2011) article. The Positive Energy and Positive Organizational Practices categories are new. Additionally, I included an overall mean average score as well, because Cameron et al. (2011) provide a measure for the average positive organizational practices score aggregated at the business unit level.

In this study we will be looking at the impact on organization positive practices with two different lenses. First, what is the impact on the eight dimensions of organization positive practices through the ICM3 change—Are they increased, not impacted, or decreased? Second, are there any indications that changes in any of the dimensions of positive practices are driving changes in ICM3 business outcomes?

Data Collection and Analysis

This study utilized the electronic data collection options available through Survey Monkey and from Human Synergistics®. One benefit of electronic surveys is that they can be set up so all questions are answered (none inadvertently omitted), only appropriate answers are selected (i.e. select only one option), and they give the respondent the opportunity to complete the instrument over multiple sessions without losing the work already done. All the employee survey data was filtered through a second researcher whose primary task was to protect the identities of the ICM3 employees from the principle researcher. To this end, for the data analysis, each person was given a coded entry for their name (a fruit). All the data given to the principle researcher was blinded with these codes.

The ICM3 business outcomes data was developed internally using ICM3 standard team Status Reports. These Status Reports have been generated since the inception of the program and for each team have a snapshot of all patients ever enrolled. One Status Report summarizes one teams work since inception. From these Status Reports three of the outcome variables were calculated: new patients in the last 12 months, time in the assessment phase for all patients enrolled at any time in the last 12 months who moved to the action phase, time in the action phase for all patients enrolled at any time in the last 12 months for all patients who moved to sustainability phase or terminated. A series of standard, team-specific claims exceptions reports were run by the claims team from the ICM3 benefits support database to provide the total

exceptions. This information was integrated with the enrollment data from the Status Reports to calculate an average exception cost per patient.

The employee survey data was shared with the principle researcher de-identified via Excel and it was converted by the principle researcher for use into Statistical Package for the Social Sciences (SPSS) software, as were the outcomes variables. Outside technical quantitative support and supervision from Dr. Carlos Mora was invaluable in creating the ways to measure the business outcomes relationships. All the statistical analytics were done using SPSS version 22.

In this study, consistent with the literature on failure rates in major organizational change initiatives, it was hypothesized that the expected negative impacts on the employees (increased stress, reduced mental health, lower engagement, increased role conflict etc.) and on the organization (decreased productivity) in the midst of a major organization change would be empirically seen. This study would also explore the instrument dimensions to identify which, if any, of the measured dimensions were significantly impacting the business outcomes. Since this study was part of a larger real-time organization change, it was important to the principle researcher, who was the owner of the company, that the organization and its business results improve, if possible, but more importantly, that the organization not be too significantly negatively impacted by this change.

Hypothesis 1

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3 as measured by the 39 dimensions of the Organizational Effectiveness Inventory® (OEI) are expected to move in the direction of less effectiveness.

Hypothesis 1a

Specifically, at least 3 of these dimensions will change in the direction of being less effective reaching the .05 significance threshold.

Hypothesis 1b

Specifically, none of the 39 dimensions will change in the direction of being more effective at the significance threshold level of .05.

This change will be reported using descriptive statistics and measured using the t-test (Field, 2009) looking for significance at the .05 level.

The 39 dimensions are listed in Appendix A, these measure attitudinal and behavioral indicators of effectiveness as well as internal factors and conditions that can impact effectiveness. I will be use the descriptive results to gauge the context of ICM3 and any directional movement either towards greater effectiveness or towards less effectiveness specifically in relationship to the gaps from the constructive benchmarks using the organization means. For purposes of the hypothesis testing, it is

the dimension change on the individual level looking for changes meeting the $p < .05$ threshold that will be used.

Hypothesis 2

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's level of engagement as measured by the 4 dimensions of the Utrecht Work Engagement Scale (overall engagement, vigor, dedication, and absorption) are expected to move in the direction of less engagement.

The scale on the Utrecht Work Engagement Scale ranks a 7 point Likert scale from 0 (never) to 6 (always) each ranking option also includes a definition for survey patients (*always* is every day; *very often* is a few times a week, *often* is once per week, etc.) The instructions are to select if you ever had the stated feeling at work. The instrument is scored with never being a value of 0 and always being a value of 6. With higher scores measuring higher levels of engagement, this includes the three subscales of vigor, dedication and absorption. The research shows that higher outcomes on this instrument would mean there are higher levels of engagement, which will lead to better organization outcomes (Tomic & Tomic, 2011). The expectation is that because this is a major change, the engagement will decrease. This change will be reported using descriptive statistics and measured using the t-test (Field, 2009) looking for significance at the .05 level.

Hypothesis 3

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's mental health scores in the mental composite score or the role-emotional dimension as measured by the SF36v2® Health Survey will decrease.

The SF36v2® is a 36-item instrument that uses various five-point Likert scales for 26 items and a three-point rating scale for the other 10. It generates two composite scores: a physical composite score (PCS) and a mental composite score (MCS). It also generates eight subscales: physical functioning, role-physical, bodily pain, general health (these four are primarily linked to the PCS score), vitality, social functioning, role-emotional, and mental health (these four are primarily linked to the MCS score) (Ware Jr & Gandek, 1998). The scoring on this instrument has been standardized such that a score of 50 equals the U.S. population average score and every 10 points from this average is equivalent to a standard deviation. This was done to more easily allow comparisons across time. A higher score reflects a higher level of health. Higher physical and mental health scores on the SF36v2® have been linked higher levels of organizational productivity. (Maruish, 2011) In this study it expected that the organizational change will reduce the overall level of composite mental health or role emotional health or both due to increased employee stress. The subscales and the physical composite score are included for insight if there is a

significant change and to see if there are any dimensions related significantly to ICM3 business outcomes. This change will be reported using descriptive statistics and measured using the t-test (Field, 2009) looking for significance at the .05 level.

Hypothesis 4

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's overall positive practices or at least one of the dimensions as measured by the Positive Practices Survey will significantly decrease.

The Positive Practices Survey is a 42-question survey that asks people to rate the extent to which each item is typical of your unit/department/team on a seven-point Likert scale ranging from "not at all characteristic" to "completely characteristic." The scoring is similar to the Utrecht Work Engagement Scale with 0 points for *not at all* and 6 points for *completely characteristic*. The dimensions included are: respect, support, caring, meaning, inspiration, forgiveness, energy, organization positive practices, and an overall score. The primary research article on this instrument shows that overall increases in positive practices are related to better business outcomes but this originally published study was unable to differentiate in a significant manner between the items (Cameron et al., 2011). In this study, it is proposed that because this is a major change initiative mid-stream that there will be measurable reductions in the positive practices. If there is a measurable difference further analysis will be

done with the eight components on the Positive Practices Survey. This change will be reported using descriptive statistics and measured using the t-test (Field, 2009) looking for significance at the .05 level.

Measuring organization outcomes

In order to measure which instrument outcomes were directly related to organization business outcomes, the individual instrument scores were used and a year-over-year variation calculation was done for each individual for each instrument dimension called the dimension deltas. This was done at the individual level for the Utrecht Work Engagement Scale, SF36v2® and Positive Practices Survey. These were then converted to a team scores by calculating the mean of the team members dimension deltas. These two scores were then compared subtracting the 2012 team mean score from the 2013 team mean score to get a single year-over-year team change (delta) score for each instrument dimension. At the team level I have business outcomes measures for the twelve months ending with each survey period, T1 and T2. An exploratory analysis will be done running a series of linear regressions using the four ICM3 business outcomes (new patients, time in assessment phase, time in action phase, and average exceptions) as the dependent variable and the instrument dimension team deltas as the independent variables. This was done to ascertain which, if any, of the team dimension deltas impact the business outcome deltas to see if any of the measured dimensions significantly impact the business results. Regression significance will be measured at the .05 level, if any of the dimensions is

found to be significant it will be an important finding both academically and for business improvement.

Hypothesis 5

Employee overall engagement and or one of the subcomponents as measured by the Utrecht Work Engagement Scale is directly related organization business outcomes such that increased engagement leads to increased business outcomes or the, opposite. That decreased engagement leads directly to decreased business outcomes.

Hypothesis 6

The dimensions of health as measured by the SF36v2® Health Survey are directly related to organization business outcomes such that increased health leads to increased business outcomes or the opposite that decreased health leads directly to decreased business outcomes.

Hypothesis 7

Increased positive practices in isolation or combination as measured by the Positive Practices Survey are directly related to organization business outcomes such that increased organization positive practices leads to increased business outcomes or the opposite that decreased organization positive practices leads directly to decreased business outcomes.

Measures to protect the participants

Several steps were undertaken to ensure the protection of the patients' rights. The first one was the right not to feel coerced. As this is insider research done by the CEO, great care was taken to include a secondary researcher who was directly available to

all the patients. A process by which opting out was made easy and confidential was created and communicated. All of the data was blinded to the principle researcher by exchanging names for encoded fruits which all future data was obtained directly by the secondary researcher and de-identified. The secondary researcher was the only one with access to the Survey Monkey account, and was in direct contact with Human Synergistics and the outside statistical support team to keep the safety of the patients paramount. There was a consent acknowledgment at the start of each electronic instrument, so each participating employee acknowledged a total of six times (three each year) their consent to participate. On each of these consents there was a statement of the voluntary nature of this study and the contact information for the secondary researcher as well as the Benedictine University IRB approval number, 20120328.

Chapter 4: Results

This chapter provides a summary of the proposed research outcomes and hypothesis, the descriptive results and t-test comparisons of the outcomes of the instrumentations are done at the individual level of analysis and the regressions testing the instrument dimension changes over time to the business outcomes are done at the team level of analysis. These were done to better understand the impact on business outcomes, employee and organizational health of going through a major organizational change.

Organizational Effectiveness Inventory®

My hypotheses concerning the Organizational Effectiveness Inventory® (OEI) bare the following:

Hypothesis 1

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts. Specifically, the impacts on ICM3 as measured by the 39 dimensions of the OEI are expected to move in the direction of less effectiveness.

Hypothesis 1a

Specifically, at least 3 of these dimensions will change in the direction of being less effective reaching the .05 significance threshold.

Hypothesis 1b

Specifically, none of the 39 dimensions will change in the direction of being more effective at the significance threshold level of .05.

Results

The results show that Hypothesis 1a was supported by the changes in task identity, significance, and role conflict. Each moved in the direction of less effectiveness with a p value of less than .05. This shows that ICM3 in those dimensions, as expected, was less effective. Hypothesis 1b was not supported, because personal bases of power, upward communication, and inter-unit coordination all improved at significant or near significant levels—movement opposite of what is expected in the midst of a major organizational change. Figure 3 shows the Organizational OEI results.

	OEI Average	OEI Benchmark	ICM3 2012	ICM3 2013	ICM3 Raw Delta	ICM3 2012 % of Benchmark	ICM3 2013 % of Benchmark	ICM3 Benchmark Delta	
articulation of mission	3.55	4.01	4.00	4.07	0.07	99.8%	101.5%	1.7%	
autonomy	4.31	4.52	4.50	4.40	-0.10	99.6%	97.3%	-2.2%	
communication for learning	3.00	3.28	3.41	3.56	0.15	104.0%	108.5%	4.6%	
consideration	4.03	4.36	4.13	4.38	0.25	94.7%	100.5%	5.7%	
customer service focus	3.67	3.94	3.93	3.92	-0.01	99.7%	99.5%	-0.3%	
department level quality	4.20	4.51	4.62	4.72	0.10	102.4%	104.7%	2.2%	
distribution of influence	1.24	0.80	0.81	1.04	0.23	98.8%	76.9%	-21.8%	*
downward communication	3.25	3.63	3.52	3.72	0.20	97.0%	102.5%	5.5%	
employee involvement	3.69	4.15	4.22	4.29	0.07	101.7%	103.4%	1.7%	
empowerment	3.26	3.49	3.79	3.86	0.07	108.6%	110.6%	2.0%	
external adaptability	3.50	3.83	3.69	3.87	0.18	96.3%	101.0%	4.7%	
fairness of appraisals	3.75	4.25	4.01	4.00	-0.01	94.4%	94.1%	-0.2%	
feedback	3.97	4.07	4.24	4.06	-0.18	104.2%	99.8%	-4.4%	
goal emphasis	4.10	4.34	4.46	4.60	0.14	102.8%	106.0%	3.2%	
intention to stay	3.60	4.10	4.46	4.35	-0.11	108.8%	106.1%	-2.7%	
interaction facilitation	3.79	4.17	4.32	4.49	0.17	103.6%	107.7%	4.1%	
interdependence	4.27	4.40	4.69	4.54	-0.15	106.6%	103.2%	-3.4%	
inter-unit coordination	3.05	3.35	3.57	3.80	0.23	106.6%	113.4%	6.9%	

	OEI Average	OEI Benchmark	ICM3 2012	ICM3 2013	ICM3 Raw Delta	ICM3 2012 % of Benchmark	ICM3 2013 % of Benchmark	ICM3 Benchmark Delta	
intra-unit teamwork & cooperation	3.87	4.26	4.29	4.38	0.09	100.7%	102.8%	2.1%	
job insecurity	2.14	1.83	2.23	2.04	-0.19	82.1%	89.7%	7.6%	*
motivation	4.06	4.43	4.55	4.63	0.08	102.7%	104.5%	1.8%	
organization level quality	3.90	4.16	4.29	4.23	-0.06	103.1%	101.7%	-1.4%	
organizational bases of power	3.53	3.38	3.27	3.36	0.09	103.4%	100.6%	-2.8%	*
personal bases of power	3.69	4.08	3.88	4.21	0.33	95.1%	103.2%	8.1%	
respect for members	3.80	4.33	4.49	4.59	0.10	103.7%	106.0%	2.3%	
role clarity	4.16	4.40	4.44	4.28	-0.16	100.9%	97.3%	-3.6%	
role conflict	2.38	2.00	1.77	1.85	0.08	113.0%	108.1%	-4.9%	*
satisfaction	3.86	4.28	4.38	4.42	0.04	102.3%	103.3%	0.9%	
selection/placement	3.39	3.88	3.63	3.68	0.05	93.6%	94.8%	1.3%	
significance	4.34	4.48	4.82	4.56	-0.26	107.6%	101.8%	-5.8%	
stress	2.84	2.50	2.34	2.22	-0.12	106.8%	112.6%	5.8%	*
task facilitation	3.48	3.77	3.56	3.74	0.18	9 4.4%	99.2%	4.8%	
task identity	3.87	4.03	4.21	3.45	-0.76	104.5%	85.6%	-18.9%	
total influence	3.67	3.87	4.09	4.05	-0.04	105.7%	104.7%	-1.0%	
training & development	3.45	3.93	3.49	3.59	0.10	88.8%	91.3%	2.5%	
upward communication	3.22	3.55	3.68	3.82	0.14	103.7%	107.6%	3.9%	
use of punishment	2.19	1.91	1.63	1.64	0.01	117.2%	116.5%	-0.7%	*
use of rewards	3.33	3.59	3.09	3.36	0.27	86.1%	93.6%	7.5%	
variety	4.41	4.65	4.73	4.52	-0.21	101.7%	97.2%	-4.5%	

* lower score is better

Source: Human Synergistics®, 2013

Figure 3. OEI Descriptive Results and Constructive Benchmark Comparisons

Figure 3 shows that there were 23 dimensions where the mean score of the ICM3 members showed that 2013 was more effective in that dimension, and 16 areas where ICM3 was less effective. There were 25 dimensions in 2012 where ICM3's mean

dimension score exceeded the instrument's constructive benchmark for effective organizations, and only three where the ICM3 score was less than 90% of this benchmark (see page 44 for benchmark definition). In 2013 there were 26 dimensions were ICM3's mean dimension score exceeded the instrument's constructive benchmark for effective organizations and only three where the ICM3 score was less than 90% of this benchmark.

These results suggest that ICM3 at T2 was not experiencing negative impacts of the change as expected. In fact in most areas, measured by this instrument, ICM3 was more effective. I will look at the paired samples t-test in Figure 4.

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev.	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
InterUnitCoordination2013–InterUnitCoordination2012	0.28	0.67	0.14	-0.01	0.57	2.02	22	**0.056**
RoleClarity2013–RoleClarity2012	-0.26	0.54	0.11	-0.49	-0.03	-2.31	22	**0.030**
UpwardCommunication2013–UpwardCommunication2012	0.31	0.68	0.15	0.01	0.62	2.15	21	**0.044**
PersonalBasesofPower2013–PersonalBasesofPower2012	0.42	0.59	0.12	0.17	0.67	3.43	22	**0.002**
Identity2013–Identity2012	-0.61	0.97	0.20	-1.03	-0.19	-3.02	22	**0.006**
Significance2013–Significance2012	-0.12	0.24	0.05	-0.22	-0.01	-2.34	22	**0.029**

Source: Human Synergistics®, 2013

Figure 4. Organization Effectiveness Inventory Paired Samples T-Test

In summary, a paired samples t-test was conducted to compare the means across 39 dimensions of the OEI at two time periods, just prior to the ICM3 organizational change and one year into this change. There was a significant or approaching significant difference in the scores in six dimensions. There was a significant difference in the expected direction in the scores for the three dimensions over the two time periods: task identity T1 (M = 4.1, SD = 0.59) and T2 (M = 3.5, SD = .93); t(22) = -3.02, p=.006; for the dimension significance T1 (M = 4.8, SD = .30) and T2 (M = 4.7, SD = .43); t (22) = -2.34, p =.03; and for the dimension role clarity T1 (M = 4.6, SD = .53) and T2 (M = 4.4, SD = .68); t(22) = -2.31, p = .03. These results are the basis for accepting Hypothesis 1a. For three dimensions the results shown suggest improved performance during a time of change. One was highly significant, one was significant, and one was approaching significance: personal bases of power T1 (M = 3.8, SD = .78) and T2 (M = 4.2, SD = .81); t(22) = .97, p = .002; for the dimension upward communication T1 (M = 3.63, SD = .49); t(22) = 2.15, p =.04; and for the dimension of inter-unit coordination T1 (M = 3.5, SD = .73) and T2 (M = 3.8, SD = .62); t(22) = 2.02, p = .056. These results are the basis for rejecting Hypothesis 1b.

Task identity decreased very significantly, which appears to show employees no longer felt they carried out a complete task from beginning to end. Role clarity decreased at a significant level, which appears to show that employees were receiving

more inconsistent or changing messages about job expectations. Finally, the dimension called Significance decreased significantly which appears to show the employees believe their jobs are having a less important impact on other people. The expectations were that this instrument would show the negative impacts of a major change at the organizational effectiveness level. Hypothesis 1a suggested that at least three of these dimensions would reach significance. In our group, three of the dimensions showed reduced effectiveness achieving significance at T2, which leads to the acceptance of Hypothesis 1a. Given the change we were involved, in the results showing the dimensions of significance, role clarity, and task identity decreased is not surprising.

Alternatively, three other dimensions improved either significantly or approaching significance. This was not expected. Personal Bases of Power increased highly significantly, which can be viewed as a measure of organizational level teamwork across the hierarchical levels as it is a measure of mutual respect and influence. Upward Communication increased significantly; this appears to show that communication improved from employees to management during this period of time. Inter-Unit coordination increased at a nearly significant level which appears to show team work across work groups improved during this time period. The improvement on any dimension achieving the significance threshold leads to the rejection of Hypothesis 1b. Finally, the improvement in these three dimensions combined with the overall results comparing T1 and T2 to the benchmarks suggest ICM3 did not

experience the expected negative outcomes. We will look at the results of the other instruments to better understand these outcomes.

Utrecht Work Engagement Scale

My hypothesis for the Utrecht Work Engagement Scale is as follows:

Hypothesis 2

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's level of engagement as measured by the four dimensions of the Utrecht Work Engagement Scale (overall engagement, vigor, dedication, and absorption) are expected to move in the direction of less engagement. The results will show this is not supported, as the decrease that did occur did not meet the significance threshold.

First I will look at the paired sample statistics in Figure 5.

Utrecht Work Engagement Scale

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
OVERALL2013	4.88	24	0.70	0.14
OVERALL2012	5.00	24	0.61	0.12
VIGOR2013	4.94	24	0.72	0.15
VIGOR2012	5.12	24	0.54	0.11
DEDICATION2013	5.11	24	0.80	0.16
DEDICATION2012	5.38	24	0.67	0.14
ABSORPTION2013	4.65	24	0.71	0.15
ABSORPTION2012	4.57	24	0.84	0.17

Figure 5. Utrecht Work Engagement Scale Descriptive Results

The table in this figure shows the mean scores for overall engagement decreased slightly and all the subcomponents but absorption decreased slightly. The movement was overall in the direction expected for an organization in the midst of a major change.

Figure 6 is the paired samples test:

Utrecht Work Engagement Scale

Paired Samples Test

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error	95% Confidence Lower	95% Confidence Upper			
OVERALL2013 - OVERALL2012	-.12	.69	.14	-.41	.17	-.84	23	.408
VIGOR2013 - VIGOR2012	-.18	.78	.16	-.51	.15	-1.12	23	.273
DEDICATION2013 - DEDICATION2012	-.28	.68	.14	-.56	.01	-1.97	23	.060
ABSORPTION2013 - ABSORPTION2012	.08	.79	.16	-.26	.41	.48	23	.635

Figure 6. Utrecht Work Engagment Scale Paired Samples T-Test

A paired samples t-test was conducted to compare the change in overall engagement between two time periods: just prior to a major organizational change and one year into this change. There was not a significant difference in the change in the Overall Engagement score between T1 (M = 5.0, SD = .61) and T2 (M = 4.9, SD = .70) time periods; t(23) = -.84, p = .41.This shows the change for Overall Engagement did not achieve the significance threshold, so although it did deteriorate slightly this reduction was not coherent enough in my smaller N to be considered meaningful. The change in the subcomponent dedication did decrease and this change was approaching significance at .060. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge. While this change is in the expected direction of a decreased score at

T2, it was not quite coherent enough to meet the .05 threshold which ultimately leads to the rejection of the second hypothesis.

SF-36v2® Health Survey

My hypothesis for the results on the SF36v2 is:

Hypothesis 3

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's mental health scores in the mental composite score or the role-emotional dimension as measured by the SF36v2 Health Survey will decrease. First I will look at the paired sample statistics in Figure 7.

Paired Samples Statistics				
	Mean	N	Std. Deviation	Std. Error Mean
GeneralHealth2013	57.3	24	6.87	1.40
GeneralHealth2012	57.1	24	8.41	1.72
PhysicalFunctioning2013	54.6	24	4.30	0.88
PhysicalFunctioning2012	55.0	24	3.37	0.69
RolePhysical2013	54.3	24	5.02	1.03
RolePhysical2012	54.3	24	5.02	1.03
BodilyPain2013	52.7	24	8.18	1.67
BodilyPain2012	54.4	24	7.72	1.58
Vitality2013	57.4	24	7.00	1.43
Vitality2012	55.7	24	7.81	1.59
SocialFunctioning2013	55.0	24	5.12	1.04
SocialFunctioning2012	52.5	24	6.69	1.37
MentalHealth2013	55.9	24	3.53	0.72
MentalHealth2012	55.1	24	5.34	1.09
RoleEmotional2013	55.2	24	3.16	0.65
RoleEmotional2012	54.0	24	4.80	0.98
MentalComposite2013	56.2	24	3.45	0.70
MentalComposite2012	54.0	24	6.09	1.24
PhysicalComposite2013	54.0	24	6.17	1.26
PhysicalComposite2012	55.0	24	5.78	1.18

Figure 7. SF36v2® Descriptive Results

This table in Figure 7 shows the mean scores for all the primary mental health subcomponents and the mental health composite score increased, meaning the mental health of the organization measured healthier. The physical composite and two of the primary physical health subcomponents decreased while one was unchanged and one increased, meaning overall the physical health of the ICM3 staff was less healthy in 2013 than in 2012. The movement in mental health, which is the area of focus for this

study, was in the opposite direction as anticipated for an organization in the midst of a major organizational change and may point to something that helps mitigate or transform the expected negative effects of major organizational change.

Next I will show the paired samples test in Figure 8.

Paired Samples Test

All Dimensions comparing 2012 (T1) & 2013 (T2)	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Dev.	Std. Error	95% Confidence Lower	95% Confidence Upper			
General Health	.20	5.28	1.08	-2.03	2.42	.18	23	.856
Physical Functioning	-.40	5.11	1.04	-2.56	1.76	-.38	23	.705
Role Physical	.00	4.64	.95	-1.96	1.96	.00	23	1.000
Bodily Pain	-1.73	8.02	1.64	-5.12	1.66	-1.06	23	.301
Vitality	1.73	7.11	1.45	-1.27	4.74	1.19	23	.245
Social Function	2.51	6.93	1.42	-.42	5.43	1.77	23	.090
Mental Health	.76	4.40	.90	-1.09	2.62	.85	23	.405
Role Emotional	1.16	2.84	.58	-.04	2.36	2.00	23	.057
Mental Composite	2.21	4.61	.94	.26	4.16	2.35	23	.028
Physical Composite	-1.03	5.38	1.10	-3.30	1.24	-.94	23	.359

Figure 8. SF36v2 Paired Samples T-Test

A paired samples t-test was conducted to compare the change in employee mental health between two time periods; just prior to a major organizational change and one year into this change. There was a significant difference in the scores for the mental composite dimension between T1 (M = 54.0, SD = 6.1) and T2 (M = 56.2, SD = 3.5); $t(23) = 2.35$, $p = .03$. There was a difference approaching significance in the scores for the role-emotional dimension between T1 (M = 54.0, SD = 4.8) and T2 (M = 55.2, SD = 3.2); $t(23) = 2.0$, $p = .057$. The mean for the mental composite score (MCS)

increased by 2.21 while the mean for the role-emotional (RE) increased by 1.16. All the means for the three mental health subscales increased, social function, mental health, role-emotional, and vitality. The change in the mental composite score is significant at .028 and the change in the role-emotional score approaches significance at .057. This not only rejects the hypothesis, it actually transforms the direction of the impact from what was expected, meaning I expected to achieve significance in the direction of worsening mental health and the opposite happened. Rejection of the hypothesis could have happened by having mental health decrease or stay the same or even increase but not achieve significance. The outcome here is improvement in mental health, achieving the significance threshold, so with a relatively small N there was substantial coherence of movement. This suggests that improving mental health and having positive outcomes in the midst of a significant change is a relationship that requires additional exploration.

Organization Positive Practices

My hypothesis for the outcomes on the Positive Practices Survey is as follows:

Hypothesis 4

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's overall positive practices or at least one of the dimensions as measured by the Positive Practices Survey will significantly decrease.

First I will look at the paired sample statistics in Figure 9.

Positive Practices Survey

Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
RESPECT2013	6.5	24	.53	.11
RESPECT2012	6.3	24	.71	.14
SUPPORT2013	6.5	24	.55	.11
SUPPORT2012	6.4	24	.61	.13
CARING2013	6.4	24	.66	.13
CARING2012	6.2	24	.93	.19
MEANING2013	6.2	24	.76	.15
MEANING2012	6.1	24	1.00	.20
INSPIRATION2013	6.3	24	.66	.13
INSPIRATION2012	6.1	24	.95	.19
FORGIVENESS2013	6.1	24	.77	.16
FORGIVENESS2012	5.9	24	1.05	.21
P.ENERGY2013	5.6	24	1.19	.24
P.ENERGY2012	5.2	24	1.31	.27
O.PRACTICES2013	6.2	24	1.05	.21
O.PRACTICES2012	6.1	24	.78	.16
PPTOTOVERALL2013	6.3	24	.64	.13
PPTOTOVERALL2012	6.1	24	.71	.14

Figure 9. Positive Practices Survey Descriptive Results

All of the means in 2013 were higher than the means in 2012. This is surprising not only in the uniformity of the movement all toward increasing positive practices, but also that the outcomes in 2013 were better than 2012. This was unexpected and will invite further look at positive practices as a possible means to mitigate or transform the expected negative impacts in the midst of a major organizational change.

Next I will show the paired samples test in Figure 10.

Positive Practices Survey								
Paired Samples Test								
	Paired Differences					t	df	Sig. (2-tailed)
				95%				
	Mean	Std. Dev.	Std. Error Mean	Lower	Upper			
Respect	.21	.83	.17	-.14	.56	1.23	23	.233
Support	.05	.60	.12	-.20	.31	.44	23	.667
Caring	.19	.73	.15	-.12	.50	1.26	23	.221
Meaining	.13	.84	.17	-.22	.49	.78	23	.443
Inspiration	.26	.85	.17	-.10	.62	1.48	23	.153
Forgiveness	.19	1.12	.23	-.28	.67	.85	23	.404
Positive Energy	.41	1.01	.21	-.02	.83	1.99	23	.059
Org. Practices	.13	.75	.15	-.19	.45	.86	23	.400
Overall Positive Practices	.18	.65	.13	-.09	.46	1.38	23	.181

Figure 10. Positive Practices Survey Paired Samples T-Test

A paired samples t-test was conducted to compare the change in positive practices between two time periods; just prior to a major organizational change and one year into this change. There was a difference approaching significance in the scores for the Positive Energy dimension between T1 (M = 5.2, SD = 1.3) and T2 (M = 5.6, SD = 1.2); t(23) = 2.0, p = .59. No other dimensions approached the significance threshold.

The means for all of the dimensions in the Positive Practices Survey increased in 2013 versus 2012. This alone will reject Hypothesis 4 as the expectation was that the positive practices would decrease during a period of major organizational change. The actual direction was different, and the change in the positive energy dimension

approached significance which suggests that positive practices and positive energy in particular need to be explored further as a means to mitigate or transform the expected negative outcomes in the midst of a major organizational change.

ICM3—Impact on Business Outcomes

In exploring the impact on ICM3 business outcomes related to the changes in the instrument scores in 2013 and 2012, it was necessary to transform the individual instrument outcomes and the changes seen from T2 to T2 to a team level change outcome to compare to the team level business metrics.

Difference scores between 2013 and 2012

I computed the change in the independent variables (the instrument scores or organizational characteristics) and the dependent scores (the business outcomes) from 2012 to 2013. This difference, if positive, is considered *growth*; conversely, if negative it is considered *regress*. The analysis performed used the difference scores. This allows us to control for baseline conditions (beginning at high levels on some organizational characteristics or business outcomes) as well as understand how growth in one organizational characteristic impacts growth on a particular business outcome.

To do this I first calculated the change in each individual instrument dimension so that each dimension had a change score, called *the instrument dimension deltas*. Then the individual delta scores were averaged to create a team delta score. This created a

team delta for each instrument dimension and these team deltas were analyzed against four ICM3 business outcomes:

- The number of new patients agreeing to engage with a team.
- The length of time it took patients to complete the ICM3 assessment phase.
- The length of time it took patients to complete the action phase of the ICM3 program.
- The average dollar amount of exceptions used per enrolled patient.

Each team has a metric for each business outcome at both T1 and T2; a T2 change or delta was calculated for each team. Each of these outcomes is important to the ICM3 service delivery and to current and future success. Lower figures in all the measures except number of new patients reflect improved outcomes. A higher number of new patients is an improved outcome. Business survival is predicated on new patients, and this is the most important short term business outcome factor. Each business outcome has a team measure for each year. For each team a change level or delta was calculated for each business outcome. ICM3 business outcomes are shown in Appendix C.

In looking at the business outcomes in Table 2, the following regressions created relationships: meeting the threshold for significance, meaning improvements in these instrument dimensions led to improvement in these business outcomes:

Table 2. ICM3 Instrument Outcomes Predicting Business Outcomes

Business Metric	Dimensions	Relationship Discovered
Time in Assessment	SF36v2®—social function/mental health	Simultaneous increase in Social Function & Mental Health reduces P1 time
Time in Action Phase	SF36v2®—mental health/physical function	Simultaneous increase in Mental Health and Physical Functioning reduces P2 time
Average Exceptions Used	No significant relationships identified	
New Patients Enrolled	Positive Practices Survey New composite variable—Emotional Composite	Increased in new composite variable increases number of new patients.
	New composite variable—Inspired-Care	Increase in new composite variable increases the number of new patients

I had created a hypothesis for each instrument stating that each of the instruments would directly influence a business outcome. These were stated as:

Hypothesis 5

Employee overall engagement and/or one of the subcomponents as measured by the Utrecht Work Engagement Scale is directly related to organization business outcomes such that increased engagement leads to increased business outcomes or the opposite—decreased engagement leads directly to decreased business outcomes.

Hypothesis 6

The dimensions of health as measured by the SF36v2 Health Survey are directly related to organization business outcomes such that increased health leads to increased business outcomes or the opposite that decreased health leads directly to decreased business outcomes.

Hypothesis 7

Increased positive practices in isolation or combination as measured by the Positive Practices Survey are directly related to organization business outcomes such that increased organization positive practices lead to increased business outcomes or the opposite—decreased organization positive practices lead directly to decreased business outcomes.

Summary

In summary, based on Table 3, we will see that Hypothesis 5 was rejected because there was no empirically suggestive link with engagement and the ICM3 business outcomes. For each of the other three instruments there was one business metric where the outcomes suggest that improvement in the instrument leads to improved business outcomes, which would accept each of hypotheses 6 and 7. In the next sections I will show each of the business outcomes that were influenced by the change in instrument scores. For each outcome I will focus only on the instrument where the relationship met the significance threshold and ignore reporting the outcomes that did not meet this level.

Business Outcome 1—Patient Time in Assessment (P1Delta)—SF36v2

In exploring what dimensions impacted the ICM3 time in the assessment phase, there was one instrument were a significant relationship was found—the SF36v2®. It showed the desired business outcome of patient assessment time decreasing when two dimensions of health simultaneously improve. The rest of this section will focus on how that particular part of the exploration was done and what was found. The SF36v2® mental health composite dimension by itself did not significantly impact with the time in the assessment phase. I then explored the primary subcomponents of the mental health composite dimension with no significant outcomes with any three-variable combinations. Finally, I explored the primary subcomponents of the mental health composite dimension and there was one two-variable combination that met the significance threshold: When the subcomponents of the dimensions Mental Health and Social Function both improve, the time in the assessment phase decreases.

In this outcome, simultaneous improvement in mental health and social functioning decreases the time in the Assessment Phase (P1Delta), with mental health appearing to counteract the social functioning impact. To make sense of this I went back to the instrument questions. The social functioning question is undifferentiated between emotional and physical health, so the scores on that dimension could be due to either emotional health or physical health or a combination of the two. Because all eight subcomponents of the SF36v2® are related to both the composite scores (Maruish, 2011), I then ran regressions for each of the four composites more directly related to

the physical composite score composite dimension to see if I could differentiate the determining influence of the social function dimension. First I added each one of the four additional subcomponents into a three-variable regression with social functioning and mental health, then each one in place of social functioning in a two-variable regression. None of these reached significance. I then used the composite physical composite score as an overall approximation changes in for physical health, first in a three-variable regression with mental health and social functioning without significance. Finally I replaced social functioning with physical composite score in a two-variable regression with the f significant result shown in Table 3.

Table 3. Physical Composite and Mental Health Predicting Assessment Time

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	-.149	.045		-3.345	.079
	Physical Composite Delta	-.057	.008	-1.236	-7.012	.020
	Mental Health Delta	.133	.024	.985	5.591	.031

Note. F (2, 2) = 25.72, Sig. = 0.04, *R Square* (R^2) = 0.96, N = 4
a. Dependent Variable: Change in Assessment Phase
b. Predictors: (Constant), Physical Composite Score Delta, Mental Health Delta

This led to one final regression with the two composite dimensions physical composite score and mental composite score, which also had a significant result, shown in Table 4.

Table 4. Physical Composite and Mental Composite Predicting Assessment Time

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.250	.075		-3.335	.079
	Physical Composite Delta	-.063	.011	-1.382	-5.704	.029
	Mental Composite Delta	.090	.020	1.074	4.434	.047

Note. F (2, 2) = 16.40, Sig. = 0.06, *R Square* (R^2) = 0.94, N = 4
a. Dependent Variable: Change in Assessment Phase
b. Predictors: (Constant), Physical Composite Delta, Mental Composite Delta

As the social functioning dimension is a measure influenced in part or exclusively by physical problems, the two additional regressions were needed for the interpretation. The strongest relationship is the initial one found and this is the one I will focus on. The mental health (MH) and social functioning (SF) regression as the interpretation rationale would be the same for all of these.

<u>Improvement in mental health and social functioning decreases ICM3 patient assessment phase time</u>

A multiple linear regression model was generated to determine whether the mental health and social functioning scores would serve as predictors for the "Time in Assessment Phase" representing the time a patient spends in assessment. Table 5 summarizes the results of the regression model. Results of the model showed that both the scores of the MH (t (4) = 5.96, p = 0.03) and scores of the SF (t (4) = -6.56, p = 0.02) significantly influence the time in the assessment phase.

The standardized beta coefficient was analyzed to determine the independent contribution and the relative importance of the significant predictors of scores of the social functioning and mental health scores in predicting the time patients spent in the assessment phase. The standardized coefficient value (beta) for scores of the social functioning was -1.50, which suggested that it has a negative contribution to the model in predicting the time a patient spends in the assessment phase. The results suggested that as the scores of the social functioning increase, there is a decrease in the time it takes to complete the assessment phase, which is a favorable business outcome. This means the average time taken in Phase 1 was shorter as social functioning scores increased. On the other hand the standardized coefficient value (beta) for scores of the mental health was 1.37 which suggests that it has a positive contribution to the model in predicting time a patient spends in the assessment phase. The results suggest that as the scores on mental health increase, there is a counteracting increase in the time it takes to complete the assessment phase, which is not a favorable business outcome. This means the average time taken in Phase 1 was longer as mental health scores increased. The overall time in the assessment phase decreases when social functioning and mental health simultaneously increase; this is a favorable business outcome. The regression equal is as follows: $Y_{P1Delta} = 0.18 + 1.36X_{MHDelta} - 1.50X_{SFDelta}$

Table 5. Mental Health and Social Functioning Predicting Assessment Time

Multiple Linear Regression Results of Influences of Scores of mental health and social functioning to Time in Patient Assessment Phase

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.02	0.04		0.48	0.68
	mental health delta	0.18	0.03	1.37	5.96	0.03
	social functioning delta	-0.05	0.01	-1.50	-6.56	0.02

Note. F (2, 2) = 22.50, Sig. = 0.04, *R Square* (R^2) = 0.96, N = 4
a. Dependent Variable: Change in Assessment Phase Time
b. Predictors: (Constant), mental health delta, social functioning delta

Business Outcome 2—Patient Time in Action Phase (P2 Delta)—SF36v2

In exploring what dimensions impacted the ICM3 time in the action phase, there was one instrument were a significant relationship was found the SF36v2®. It showed that the desired business outcome of patient action phase time decrease when two dimensions of health simultaneously improve. The rest of this section will focus on how that particular part of the exploration was done and what was found. I started in looking at the mental composite score subcomponents doing first two-variable regressions; none showed significant results. Then I did regressions on the mental composite score core subcomponents three-variable regressions, which identified several interesting outcomes: Social functioning/mental health/role-emotional had mental health as significant showing an increase in mental health as reducing action-phase patient time; mental health/social functioning/vitality had mental health and

vitality significant showing simultaneous increases in mental health reducing action phase patient time and vitality counteracting this reduction. Social functioning/vitality/role-emotional had no significant impact. Vitality/role-emotional/mental health impact is shown in Table 6.

Table 6. Vitality, Role-Emotional, and Mental Health Predicting Action Time

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	.027	.017		1.609	.354
	Vitality Delta	.271	.005	3.909	50.091	.013
	Role-Emotional Delta	.117	.006	.429	20.630	.031
	Mental Health Delta	-1.464	.027	-4.219	-54.481	.012

Note. F (3, 1) = 1059.93, Sig. = 0.02, *R Square* (R^2) = 1.0, N = 4
a. Dependent Variable: Change in Action Phase
b. Predictors: (Constant), Vitality Delta, Role-Emotional Delta, Mental Health Delta

In this outcome, while mental health does reduce the time in the action phase, it is counteracted by the impacts of the changes to vitality and role-emotional such that the overall change is an increase in the phase time. The complex relationships found previously within the core mental composite score construct and the outcome in "time in assessment phase" then led me to include the four subcomponents in the SF36v2® more closely related to the physical health composite dimension. I started with mental health, as it was significant in all three-variable analyses. I looked at all two-variable

combinations with mental health, and the one with physical functioning showed a high level of significance.

I then looked at physical functioning in combination with all the core mental composite score variable and the only relationship with significant findings was with vitality, shown in Table 7. Note the additional three-variable relationships did not yield any combinations of significance.

Table 7. Physical Functioning and Vitality Predicting Action Time

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	-.204	.138		-1.480	.277
	Physical Functioning Delta	.255	.048	2.498	5.333	.033
	Vitality Delta	-.175	.032	-2.523	-5.387	.033

Note. F (2, 2) = 14.93, Sig. = 0.06, *R Square* (R^2) = 0.94, N = 4

a. Dependent Variable: Change in Action Phase Time

b. Predictors: (Constant), Physical Functioning Delta, Vitality Delta

Finally, in Table 8 I compared the two composite scores physical composite score and mental composite score

Table 8. Physical Composite and Mental Composite Predicting Action Time

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**Sig.**
1	(Constant)	.210	.191		1.102	.385
	Physical Composite Delta	.146	.028	1.242	5.186	.035
	Mental Composite Delta	-.283	.051	-1.321	-5.515	.031

Note. F (2, 2) = 16.79, Sig. = 0.06, *R Square* (R^2) = 0.94, N = 4

a. Dependent Variable: Change in Action Phase Time

b. Predictors: (Constant), Physical Composite Delta, Mental Composite Delta

I will focus on the two-variable regression with the strongest relationship, Mental Health (MH)/Physical Function (PF); this has both the highest significance and the largest standardized coefficient impact. The interpretation rationale would be similar for all these relationships and our business outcomes.

Improvement in mental health and physical functioning reduces ICM3 Action Phase time

A multiple linear regression model was generated to determine whether the mental health scores and physical functioning scores would serve as predictors for the "Time in Action Phase," Table 9 summarizes the results of the regression model. Results of the model showed that both the scores of the MH (t (4) = -15.50, p = 0.004) and scores of the PF (t (4) = 14.06, p = 0.005) significantly influence the time it takes for a patient to move through Phase 2.

The standardized beta coefficient was analyzed to determine the independent contribution and the relative importance of the significant predictors of scores of the mental health and scores of the physical functioning in predicting the dependent variable Time in Action Phase. The standardized coefficient value (beta) for scores of the mental health was -1.67, which suggested that it has a negative contribution to the model in predicting the dependent variable of Time in Action Phase. The results suggested that as the scores of the mental health increases, there is a decrease in the time a patient spends in the action phase, which is a favorable business outcome. On the other hand, the standardized coefficient value (beta) for scores of the physical functioning was 1.52, which suggested that it has a positive contribution to the model in predicting the dependent variable Time in Action Phase. The results suggested that as the scores of the physical functioning increases, there is also an increase in time in Time in Action Phase for ICM3 patients, which is not a favorable business outcome. The overall time in the action phase time decreases when mental health and physical functioning simultaneously increase, this is a favorable business outcome. The regression equal is as follows: $Y_{P2Delta} = - 0.06 - 1.67X_{@36scoresMHDelta} + 1.52X_{@36scoresPFDelta}$

Table 9. Mental Health and Physical Functioning Predicting Action Time

Multiple Linear Regression Results of Influences of Scores of physical functioning delta and mental health delta to patient Time in Action Phase

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-0.06	0.06		1.15	0.37
	Mental Health Delta	-0.58	0.04	-1.67	-15.50	0.004
	Physical Functioning Delta	0.15	0.01	1.52	14.06	0.005

Note. F (2, 2) = 123.45, Sig. = 0.008, *R Square* (R^2) = 0.99, N = 4

a. Dependent Variable: Time in Action Phase

b. Predictors: (Constant), Mental Health Delta, Physical Functioning Delta

Business Outcome 3—Average Exceptions per Patient

There were no relationships that reached the threshold for significance on the instrument dimensions that directly impacted business outcomes in the average exceptions per patient metric. The average exceptions metric was a new measure that was not introduced to the organization until close to T2. The teams did not have adequate information in this time period to know how they were doing in patient exception spend, as this was monitored at the ICM3 central site—not at the team level. The approach to claims exceptions has been completely revised as a part of the organizational change initiative. While we did include this metric in comparison to the instrument dimensions, it is not surprising that the changes in this outcome were not coherent enough to be included here linked to one of the instrument dimensions.

Business Outcome 4—New Patients—Positive Practices Survey

The positive practices survey had dimensions where the improvement in the dimension scores suggested an improvement in the number of new patients. At this time, the number of new patients is our most critical business metric, because without new patients we eventually go out of business. I started by looking at three-variable regressions. There was one with significant outcomes looking at the positive practices survey dimensions of Meaning, Inspiration, and Forgiveness.

Increases in Positive Practices of Meaning, Inspiration, and Forgiveness increase the number of patients brought into the ICM3 program

A multiple linear regression model was generated to determine whether the organization positive practices of Meaning, Inspiration, and Forgiveness would serve as predictors for the number of patients brought into the ICM3 program. Table 10 summarizes the results of the regression model. Results of the model showed that the organization positive practices of meaning ($t\,(4) = -14.63$, $p = 0.04$) and inspiration ($t\,(4) = 51.80$, $p = 0.01$) significantly influence the number of patients brought into the ICM3 program. The organizational positive practice of forgiveness ($t\,(4) = -4.23$, $p = 0.15$) did not significantly influence the number of patients brought into the program.

The standardized beta coefficient was analyzed to determine the independent contribution and the relative importance of the significant predictors of positive practices of meaning and inspiration in predicting the number of patients brought into the ICM3 program. The standardized coefficient value (beta) for scores of the positive practice of meaning was -0.31, which suggested that it has a negative

contribution to the model in predicting the number of patients brought into the ICM3 program—not a favorable business outcome. On the other hand, the standardized coefficient value (beta) for scores of the positive practice of inspiration was 1.14, almost four times more impactful that meaning, which suggested that it has a positive contribution to the model in predicting the dependent variable of number of patients brought into the ICM3 program. The results suggested that as positive practice of inspiration increases in the workplace, the number of new patients also increases, which is a favorable business outcome. When inspiration and meaning increase simultaneously there is an overall increase in the number of new patients. The regression equal is as follows: $Y_{NewPDelta} = 0.84 - 0.31X_{PP\_MeaningDelta} + 1.14X_{PP\_InspirationDelta}$

Table 10. Meaning, Inspiration, and Forgiveness Predicting New Patients

Multiple Linear Regression Results of Influences of Scores of Positive Practice of Meaning, Inspiration, and Forgiveness on the Number of Patients Brought into the ICM3 Program

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.84	0.19		4.31	0.15
	Meaning Delta	-16.02	1.10	-0.31	-14.63	0.04
	Inspiration Delta	30.87	0.60	1.14	51.80	0.01
	Forgiveness Delta	-3.40	0.80	-0.08	-4.23	0.15

Note. F (3, 1) = 1038.59, Sig. = 0.02, *R Square* (R^2) = 1.00, N = 4
a. Dependent Variable: Growth of New Participants
b. Predictors: (Constant) Meaning Delta, Inspiration Delta, Forgiveness Delta

The above results invited us to pursue another look at the Positive Practices Survey instrument. We decided to do a factor analysis to see if there were any significant relationships between the individual scores on the dimensions, and if there was a way to create new variables combining these scores to see if the new Positive Practices Survey composite variable approach provided additional insight.

Factor analysis on ICM3 outcomes on Positive Practices Survey

Factor analysis was conducted to test which of the eight positive practice categories (respect, support, caring, meaning, inspiration, forgiveness, positive energy, and organization practices) were reliable measures and a good fit in the Positive Practices Survey instrument. The factor analysis used the extraction method of principal component analysis using a Varimax with Kaiser Normalization Rotation method. Each of positive practice factors should have an eigenvalue of at least 1 and items that have a factor loading of less than 0.60 were not included in any of the factors to increase the reliability of the instrument. The result of the rotated component matrix was summarized in Table 11. The component matrix showed the loadings of each of the positive practice factors on the Positive Practices Survey instrument. The higher the value of the loading means that the question item contributes more in measuring the variable.

The Rotated Component Matrix showed that the Positive Practices Survey instrument has two factors. These were as follows:

- Strong loadings in factor 1 were the positive practice variables of forgiveness, inspiration, caring, support, and respect.
- Strong loadings in factor 2 were the positive practice variables of organizational practices, positive energy, and meaning.

Table 11. Positive Practice Survey Variable Rotation

Rotated Component Matrix

2013 Dimensions	Component	
	1	2
Forgiveness	0.87	-0.06
Inspiration	0.85	0.41
Caring	0.83	0.34
Support	0.75	0.58
Respect	0.73	0.61
Organization Practices	0.25	0.91
Positive Energy	0.07	0.89
Meaning	0.49	0.69

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Table 12 summarizes the variance contribution of each of the two factors extracted by the factor analysis. Both factor 1 (44.64%) and factor 2 (38.61%) both show a significant large amount of variance. This indicates that the positive practice categories composing each of the two factors are well represented in the Positive Practices Survey measure.

Table 12. Positive Practices Survey Factor Analysis Results

Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1	3.57	44.64	44.64
2	3.09	38.61	83.25

Extraction Method: Principal Component Analysis

I created two composite variables consisting of the highest three dimensions in each component. I did this to have composite variables of equal size.

Results of multiple linear regression for the influences of composite measures of organizational positive practice on the number of patients brought into the ICM3 program

A multiple linear regression model was generated to determine whether the composite measures of the organizational positive practices would serve as predictors for the number of new patients brought into the ICM3 program. The composites are based on the results of the factor analysis. Two composites with the top three dimensions of the two identified factors of the Positive Practices Survey instrument were created. One composite represented by the variable “Positive Practices Survey Emotional Composite” includes the positive practices of Forgiveness, Inspiration, and Caring. The other composite represented by the variable “Positive Practices Survey Cognitive Composite” includes the positive practices of Organization Practice, Energy, and Meaning. Table 13 summarizes the results of the regression model. Results of the

model showed that both the emotional composite (t (4) = 3.45, p = 0.08) and cognitive composite (t (4) = 1.22, p = 0.35) did not significantly influence the number of patients brought into the Delta program.

In addition, another set of regressions were conducted considering separate regression tests for both the independent variables of the organizational positive practices of emotional composite and cognitive composite. The results showed the regression model for emotional composite was significant (t (4) = 4.53, p = 0.02) implying that the composite of positive practices of Forgiveness, Inspiration, and Caring had a significant influence to the number of patients brought into the Delta program. However, the influence of the cognitive composite (t (4) = 1.71, p = 0.19) was still insignificant.

The standardized beta coefficient was analyzed to determine the independent contribution and the relative importance of the significant predictor of the emotional composite of the Positive Practices Survey in predicting the number of patients brought into the ICM3 program. The standardized coefficient value (beta) for scores was 0.93, which suggested that it has a positive contribution to the model in predicting the dependent variable of number of patients brought into the ICM3 program. The results suggested that when there is greater combined practice of the organizational positive practices of Forgiveness, Inspiration, and Caring in the

workplace the number of patients brought into the ICM3 program increases. The regression equal is as follows: $Y_{NewPDelta} = 1.54 + 0.93X_{Emotional\ Composite}$

Table 13. New Emotional Composite Variable Predicting New Patients

Multiple Linear Regression Result of Influence of Scores of Emotional Composite Organizational Positive Practice on the Number of Patients Brought into the ICM3 Program

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.54	1.82		0.85	0.46
	Positive Practices EMOTIONALCLUSDELTA	24.51	5.41	0.93	4.53	0.02

Note. F (1, 3) = 20.56, Sig. = 0.02, *R Square* (R^2) = 0.87, N = 4
a. Dependent Variable: Number of New Patients (NewPatientDelta)
b. Predictors: (Constant), Emotional Cluster

I then ran another set of regressions, considering separate regression tests for each of the emotional composite of organizational positive practices of caring, inspiration, and forgiveness. The results showed that the regression model for the organizational positive practices of caring (t (4) = 4.53, p = 0.02) and inspiration (t (4) = 6.36, p = 0.01) were significant, implying that the inspiration and caring had a significant influence to the number of patients brought into the ICM3 program using separate regression test. However, the influence of the organizational positive practice of forgiveness (t (4) = 1.43 p = 0.69) was still insignificant.

Given these results, I then created a new composite variable called “Inspired-Caring.” I averaged the deltas by team for the two Positive Practices Survey dimensions inspiration and caring and ran a regression with number of new patients as the dependent variable. The results in Table 14 showed the regression model for the organizational positive practices composite variable inspired-caring *(t (*4) = 5.52, *p* = 0.01) was significant implying that the new composite variable inspired-caring had a significant influence to the number of patients brought into the ICM3 program.

The standardized beta coefficient was analyzed to determine the independent contribution and the relative importance of the significant predictors of the new composite variable inspired-caring in predicting the number of new patients. The standardized coefficient value (beta) for scores of inspired-caring was .95, which suggested that it has a positive contribution to the model in predicting number of new patients. The results suggested that as the scores of the inspired-caring increases, there is an increase in the number of new patients—a favorable business outcome. The regression equal is as follows: $Y_{P2Delta} = 0.60 + 0.95X_{inspired\text{-}caring}$

Results of linear regressions for the influences of the inspired-caring composite variable of positive practices survey on the number of patients brought into the ICM3 program

In summary, two of the three hypothesis were true:

Hypothesis 5

Employee overall engagement and/or one of the subcomponents as measured by the Utrecht Work Engagement Scale is directly related organization business outcomes such that increased engagement leads to increased business outcomes or the opposite that decreased engagement leads directly to decreased business outcomes. This hypothesis is false.

Hypothesis 6

The dimensions of health as measured by the SF36v2 Health Survey are directly related to organization business outcomes such that increased health leads to increased business outcomes or the opposite that decreased health leads directly to decreased business outcomes. This hypothesis is true for time in ICM3 assessment phase and for time in ICM3 action phase.

Hypothesis 7

Increased positive practices in isolation or combination as measured by the Positive Practices Survey are directly related to organization business outcomes such that increased organization positive practices leads to increased business outcomes or the opposite that decreased organization positive practices leads directly to decreased business outcomes. This hypothesis is true for number of new patients.

Chapter 5: Discussion

In this chapter, I discuss my results. This study was done to better understand the impact of going through a major organizational change on business outcomes and employee and organizational health. I begin by sharing some observations about our T1 results. I then move on to a discussion of the results from each of the instruments—the Organizational Effectiveness Inventory® (OEI), Utrecht Work Engagement Scale, SF36v2®, and Positive Practices Survey. I then discuss the results of where the change in instrument scores was shown to be influencing the business outcomes. I conclude this chapter looking at some of the limitations of this study.

Observations on our T1 Results

When this project started, I knew ICM3 was a good place to work based on comments employees would say, such as "This is the nicest place I have ever worked" or "management actually follows through with what they say," but I had no idea what the results would be on the four instruments. I would have guessed that we were in the top half (better than average) in most dimensions, but I was surprised by the T1 results in April, 2012. The T1 measurement was taken immediately prior to the start of the organizational change initiative at ICM3.

The T1 instrument results were surprisingly strong. As part of the leadership and ownership teams I was thrilled to see how strongly the employees rated the company on dimensions of engagement, positive practices, and the OEI scales. On the SF36v2®

our health outcomes were one increment better than the general population on both the composite health dimensions and the role-emotional component dimension. This, overall, was about what I expected because we are an organization that values employees, understands whole-person health, and supports employees as individuals in times of need.

My academic side was intrigued by the T1 results, as I am studying the impact of major change on the employees and the organization in midst of such a change. The literature clearly states that this type of change, especially mid-stream, will show reduced productivity and higher stress outcomes. The hope is that, in effective change efforts, these negative impacts are short lived and the long-term outcomes are positive (a future study), but the literature also states that only about one-third of organizational change efforts actually are successful. So these negative interim outcomes many times are not overcome. With such high scores at T1, I was fairly confident that being able to empirically measure the negative impacts should be quite plausible, even with my small N. My hope was we would be able to empirically measure the expected negative impact at T2, find some relationships with business outcomes, and use this information to inform the areas of focus for the ongoing changes in years two and three of this initiative. One of my concerns as a business owner was that taking the organization through such a significant change process might be too detrimental overall on the employees and the organization such that it hurt our long-term sustainability. Because at T1 we scored so favorably compared to

benchmarks, a moderate decrease in instrument outcomes could still have left ICM3as a good place to work. My unstated goal as the CEO was to have the change be as close to neutral to our organization as possible—at worst not to see more than a 20% overall reduction in the dimensions measured or in our business outcomes during this change. This aligned with our targeted goal of removing 80% of our cost and only impacting our patient outcomes by 20%; if we only impacted our organization effectiveness, engagement, mental health, and positive practices by 20% or less I felt we would be able to recover over time. If we emerged at the end of year one of this change process within 20% to where we started I would be thrilled (as a business owner), as this should still leave us with capacity for the ongoing changes that were targeted.

Organizational Effectiveness Inventory

Hypothesis 1

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts. Specifically, the impacts on ICM3 as measured by the 39 dimensions of the OEI are expected to move in the direction of less effectiveness.

Hypothesis 1a

Specifically, at least three of these dimensions will change in the direction of being less effective reaching the .05 significance threshold. This hypothesis was proven true.

Hypothesis 1b

Specifically, none of the 39 dimensions will change in the direction of being more effective at the significance threshold level of .05. This hypothesis was proven false.

There are 39 dimensions in the OEI. I created a matrix that looked at each of the dimension means at T1, T2, and the OEI historical average and the OEI constructive benchmark. The constructive benchmark is a normative comparison provided by Human Synergistics® based on the median OEI results of 172 organizational units having predominantly constructive (healthy) operating cultures (Human Synergistics, 2013). I used the constructive benchmark as the ICM3 comparison target; in 2012 ICM3 had 25 of 39 dimensions exceeding this benchmark. This meant that at T1 ICM3 results were better than the benchmark for the OEI in these 25 areas; also, there were 3 dimensions were ICM3 was below 90% of the constructive benchmark. In 2013 ICM3 had 26 of these dimensions exceeding the benchmark and again 3 dimensions below 90% of the constructive benchmark. Descriptively, our scores improved in 23 of the dimensions. In only 2 of the dimensions the 2013 score was greater than a 10% decrease compared to benchmark than the 2012 scores. These two were task identity and distribution of influence. The expectation was that in the midst of a major change we would see the vast majority, possibly all, of these 39 measures decline. I had hoped by no more than 20%.

Surprisingly ICM3 had 23 of the dimensions improved at T2 and only two dimensions decreased by more than 6%. Only one of these dimensions that worsened, distribution of influence, did so by greater than 20%, at 21.8%. This is not what was expected. While the focus for the rest of this study is the empirical measures meeting the significance threshold, as a business owner I am thrilled with this descriptive outcome at T2. It appears ICM3 started, as measured on this instrument, to be an effective place to work, and at T2, ICM3 it could be inferred, is a more effective place to work. I will spend the remainder of this section focused on the empirically significant findings where the score change at T2 was significant or nearing significance. The overall results of the other 33 dimensions is important because, as shown in Figure 3, the overwhelming majority of these dimensions moved in the direction of improvement or decreased by less than 5%. This outcome has value for our leadership team in helping to understand the overall impact of this change across many dimensions of organizational effectiveness. How ICM3 scored in T2 compared to the constructive benchmark and the change compared to T1 is valuable information.

The dimensions on the OEI with statistically significant results (p-values less than .05) are: personal bases of power ($p = .002$); task identity ($p = .006$), significance ($p = .029$); role clarity ($p = .030$); upward communication ($p = .044$); inter-unit coordination ($p = .056$ which approaches significance). All of the other dimensions had too much variation in their change to meet the thresholds for a $p<.05$.

Definitions from the 2013 ICM3 Report (Human Synergistics, 2013):

- *Personal bases of power* (positive): The extent to which members are influenced due to their supervisors'/managers' technical expertise or competence (i.e., expert power); the respect that they have for their supervisors/managers (i.e., referent power); and their supervisors'/managers' willingness to be influenced by them (i.e., exchange power).
- *Task identity:* The degree to which jobs enable members to carryout, from beginning to end, a complete and identifiable task.
- *Significance:* The degree to which jobs are viewed by members as having an important impact on other people (either inside or outside of the organization).
- *Role clarity:* The extent to which members receive clear messages regarding what is expected of them.
- *Upward communication*: The effectiveness with which information is sent upward from employees to people in higher-level positions.
- *Inter-unit coordination*: The extent to which people across sub-units cooperate to articulate inter-unit activities and minimize disruptions, delays, and interfaces.

Personal bases of power, this dimension *improved* with the greatest significance ($p = .002$), which means this is the dimension with the most alignment across the organization in relationship to the direction and level of change. From this I infer that through the first year of this change the employees are buying into the change and

that their assessment of leadership competency, the respect they have for leadership, and their perception of leadership's willingness to be influenced by them is actually improving during this major change. The change seen is not in the expected direction as effectiveness improved. The agreement on this improvement is highly significant at .002. Movement in this direction with level of coherence across the organization is not what is expected during a major change. This outcome helped disconfirm Hypothesis 1b. As an owner in this organization, I see this as an outstanding result.

The task identity dimension decreased across the organization also at a highly significant level at .006. This change was in the direction expected and this result helped confirm Hypothesis 1a. In the midst of a major change I infer this dimension documents that employees used to see that they were more involved in something from beginning to the end and now, with all the changes that are underway, they are less able to carry out a complete and identifiable task. I suggest that the uniformity in this movement provides confirmation that the entire organization is experiencing this impact on their jobs.

The significance dimension change had a p-value of .029 as the score in 2013 decreased from 2012. This means that the organization members uniformly agreed that their jobs in 2012 had a more important impact on people than they did in 2013. This across the board agreement suggests alignment with one of the goals of the ICM3 change initiative: We targeted a reduction in our overall time spent with

patients and acknowledged there would be a decrease in our impact in patients' lives. This change moves in the expected direction and this outcome helped confirm Hypothesis 1a.

The role clarity dimension change had a p-value of .030 as the score in 2013 decreased from 2012. This change is in the expected direction, as ICM3 is in the midst of a major change and people are no longer as clear on how to do their job as they were at T1. I would have liked to have all the messaging to be clear, but change is a messy process. This dimension is about expectations, and the expectations are constantly changing. ICM3 is changing processes. For example, the new ICM3 Intake Form was implemented at the start of this change initiative and in the next nine months there were three additional revisions to this form; before the end of the first year it was completely revised again. In comparison, the previous version of the intake form had remained unchanged for over a decade. The employees who struggle with change or with technology are being pushed hard. This change was in the expected direction and this outcome helped confirm Hypothesis 1a.

The upward communication dimension change p-value was .044 and this score improved in 2013. This change was in the opposite direction of expectations, as it moved in the direction of improved effectiveness. From this outcome I would infer the employees perceive that leadership is listening to the employees during this change. This outcome suggests that how management is integrating employee

feedback during this change is helping show improvement in this dimension. In the midst of a major change, this change was not in the expected direction and this result helps disconfirm Hypothesis 1b.

The inter-unit coordination dimension change p-value was .056 which is nearing significance and this score also improved in 2013. This change was in the opposite direction of expectations as it moved in the direction of improved effectiveness. Before this change started, our teams operated mostly independently. Over the course of the first year of this change we have instituted ongoing regular all-staff meetings a few times per year; regular all-organization conference calls; and various inter-team feedback groups on different aspects of the changes. This outcome was not in the expected direction and this result helped disconfirm Hypothesis 1b.

Utrecht Work Engagement Scale

Hypothesis 2

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's level of engagement as measured by the four dimensions of the Utrecht Work Engagement Scale (overall engagement, vigor, dedication, and absorption) are expected to move in the direction of less engagement.

This hypothesis was proven false.

The T1 scores on the Utrecht Work Engagement Scale were overall engagement 5.003, vigor 5.117, dedication 5.383, and absorption 4.569. The top engagement score would be 6.0, which would be all items ranked as “always or every day” by all employees. A 5 is “very often or a few times a week” and a 4 is “often once a week.” Overall engagement, vigor, and absorption happened more than a few times per week, as their average score was above a 5. The norms for the Utrecht Work Engagement Scale are overall engagement 3.82; vigor 3.99; dedication 3.81; absorption 3.56. The ICM3 scores are all in the “High” category. According to the Utrecht Work Engagement Scale manual, the overall engagement score has ICM3 between the 75th and 95th percentile (W. Schaufeli & Bakker, 2003). I did not find more nuanced comparative information. Engagement according to this instrument is:

> Engagement is a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any object, event, individual, or behavior. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. Absorption, is characterized by being fully concentrated and happily engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work. (Schaufeli, Salanova, et al., 2002, p. 74)

At T1, ICM3 measures high in all measures of engagement. The ICM3 groups mean scores were uniformly about 0.5 below the 95^{th} percentile.

The T2 scores on the Utrecht Work Engagement Scale were overall engagement 4.88: vigor 4.937, dedication 5.108, and absorption 4.646. The top engagement score would be 6.0, which would be all items ranked as “always or every day” by all employees. A 5 is “very often or a few times a week” and a 4 is “often once a week.” Overall engagement, vigor, and absorption happened at least once per week, as their average score was above a 4. Dedication happened a couple times a week, as this score is above 5. The Norms for the Utrecht Work Engagement Scale are overall engagement 3.82; vigor 3.99; dedication 3.81; absorption 3.56. The ICM3 scores are all remained in the “High” category. According to the Utrecht Work Engagement Scale manual, the overall engagement score has ICM3 between the 75^{th} and 95^{th} percentile (Schaufeli & Bakker, 2003). I did not find more nuanced comparative information.

In this study we are focusing on Overall Engagement, as it embodies the positive construct “engagement” best. The mean Overall Engagement score at ICM3 decreased in 2013 by 0.12. This change was not statistically significant according to the t-test performed, as the p-value of .41 is well above the .05 threshold.

The level of change did not meet the thresholds of significance. This means that the change in Overall Engagement, while the mean decreased by about 2%, that there was too much fluctuation in this score in ICM3 to draw any conclusions from these results. Any rationale as to why Overall Engagement slightly decreased or deeper

analysis into any of the three subcomponents would not be empirically relevant. Looking at the subcomponents three of the means decreased as expected in 2013 versus 2012 but the dimension of absorption actually increased. It needs to be noted that the dimension of dedication did have a T2 p-value of .06 which is approaching significance and the movement was in the expected direction. Dedication refers to being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride, and challenge. The same rationale about the expected change in significance of the role seen in the previous section may have influence here as well.

The fact that there was a slight decrease in engagement during a period of significant change is expected and would be movement in the direction supported by the literature during a period of major change. Finally, the increase in the mean for absorption may be related to trying to keep up with all of the changes at ICM3 and moving from a place of unconscious competency in employee roles to conscious incompetency which requires more focus.

SF36v2® Health Survey

Hypothesis 3

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's mental health scores in the mental composite score or the role-

emotional dimension as measured by the SF36v2 Health Survey will decrease. This hypothesis was proven false. The mean scores in 2013 increased from 2012, and this change was significant. The T1 score for SF36v2 for the mental composite measure was 54.0. The T1 score for the Role-Emotional was 54.0. According to the instrument manual (Maruish, 2011):

> With T scores, each scale has the same average (50) and the same standard deviation (10), meaning each point equals one-tenth of a standard deviation. As a result, without referring to tables of norms, this method makes it clear that whenever an individual respondent's scale score is below 45, or a group mean scale score is below 47, the implication is that health status is below the average range p. 212
>
> As a general rule, when considering group-level data, it is recommended that scores within 0.3 SD, or 3 T-score points, of the mean be considered within the "average" or "normal" range for the U.S. general population. Any health domain scale or component summary measure score falling outside the T-score range of 47 to 53 (i.e., more than 0.3 SD below or above the mean norm-based score of 50) should be considered outside the average range for the U.S. general population for group data. Thus, when considering group-level results, a score on a health domain scale or component summary measure that is less than 47 should be considered indicative of impaired functioning within that health domain or dimension. (p. 75)

The ICM3 group means for T1 of 54.0 for the role emotional dimension and 54.0 for the mental health composite indicates that the mental health of the employees was above average and between the 50th and 75th percentiles. As the gold standard for self-reported health outcomes, the 2012 ICM3 overall organization results reflect the employees having above average health.

The T2 score for SF36v2 for the role emotional measure was 55.2. The T2 score for the SF36v2® for the mental composite measure was 56.2. The role emotional score increased just over a point and this change was approaching statistical significance as the p-value was .057. The mental composite score increased from 54.0 in 2012 and this change was significant as the p-value is .028, which is below the .05 threshold.

The overall mental composite score 2013 score of 56.24 is two levels higher than the group normative data, which means the ICM3 employee population is very healthy as measured by the composite mental health score of the SF36v2®.

Exploring the components of this composite index in greater depth will help interpret these results. The primary components of the mental composite score include Vitality, Social Functioning, Role-Emotional, and Mental Health.

> ***Vitality (VT).*** This four-item measure of vitality (i.e., energy level and fatigue) was developed to capture differences in subjective well-being. Low scores indicate feelings of tiredness and being worn out. *High scores indicate feeling full of energy all or most of the time*. (Italics in this section added for emphasis)
>
> ***Social Functioning (SF).*** This two-item scale assesses health-related effects on quantity and quality of social activities, asking specifically about the impact of either physical or emotional problems on social activities. The degree to which physical and emotional problems interfere with normal social activities increases with decreasing SF scores. The lowest score is related to extreme or frequent interference with normal social activities due to physical and emotional problems; the *highest score indicates that the individual performs normal social activities without interference from physical or emotional problems*.
>
> ***Role-Emotional (RE).*** The three-item RE scale assesses mental health-related role limitations in terms of (a) time spent on work or other usual activities, (b) amount of work or activities accomplished,

> and (c) the care with which work or other activities were performed. Low scores on this scale reflect problems with work or other activities as a result of emotional problems. *High scores reflect no limitations due to emotional problems*.
>
> ***Mental Health (MH).*** The five-item mental health scale includes one or more items from each of four major mental health dimensions (anxiety, depression, loss of behavioral/emotional control, and psychological wellbeing). Low scores on mental health are indicative of frequent feelings of nervousness and depression, while *high scores indicate feelings of peace, happiness, and calm all or most of the time*. (Human Synergistics, 2013, pp. 3-4)

All of these components increased their mean scores between 2012 and 2013; the mean score in the vitality dimension was the highest with a 2013 mean score of 57.43 which shows a high level of group vitality. Of particular interest, already noted, is the role-emotional dimension as this directly measures the impact of emotional health on work the 2013 score was 55.15 and the increase from 2012 approached significance as the p-value is .057.

The significant increase is the mental composite score composite measure combined with the nearly significant increase in role emotional. That the dimension vitality has the highest overall score suggests that the organization is mentally healthy and better in 2013 than 2012; this occurred in the midst of the ICM3 major change. It appears the ICM3 staff is not being taxed too strongly by the change. The results showing mental health improvement at T2 suggest there is something in this change that is supporting employees mental health improving. At a minimum, at this point, the dynamics of burnout do not appear to be an issue. The role-emotional increase says

that most of the organization had fewer limitations at work due to emotional problems in 2013 than in 2012.

In the Allostatic Load model of work stress and employees, the detrimental health impacts of too much stress would show up first in psychological and psychosomatic levels before it showed up in physical levels. (Ganster & Rosen, 2013) The fact that the mental composite score change between 2012 and 2013 at ICM3 was positive and that this increase was significant suggests that the organization as a whole was not only surviving the change, there were in fact mentally healthier. As our business is built around supporting lifestyle change for those with multiple chronic conditions, improving our teams' emotional health is of great importance. This outcome is opposite the expected outcomes found in the literature: We not only did not decrease significantly or even decrease in the mean scores, but ICM3 employees had improved mental health in the midst of the change!

Since most of the business outcomes moved in the unexpected direction of improvement and the organization effectiveness measures did as well, this same unexpected movement in mental health in the direction of improvement is an invitation to further exploration on the relationships between improving employee mental health in the midst of an organizational change and not merely mitigating but transforming the expected impacts of change on the employees and the organization.

Improving employee mental health

It is important to note that through the first year of the change at ICM3 the Mental Health composite score on the SF36 instrument improved significantly. This is no small outcome. Given the context of the change we were in the midst of the fact that the organization moved in unison on this dimension is outstanding and astounding. This outcome suggests that taking steps to measure and positively impact the mental health of your organization during a period of significant change may lead to better outcomes; and these outcomes are transforming the expected negative impacts of change to positive outcomes. It is not possible to tell if better mental health is a contributor to a better organizational change outcome or itself an outcome of an organization doing better overall in the midst of a major change. What we do know in this study is the two are closely related.

There could be a relationship incorporating the impact of the inquiry itself. If the questions asked have impact on the outcomes of a change process in this case we "told" employees what was important was the culture of the organization, engagement, mental health and physical health, and positive practices. What we were not looking at was burnout, exhaustion, cynicism, resistance to change, and expected change failure rates. All of which have validated instruments and published studies and ongoing streams of research. What emerged empirically, and it was the opposite outcome of what was expected according to the literature was that mental health improved significantly (Dahl, 2011). An organization that says it cares about its

employees needs to know how it is impacting its employees. To say “we care” but not to measure impact is a statement without substance. To measure the impact and to share this measurement and further to use it to inform the change is a validation of the statement about caring how employees are impacted.

Throughout the successful change literature the models created often say that a key component of a successful change is leadership’s commitment to the change. At ICM3 we reformed our entire premise for being in business to become a social entrepreneurial organization. This level of commitment may have impacted how this change is unfolding and how it is experienced by the employees. There may be a moderating relationship between this type of leadership commitment and the employee mental health. I do not know if the unexpected positive change shown would have happened without the change to an L3C, as this created an alignment with values and provided a platform to discuss the targets of trying to have more impact in society, and trying to impact healthcare delivery. This let us push the organization hard for change in a way that did not create too much distress and then impacts of too much distress, namely a deterioration in employee mental health. This outcome infers that we are not pushing the organization too hard and that the process is positively impacting mental health.

Measuring health outcomes on employees is important. The traditional well-being measure in social science has a more social component to it; it looks at job

satisfaction, life satisfaction, happiness, etc. as dimensions. The SF36v2® was developed for use in a clinical setting and is often used in clinical trials to measure the self-reported patient impact. Using an instrument that is based in the medical clinical literature into the organizational change setting provides a different lens for looking at employee impact. This type of a measure can also be directly linked to business factors such as risk management or health benefits costs. In Heaphy and Dutton (2008) identified the need for bringing more physiological measures into management science; the SF36v2®, while not a direct physiological measure, over time looks at the impacts of physiological changes, using a clinically accepted approach.

We will continue to use this measure and explore the links with business outcomes going forward. It is a measure we now are regularly using with our patients as well so we will be able to measure clinical impact outcomes at the patient level with valid team based comparisons. Seeing how a clinical team's SF36 scores or Positive Practices Survey scores relates to their patient outcomes will be fascinating and hopefully enlightening.

Positive Practices Survey

Hypothesis 4

Consistent with the literature on organizational change, the ICM3 major change will experience the expected negative impacts traditionally experienced by major organizational change efforts (Elrod II & Tippett, 2002). Specifically, the impacts on ICM3's employee's overall positive practices or at least one of the dimensions as

measured by the Positive Practices Survey will significantly decrease. This hypothesis was proven false.

The T1 scores for the Positive Practices Survey ranged from a low dimension mean score of 5.23 for energy to a high dimension mean score of 6.42 for Support with the overall mean being 6.07. Compared to the two organizations used to validate the instrument, ICM3 has much higher overall scores across all dimensions. In fact, the overall mean for each dimension from Cameron et al. (2011) is lower than the ICM3 minimum score on three of these dimensions (Inspiration, Respect, and Support). The ICM3 overall mean in 2012 is 6.07 with a SD of .71; the two comparison companies in the published article had overall means of 3.85 for the financial services organization and 3.75 for the health-care organization. The highest positive practices score at the business unit level for the financial services firm was 4.52 and for the health care organization it was 4.47 (Cameron et al., 2011). As measured by the Positive Practices Survey the 2012 ICM3 result appears to be outstanding, with the assumption that higher scores on positive practice dimensions are better. For each dimension the results of ICM3 were higher. I did not calculate a team mean for this instrument to compare with the high and mean scores Cameron et al. (2011) report on the business unit level, because the gap between ICM3 results and the reported comparisons was already so large that a more nuanced analysis would not lead to results that would further the understanding.

The T2 scores for the Positive Practices Survey ranged from a low dimension mean score of 5.64 for Energy to a high dimension mean score of 6.50 for Respect with the overall mean being 6.25. Every dimension on the Positive Practices Survey had a higher mean score in T2 and all of them with the exception of organization positive practices also had a lower standard deviation in T2, which means the results across the organization were improving and cohering closer together. None of the changes in these scores had a P-value below .05; so these changes in scores are not considered significant as measured by a t-test. The positive energy dimension's change approached significance with a .059 p-value.

The positive energy dimension is a measure of leadership impact on the organization, and to what extent do the interactions with leadership energize the employees. The change at T2 was positive meaning that in 2013, interactions with leadership were more energizing than in 2012. This change is in the opposite direction of expectations during a period of major organizational change. Since most of the business outcomes moved in the unexpected direction of improvement and the organization effectiveness measures did as well, this same unexpected movement in positive energy in the direction of improvement is an invitation to further exploration on the relationships between improving positive practices, and in particular the positive impact of leadership, in the midst of an organizational change and not merely mitigating but transforming the expected impacts of change on the employees and the organization.

It is important to note that all the scores in all the dimensions moved the same way, while on the simple t-test significance was not achieved, which means that the variability in the movement on these scores occurred in too great a fashion to make any population conclusions on the instrument. Our smaller size impacts this result. The uniformity in the movement combined with ICM3's starting overall mean being so much above the reported comparisons from the published article and the fact that ICM3 was in the midst of a major change invite looking at the results of this instrument with more sophisticated statistical methods; which will be done in the business outcomes analytics.

Regardless of the "non-significant" statistical findings, as the business owner whose organization is attempting to transform their business processes, I am thrilled with the results. Positive practices as measured by the Positive Practices Survey improved across the board in all dimensions. Also, the positive energy dimension improved at a level that approached significance which suggests the organization is more energized by interacting with leadership. In an effort for a more nuanced understanding, I did look to see if there was any variance in the clinical team means and two of the teams had slightly lower means on the Positive Practices Survey, so this may be illuminated in the business outcomes analytics, which are based on team level metrics. Overall the last twelve months have had an improvement in the organizations positive practices.

Improving positive practices

During the first year of this major change process it is important to note that all the means for all the dimensions in the Positive Practices Survey increased. There was one dimension whose increase was approaching significance, positive energy. This dimension measures the impact the leaders have on the organization. In summary it is a measure of the impact leadership has on the organization; are employees more or less energized after interacting with leadership. The expected outcome during a period of significant organizational change would be that employees whose stress is increasing, whose workload output is deteriorating, would not find the interactions with the leadership team that is driving the change as energy giving. This outcome suggests that if the leadership can interact in a manner that even through a period of significant change, the employees experience these interactions as energy giving, the chances for a successful organization change increase.

The Relationship between Health and Business Outcomes

Looking for the relationships between each of the instruments and ICM3 business outcomes was an exploratory process. A series of linear regressions was done with the instrument dimensions set as the independent variables run separately with each of the four business outcomes—the number of new patients enrolled, patient time in the assessment phase, patient time in the action phase, and exceptions per patient – as the dependent variable. For this exploratory analysis the subcomponent dimensions of the Utrecht Work Engagement Scale, the SF36v2®, and the Positive Practices Survey were included. The Utrecht Work Engagement Scale showed no significant

relationships with business outcomes. The SF36v2® showed that improved employee health leads to improved patient time in the assessment phase and improved patient time in the action phase. Improvement on certain dimensions of the Positive Practices Survey showed significant relationships with the number of new patients enrolled. None of the instruments was significantly related to exceptions per patient.

This information could prove valuable in our ongoing change efforts. Valuing and measuring employee health and positive practices is important, but creating the link to organization-level business outcomes: 1) identifies new levers for improvement; 2) increases the chances of overall change success; 3) validates ICM3 continuing to invest resources in measuring, understanding and improving these various instrument dimensions; and, 4) contributes to the literature on successful organizational change.

Utrecht Work Engagement Scale—no measurable impact on business outcomes

Hypothesis 5

Employee overall engagement and/or one of the subcomponents as measured by the Utrecht Work Engagement Scale is directly related organization business outcomes such that increased engagement leads to increased business outcomes or the opposite that decreased engagement leads directly to decreased business outcomes. This hypothesis was proven false.

The Utrecht Work Engagement Scale overall engagement score and the components of vigor, dedication, and absorption were not drivers of business outcomes according

to the linear regressions performed as the p-values were greater than .05. Further, looking at overall engagement in combination with the other instruments did not obtain significance either. My interpretation is simple, that the changes in engagement as measured by this instrument at ICM3 were not measurably related to the ICM3 business outcomes.

This is not a statement that engagement is not an important concept; it is merely a reflection on the results of these tests. From a business perspective I would not take extra time at this moment to focus on improving the engagement scores as measured by the Utrecht Work Engagement Scale if I wanted to improve my business outcomes. Looking deeper at the appropriateness of the Utrecht Work Engagement Scale in this setting will be reviewed as the project continues.

SF36v2®—improving assessment phase effectiveness

Hypothesis 6

The dimensions of health as measured by the SF36v2® Health Survey are directly related to organization business outcomes such that increased health leads to increased business outcomes or the opposite that decreased health leads directly to decreased business outcomes. This hypothesis was proven true for both patient time in the assessment phase and patient time in the action phase.

When the two component dimensions, most closely related to the mental composite score dimension, Mental Health (MH) and Social Functioning (SF) are joined in a

multiple linear regression as independent variables. With the time in assessment phase at ICM3 as the dependent variable, there is a relationship that measures as significant.

A multiple linear regression shows that ICM3 assessment phase time decreases when the social functioning scores and the mental health scores both increase. The assessment phase is the most time intensive step of the ICM3 program; it is also the aspect of our program that had the most changes in the year between T1 and T2. In the ICM3 assessment phase each of the three clinical team members does an assessment of the patient and these separate assessments are integrated into a single lifestyle plan. In the time period between T1 and T2, as part of our organizational change process, we drastically reduced the size of the average initial assessment report from 75+ pages to about 15 pages. The clinicians changed from each writing a separate report to together creating a single much abbreviated document. Also during this year the initial comprehensive assessment intake form changed four times after remaining virtually unchanged for ten years.

The assessment phase is the phase of our program where the tasks to be accomplished are much more scripted and procedural, where there is the most focus on productivity and measurement, and where team interdependency is the greatest. If everyone on a team does not do their part of the process in a timely manner the entire team’s output is impacted in a visible manner. Each clinician has to produce specific output in a

challenging time deadline in this phase; this is not the case in the other phases of the program. It is a place where employee personal health limitations would have a more direct impact and as shown in the regression improving the physical health of the clinicians, more precisely improving the physical component of health that is restricting social functioning, improved these outcomes.

This change is driven by the improvement in physical health. Social functioning is the dimension when improved along with the mental health dimension creates the largest reduction in ICM3 assessment time. To enable a better interpretation of this outcome I went back to the instrument questions that created this score. There are two questions in the social functioning dimension and in both of them the social functioning question is undifferentiated between emotional and physical health. Specifically the question asks about impairment in social activities due to physical health or emotional problems (Maruish, 2011); interpreting the scores required two additional regressions that also showed a similar, albeit less powerful bi-directional dual-variable model when looking at the two composite scores mental composite score and physical composite score. It is in the wording of the questions and the additional regression with the physical composite score that informs the inference that in the ICM3 T2 case the outcome is likely related to the physical limitations aspect of the questions. This leads me to interpret that the change in physical health, in this case improvement in physical impairments, restricts social activities and reduces time in the ICM3 assessment phase.

The second component in this regression is that as the mental health subcomponent score increases (mental functioning improves), it moderates the impact of the social functioning dimension in reducing assessment phase time. The mental health dimension reflects the levels of anxiety, depression, loss of control, and psychological well-being. To make sense of the dimension where better employee health leads to less desirable business outcomes, I had to reverse the statement. Decreasing mental health in employees leads to shorter patient time in the assessment phase. The way this outcome makes sense is in the context of this major change, particularly this phase, which in the first year of this organizational change initiative saw the most impact. I suggest that teams that were working hard to both integrate all the changes and improve their business outcomes in this phase were experiencing levels of strain that would have been seen in the overall expected direction of employee impact. If a team tried to implement all the changes not only in this phase but across the board, provide feedback on how it is going, take the lead on at least one organizational pilot, and simultaneously decrease their assessment time, it makes sense that this would have caused enough strain to have aspects of the mental health components on the SF36v2® reflect this strain and be lower in T2.

This makes sense from a business perspective that physical health, in particular the impairment physical health, has on social functioning would have greater relative impact on the aspect of a job that is more time pressured and productivity focused. In

the assessment phase, individual output is very visibly measured and has direct impact both the team and the patients.

As we go forward the physical demands of the assessment phase may lessen on a per-patient basis, but the new patient volume will be increasing. The level of impact that the improvement in social functioning caused by physical impairment has on our assessment phase will need to be monitored overtime. Likewise the moderating impact that improvement in mental health has on this outcome will hopefully be reversed as we move through this major change.

SF36v2®—improving action phase effectiveness

A multiple linear regression shows that ICM3 action phase time decreases when the subcomponent dimensions Mental Health and Physical Functioning simultaneously increase.

The action phase of our program is the longest; it is where the patient is meeting with the ICM3 team usually monthly and working through implementing their Healthy Lifestyle Plan that is focused on health optimization across multiple dimensions. These plans typically have ongoing behavioral counseling, nutrition coaching, fitness coaching, massage, financial counseling, increased medical condition literacy, and improved medical treatment protocol compliance components. The patient typically meets two clinical members of an ICM3 team each month. This is the phase of the program where patient resistance to change, old patterns, real or imagined crisis, and

the struggle of change are most present; this is the action phase when ICM3 clinical team helps a patient integrate healthy changes in their lives. A shorter time in this phase is more effective.

The mental health dimension has five items and it includes one or more items from the four major mental health dimensions of anxiety, depression, loss of emotional control, and psychological well-being. High scores here are indicative of feelings of peace, happiness and calm all or most of the time. The opposite picture would be as mental health score decreased, an employee would have more anxiety, nervousness and possibly depression. ICM3 team members with improving scores here would be able to be more present with patients, would be in better moods, and would be able to help set a context for healing and life change that is more supportive. In the ICM3 model, patients who are able to make life changes more effectively move through the program in less time; this would be most directly seen in the action phase time. It makes sense that mental health scores in staff improving have a measurable difference on our business success in the action phase.

The second component in this regression is that as the physical function score increases (physical functioning improves), it moderates the impact of the mental health dimension in reducing action phase time. The physical function dimension reflects core physical activities: carrying groceries, bending, kneeling, climbing stairs, walking moderate distances. It captures the level of physical limitations from minor

to severe. The action phase of our program is much longer than assessment phase; four to six times longer and the time demands and productivity measures are less direct. All the teams improved in this business outcome at T2. Again, to make sense of the dimension where better health leads to less desirable business outcomes, I had to reverse the statement. Decreasing physical health in employees leads to shorter times patients spend in Phase 2. Stated this way it makes sense; clinicians whose personal physical health is deteriorating would have likely have less patience for the drama of a patient who is resistant to change and would push harder and more successfully for patient progress. We have history in our program showing that patients are much more capable to be pushed in this phase of our program than our clinicians' think they can be. Viewed this way, this relationship makes sense from a business perspective and aligns with what we have seen in our organization.

There were no changes in the number of new patients enrolled or exceptions per patient that were measurably related to the SF36v2® mental composite score or any of the subcomponent dimensions.

Positive Practices Survey—improving numbers of new patients

Hypothesis 7

Increased positive practices in isolation or combination as measured by the Positive Practices Survey are directly related to organization business outcomes such that increased organization positive practices lead to increased business outcomes or the opposite—Decreased organization positive practices lead directly to decreased

business outcomes. This hypothesis was proven true for the number of new patients enrolled.

A multiple linear regression shows that ICM3 number of new patients increases when the Positive Practices Survey dimensions of inspiration and meaning both increase. The level of impact and significance of the inspiration dimension are very high, with a 1.11 standardized beta coefficient and a p-value of less than .01. The impact the inspiration dimension has on new patients is counteracted slightly by the increase in the meaning dimension. Because we were interested in understanding the impact of the Positive Practices Survey further, we deepened the exploration to perform a factor analysis on the individual results. This showed that there were two composites of dimensions that were similarly loaded. We created two composite measures of three variables each, one called the “emotional” composite and a second called the “cognitive” composite. The emotional composite is made of positive practices that engage more from the heart, including the dimensions of inspiration, caring, and forgiveness; the cognitive composite is made of dimensions that are more cerebral or complex, including organizational practices, positive energy and meaning. These combined dimensions together were not significantly related to the number of new patients. But, the emotional composite by itself was powerfully related to the number of new patients; with a .02 p-value and a beta of .934.

Diving deeper into this composite, it was the dimensions of caring and inspiration that drove the new patients' business outcome. Individually each of them had significant outcomes; the dimension forgiveness did not. Inspiration includes the concept of sharing enthusiasm, inspiring each other, and communicating the good we see in each other. Caring includes showing interest in each other, thinking of each other as friends, genuinely caring about each other, and being responsive to each other. To look at this at one more level, I decided to create one more new composite variable combining the dimensions of inspiration and caring. These new variable I call "Inspired-Caring" and it has a tremendously positive impact on number of new patients, with a p-value of .01 and a beta of .95. As the actions listed in these two dimensions are integrated and increase, so very directly does the number of new patients in our program.

New patients refer to the number of newly enrolled patients brought in by each team during the preceding twelve months. Each team is responsible to review health claims data to identify potential invitees, send out invitations, and make follow-up calls to get eligible people to agree to enroll in the program. This is ICM3's version of business sales. Without new patients we go out of business. Of the business outcomes, this is the one we focus on the most. Our teams are made up of clinicians and administrative support personnel. The phone calls to bring in new patients are typically made by our clinicians. For most of them, it is among the least favorable, if not the least favorable, activity they are responsible for. They were drawn to the

health-care field to help people improve their health, not make cold calls that many potential patients receive as intrusive and unwelcome. This outcome, which is the strongest relationship of all the business outcomes, makes sense. Our focus will be to find ways to improve in inspired-caring; it is a focus that seems completely aligned with who we are and with what we do for our patients. This challenge of improving in the composite dimension of inspired-caring will require that we find ways to support and encourage the teams to engage with each other in ways typically not promoted in the commercial sector, but integrating more positive organizational scholarship models may prove beneficial.

Being an L3C, and continuing to identify as focusing on impact and changing healthcare can help here. Sharing the relationships identified with the organization and having it identify how to we improve in these dimensions can also be supportive. Going forward, we have invited group and individual level reflection, our operational processes require interdependence among team members, and our change process is requiring interaction across teams all factors supporting improved change outcomes. As a side note, ICM3 made a significant change to our business process in the last quarter of 2013 in alignment with this inspiration/caring to new participant relationship, and in the first quarter of 2014 we had our greatest growth in new patients on the teams where this change was implemented! As an Executive-Scholar this rewards both personal identities.

Results discussion

My results suggest that an organization can not only mitigate the expected negative effects of a major change effort, but it can also transform these outcomes to positive effects by focusing on three things: 1) Improving employee mental health; 2) Increasing positive practices, particularly leadership's impact on the organization; and 3) Improving employee involvement, communication, and teamwork. The results also show that certain aspects of employee mental health and positive practices are significantly related to business outcomes.

Linking the dimensions on the instruments to ICM3 business outcomes was an important undertaking. When I combine both the changes as measured in the instrument dimensions and then the identified relationships to better business outcomes I have several actionable outcomes. One was implemented with immediate short-term success. That is the outcome identified for bringing in new patients and the relationship to the Positive Practices Survey dimensions of Inspiration and Caring. The relationship between the dimensions of inspiration and caring with the number of new patients in our program makes sense.

The other instrument driving business outcomes are the impacts obtained when aspects of employee health are improved. In each of these outcomes there was a bidirectional impact on two variables which could be explained by the paradox of the traditional employee wellness outcomes that with each gain in one area there may be

a loss in another (Grant, Christianson, & Price, 2007). I will want to see if these relationships continue to hold as the data collection continues. I believe that the moderating impact the mental health improvement had in the assessment phase is an artifact of the change process itself and that the mitigating impact of physical functioning in the action phase can be pointing us to a larger process improvement. Our overall targets will be to work with the employees to understand how ICM3 can support improvement in all the dimensions of health, with mutual benefit of improved performance outcomes as well.

It is important to note that ICM3 was able to empirically link the Positive Practices Survey instrument to organizational level business outcomes. In looking at the Positive Practices Survey, a new composite variable was created after a factor analysis; it appears that you can create an array of the Positive Practices Survey variables from those that are more heart centered to those that are more head centered. The dimensions of inspiration, caring, and forgiveness are the dimensions of the positive practices instrument that fit a heart constellation while the other constellation of Organization Practices, Positive Energy, and Meaning are more cognitive constructs or head centered. According to the only published article (Rafferty et al., 2013) on the Positive Practices Survey, overall positive practices are shown to impact better business outcomes, but the authors were unable to differentiate the subcomponent dimensions. Successfully finding more nuanced results with this instrument emerge by looking at the subcomponents with composite

variable. There are several other approaches that use a division or focus along the cognitive and affective dimensions. In change readiness Rafferty et al. (2013) look at this across the individual, the workgroup, and the organization levels. There may be a link with the affective dimensions in emotional composite and the psychological capital construct (Avey et al., 2008). Finally there are parallels in the emotional and cognitive dimensions with Kahneman's (2011) fast and slow thinking constructs, with fast thinking being more intuitive and emotional and slow thinking being more deliberate and logical.

In our organization there is a balance of cognitive and emotional competencies and an important need for both of these in the services we deliver to patients. In the specific business outcome of recruiting and enrolling new patients, the heart-centered dimensions are the most critical. This starts with a phone call, an uninvited phone call that is often seen as intrusive. Having a high level of Meaning, Organization Practices, and Positive Energy is not comparable to a high level of Caring, Inspiration, and Forgiveness. When the call comes from someone who is from a team with increasing levels of inspired-caring, how they engage the cold calling process will be different from someone where their team in increasing in positive meaning in their work and where their team has increasing levels of positive organizational practices. The cognitive composite will have greater importance in other aspects of our work, for example when we create our impact measurements on an annual basis for our organizational clients. This requires deliberative, cognitive processing.

Another way to use the cognitive and affective and better health dimensions in understanding possible impact and supporting business outcomes is to assess the different business processes involved as related more precisely to better health, and a positive practices emotional composite or a cognitive composite. Table 15 shows what this would look like at ICM3.

Table 14. Positive Practices Composite Variables and Employee Health Impacts by Effective Business Process Competencies

	Recruitment Phase	**Assessment Phase**	**Action Phase**	**Annual Impact Measurement**
Required Skill Sets	Ability to attract others to listen and try the program Excite others on possibilities *and* endurance in face of rejection	Follow procedures Complete paperwork on time Production Focus *and* build patient relationship	Be present, supportive *and* directive with patients in facilitating lifestyle change	Documenting patient progress, estimating impact
Primary Dimensions	Emotional Composite Inspiration Caring	Improved Physical Health	Improved Mental Health	Cognitive Composite Dimensions*

*to be confirmed.

Linking the instruments used to understand the impact of the change on the employees and the organization with business outcomes improves our chances for both an overall successful change initiative and improved future business outcomes. It

expanded the framework of both the study and the change intervention itself. The impact for ICM3 was such that I would suggest that organizational major change efforts can be improved by measuring the impact of the change on the employees and the organization and then exploring these measurements to identify any significant relationships to business outcomes. This may improve the impact of the change.

Summary

This study suggests that an organization can transform the negative organizational and employee impacts usually experienced in the midst of a major change process to positive impacts by focusing on four things: 1) Improving the mental health of the organization; 2) Increasing organizational positive practices, particularly leadership's impact on the organization; 3) Implement the actions proven in the literature for successful change: high leadership commitment, increased employee involvement, extensive communication, and improved teamwork; and 4) Link organizational business outcomes with instrument dimensions. By finding direct business applicability you reinforce the value of measuring the impact of the change, you increase the chance of a successful change, and you improve your business outcomes.

Limitations of Study

This study looks at a single medium sized organization; it uses several instruments whose previous use ranges from 20,000 published articles to one published article. Each of the instruments chosen has limitations for this type of study.

The Utrecht Work Engagement Scale has several critics, mostly related to the construct of engagement, as it is too closely related to burnout, so this engagement term is a reframed construct that is not anything new to the field and creates confusion, not value. I would argue that answering questions on engagement may have less of an emotional impact on the respondent than answering questions on burnout. Even reflecting and saying "I am not engaged" seems less draining than stating "I am very exhausted or burned out." This thinking follows some of Kahneman's (2011) recent writing.

The SF36v2® is the gold standard in Self-Reported Health Outcomes studies, with over 20,000 articles published. We use this instrument at a time series of one year when many of the other studies use one week, one month or three months. In a clinical trial you are looking for quicker feedback. Since the norming information is all done at a point in time and not about change over time, our use is valid. I could question the impact on major change with mental health improvement: Is this relationship a moderator or outcome of successful change? Did the employees' mental health increase because they were part of an ongoing successful change effort or was the change effort successful because the employee mental health improved? This question requires additional exploration.

The Positive Practices Survey is a new instrument with only one published study. The version of the instrument used in ICM3 has two additional categories not reported in

the Cameron et al. (2011) article on the Positive Practices Survey. The question remains on the usability of the subcategories; the idea of the creating composite variables along the emotional and cognitive array may prove valuable.

Finally, the OEI does not have near the published support that its companion instrument the Organizational Culture Inventory® (OCI®) does. The OEI was developed to support organizations using the in order to assist these organizations identify levers for successful change. While ICM3 did complete the Organizational Culture Inventory as well, and did score very high on the Constructive Style, low in Passive/Defensive style, and very low in Aggressive/Defensive Style, and did improve overall T1 to T2, these results will be explored in a separate article.

If any of these instruments were done in isolation, I would not be sure if we were really seeing ICM3 as mitigating the anticipated negative impacts of the change, but since there were a number of instruments and they concurred on the measures of ICM3 scoring high and that T2 was an improvement combined with the overall positive business outcomes, I feel this triangulates the suggestion that the change impact was actually positive at T2.

I have one organization with five teams, a total of 24 people. This is a small population. And yet we were still able to uncover some statistically significant results. This does not deter from the fact that it is a single case and a small population. Also

this is an organization that started very healthy with decent business outcomes and managed to improve from there. The outcomes, from a research perspective, are suggestive at best for other organizations contemplating a significant change effort, and potentially only to a limited population. Further I cannot ascertain the impact of the antecedent condition of having such a strong organization at the beginning—Would organizations that were struggling prior to implementing a major change effort see the same outcomes.

Finally, as mentioned previously, the changes we are in the midst of are set in the context of ICM3 becoming an L3C. This type of organizational change has never been studied and may or may not have relevance to the outcomes we have shown.

Chapter 6: Implications for Research and Practice

The measurement of the impact of change on the employees and the organization sends a message to the employees that leadership wants to understand how this change is impacting you, and that we are attempting to navigate this change process to mitigate the expected negative outcomes of change. These negative outcomes traditionally occur to both the employees and to the organization. I found that the traditional organization change model design, which has been reordered and represented many ways, includes the common steps of identify the problem and targeted solution, leadership announcement of the change, sharing the rationale, creating the momentum for the change, and then pursuing the change in a manner that hopefully increases employee involvement, communication, teamwork, and therefore organization effectiveness. The change model used may be less important than what is paid attention to as far as the impacts and possible leverage points along the way.

Organization Change and Employee Health

In this study we found that paying attention to employee health is important, that improvements in employee health can improve the organizational change outcomes, and/or that good organizational change outcomes positively impact employee health. Understanding the direction of this relationship requires further study. What we did show was that improving various dimensions of health improved specific business outcomes can help create and sustain the organizational incentive to focus on

employee health. More research linking employee health improvement to improved organizational outcomes is needed.

Positive Practices and Organization Effectiveness

We explored the value of the Positive Practices Survey, which seems to show promise on many levels. We identified at a nearly significant level the impact of leadership in being a generative energy force in the organization and suggest this is important for successful outcomes in the midst of major change, this needs further study. We also identified a clustering effect that had value with the dimensions of this instrument and suggest that there may be an important contribution to creating an emotional and a cognitive composite approach with the Positive Practices Survey dimensions. This relationship, if confirmed, can possibly help identify more nuance in the dimension identification for impact and further potentially align with other constructs that separate along one or both of the cognitive/affective dimensions looking for additional synergy or insight. Further studies on the Positive Practices Survey are needed and including analytics looking at the emotional and cognitive composite variables may prove insightful.

In looking at the overall unexpected outcomes at ICM3, another construct that may be helpful to investigate in the future would be psychological capital (Luthans et al., 2007). This is a positive organizational behavior construct whose impact may be useful in understanding some of the positive dynamics that might be occurring in our organization that created our outcomes. While it is impossible to use this approach at

T1 and T2, it may be investigated for T3 through T5, possibly as a replacement to the Utrecht Work Engagement Scale. The constellation of hope, optimism, resilience, and efficacy may explain how ICM3 was able to improve business outcomes, organization effectiveness, health, and positive practices while in the midst of a major organizational change.

The Impact of Appreciative Inquiry on Positive Change

ICM3 used appreciative inquiry as an overall model for change. This approach starts by holding the very questions asked as important to the process. It includes the elements of increased employee involvement in a co-creation of an organization's future building of the best of what exists. It attempts to generate energy towards positive change and bring the best together—the best elements of action research and positive psychology. Exploring the impact of taking this type of approach by integrating the impacts on employees during a change, in particular employee mental health, the impact on positive practices, and—of critical importance—how these dimensions of impact are predictors of improved business outcomes. Being positive, generating energy, including everyone, and getting employees excited about change is great. These characteristics may help counteract some of the negative impacts of change, especially the negative impacts in the midst of a change. But, if all these employee impacts are not linked to better sustained business performance, it still ends up as another story in the failed organizational change narrative. Understanding better the impact the appreciative inquiry had at ICM3 would be an important next step.

Building off these empirical results and incorporating a mixed methods approach to understanding this change would allow input from the employees and this information could enliven the understanding and broaden the impact potential.

The Impact of Becoming an L3C

This writing is taken at a point in time during a multi-year change effort, and it will be important to see if the ICM3 outcomes at T2 are consistent or sustainable over time. ICM3 is a firm where the owner decided to change to a social entrepreneurial business structure and model, and this impact may be significant to these findings and it may have no bearing. Change from a LLC to an L3C has not been academically published and there are relatively few organizations that have shifted to social-benefit companies. The future will see more companies forming or changing structures to legally become a social benefit company; or we will see more traditional for-profit organizations embedding the principles of social benefit impact into their culture (Laszlo & Zhexembayeva, 2011). The congruence of these organizations holding the concerns about improving employee health and improving organization positive practices seems to hold generative and increased effectiveness potential–all of which needs further study.

The positive organizational scholarship field could differentiate itself if the overall rate of successful change initiatives was 70% not 30%, or even consistently above 50%. The organizational change success factors of leadership commitment, employee involvement, increased communication, and increased teamwork are easily aligned in

a positive organizational scholarship approach; what are needed are more studies that measure and document the outcomes of change success. If they measure the impact on the employee's health and organizational positive practices and then find links to business outcomes, the change success ratios may improve.

Contribution to the Field

I stepped out of the social science well-being definitions and used a clinical medical research instrument. A search of the Academic Search Premier, the Business Source Elite, and the Business Source Complete databases identified three articles in the last 15 years with the SF36v2® being paired with the term management or organization. Given that almost 20,000 articles have been published using this instrument; that few are surprising. Looking at employee health with a more clinical instrument offers the opportunity of going beyond looking at impact of organization change to take the same data and expand the exploration to additional business bottom line relevant impacts such as absenteeism and health benefits costs.

I expanded the use of the Positive Practices Survey. This instrument was developed as one of the initial attempts in the positive organizational scholarship field to measure organizational-level impacts, not individual-level impacts. It has very limited published use. I was able to see a nearly significant outcome in one of the dimensions of this instrument, and further introduced the idea of looking at the aggregating some of the dimensions of this instrument along an affective to cognitive spectrum, and then further to create an inspired-caring composite variable. This approach may help

provide the ability to identify dimension distinctions, which have, to this point, been elusive.

There has been a call for linking positive organizational scholarship with organizational level business outcomes. I did this, albeit in one company with a small population. But a direct link was identified and it not only made sense but it will also inform our future success. More of this is needed.

Finally, I took one organization that is in the midst of an ongoing change and we have documented that as of T2 the organization improved: business outcomes, organization effectiveness, employee mental health, and positive practices. I was able to validate the previous literature regarding successful organizational change elements regarding employee involvement, improved communication and improved teamwork. Tracking this change over time will allow us to see if the change itself was successful. It will take another few years to know if we become part of the 30% to 50% of the change efforts that succeed or join the majority that do not. If we do succeed and continue seeing the impact of improved employee health and positive practices supporting better business outcomes it may help create more interest for other organizations entering significant change initiatives to consider measuring and improving these same dimensions. The primary focus of this study was to better understand the impact on business outcomes, employee and organizational health of going through a major organizational change, I believe this was accomplished.

Appendix A: Organization Effectiveness Inventory Dimensions and Definitions

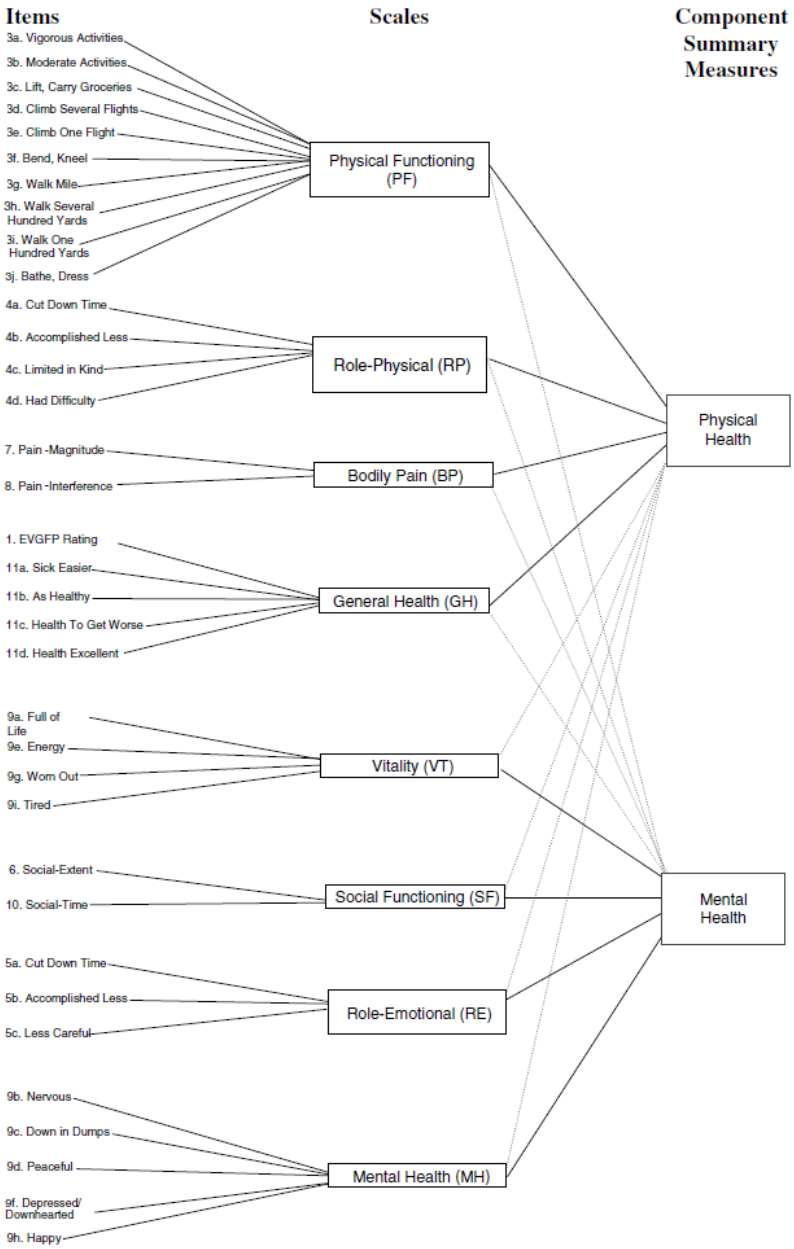
1. Articulation of mission—extent to which mission is clearly defined, illustrated, and understood by members.
2. Customer-service focus—the extent to which members understand they are responsible for identifying and satisfying the needs of customers/clients.
3. Empowerment—the extent to which people are given what they need to perform their tasks autonomously.
4. Total Influence—the amount of aggregate influence measured by members across all organization levels.
5. Distribution of Influence—the extent to which influence in the organization is more or less hierarchical in nature.
6. Employee involvement—the extent to which all members actively participate in shaping the organization and in helping it to achieve its mission.
7. Selection/placement—the extent to which people and jobs are appropriately matched.
8. Training & development—the extent to which both new and existing members are provided with training.
9. Respect for members—the extent to which members are treated fairly and justly.
10. Fairness of appraisals—the likelihood that evaluations will be based on performance and objective criteria.
11. Use of rewards—the likelihood that good performance will be noticed and reinforced in positive ways.
12. Use of punishment—the likelihood that mistakes will be accentuated and punished.
13. Autonomy—the degree to which jobs provide members with discretion in terms of scheduling and work procedures.
14. Skill variety—the degree to which jobs require members to use a wide range of skills and competencies.
15. Feedback—the degree to which carrying out their jobs provides members with information about their performance.
16. Task identity—the degree to which jobs enable members to carry out a complete and identifiable task from beginning to end.
17. Significance—the degree to which jobs are viewed by members as having an important impact on other people.
18. Interdependence—the degree to which members must cooperate and work with others in order to carry out their jobs.
19. Upward communication—the effectiveness with which information is sent from employees to people in higher-level positions.

20. Downward communication—the effectiveness with which information about the organization is sent to employees.
21. Communication for learning—the degree to which communications reflect a systems orientation and emphasis on learning.
22. Interaction facilitation—the extent to which managers encourage their direct reports to work as a team.
23. Task facilitation—the extent to which managers help their direct reports to solve problems and implement better procedures.
24. Goal emphasis—the extent to which managers reinforce expectations for excellence.
25. Consideration—the extent to which managers are personally supportive of their direct reports.
26. Personal bases of power—the extent to which employees are influenced by their supervisors/manager's technical expertise or competence, the respect that they have for their supervisor/manager, and their supervisor's/manager's willingness to be influenced by them.
27. Organizational bases of power—the extent to which employees are influenced because of their supervisor's/manager's control over desirable extrinsic outcomes, formal position, and ability to punish those who fail to comply.
28. Role clarity—the extent to which members receive clear messages regarding expectations.
29. Motivation—the extent to which members are inspired to behave in ways consistent with organizational goals.
30. Satisfaction—the extent to which members feel positively about their work situation.
31. Intention to stay—the extent to which members plan to remain with their current organization.
32. Role conflict—the extent to which members receive inconsistent messages from the organization and are expected to do things that conflict with their own preferences.
33. Job insecurity—the extent to which members are apprehensive about their continued employment with the organization.
34. Stress—the extent to which members feel they are pushed beyond their normal range of comfort by organizational demands, pressures, or conflicts.
35. Intra-unit cooperation—cooperation within groups.
36. Inter-unit coordination—coordination between groups.
37. Departmental-level quality—the quality of work performed by one's own department.
38. Organizational-level quality—the extent to which members believe the organization provides high quality products and services to external clients.
39. External adaptability—the extent to which the organization effectively recognizes and responds to changes in its external environment

Source: Szumal, 2012.

Appendix B: SF36v2® Instrument Dimensions and Composite Measures

Figure 2.1 SF-36v2 Measurement Model



Note. All health domain scales contribute to the scoring of both the Physical and Mental Component Summary measures. Scales contributing most to the scoring of the summary measures are indicated by a connecting solid line (—). Scales contributing to the scoring of the summary measures to a lesser degree are indicated by a dotted line (·····).

Source: Maruish, 2011, p. 18

Appendix C: ICM3 Business Outcomes

ICM3 Business Metrics				
	Deltas T2 to T1			
	New Participants	Assessment Phase Time (days)	Action Phase Time	Average Exceptions
ICM3 Overall	17	18.2625	-237.4125	$ (57.88)
Team A	-2	-58.44	-10.9575	$ (1,077.09)
Team B	0	-10.9575	-105.9225	$ 80.56
Team C	-6.5	14.61	-430.995	$ (82.09)
Team D	18	160.71	-504.045	$ 1,366.19
Team E	5.5	21.915	-325.0725	$ (270.68)
Improvement is	higher #	lower #	lower #	lower #

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