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Draft
“’You Make Me Feel So Young’: How Aging Adults Capture the Feeling that ‘Spring has Sprung”

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This paper examines the determinants of subjective age in older adults. Drawing on a Qualtrics panel of 600 adults ages 40-89, the authors report and contrast qualitative responses of both men and women of different decades to questions on subjective age, desired ideal age and longevity, and activities pursued to keep feeling young. Implications for rejuvenating the health care system are discussed.

Introduction

On January 9, 1956, Frank Sinatra stepped into the famed Studio A at Capitol Records in Los Angeles to record the album “Songs for Swingin’ Lovers.” He certainly could not envision that his album’s opening rendition of “You Make Me Feel So Young” would become not only a bestseller but also a possible anthem for healthcare providers. Today’s healthcare community should strive to get aging adults to feel, as the song says, like “runnin’ across the meadow pickin’ up lots of forget-me-nots” and to “want to go play hide-and-seek.” But why such a repositioning away from repairing the body to rejuvenating the body to rejuvenating the mind?” Why should older adults feel like “spring has sprung”?

Aging individuals, for their part, are increasingly rewriting the rules of what being elderly means and making visible changes to improve their quality-of-life and participate more effectively in society. Research shows that Baby Boomers, more than other generational cohorts, value maintaining youth and feeling healthy (Meredith, Schewe, & Karlovich, 2002). For example, in the year 2013 alone, there were 3.8 million cosmetic procedures performed on people age 55 and older, a 4% increase from the year 2012 (American Society of Plastic Surgeons, 2013). Additionally, there has been a steady growth in the number of seniors recorded as participating in physical activities, sports and exercise (Sport Business Research Network, 2013). With the Baby Boomers entering their older years, these strong trends should continue among older people. However, most research and writing on healthcare reflect a focus on “repairing” patient health while much should be recommending preventative methods to “rejuvenate” society’s members, that is, make them feel younger (Agogo, Milne and Schewe, 2014). This is particularly important for baby boomers who, as previously mentioned, are looking for ways to look and feel younger.

But does age really matter? An age-old adage attributed to Mark Twain states “Age is an issue of mind over matter. If you don’t mind, it doesn’t matter.” But age does in fact matter. However, it is one’s cognitive assessment of one’s age, not one’s chronological age that is key and less understood. This concept is referred to as subjective age (Barak & Schiffman, 1981). Several studies have noted that older people today tend to perceive themselves as younger in age and outlook than they really are (Agogo, Hajjat, Milne, & Schewe, 2014; Schiffman & Sherman, 1991). Additionally, those who believe they are younger generally feel, act and even appear younger (Choi, DiNitto, & Kim, 2014; Stephan, Chalabaev, Kotter-Grühn, & Jaconelli, 2013). Furthermore, and most importantly for our work, lower subjective age results in better health and hence lower healthcare costs (Barrett, 2003; Boehmer, 2007: Linn & Hunter, 1979; Markides & Boldt, 1983; Stephan, Caudroit, & Chalabaev, 2011; Stephan et al., 2013; Westerhof & Barrett, 2005). Finally, longitudinal research has shown that lower subjective age leads to adding an additional 7.5 years to one’s life (Kotter-Grühn, Kleinspehn-Ammerlahn, Gerstorf, & Smith, 2009; Levy, Slade, Kunkel, & Kasl, 2002). Shouldn’t healthcare providers today focus far more than in the past on driving aging adults’ subjective ages lower?

An article in The New York Times (Leland, 2015) described a recent year-long investigation of numerous New Yorkers aged 85 and older and how they felt about getting old and how they addressed their age. The article was peppered with perspectives that reflected their secrets for long life. They offered a wealth of optimistic, positive feelings. These included: “to be engaged with life, to do a lot of things,” “I am sure the secret is hard work,” “color my hair, wear makeup and flirt with only the cute guys,”
make yourself enjoyable and interesting to other people,” “do not carry grudges around,” and “be aware of the pleasure that you get when you do something for the people that really need it.” The underlying theme in these comments belies the mental dimensions of aging. They suggest what makes one feel alive and “doing well” in one’s life. This article addressed aging in general while our study reported here delves into more specific aspects of aging well, particularly what aging adults say they do to lower their subjective age.

The Study
We conducted a national survey of older adults acquired through a Qualtrics Panel. Our sample of 600 respondents includes men and women ages 40 through 89. A quota sampling technique was used where separate groups of both men and women were gathered from the following age segments: 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85-89. There were 30 respondents in each of the 20 groups (2 gender x 10 age). The empirical findings document the determinants of subjective age in older adults across gender and age segments. Specifically, we investigate factors contributing to subjective age in the mental, physical, and social dimensions.

Our current study is designed to carry out an empirical investigation of the determinants of subjective age in older adults. Specifically, we investigate the following research questions:

- If you could be and stay at one age for the rest of your life, what age would you want to be?
- How old would you want to live to (in years)?
- What are three things you do to make yourself feel younger? Please list and explain each in a few sentences.

Answering these research questions helps understand the impact of subjective age on healthcare related issues of quality-of-life in later years and even mortality. The responses help healthcare marketers better understand how they might implement efforts to drive down subjective age and provide preventative, rejuvenative actions for today’s aging population. Then modern healthcare providers can feel a reflection of Frank Sinatra’s blockbuster hit which we slightly alter as “And even when I’m old and gray, I’m gonna feel the way I did yesterday [do today] ‘cause you make me feel so young.”

Age Desired for Life and Longevity
In presentations to large audiences of varied ages, one of the co-authors often would ask the first question above “If you could be and stay at one age for the rest of your life, what age would you want to be?” With a show of hands, the audience would indicate their preferred age by decades. Extremely little interest was shown for staying at ages above 60 while the majority seemed to gravitate towards twenties and thirties. People generally laughed at the thought of being a teenager for life. This question was posed to our sample and the average for all ages and both genders was 41.5, coming close to the less quantified audience participation age.

With males, the desired age steadily went up with each decade. Forty-somethings indicated an age right around age 30 while desired age jumps up to mid-30s for those in their fifties. Interestingly, those in their seventies indicated ages in the mid-to-late 40s while those men in their eighties chose ages right around 50.

For females, the progression is somewhat similar. Desired age gets older as the respondent’s actual age increases. And the gap between the actual and desired gets larger as females age. Those in the age category of eighty to eighty-four have a gap in the neighborhood of 35 years. And also of interest is that women over eighty-five indicated desiring to be 61.5 which is a sharp increase over the 48.2 age desired by their slightly younger cohort of those in the 80-84 category.

When asked how long they would like to live, with the minor exception of women aged 45-49, all ages were the
age of 80 or above. Seven of the age categories chose an age over 90 with males in their 80s indicating ages above 95. We suspect those responses reflect their older actual age. Close inspection of Exhibit 1 suggests no pattern to desired live-long ages, ages seem to flip flop about until the age 65. Males and females 65 and over seem to wish to live ages in the late 80s and into the 90s. They may well be reflecting their desire to prolong their lives as they move ever closer to their natural progression toward death.

**Actions Taken to Lower Subjective Age**

Respondents to the Qualtrics survey were asked to answer in a few sentences “What are three things you do to make yourself feel younger”? We sorted the responses into the ten age categories for males and for females. The responses seemed to reflect seven overall themes which were: Exercise or weight management, Healthy eating/drinking and healthy living, Positivity and emotional stability, Self-development and keeping up, Social activities and volunteering, Beautification and external body care, and Enjoyable activities. The results are shown in Exhibit 2 which reports the percentage of times that a theme appears in a given age category. For example, 68% of the male respondents aged 40-44, on average, offered something that they do to drive down their subjective age that could be interpreted as related to exercise and weight management.

**Exhibit 2: Rejuvenating Themes by Gender and Age**

<table>
<thead>
<tr>
<th>Gender and Age Groups</th>
<th>Rejuvenating Themes</th>
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<td>1)</td>
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<tr>
<td>Male 40-44</td>
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<tr>
<td>Male 45-49</td>
<td>81</td>
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<tr>
<td>Male 50-54</td>
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<td>Male 60-64</td>
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<td>Male 65-69</td>
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<td>Male 70-74</td>
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<td>Male 75-79</td>
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<td>Male 80-84</td>
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<tr>
<td>Male 85-89</td>
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<td>Female 40-44</td>
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<td>Female 85-89</td>
<td>52</td>
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<td>Total</td>
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(1) Exercise or weight management  
(2) Health eating and drinking, and healthy living  
(3) Positivity and Emotional stability  
(4) Self-development and keeping up  
(5) Social activities and volunteering  
(6) Beautification and External body care  
(7) Enjoyable activities

Overall, the exercise and weight management theme dominated, particularly for males of all ages and for younger females. Looking across the table for each age segment, this theme generally gets the highest percentage of mention. The exception is that older females, aged 70 and above, and the oldest male segment, 85-89, indicated the importance of social activities and volunteering. This is consistent with results reported earlier work (Agogo, Hajjat, Milne and Schewe, 2015) which showed adults in later years turning to activities with other people as a means of driving their felt age lower.
Another general finding is that women of ages indicated actions taken with making themselves more attractive. It trails off somewhat after age 75, but still shows the importance of outward appearance for females. It might well be that once one achieves 75, some sense of not being able to do much about appearance comes into play and diminishes the motivation to look one’s best. In the next sections, we will look at the more detailed responses for both men and women in each of the ten year age categories…the forties, fifties and so on.

Men…the Forties
Throughout the responses that reflect exercise and weight management, the simple word “exercise” comes up most often. But many men in their forties find youthfulness in playing and exercising with their children…one even enjoys wrestling with his children. While the incidence of mentioning healthy eating is not as great as exercise, forty-somethings often mentioned healthy eating along with exercise. A few representative statements include:

- “Exercise often. Lots of physical activities”
- “Take flaxseed oil, don’t eat too much sweets, walk around instead of sitting all day.”
- “Run 5-7 times per week, stay active, have a young family.”
- “Exercise, drink water, sleep 8 hours.”
- “Keep active and try to maintain a regular exercise schedule. I also try to eat fairly healthy and have no short falls in my diet.”

In addition forty-something males noted enjoyable activities as keeping them young. Response centered about playing games, especially video games, keeping up with younger tastes in music, and even watching cartoons and movies aimed at children. One noted the enjoyment of nostalgia with “engages in some hobbies or activities that I used to do when I was younger, like watching cartoons, collecting stamps and playing soccer.” And a number also identified self-development as making them younger. Responses centered about learning new technologies, listening to new music and reading newspapers to keep current with news.

Women…the Forties
As with men, women combine thoughts of healthy eating with exercise. But their responses seemed more detailed. They mentioned specifically eating vegan or eating organic. There was a greater incidence of the word “walking” with women than the men and women also indicated that they “try to” get exercise whereas that phrase did not show up with men, suggesting a lesser commitment.

Responses that reflected beautification and external body care were rampant among their responses. “Trying to make myself look younger,” “coconut oil and face products,” and “wearing sexy makeup” were representative comments. Many noted dying their hair, wearing the latest clothes, and dressing nicely.

Men…the Fifties
The dominance of the exercise theme prevails with the fifty-somethings. However, the types of exercise reflect a less rigorous regimen. The word “walk” appeared five times and mentions of gardening, yard work, and doing things around the house were found. Of course these were paired with good eating habits as well. “Eat healthy” was offered multiple times. And there were some comments that depicted a modern approach: "I occasionally will walk between 8-10 miles and not feel any negative effects. I eat as close to organic as I can and always take regular nutritional supplements. I meditate every day for stress relief and to bring myself centered”.

Men in their fifties also showed high interest in social activities and volunteering. Respondents indicated they like to interact with younger people, keep up on latest tastes, pop culture and news and also undertake social activities such as taking classes at a community college. Enjoyable activities include: crafting/making things, sporting events to expand one’s mind, volunteering at various agencies, playing with grandchildren, hobbies, playing a musical instrument, and even having sex. Travel or taking trips only was mentioned twice yet travel opportunities seem to be a benefit of getting older in the public eye.

Women…the Fifties
Women in their fifties also showed interest in exercise which included walking, hiking, using the treadmill, and spinning. One energetic women offered: ‘I go to the gym and spin three times a week, go to yoga and Pilates.” And again this exercise comes with healthy eating. Women seem quite concerned with eating a healthy diet. "I exercise 3-4 time a week at gym. 2 times a week at home. I eat food that is healthy and I get my 8 hours sleep each night." Beautification gets the next most mentions. Women mention dying their hair, wearing makeup, and wear youthful clothes. More than younger women, they seem more concerned with their skin, especially their facial skin and mention the use of moisturizers very often. As one said: "I use moisturizer on my face, to help with aging skin, drink water, it helps my skin.”

In terms of enjoyable activities, fifty-somethings derive pleasure from being around children and grandchildren and family. They enjoy staying up-to-date with technology and just simply getting out and doing things. Painting received two mentions as did having sex.

Men…the Sixties
As before, exercise dominates responses. Three representative answers are:

"Be around young people / eat healthy / stay active both physically and mentally."

"Vigorous exercise daily. / Healthy eating habits. / Proper sleep."

"Exercise, sleep well and keep my mind active."

Some outliers mentioned having lots of sex, swimming two hours, and cardio.

The second theme of importance to men is self-development and keeping up. Many of the responses that reflected this also were reflecting the exercise and eating well noted in the first description of these men. Keeping current and active both physically and mentally is important as is surrounding oneself with young people. One man said: "Stay alert and do new things."

The third theme of importance for all men in their sixties was enjoying activities. Many of those mentioned were similar to younger age groups such as hobbies, playing with children, keeping current with the news and listening to music. Other mentions were more unique and included polishing his Corvette, playing his musical instrument and riding his Harley. One waxed nostalgically: "Watching sports, things I use to play / Looking through photo albums. Reliving days of memories / Kissing my wife. Married 45 years and she still is the light of my life."

**Women…the Sixties**

Women in their sixties had a number of important thematic activities. Again exercise dominates other themes. But in this age group both social activities/volunteering and self-development/keeping up had more responses than beautification activities.

The word "exercise" is very prevalent in their responses. The kinds of activities run the gamut: swim, dance, bowl, yoga, and even roller skate. But the sense of the responses is that it is less vigorous than younger age groups. One woman wrote: "Walk for exercise. My granddaughter and I walk my dog. I play with my granddaughter. My daughter and granddaughter go to the park often and play. We also dance and that's great exercise."

With respect to social activities/volunteering, the overwhelming number of responses revolve around grandchildren and playing, baby-sitting, and talking with them. This nurturing aspect is clearly much greater for women’s responses than it was for men. And in terms of self-development, women’s responses demonstrated a variety of outlets for improving themselves. They noted part-time work at the library, engaging in educational activities, and working with middle school students. The responses to enjoyable activities echoed these actions as well.

With the theme of beautification, sixty-something women emphasize hair coloring over the mentions of skin moisturizing noted in the women aged in their fifties. Exercise also was seen as a way to keep one’s external persona youthful. They also mentioned dressing well.

**Men…the Seventies**

The responses of men concerning exercise show a large range of activities and the impression is that they are often quite rigorous activities. The activities include: swimming, weightlifting, gardening, walking fast, stretching, fitness training, mowing a campground, and even jogging which, Interestingly, is the first and only time that activity showed up among all respondents. A representative response was: "I exercise strenuously at least five days a week. I do not eat any foods containing processed sugar, processed flour of any kind and wheat. My wife and I hike in nature regularly and are planning on increasing our mileage." It is interesting that, overall, men in their seventies do not seem to care as much about healthy eating as younger age groups as evidenced by the small incidence of responses (.13).

These men show a somewhat high concern for self-development. Their responses indicate trying to learn something new each day, interacting with young people, keeping up with current events, doing puzzles and crosswords, and doing computer tasks that involve logical reasoning. One can see that these cognitive aspects of aging are now more important than at younger times. As one man responded: "Garden, Paint in Water Colors. Write poetry and Short Stories." These responses reflect also the activities that were noted as enjoyable. In addition, some activities noted included driving a fast car fast, riding his Harley, chasing women and thinking about sex. "I'll think about sex as long as I'm breathing" said one gentleman.

**Women…the Seventies**

For women in this age category, exercise is on a par with social activities as actions taken to lower subjective age. The kinds of exercise for this group include gardening, bike riding, house cleaning, yard work, and simply “keeping moving.” One woman noted that as exercise she grooms her “large, furry dog.” The sense from reading the responses is that in exercise they are slowing down from earlier ages. This is logical yet one woman responded: “I have walked with a friend for 45-60 minutes 5 days/week for 29 years. We rarely miss. I go to the "Y" 7 days a week. I row for 30 minutes and take a weight lifting class 2x/week and Yoga 1/week. I do 1 hour Yoga 7x/week.”

The social activities that are so prevalent for women of this age are with younger people, especially again, grandchildren. Our previous work (Agogo, Hajjat, Milne, Schewe, 2015), again, has shown the importance of social interaction with those over age seventy. The comments bear this out. A representative comment is: "walk, play bridge, interact with younger people."
addition, these respondents indicated as social activities dancing, walking with friends, volunteering, laughing with others, and playing bridge.

With beautification and external body care, the responses do not mention the earlier age groups’ focus on moisturizers or skin enhancements. They do mention having hair done/cut and using makeup as well as looking presentable by dressing nicely and ensuring good hygiene. A representative response that captures the essence of comments is: “Keep my hair cut. Try to lose weight. Dress neatly. I feel better about myself when my hair is neat. It is easier to style when short. A neat, trim figure is younger looking. Neat and in-style clothing helps make a younger feeling. At least with all that I don't feel so old.”

**Men…the Eighties**

The incidence on exercise, as expected, is lowest for this group. That would seem logical. Responses show a lower level of exercise for those that noted exercise as keeping them young. For example, comments noted riding a stationary bike two miles a week, using the treadmill sometimes, and walking 5000 steps a day (when the generally recommended goal is 10000). One man indicated: “bowl, walking, swimming.” But overall, there did not seem much enthusiasm for exercise.

Men in their eighties showed the greatest incidence in all the age groups of responses that reflect positive emotional stability in their lives. Maybe this is a reflection of their accepting their actual age and making the most out of it by letting their attitudes guide their subjective age. Some responses that suggest such positivity include; “seek joy in life to the maximum,” “I try to stay in the moment,” “laugh and cut up a lot” and “Stay interested in many things besides myself, like politics, sports, and grandchildren.” One response is a great representative: “Think in younger terms. Do not get upset by the day’s events. Stay positive as much as possible.”

In terms of self-development and social/volunteering activities, men in their eighties pursue a wide variety of activities that include: keeping current with the news, doing household maintenance, giving out Toosie Rolls to the children after church, wood carving, following professional sports, working at one’s trade, being a greeter at church and having family get-togethers.

**Women…the Eighties**

Exercise continues to be critical to keeping subjective age lower. The responses show a concern for conducting physical exercise. While like the men, it may not be as vigorous as in earlier ages, sometimes is can be. One woman walks 25 miles a week, another exercises four days a week including walking three miles twice in that week. Some of the activities noted include walking daily, stretching, doing yoga, working out at senior center, swimming and water aerobics.

As with men, social activities and self-development/volunteer themes are important to this age group. These women are really quite active. They enjoy activities with the family and with younger persons especially. They are involved in their church, work on the computer [more than one would think], use Facebook, attend lifelong learning courses, play in on-line gaming communities, volunteer at local non-profits, quilt and “just enjoy life.” Their comments overall show a zest for life. They are definitely trying to make the most of their time.

Since beautification was so important to women in earlier age categories, it seems only appropriate to touch on it here. The number of responses that reflect one’s personal appearance are few for this group compared to other categories. Those that are offered suggest a relaxing of concern for looking at one’s best. For example, one commented “dress in sport or casual clothes” while another indicated “no makeup.” One woman said she wears a bra when she runs errands, suggesting less concern for her dressing while at home. All of these are logical expressions of concern for appearance but certainly differ from responses of younger women. Others at the same time do show concern for appearance, indicating that they “try to dress stylishly,” “take pride in my appearance” and “keep my appearance up.”

**Conclusions**

Clearly men and women of different ages use different mechanisms to drive their subjective age lower. Both use exercise as a means but less for weight control than for aerobic and cardio benefits. And the kind and rigor of exercise clearly lessens as one ages. Social activities revolve around children and particularly around grandchildren, especially by women, in older age groups. Women concern themselves with their external appearance; men do not. And the concerns change as bodily changes are noticed. For example, women turning fifty focus on moisturizers which were of small concern in earlier ages. Women indicated “no makeup.” One woman said she wears a bra when she runs errands, suggesting less concern for her dressing while at home. All of these are logical expressions of concern for appearance but certainly differ from responses of younger women. Others at the same time do show concern for appearance, indicating that they “try to dress stylishly,” “take pride in my appearance” and “keep my appearance up.”

A clear goal for healthcare providers is to rejuvenate aging adults by lowering their subjective age. These findings suggest specific activities that aging adults presently use to keep them feeling “like spring has sprung.” Developing rejuvenation programs incorporating such activities and contexts will resonate well with each of the age segments investigated. They will appeal to these adults and give them a better bill of health and a greater longevity. This is the goal of our work promoting lowering subjective age. This study gives hands-on, tangible actions that healthcare providers can take in rejuvenation programs. Further, they provide a wealth of contexts within which to
communicate and promote such subjective age-focused programs. With greater success in lowering one’s subjective age, the healthcare industry can help aging adults to, as Sinatra crooned, “go and bounce the moon just like a toy balloon.”

References


The Implications of Population Aging for Public Policy

This paper draws on research from economics, demography, and political science in order to explore the meaningful public policy implications of population aging in the United States and similar countries.

Population aging trends are of significance for most national governments due to the presence of policies with significant intergenerational components.

In particular, this paper focuses on the implications of aging for those national programs that subsidize healthcare and income for the elderly. Medicare in the United States and similar programs in peer countries are vulnerable to demographic shifts due to their unfunded nature. The funding structure of these programs combined with the tendency of per-capita healthcare spending to increase as age increases suggests policymakers should be acutely aware of the policy scenario they face. This paper uses existing scholarship from several academic disciplines and public policy data in order to explore these dynamics.

Introduction

Most wealthy states have experienced remarkable demographic changes over the last seventy years or so. Fertility rates have declined in most of these states, and life expectancy has increased. These changes are described in more detail below. These demographic shifts have led, in most cases, to states that feature much older populations than ever before. Many wealthy states exhibit a high “old-age dependency ratio;” that is, the number of those 65 or older has increased over time relative to those aged 0-64. While demographers find these changes worthy of extensive study are they important in other contexts? Why care if people in most wealthy states are, on average, living longer and having fewer children? The following sections argue these changes have profound implications for policymakers in these states due to the presence of many significant policies with intergenerational components.

Some intergenerational policies are forward-looking: they facilitate transfers from the old to the young (or unborn). Examples of such include K-12 and higher education, infrastructure expansion and maintenance, research, policies that support low-income children (like WIC and CHIP in the U.S.), and environmental protection. In most wealthy states policies in these areas exist and are publicly supported.

Other intergenerational policies are backward looking: policies of this type involve transfers from the young (or unborn) to the old. Examples of backward directed policies include public pensions (like Social Security in the U.S.), publicly funded old-age healthcare or health insurance, and various types of public debt (with the assumption that the debt will be paid by future generations).

Both forward and backward-looking intergenerational policies are sensitive to demographic change. This paper focuses on the implications of demographic change for backward-looking policies. The following sections address the implications of population aging in the United States for publicly funded old-age social welfare programs. In particular, this paper focus on the implications of population aging for old-age publicly subsidized health programs, an example of which is Medicare in the United States.

Population Aging

Population aging can occur in several ways. Imagine a military conflict that eliminates a significant portion of a state’s young population: such an event would age that state’s population. Most of the wealthy states that have experienced population aging over the past six decades or so can tie this aging to two distinct processes: decreases in fertility and increases in life expectancy. The following sections discuss these processes in turn before briefly summarizing the critical policy-related outcome of aging: an increase in the old-age dependency ratio.

Fertility

Figure 1 illustrates the total fertility rate (TFR) for selected countries over the last 100 years, where TFR is defined as average children born per woman in her lifetime. This graph illustrates several dynamics: lower fertility in times of instability (world wars, especially), lower fertility...
overall over time, and more recent convergent fertility behavior among these countries. All of the selected countries now feature fertility rates within the 1.25 to 2.1 range – significant as the replacement level TFR is 2.1. Clearly women in these countries have fewer children in a more consistent pattern than in previous decades.

Why has fertility changed so significantly in these cases? There is a sizable academic discussion of the many potential determinants of fertility behavior. This discussion generally groups determinants of fertility into two types: micro level determinants and macro level determinants.

**Micro-Level Determinants of Fertility**

First, what micro or individual level factors could influence the fertility decisions of an individual or a family? Some scholars point to (1) changes in partnership or marital status: several studies suggest shifting away from marriage/early marriage tend to depress fertility. Individuals are less likely to have children when they are not in a stable relationship (Brien et al, 1999; Baizan et al., 2003; Philipov et al., 2006; Testa, 2006).

Certainly (2) technical and biological factors (for example, lactational infecundability) can impact individual fertility. Davis and Blake (1956) and Bongaarts (1976) wrote extensively on variables of this type. 

**Individual wealth and human capital** (3) has been examined as a possible individual determinant of fertility for decades (arguably starting with Notestein’s 1936 paper). The relationship between wealth and family size has perhaps been most notably examined by Becker (1960) and coauthors (Becker and Lewis, 1973; Becker and Murphy, 1988; Becker et al., 1990). Becker (and others) assume children (and the utility of such children) contribute to the utility of the householder: having more well-cared-for children makes people happy. However, this relationship is not linear – there is a point at which householders will choose to emphasize quality over quantity of children, which will result in an increased cost of raising such

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**Figure 1: Total Fertility Rate (Children per Woman) for Selected Countries, 1913-2012**

Data: OECD and other sources via Gapminder.org.
children. Becker argues that the industrial modernization and increased opportunities for women have combined to make children relatively more costly, and it is this increase in the relative cost of children that can account for the drop in fertility in modern industrialized countries. Householders choose to have more children as they can support them, but reduce the number of children when the cost per child becomes prohibitive (as the children of wealthy families demand higher investment).

Other studies that focus on the relationship between individual resources (wealth and human capital/education) often examine the opportunity cost of having one or more children for a given individual (Happel et al., 1984; Cigno and Ermisch, 1989; Kradval, 1992). These studies generally focus on fertility decisions as they relate to women, with the expectation that childbirth may be costly to the career trajectory of relatively high-earning women. Many authors have studied this relationship in various states, with a fairly reliable consensus that the primary reason women delay childbirth is related to their concern for their career arc (Ameudo-Dorantes and Kimmel, 2005; Gustafsson, 2005; Kneale and Joshi, 2008; Miller, 2010). This relates to the point made by Becker and others: it is another reason that one may expect to see lower fertility among wealthy families: the opportunity costs of raising one or more children, especially for women, are higher than for poor or middle income families.

Many studies have explored the idea that levels of (4) economic uncertainty faced by individuals can impact fertility behavior. The mechanism behind such a relationship is straightforward: as individuals are aware larger families will demand more resources they will delay the addition of one or more children until they reach an acceptable level of economic stability. Behavior of this type is well illustrated by examining fertility during the US Great Depression and other economic downturns, including the energy crisis of the 1970s and the 2008 housing crisis.

Becker’s theory of fertility is largely demand-based, but an alternative that incorporates the supply-side of fertility may be found in Easterlin (1978, 1980). Easterlin (1976, 1978, 1980) discusses this relationship between resources and fertility behavior by noting the historical patterns of reduced demand for both marriage and children during times of economic hardship. Easterlin includes many of the technical determinants of fertility (including infant mortality) in his theory, and argues that income is a critical determinant of fertility that corresponds with the size of a given cohort. When a relatively large cohort enters the labor market, competition for jobs is high and wages are likely to be relatively low, which can lead individuals to delay marriage and fertility until they become more financially comfortable (1980). Many other studies that consider relationships of this type specifically estimate the role of the labor market in impacting fertility, with the expectation that higher unemployment rates (and thus higher labor market uncertainty) will depress fertility. These suspicions are largely confirmed in several studies over the past few decades (Oppenheimer, 1988; Rindfuss and Vandenheuvel, 1990; Oppenheimer, 2003; Mills and Blossfeld, 2005).

One can easily envision the role of (5) cultural or non-economic factors in determining demand for children (and thus total fertility) – societal pressures, individual desires, and cultural norms can all impact the fertility behavior of women and couples. An early example of this literature is Fawcett and Arnold (1975), which discusses the social status offered by a large family in many cultures, as well as the value of tradition. Religiosity is also tied to higher levels of fertility in this literature: adherence to pronatalist theology/philosophy and tradition appears to matter in determining individual fertility behavior (Chamie, 1981; Heaton, 1986).

Some recent research suggests a fundamental shift in the cultural view of fertility in many OECD states: younger women in such states are less likely than older women to value traditional family/gender roles and more likely to endorse the participation of women in the labor market (D’Addio and d’Ercole, 2005; Gilbert, 2005). However, it is extremely interesting that there seems to exist in every OECD country a gap between the “ideal number” of children for women and their actual terminal number of children: women in advanced counties appear to be having fewer children then they say they would like to (D’Addio and d’Ercole, 2005).

To summarize micro level determinants of fertility it seems that individuals desire a “floor” or threshold of economic and relational stability before deciding to engage in childbearing: those who are financially stable and in stable relationships seem to be more likely to have a child (or additional children) then those with greater uncertainty in their personal or economic situation. However, after this threshold is reached those with higher levels of wealth/wages and education/human capital are expected to be less fertile than otherwise comparable counterparts due both to the increased cost of child rearing they face (due to their desire to invest heavily in their child’s upbringing) and the high opportunity costs associated with childbearing –
Becker (1960, 1991) suggests at high income levels households begin to shift demand for children downward but they invest more in each child, trading quantity for quality. Highly educated women face a substantial cost in both wages and career experience when they engage in childbearing. Finally, while it seems that the modernization of norms is putting downward pressure on the demand for children there exists a significant gap in the fertility desires and behaviors of women in OECD states: on average, they have fewer children in their lifetime than they desire to.

**Macro-Level Determinants of Fertility**

Macro level determinants of fertility are factors experienced by groups of people that can be expected to impact the fertility desires and behaviors of a significant portion of the group. One can think of these as factors that may impact an entire country jointly, such as changes in social norms or shifts in the labor market. Of course, these factors may influence fertility behavior (and ideals) more for some than others – while not all individuals may shift fertility behavior due to an unstable labor market, there is reason to think such a change may have a significant effect on average.

Many studies focus on the role of macro-level economic indicators and the impact these (1) economic and labor market conditions have for fertility behavior in a country. Most of these studies operate by linking the TFR (total fertility rate, or average births per woman) in a country and time period to changes in GDP and unemployment in that country.

There is a fairly broad consensus among a subset of these studies that downward shifting GDP (as in a national economic downturn) is associated with lower levels of fertility, and higher levels of GDP increase (as in a national economic expansion) are associated with higher fertility rates (Santow 2001; Martin, 2002; Sobotka et al., 2011). Several authors suggest this reduction is largely due to delayed fertility, especially of first children, and will likely be “recovered” as the economy expands (Kohler et al., 2002; Mills and Blossfeld, 2005). Studies that examine the relationship between fertility and other measures of national wealth (consumer confidence, human development index [HDI] generally demonstrate the existence of a positive relationship between wealth and fertility at the national level (Van Giersbergen and de Beer, 1997; Bryant, 2007; Fokkema et al, 2008).

Some studies examine the impact of national level unemployment trends on fertility rates. These studies consistently demonstrate a negative relationship between unemployment rates and fertility rates (Macunovich, 1996; Adsera, 2004, 2010, 2011; Örsal and Goldstein, 2010). Easterlin (1968) suggests members of large birth cohorts face increased labor market competition and uncertainty, and are thus likely to have relatively low levels of fertility.

Many governments have instituted national social welfare expansions of different types over the past several decades, including some (2) explicitly or implicitly pronatalist policies. One can imagine how the public subsidization of childcare, for example, could encourage higher levels of fertility. The relationship between childcare provision and fertility is heavily studied; however a consensus does not appear to result from this research in this area – some authors find a negative relationship (Kravdal, 1996; Rosen, 2004) while others show a positive relationship (Del Boca, 2002; Rindfuss et al., 2010). Other social welfare policies appear to have an impact on fertility as well – when old-age social welfare benefits are generous children are needed less to provide old-age care, and fertility can fall as a result (Rendall and Bahchieva, 1998; Galasso et al., 2009; Mills and Begall, 2010). One can see how policies instituted during a period of relatively high (or even replacement rate: 2.1 births per woman/lifetime) fertility can quickly become fiscal liabilities if they encourage lower fertility in future generations.

Some authors suggest (3) societal changes in attitudes or values can have a profound impact on fertility behavior (Lesthaeghe, 1983; Lesthaeghe and van de Kaa, 1986; Billingsly, 2010). This research is largely theoretical and is based in the study of demographic transition theory, and especially focuses on the idea of the so-called “second demographic transition,” a term used to describe the mechanism many authors (van de Kaa, Lesthaeghe, Neidert, and others) think is behind the persistent below-replacement fertility seen in many parts of the advanced world over the last several decades. This body of research suggests the existence of a shift in certain societal norms over this time, most notably an increase in the individual pursuit of personal fulfillment. Such personal realization or fulfillment is placed above the importance of societal institutions, leading to changes in behavior that can be tied to delayed or reduced fertility: pursuit of more education, high income, ideal relationships, and increased consumption (Lesthaeghe and Neidert, 2006; van de Kaa, 1997). While there is not an overwhelming amount of empirical work on this relationship, several studies suggest increased individual independence can lead to delayed
fertility behavior (Liefbroer, 2005; Bernhardt and Goldscheider, 2006; Thornton and Philipov, 2009).

A final macro-level determinant of fertility behavior is (4) technology; specifically technology related to contraception and technology designed to increase fertility for individuals or couples who are experiencing difficulty conceiving or birthing a first child or additional children.

The bulk of studies on modern contraceptives (“the pill”) conclude that such drugs have a causal link with postponed and reduced overall fertility (Sobotka, 2004; Goldin, 2006; Frejka, 2008; Bailey, 2010). This research could be considered to be at odds with Becker (1960, 1981), who argues that demand for children determines their supply above and beyond the existence of modern contraceptive technologies. There is of course evidence of significant voluntary reductions in fertility prior to the widespread use of modern contraceptives: US fertility during the Great Depression is a prime example. Fertility dropped by over 30% in this period (CDC), apparently in response to reduced demand for children, likely prompted in many cases by the concern for the welfare of current and potential children in a period of great economic instability. Demand based fertility behavior of this type is comprehensively discussed in Becker (1980, 1991).

Of course, technology has also aided individuals and couples who have had trouble conceiving: Sobotka et al. (2010) suggest that this technology (often abbreviated ART, or Assisted Reproductive Technology) had a significant impact on the fertility behavior of the relatively middle-aged in Denmark. Other authors note the role of ART in postponing childbirth: ART seems to make later-life attempts to conceive more successful, in a way that not would have been possible five or six decades ago (Billari et al., 2007; Leridon et al., 2008). Therefore, this technology may make it feasible for modern individuals and couples to delay fertility by a significant amount of time while still achieving something close to a desired family size.

In summary, macro level factors can impact fertility in several ways. National level economic conditions appear to impact childbearing in a fairly consistent way: people respond to a contracting economy by putting off conception. In a similar way, higher national level unemployment rates are associated with lowered or delayed fertility among residents. National policies can impact national TFR (total fertility rate) as well: while childcare subsidies and provision seem to have inconsistent and rather unimpressive effects on fertility, other public polices seem to matter more. In particular, expansive old-age social welfare systems seem to have a relationship with fertility: as individuals can be relatively assured of government funded care in their old age they may be less concerned about having one or more own children in order to provide for such future care. Changes in societal or macro level norms also appears to be tied to delayed and depressed fertility in some cases: societal/cultural emphasis on values like individuality, self-actualization, high levels of education, high income, increased consumption, and ideal relationships appear to put downward pressure on fertility behavior. Presumably these “new” values are replacing more traditional norms that would emphasize the importance of a large number of own children and an extensive domestic role for women. Finally, technical changes related to fertility have had two sets of impacts: pill-form contraceptives appear to depress fertility by reducing unplanned pregnancy, and ART (Assisted Reproductive Technology) appears to make higher levels of “later life” fertility more feasible: ART permits women and couples to delay fertility significantly while still achieving something close to their optimal family size.

**Life Expectancy**

Literature on the topic suggests there are many factors behind the significant change in fertility illustrated in Figure 1 above. The other primary driver of contemporary population aging in many wealthy states is increased life expectancy. There are numerous ways to think about and measure life expectancy. Consider Figure 2 below. This graphic illustrates a visible positive change in life expectancy at birth for selected countries over the last 100 years. Significant decreases in life expectancy during the world wars are quite noticeable. There is a convergence toward the right hand side of the graph: life expectancy at birth in these countries hovers around 80 on average in 2012, while it was about 55 only 100 years ago. In general, this figure visually presents the positive change in life expectancy experienced in most wealthy countries over the past 100 years or so.

Of course, life expectancy at birth is only one way to measure this phenomenon. Life expectancy at birth can be low relative to other similar measures because it accounts for the relatively high-mortality years spent in infancy and early childhood. If we are interested in old-age social welfare other measures of life expectancy might be more pertinent. Figure 3 presents life expectancy at age 65 (or expected years until death) for females in selected countries. The figures for males are similar, but the curves
are less steep and the intercepts are lower. These two graphs taken together illustrate a simple but critical point: life expectancy at birth and at age 65 has increased dramatically in most wealthy countries over the last 100 years or so.

Why has this increase in life expectancy occurred? In great part due to the “epidemiological transition” or “health transition” discussed widely in demography and other disciplines (Acemoglu and Johnson, 2006). In short, treatments for previously common diseases (malaria, tuberculosis, pneumonia, etc.) and other healthcare innovations and lifestyle changes (reduction in dangerous occupations) dramatically increased life expectancy in wealthy countries from the period 1900-2000 or so (Acemoglu and Johnson, 2006).

Some studies suggest gains in life expectancy may be slowing or even about to reverse course: Olshansky et al. (2005) argue for a potential decline in life expectancy for two reasons. First, new technologies that will effectively extend old age may not come to fruition. Second, the authors argue that the very sudden rise of obesity in the wealthy world may reduce or even reverse gains in old-age life expectancy (Olshansky et al. 2005). A similar argument about the effects of obesity is made in Stewart, Cutler, and Rosen (2009).

While there have been life expectancy gains in most wealthy countries on average these gains are not always evenly distributed among citizens. Meara, Richards, and Cutler (2008) (and many others) argue gains in life expectancy are more likely to be realized by more well-educated individuals.

It is of course true that gains in life expectancy are a net positive. There are obvious utility gains from lower infant and child mortality and longer life expectancy overall. There are also economic gains attributable to a longer average lifespan: Becker, Philipson, and Soares (2003) features a discussion of this dynamic. Still, we should consider all the many implications of gains in average life expectancy: one of which is the effect of increased life expectancy on a population’s age structure.

**Ratio of Old to Young**
The previous sections have discussed the reduction in fertility and increase in life expectancy experienced in many wealthy states over the past 100 years or so. These processes, especially when combined, lead to population aging. Consider Figure 4 below.

Figure 4 presents real and projected old-age dependency ratios for selected OECD states. In the 1960s (when many old age social welfare programs began) this group of states averaged roughly 15 elderly persons for every 100 working-age persons. In 2010 this number increased to an average of roughly 25 elderly persons for every 100 workers (with a low of 19.4 in the U.S. and a high of 36 in Japan for this group of states). Projections of this ratio are indicative of continued and accelerating population aging. This is a familiar story for most policymakers. However, much of the current discussion of this dynamic focuses on public pensions, despite growing evidence that publicly subsidized old-age health insurance programs (such as Medicare) pose larger policy problems (CBO, 2009). The following sections discuss both public pension programs and public (old-age) health insurance programs.

Intergenerational Policies

The previous sections have described the remarkable demographic shifts occurring in many wealthy states. These changes have profound implications for policymakers due to the presence of intergenerational policies. Any policies that transfer resources from the relatively young to the old (such as Social Security or Medicare in the U.S.) will be sensitive to demographic shifts. The stability of these policies will thus be threatened by population aging. This is a familiar story for most policymakers. However, much of the current discussion of this dynamic focuses on public pensions, despite growing evidence that publicly subsidized old-age health insurance programs (such as Medicare) pose larger policy problems (CBO, 2009). The following sections discuss both public pension programs and public (old-age) health insurance programs.

Note that in most wealthy countries both public pension systems and old-age public health insurance programs are unfunded. Individuals generally do not build up individual accounts during their working years to draw from in their retirement years. Expenditures in these programs are funded by taxing current workers: in the U.S. this is largely accomplished by a payroll tax, or a tax on wages. A policy structure of this type can provoke equity concerns: those who will be most affected by an expansion in benefits (funded either by additional taxation or public debt) may not have much of a voice in the political process; they could be under voting age or even not yet born. Backward-directed intergenerational policies thus carry moral questions: to what degree should future generations be asked to bear the cost of current consumption? Similar arguments can be made about environmental protection, infrastructure expansion and maintenance, and investment in research.

Public Pensions

Figure 5 below illustrates levels of public spending on public pension programs. Policies in this area are generally one of the largest federal budget items in wealthy states. This is more or less true in the United States: Social
Security spending made up 24% of federal expenditures in 2014. This was the largest federal budget item in 2014, alongside healthcare (Medicare and Medicaid), which also made up 24% of federal spending. Defense spending made up 17% of the federal budget in 2014.

While the United States faces some stability concerns with its Social Security program (CBO, 2009) it is clear that other states face more pressing public pension situations. Consider public pension spending in Italy in Figure 5 above. Greece, Austria, and Portugal spend similar portions of their GDP on public pensions. Spending of this type is likely not sustainable in the long run given continued population aging. Potential solutions to this problem are presented in a later section.

Why is the Social Security problem in the United States not as pressing as similar problems in peer states? A glance at the data suggests the United States is something of an outlier among wealthy states: due to higher fertility and lower life expectancy (at birth and at age 65) the United States population is not aging as dramatically as the populations of many of its peer states. It is also true that the Social Security system in the United States is not as generous as old-age public pensions in many peer states. In fact, most U.S. workers will pay far more into the Social Security system during their working years than they will recoup in their retirement years (Feldstein, 1974). Still, the long-term outlook for Social Security in the United States is somewhat troubling. According to the Congressional Budget Office Social Security spending will exceed revenues by an average of about 12% for the period 2013-2023 (CBO, 2013). By 2030 Social Security spending is expected to exceed revenues by 30% (CBO, 2013).

Healthcare

Like most public pension systems old-age health insurance/healthcare programs in most wealthy states are unfunded, or “pay as you go.” Benefits paid in a year are financed by tax revenues collected in that year. Consider Medicare in the United States: certain Medicare benefits (Part A) are almost entirely funded by payroll taxes, or a tax on wages. Other Medicare benefits are largely funded by general tax revenue. Like Social Security, Medicare is clearly a backward-directed intergenerational policy: the relatively young fund benefits received by the relatively old.

Despite this similarity in funding structure Medicare and Social Security are vastly different programs in other ways. While government and private analysts present concern with the state of Social Security (CBO, 2013), there is far more concern with the medium and long term stability of Medicare (CBO, 2009; Kotlikoff and Hagist, 2008). The difference between the two programs is due to the nature of program benefits: Social Security benefits are capped: an individual receives a payment of \( x \) every month from age 66-67 until death. Given life expectancy figures at age 66 (see Figure 3 above) it is fairly easy for governments to project Social Security spending. Medicare benefits are entirely different: they are (largely) reimbursements for medical providers based on care provided to a Medicare enrollee. Thus, Medicare expenditures can vary wildly from person to person or for the same person over time.

Consider Figure 6 below. This graph illustrates recent changes in per-beneficiary Medicare spending by U.S. state (the dotted line represents spending for the U.S.). Two implications are obvious: first, that per-beneficiary Medicare spending has increased significantly over the past several decades. This fact is likely not surprising to most:
health care expenditures generally have broadly increased in the U.S. over the past several decades (KFF, 2012). Second, this graph indicates large differences in Medicare spending by state. In 2009 Medicare beneficiaries in New Jersey received about $12,000 worth of care each, while that figure for beneficiaries in Montana was about $7,500. Clearly there may be differences in provision across states that can be capitalized on in order to find savings (or eliminate waste).

This growth in expenditures is alarming on its own, but consider also the population aging dynamic: in addition to rising costs per beneficiary, the U.S. faces a growing proportion and number of beneficiaries due to population aging. Other wealthy states also face this dynamic (with a more serious aging component), but the United States spends more on healthcare per person than any of its peer states (OECD, 2014). In 2012 healthcare spending in the United States accounted for about 17% of GDP – the average for OECD states is 9.3% (OECD, 2014).

Why is there such a stark difference, especially when the United States does not seem to have better health outcomes than the rest of the OECD (OECD, 2014)? This is an extremely complex question that stimulates massive academic and policymaker interest. While this brief paper cannot provide a comprehensive answer to this important question, it can perhaps suggest some important demographic dynamics that may be related to this issue.

Despite relatively limited academic study on the issue there is evidence that healthcare expenditures in the United States tend to be considerably different across age cohorts. Kotlikoff and Hagist (2008) and others (KFF, 2012; HCCI, 2012; Sheiner, 2004) discuss these trends: in many wealthy states health care spending is higher per user for older age cohorts. This difference seems to be especially stark in the U.S.: consider the Kaiser Family Foundation estimates (using data from HHS) in Table 1 below.

| Table 1: Average Healthcare Spending (Public + Private) Per Person, 2009 |
|---|---|
| Age | Average Per Person Spending |
| <5 | $2,468 |
| 5-17 | $1,695 |
| 18-24 | $1,834 |
| 25-44 | $2,739 |
| 45-64 | $5,511 |
| 65+ | $9,744 |

Data: KFF

The Centers for Medicare & Medicaid Services provides a similar breakdown for Medicare enrollees. This data is presented in Table 2 below.

| Table 2: Average Medicare Spending Per Enrollee, 2012 |
|---|---|
| Age | Average Per Person Spending |
| 65-74 | $6,519 |
| 75-84 | $11,137 |
| 85+ | $14,892 |

Data: CMS

These tables (and the research referred to above) suggest the presence of a fairly simple relationship: in the United States health care expenditures tend to significantly increase with age. Once again, this trend is noteworthy on its own, but it becomes more deserving of attention from
policymakers when one considers the aging population of the United States. This dynamic is suggestive of higher future expenditures on healthcare, absent reform. When a population ages through extensions to old-age lifespan there are more “old-age person-years” present in that population. If “old-age person-years” are relatively more expensive than other person-years there will be expenditure growth.

Why do healthcare expenditures tend to increase with age in the United States? Certainly it makes sense to expect health care expenditures to increase as mortality increases: as an individual’s risk of death becomes higher more dramatic (and expensive) means will be needed to continue to keep them alive.

One example of this dynamic is perhaps found in end-of-life care in the United States. Becker, Murphy, and Philipson (2007) provide a thorough discussion of end-of-life care. They note that end-of-life care generally accounts for about 25% of an individual’s total lifetime medical spending. Much of this spending is public in the U.S., and many argue that it is wasteful. The authors argue that end-of-life spending can be expected to be high for several reasons: they note that opportunity costs of spending are very low when death is a possible alternative. The authors also consider the social value of extending a life: the social value of extending a life may be much greater than the private value of extending a life (Becker, Murphy, and Philipson, 2007). Even if high levels of end-of-life care are rational they must be “on the table” in any serious discussion of health expenditure reform as the vast majority of these costs are public in the United States.

In sum, healthcare spending and demographic change seem to be closely related in the United States. It is clear that the largest public health insurance program, Medicare, is in need of extensive reform (Social Security & Medicare Trust Fund Reports, 2009), even more so than Social Security. Consider that the Congressional Budget Office projects 60% of increases in federal outlays for the period 2015-2025 to be split between Social Security (28%) and Medicare / Medicaid (32%). Net interest is projected to make up 24% of the increase, while all other expenditures only make up 16% (CBO, 2015).

A final thought on the relationship between population aging and healthcare expenditures: consider the firms that supply healthcare-related goods and technologies in the United States. While about 50% of health expenditures are public in the U.S. the vast majority of firms providing these goods are private. It is thus fair to expect them to respond to market conditions. If demand for a certain type of good increases, we should expect to see supply emerge to meet the demand. Apply this simple logic to an aging population, and recall that one of the reasons we see population aging in the U.S. is increased old-age life expectancy. It is possible that these factors can create something of a “feedback loop” – see Figure 7 below.

**Potential Policy Solutions**

The previous sections have described demographic shifts currently occurring in the United States and peer countries, as well as related public policies that we can expect to be affected by these shifts. What can policymakers do to address these problems? How can policymakers address the liabilities posed by unfunded (“pay as you go”) programs that benefit the relatively old in states with aging populations?

First, policymakers should not expect to solve this problem by changing fertility behavior. While certain pronatalist policies (subsidized childcare, for example) can
make a marginal impact on fertility behavior the research reviewed above indicates fertility decisions are too complicated to be shaped by a single set of national policies.

In some cases it may be possible to address these problems by (1) increasing revenue. Higher tax rates can in some cases make a difference, but policymakers should keep in mind the following: “There is, of course, a limit to how much a government can extract from the young to accommodate the old (Kotlikoff and Hagist, 2008).”

Governments may also try to address these issues by (2) reducing benefits. While this approach could be very effective it is politically difficult due to the political power wielded by elderly and near-elderly cohorts. Consider the failed attempt to reform Social Security in 2005.

A potential alternative to a benefit reduction is to (3) raise the eligibility age for programs like Social Security and Medicare. This is an attractive approach as it would both increase tax revenue and reduce benefit payouts as more individuals would likely not exit the labor market until they became benefit eligible. This option also makes sense given the longer life expectancies in wealthy states relative to when programs like Social Security were created (1965). This policy has been recently been successfully implemented for public pensions in a wealthy OECD state (Germany).

Programs like Medicare and Social Security could be (4) means-tested. This approach may be reasonable to some degree in the U.S. considering the current distribution of wealth across age cohorts: younger cohorts have much higher rates of poverty than the elderly.

Perhaps the most durable solution is to (5) transition old-age benefits programs from “pay as you go” to funded programs. If each individual did pay into a personal account during their working years that they could draw on to fund old age pension and healthcare expenditures these programs would become resilient to demographic shifts. While the transitional period would likely take several decades a reform of this type would solve many of the problems intergenerational programs are facing in the United States and peer states.

**Conclusion**

This paper has provided an overview of the implications of population aging for certain public policies in the United States and other similar states. In order to accomplish this task, the previous sections reviewed existing academic literature on the two population processes that drive population aging: fertility behavior and life expectancy. Fertility behavior in most wealthy states has changed dramatically over the past 60 years or so: most women have fewer children, and begin having children at a later age. Life expectancy at birth and in old age have both increased dramatically over the past 100 years or so in wealthy states, largely thanks to the “health transition” that improved survivability for many common diseases.

The preceding sections also discuss backward-directed intergenerational policies: old age pensions and old-age healthcare programs transfer resources from the relatively young to the old when they are unfunded, or “pay as you go.” Policies of this type are problematic when populations are aging: there are fewer workers to fund the benefits of growing numbers of the elderly. The evidence suggests that Medicare is a larger policy problem than Social Security in the United States, although both are in need of reform. Finally, this paper offers several potential solutions for the policy problems posed by population aging.

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Segmentation by Involvement: Motivating Bystanders to Care for Senior Citizens
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Abstract

A mail survey was conducted to determine the impact of a senior service advertising campaign designed to increase volunteerism and financial donations. Survey responses were analyzed by level of exposure and involvement in senior care. High involvement individuals viewed the ads more favorably and exhibited stronger senior caretaking intentions. Low-involvement consumers were less likely to see their own potential contributions to senior care services as effective. It is argued that nonparticipants in prosocial helping may fail to notice the need (low awareness), fail to view the cause as urgent (low perceived susceptibility), or have low prior experience with the issue.

*Key Words:* Persuasion, health communication, bystanders, involvement, theory, marketing.
Objective: To understand if obese consumers differ from non-obese consumers in their: 1. Spicy food choices/preferences across different age groups, 2. Perceptions of the role of spicy food choice on medication use and health and wellness, 3. Perceptions of pharmacists as a provider of nutritional counseling

Setting: Obesity is the hallmark of metabolic syndrome that has serious health complications. Developing reliable therapeutic interventions to counteract obesity is very important. Animal studies at the University of Wyoming have demonstrated that dietary capsaicin; an ingredient in natural chili peppers may prevent high fat diet-induced weight gain in mice. This suggests that capsaicin could be used as a dietary supplement to control obesity. This study data will provide insights key to designing a future dietary intervention study involving capsaicin.

Methods: Key informant interviews of obese and non-obese consumers in Wyoming across three different age groups (24 per age group- half obese and half non obese) to elucidate detailed information about consumer-centric issues, factors and perceptions around spicy food choice; medication use and nutritional counseling sources or providers, especially perceived role of pharmacists. The purposeful sample of key informants completed a digitally recorded face-to-face interview of 30-35 minutes conducted by the two principal investigators utilizing a Structured Interview Guide. The raw data (de-identified transcriptions of complete unabridged transcripts, digital recordings and investigator field notes to provide context) were analyzed utilizing NVIVO™ qualitative software where the collective insights will be coded and thematically grouped.

Results: Insights related to spicy food choice and preferences included: Healthy ingredients and cost are the primary drivers of food choice in majority of subjects. Majority of participants equate the term “hot” in the context of food as “spicy or spicy hot.” When eating spicy hot food, the majority of participants expressed greater satisfaction and decreased overall consumption compared to non-spicy hot alternatives. Insights related to food choice and health included: While most respondents understood the relationship between food choice and their health, quite a few found it hard to think of a positive consequence of food choice on health. Most commonly, positive consequence listed were “feeling more energetic on eating fruits and vegetables and lethargic on eating high fat foods”. Overall, most agreed that better food choices led to better health. Insights related to food choice and medication use included: The majority of the respondents understood the relationship between potential medication and food interactions. However, only a minority were able to reflect that certain food choices might obviate the need for medications. This relationship of need versus food choice was much better understood in case of supplement use where respondents used multivitamins only if felt they did not get enough from their diet. With regards to Over the Counter (OTC) medication use, most patients did not realize that there was a relation between that and food choice or change in food choice. Insights related to pharmacists as nutritional advisors included: A predominance of respondents do not or have not even considered asking a pharmacist for general nutritional advice in the context of diets, weight loss products or approaches. Among health professionals (nurses, pharmacists, physicians, and dieticians), a majority of respondents did not view pharmacists as a credible source of general nutritional advice compared to the other professionals. Most respondents viewed pharmacists as the most credible if medications were involved and there was a potential for medication-food interactions were involved. A majority of respondents felt it was very important to have access to nutritional advice from a pharmacist when picking up prescription/non-prescription medications and supplements.

Interpretation: The long-term impact of this study is predicted to provide the fundamental information to move the study of capsaicin in obesity management toward the development and commercialization of a safe and effective food supplement to address a major USA health issue, obesity.
Readiness of Wyoming pharmacists to identify and intervene in prescription drug abuse- a qualitative study in a rural setting

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**Setting:** Prescription drug abuse has emerged as the fastest growing drug problem in the United States with opioids, central nervous system depressants and stimulants being the most commonly abused prescription drugs. Various health professionals (physicians, nurses, and pharmacists) are beginning to self-reflect within their own professions to address the growing epidemic and implement new strategies to combat prescription drug abuse. No studies to date have examined whether rural pharmacists believe they are ready to recognize and intervene to combat prescription drug abuse.

**Objective:** To determine whether pharmacists are ready to identify and intervene in prescription drug abuse, determine what tools pharmacists currently use to identify patients at risk for or are currently abusing prescription drugs and to examine the perceived barriers that may hinder pharmacists’ willingness to identify or intervene.

**Methods:** A phenomenological approach combined with inductive thematic analysis was undertaken where semi-structured, key informant interviews with licensed Wyoming pharmacists were conducted by phone at the University of Wyoming. These interviews examined rural pharmacists’ readiness to recognize and intervene in suspected prescription drug abuse. This study examined several aspects of community pharmacists’ readiness including the following: (1) personal experience with prescription drug abuse (2) skills and educational preparation (3) self-perceived competence, confidence, and willingness to identify and intervene in the care of patients (4) barriers and facilitators to the process.

**Results:** Wyoming pharmacists reported a readiness and willingness to educate themselves to better identify prescription drug seeking behavior, but their readiness to intervene differed among participants. Pharmacists identified a number of key barriers that are currently hindering their ability to intervene including time, business pressures, and physicians. A majority of participants relied heavily on the Wyoming Prescription Drug Monitoring Program (WORx) for identifying potential abuse. However, participants reported a willingness to learn additional techniques that could improve their identification of drug seeking behaviors.

**Interpretation:** The results suggest that Wyoming pharmacists are ready and willing to identify patients that may be abusing prescription drugs, but are hesitant to intervene. Work experience prepared participants to deal with drug seeking behavior more than their education.
The Next Disruptive Innovation in Healthcare – The Physician Assistant Practice – A New Business Model
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Introduction and Theory Development

Primary care shortages have been discussed among medical professionals and policy analysts for at least three decades (Craig et al. 1979). Population growth and aging are estimated to increase the workload of adult primary care physicians by 29 percent from 2005 to 2025 (Schwartz 2012), resulting in shortages of 35,000-44,000 primary care practitioners (Bodenheimer & Pham 2010; Carrier et al. 2011). Increasing numbers of Americans on health insurance plans and Medicaid expansion made possible by the Affordable Care Act has already raised the number of individuals with insurance coverage by 20 million (US Department of Health and Human Service 2015). Beyond the numbers, policy researchers are clear that discussions of primary care physician shortages must refer to both issues of access and distribution (Bodenheimer & Pham 2010; Carrier et al. 2011; Pauly et al. 2014). Not only do patients have difficulty contacting primary care physicians and scheduling appointments promptly, but physicians are sometimes out of geographic reach for citizens in rural parts of the country (Litman 1972; Carrier et al. 2011; Huang & Finegold 2013).

On the supply side, nurse practitioners (NPs) and physician assistants (PAs) have come to increasingly substitute for physicians in the treatment of routine medical visits, and research shows their outcomes are similar to those of physicians (Aparasu & Hegge 2001; Wing et al 2004; Everett et al 2009). Studies find that NPs and PAs are able to provide care for 50-90% of patients (Carrier et al 2011; Everett 2009). In particular, treatment of chronic care has been shown to consume 37% of physicians’ time (Pauly et al. 2014). Yee et al. (2013) cite findings from the American Academy of Nurse Practitioner that show 89% of NPs are trained in primary care and more than 75% practice in primary care settings. Simply shifting routine medical visits from physicians to NPs and PAs will enable physicians to both focus more attention on patients already exhibiting more critical illnesses and complications, and provide time for physicians to see new complex cases that require greater levels of expertise than a PA or NP can provide.

On the demand side, patients are already recognizing that PAs and NPs may be the primary source of care (Hooker & Everett 20012; Lenz et al. 2004). In fact, research suggests that nearly a quarter of patients already receive primary care from NPs and PAs (Bodenheimer & Pham 2010). Moreover, surveys suggest that most Americans would elect to see a NP or PA given the choice between waiting to see a physician or immediately accessing a NP or PA (Dill et al. 2013). Although some researchers project that the increasing numbers of NP and PA graduates pursing primary care will not be enough to close the primary care gap (Bodenheimer & Pam 2010), others believe that the NP or PA supply is sufficient (Everett 2009) and perhaps it is more a matter of opportunity and motivation to direct their practice towards primary care.

Although it would seem that the increasing number of NP- and PA-accredited schools and the rising number of graduates should attenuate the primary care shortage (ARC-PA 2015), scholars typically suggest that only with an overhaul of the entire medical industry can the primary care needs be sufficiently addressed (Christensen et al. 2009; Carrier et al. 2011). Others suggest that NPs and PAs will only be able to be substitute for physicians if scope-of-practice laws change to give more autonomy to NPs and PAs, thereby loosing the tether that connects them to physicians (Curtis & Schulman 2006; Yee et al. 2013). A complete system change may solve many issues of the field (although likely create new ones as well), but we do not see such opportunity for a total revolution in the system in the short term. However, we believe that given the existing state laws and rigid management operations of many large medical facilities, there is a business model that has the potential to disrupt the current medical establishment. Rather than identifying incremental modifications to the current system or even radical changes in the medical field, we instead look at the primary care shortage through a disruptive innovation lens and find a model with potential to significantly change the way primary care is delivered.

Theory

In The Innovator’s Dilemma (1997), Clayton Christensen calls attention to the paradoxical need to
continuously innovate for current customers, while also focusing resources on innovating for unanticipated needs of current and future customers. Companies that fail to provide resources to develop technologies and practices for future needs, or are unable to adopt innovative technologies, will fall behind. It is suggested that businesses that develop or adopt “disruptive innovation” will thrive in the long term. The concept disruptive innovation aims to identify technology or processes that provide different values from mainstream technologies (or processes). These value-providing innovations may be initially inferior in performance to long-standing innovations, but further development leads the innovation from attracting an initial niche audience of users to eventually satisfy mainstream customers (Yu and Hang 2010; Curtis and Schulman 2006). Since the introduction of the concept “disruptive innovation,” scholars have sought to apply its perspective to many different fields to identify and understand implications for industry innovations and organizational success and failures.

Within healthcare, Christensen and colleagues (Christensen, Grossman & Hwang 2008) have applied the concept to identify opportunities for industry disruption. But rather than isolating a particular innovation, they conclude that a total system revamp is needed (see their book, The Innovator’s Prescription (2008) or a summary article by Christensen, Bohmer and Kenagy (2000)). Other healthcare researchers have suggested more specific opportunities for disruptive innovations in pharmaceutical care (Tice 2002), in-store clinics (Bohmer 2007), home glucose monitoring (Schulman et al. 2009), or angioplasty procedures (Curtis & Schulman 2006). However, these new technologies, procedures, and business models have either become part of the ossified health care management system as sustainable innovations (Schulman et al. 2009) or have so far failed to create any significant change in health care operations.

Although the concept disruptive innovation was initially used to explain technological innovations, it has come to identify business model innovations as well. Markides (2006) argues that in order to qualify as innovation, a new business model must enlarge the existing economic pie by attracting new customers into the market or encouraging existing customers to consumer more. This new model may not make economic sense for an established company to adopt because it may alienate its mainstream clients for whom it typically focuses on providing traditional services or developing innovations that meet current mainstream client needs. But over time, as the business model becomes refined and attracts mainstream users, incumbent firms must either adopt the new model or respond to it in some other way to stay in business.

We believe that a primary care business model where physician assistants own and operate independent private practices with oversight from a PA-hired physician (who reviews PA decisions as the current law requires), constitutes a disruptive innovation business model. This model will both attract new clients (especially the nearly 20 million individuals recently enrolled in the Affordable Care Act) and encourage existing clients to use more services because of ease of access and lower financial cost of use. Currently there are no rigorous studies the authors found that systematically evaluates PA-owned and operated businesses. There are only a handful of non-peer reviewed articles that provide insights about PA-owned practices, and these are primarily small case-based discussions with limited analysis (Henry 1972; Hallett 2009; AAPA 2011). The limited research on this topic is a consequence, in part, of the small number of states that allow PAs to own their own practices. To date, only Arizona, Maryland, North Carolina and Washington allow PAs to own their own practices (NGA 2014). This legal scope-of-practice limitation has evidently inhibited the easy spread the option for a PA-based model of disruption we are currently proposing; however state laws are actively changing to provide more autonomy and opportunities for PA-owned practices.

In order to clarify the way in which we see this business model as constituting a disruptive innovation, we will use Tellis’ (2006) identification of five premises of Christensen’s thesis. Given that the concept of disruptive innovation is routinely misused or improperly broadly applied in research (Yu and Hang 2010; Tellis 2006; Danneels 2006; Markides 2006) we believe that following a clearly articulated process of explaining the concept will be most useful in developing our case for a PA-based business model of primary care as a disruptive innovator, reshaping “the patterns of preferences in a market” (Henderson 2006, p.9).

1. Disruptive technology underperforms the dominant one along the dimensions mainstream customers have historically valued.

Due to limited research on PA-owned businesses, we may consider another business model predicated on medical industry disruption that we believe provides an initial proxy for how PA-owned practices currently compete in the marketplace. The in-store retail clinics can serve as a stand-in for PA-owned practices at this initial phase because the services advanced practice nurses and pharmacists provide in retail settings have traditionally been under the purview of Primary Care Physicians (PCPs), just like the work of PAs.

Retail clinics have grown from about 200 in late 2006 to nearly 1200 by 2009 (Cassel 2012). In 2010, nearly 3 in 10 U.S. families lived within five miles of a clinic, up from 23% in 2007 (Tu and Boukus 2013). The growth in locations has led to a subsequent growth in retail clinic use. Tu and Boukus (2013) estimate that 4.1 million American families used retail clinics in 2010, compared with 1.7 million in 2007 (Hooker et al. 2013). Despite this growth,
less than 1% of all office visits are made to retail clinics (Mehrotra & Lave 2012). Retail clinics’ limited scope of treatment to acute uncomplicated conditions is likely one factor of its overall low levels of performance compared to historically valued dimensions of mainstream PCPs. Although retail clinics provide fewer services than PCP offices, customers were found to use these clinics for only a small number of medical problems. Researchers find that just 10 clinical issues, like sinusitis and immunizations, encompass more than 90% of the retail clinic visits (Mehrotra et al. 2008). Some suggest that their offices located inside of retail establishments, as opposed to a setting that represents a more traditional medical clinic, provides a cognitive limitation to how comfortable customers may be to use more services or to entice new customers to these clinics. In fact, because of these limitations, growth in retail clinics has stalled while grocers and other merchandisers continue to tweak this business model for improved profitability (Cassel 2012).

Similar to retail clinics, we propose that PA-owned and operated practices would likely underperform compared to PCP operations in the short term. Limitations in PA training and legal restrictions on PAs’ ability to handle complex cases independent of PCPs, restricts the type of care PAs can provide. Danneels (2006) notes that disruptive innovations often have constraints in their initial use, resulting in lower performance. PA-operated practice limitations may prove unsatisfactory to mainstream customers initially. However, in contrast to retail clinics, PA-owned practices provide vastly more services to patients and structure their operations in an office setting like that of a traditional PCP office, narrowing the cognitive gap to seeking PA-operated offices as a primary place for medical care. Aside from early adopters, mainstream healthcare customers may also not be initially comfortable with a PA-only practice, instead preferring a traditional PCP, even if it is more difficult to access or personally more costly.

2. Disruptive tech: a) has other features a few fringe (and generally new) customers value. Products based on disruptive technologies are typically b) cheaper, c) simpler, d) smaller, or e) more convenient than those established on dominant technology.

New dimensions of performance introduced in these early stages of disruption can change the basis of competition. In-store clinics have been around for more than a decade and have become increasingly popular because of their relative ease of accessibility. 44.4% of retail clinics have extended weekday hours and weekend openings when PCPs are usually closed (Mehrotra & Lave 2012). Although PA-owned practices may have scope-of-practice limitations that PCPs do not have, they can operate in markets that may not be seen to be as lucrative as PCPs. Thus, PA-owned practices can providing greater access, convenience and opportunity for routine care of chronic conditions. This is especially true in rural areas, where PAs are already more likely to practice than doctors (Everett et al. 2009). In addition, PAs are less expensive to see than a PCP, reducing costs to both insurance companies as well as out-of-pocket expenses of patients. We would further argue that because of the proximity to their patient population, PA-owned practices provide opportunity for greater regularity of patient visits, resulting in better continuity of care. The ability for patient follow-up would constitute the establishment of a new kind of market for patients, whereby the PA is not acting as a substitute for the PCP per se, but is provide a new type of quality patient care because of accessibility and cost. PA-owned practices can also attract patients who already see PCPs but require greater monitoring and attention than a physician can provide. This offering of cheaper and more convenient health care than the dominant model, while also enlarging the overall market by attracting new customers and encouraging existing ones to consume more (Markides 2006) constitutes a new market opportunity. Thus, we begin to see how PA-owned practices constitute a disruptive business model to the current PCP private practice or hospital-based operation.

3. a) The leading firms’ most profitable customers generally do not want and indeed initially cannot use products based on disruptive technologies. So b) disruptive technologies are first commercialized in emerging or insignificant markets. c) Incumbents conclude that investing in disruptive technologies is not a rational financial decision for them.

Indeed, traditional PCP-operated private practices and large health care systems have not pushed for greater scope-of-practice laws for PAs, nor have they sought to establish PA-operated businesses in those states that currently allow them. Instead, privately owned PA practices have disproportionately opened in those underserved populations most in need—rural areas. Rural residents are more often uninsured than urban residents and more likely to report being in fair or poor health (Ricketts 2000). Rural populations are well known to require greater travel time to reach a PCP. Furthermore, PCPs accessible are often overburdened by the quantity of patients they see and lack the resources to provide comprehensive continuity of care. It is also these rural populations that have expressed the most openness to seeing a PA instead of a PCP for their care. Analysis from the Wisconsin Longitudinal Survey found that individuals from urban and suburban areas were less likely to use PAs than respondents from rural areas (Everett et al. 2009). In addition, respondents from any geographic
area were more likely to use PAs if they were uninsured (Everett et al. 2009).

In addition to certain geographic-based populations that may be more amenable to new PA-owned operations, researchers find that compared to older adults, young adults (under 35 years of age) are more likely to have seen a PA or NP for their most recent care and are least likely to have never seen a PA or NP (Dill et al. 2013). In this same survey, racial minorities, Medicaid recipients and those in lower income brackets all responded that they were more likely than others to prefer a PA or NP for care (Dill et al. 2013). Thus, it is reasonable to argue that in previously underserved, “emerging markets,” PA-operations can be successfully commercialized given the favorable likelihood of certain populations to see PAs. However, it would seem that large, incumbent, health care systems would not find the economic incentive to develop PA-based practices to meet the needs of these populations or look at these opportunities as a new market just yet.

4. The new disruptive technology a) steadily improves in performance until b) it meets the standards of performance demanded by the mainstream market.

As PAs continue to provide primary care to patients in those states that currently allow PA-owned practices, and scope-of-practice laws continue to move in their current trend by providing more autonomy for PAs, we believe PA-owned practices will widely demonstrate their ability to handle routine noncritical cases at the same standard, or at a higher standard than current PCPs. In a study several decades ago of 253 individuals from Southern Minnesota and Northern Iowa households, two-thirds of respondents were willing to allow PAs to care for their families or themselves (Litman 1972). This support was predicated on the criteria that PAs would be adequately trained. While it may be believed that PAs are not able to meet the standard of performance demanded by the mainstream market (even if research shows patient outcomes are similar to those of physicians [Aparasu & Hegge, 2001; Everett et al. 2009]), Dill et al. (2013) found survey respondents with recent exposure to PAs were more likely to want to see one again if they had to chose between seeing an available PA or waiting a day for a physician. Thus, it appears that patients who have interacted with PAs have found their quality of care to be on par with PCPs and would chose to see a PA again. In addition, Veterans Affairs (VA) medical centers have been demonstrating the successful use of PAs for several years. Morgan et al. (2012) found that 29% of primary care encounters are with PAs or NPs. In their study, Morgan et al. demonstrated that exposure to PAs also increased patient affinity for PA care.

Increasing use of PAs in traditional hospital settings and patient exposure to PAs as primary care medical providers should lead to a greater cultural shift in patient recognition of the high standard of care PAs can provided. Coupled with PAs’ accessibility, lower cost, and perceptions of greater personalized and compassionate care will demonstrate the opportunity for PA-owned businesses to disrupt traditional PCP practices.

5. At that point, a) the new (disruptive) technology displaces the dominant one and b) the new entrant displaces the dominant incumbent(s) in the mainstream market.

As PA-owned and operated practices gain in popularity and move from their initial position in underserved markets to urban and more affluent centers, they will inevitably compete with traditional PCP private practices and hospital-based physicians. With attributes including lower costs, accessibility and greater continuity of care, PA-owned practices will begin to displace some of the PCP work in mainstream markets.

We believe that PCP loss of revenue from noncomplex treatments in PA practices will result in PCPs’ increase in scheduling of more critical and complex patient ailments for which PAs cannot manage. This should, in turn, result in PCPs treating patients that previously sought consultation by a physician specialist. This reallocation of patient care will result in a trickle-up effect shifting more critical patients to those with greater levels of specialty. The result will be that patients are given more time and attention with physicians at all levels of specialty. The increased time physicians spend with patients should both improve quality of care and decrease overall costs.

We believe mainstream hospital systems will seek to adopt a business model that includes PA-operated practices. Their other options would be to continue to incur higher costs of patient care, lose out on patients who PAs may refer to PCPs or specialists, and become culturally seen as a an out-of-date facility by its traditional patient population who hope to see continuous advancements in medical care.

Conclusion

TBD

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Incentivizing Retail Pharmacy Choice: Consumer Perceptions of Loyalty Programs
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Introduction
Retail loyalty programs are used in many competitive environments, from consumer electronics, to airlines, to retail pharmacies. What is unique to retail pharmacy is that consumers are ‘consuming’ health care goods and services, and many times the consumer is not the person ultimately paying for the medication; that rests with other payers such as governments and/or private third-party plans. Loyalty programs involve a variety of marketing initiatives, including reward cards, gifts, tiered service levels, and other methods to influence consumer attitudes and behaviours toward the brand. There are many benefits to retailers of effective loyalty programs, including: • Increased customer loyalty and higher brand allegiance; • Access to consumer trends and information via loyalty program databases, leading to more accurately targeting consumers; and • Lower price sensitivity and higher average sales. Retail pharmacy is a unique aspect of both the health care and retail environments. While the professionals (pharmacists) are providing health care goods and services, retail competition means that competitive strategies are employed in order to remain in and grow ones business; therefore, a potential conflict arises between the professional ethic of pharmacists and the business ethic involved in the free market. With the exception of corporations conducting research for internal purposes, there is little to no readily available research on consumer perceptions of pharmacy loyalty programs; furthermore, any information collected by pharmacy regulatory groups has focused on the perceptions of those within the pharmacy profession (pharmacists), which tends to be in favour of banning loyalty programs, while failing to consider the input of consumers. What has resulted is the attempt, by pharmacy regulators in Canada, to ban loyalty programs. However, one needs to ask whether legislation should be used to remove market forces that may otherwise encourage innovation and changes to pharmacy practice?

Methods
As there was no existing questionnaire that comprehensively met the needs for this project, the questionnaire used to collect data was developed specifically for this project. Data collection occurred by surveying members of the public (nonpharmacists, > 17 years old) via a telephone survey.

Results
A total of 401 responses were collected, with females accounting for two-thirds (63.8%) of respondents. The large majority of respondents (93.0%) reported that they had never switched pharmacies based on an incentive to switch pharmacies (e.g. gift cards for switching, points/rewards for switching, etc.), with more (98.0%) reporting that they had never not filled a prescription that was needed in order to obtain a bonus offer on a specific date. Almost all respondents (99.0%) reported that they had never filled a prescription that they no longer needed in order to obtain the points for the prescription purchase. Two-thirds of respondents (64.8%) disagreed that pharmacies and pharmacists that provide inducements are less trustworthy than those that do not provide inducements. Most (69.1%) stated that their choice of pharmacy was not influenced by whether or not a pharmacy provided inducements for prescription purchases. Less than one-third (30.7%) of respondents felt there was an added financial cost to making purchases at pharmacies that provided inducements. Almost half (46.9%) of respondents agreed that some inducement programs use the data collected to target them with promotional materials. In regard to receiving inducements for using a specific pharmacy, one-quarter (26.4%) agreed (52.4% disagreed) they should receive points/rewards, with more (35.9%) agreeing (42.6% disagreed) one should receive points/rewards if paying for the prescription out-of-pocket. Two-fifths of respondents (41.1%) agreed (30.2% disagreed) that it was ethical for a pharmacy to provide inducements on prescription purchases; with slightly fewer (37.9%) agreeing (33.2% disagreed) it was ethical for an individual pharmacist to provide inducements on prescription purchases. Two-thirds (63.6%) disagreed that other health care professionals should provide patients inducements for using their services (17.7% agreed). Half (54.2%) disagreed (20.0% agreed) that it was unprofessional for a pharmacy to provide inducements; while slightly fewer (51.2%) disagreed (25.0% agreed) that it is unprofessional for a pharmacist to provide inducements.

Discussion
Many arguments have been made, and are presented above, that inducement programs restrict the ability of pharmacists to practice properly, that patients are
influenced in receiving care, or not, based on incentive programs, and the like. What this argument ultimately comes down to is the ability of organizations, in this case for-profit businesses, to compete in a free market against its competitors to attract and retain patients/customers, and not on the decision to provide care or not, or seek care or not, because of inducements. While the perceptions and thoughts of those in the profession are key to understanding the issues, negative and positive, associated with inducement programs, it should ultimately, in a free market, be up to the patient/consumer to decide where they obtain prescription medications.
Factors Associated With the Choice to Fund a Health Savings Account

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Abstract
This study examines the decision to fund a Health Savings Account (HSA) by those enrolled in an HSA eligible high deductible health plan. Prior research examines funding of Flexible Savings Accounts (FSAs), however there is no study that examines factors associated with the decision to fund a HSA. Findings suggest poorer enrollee household health is positively associated with funding an HSA and a there is also a minimal positive association with prior enrollee household health care cost sharing. Those who previously funded an FSA are less likely to fund an HSA. Interestingly, enrollee earnings are not found to be significant, which may be explained partly by the earnings of those who self-select into the HSA eligible plan.

Health Savings Accounts (HSAs) are considered to be one of two medical spending accounts associated with Consumer Directed Health Plans (CDHPs) (Jordan, 2013). This paper examines who funds a Health Savings Account (HSA) once enrolled in an HSA eligible high deductible health insurance plan. To date no research examines who chooses to fund an HSA, however a small body of research is discussed that examines flexible savings account (FSA) funding.

Background
Since the Rand Health Insurance Experiment, from 1974 to 1982, insurers’ cost containment efforts have largely focused on the structure of insurance policies that establish consumer cost sharing parameters, provider incentives, and procedures that control how services are utilized and financed (Brook et al., 1984; Jordan, 2013; Lyke, Peterson, & Ranade, 2005; Newhouse, 2004). Subsequently, the number of high deductible plans with medical spending account options, generally referred to as Consumer Directed Health Plans (CDHPs), have significantly increased over the last decade in an effort to mitigate rising health insurance premiums (Jordan, 2013). CDHP enrollment for ESI has grown from 4 to 20 percent, with 27 percent of employers offering at least one CDHP between 2006 and 2014 (Claxton et al., 2014).

HSAs were sanctioned in 2008 as part of the Medicare Prescription Drug, Improvement, and Modernization Act of 2003. Eligible high deductible plans coupled with an HSA are intended to enhance health care planning and purchase decisions through greater enrollee engagement. Enrollees and/or employers are able to fund a medical savings account, which is intended to offset the coupled plan’s high deductible.1 Due to the added need to manage and fund initial health care purchases via the account (up to thousands of dollars associated with high deductible plans), HSAs are intended to encourage enrollees to be more prudent regarding the need to utilize preventive and wellness care, be more engaged in health care purchasing decisions relative to cost and quality, and have a mid to long-term health care planning horizon for their health care needs. The requirement for HSAs to be coupled with an eligible high deductible plan is to protect against unexpected high cost health care needs, yet have financial exposure related to the high deductible to encourage a more educated health care consumer.2 HSAs differ from other medical savings accounts in that they allow employee funding and true ownership of the medical spending account, offer greater portability, include account investment characteristics, and provide greater employee control over the level of funding to subsidize health care costs (Lyke et al., 2005; "Medicare Prescription Drug, Improvement, and Modernization Act of 2003," 2003; Parente, Feldman, & Christianson, 2008).

Although Health Savings Accounts must be coupled with an HSA eligible high deductible health plan for enrollees to contribute funds to the custodial account, those who enroll in such a plan are not required to fund an HSA (Fronstin, 2015). Thus, HSAs are optional medical spending accounts the enrollee must choose to establish and/or fund. HSA contribution levels are statutorily capped on an annual basis (Fronstin, 2015). In employer sponsored insurance (ESI) 1 Enrollee contributions are deductible from taxable income when coupled with an HSA eligible plan, and employer contributions are excluded from taxable income (Fronstin, 2015).
2 HSA eligible health plans require a statutory minimum deductible and maximum out-of-pocket limit. Enrollees are able to contribute pre-tax funds to the HSA only if they are insured by an HSA-eligible health plan. The federal government sets annual deductible minimums and out of pocket maximums, indexed to inflation, based on coverage tiers for plans to qualify as HSA-eligible. Plans may include higher deductibles and an out-of-pocket limits for out-of-network services (Fronstin, 2015).
settings, the employer and/or enrollee may fund an HSA. Fifty two percent of employers and just over fifty three percent of enrollees were recently found to contribute funds in 2014, however of seventeen million open HSA accounts, just under fourteen million were funded by at least one party (Fronstin, 2015).

Prior Research
HSA eligible plan enrollment has increased significantly from a decade earlier. As of January 2007 the Government Accountability Office (GAO), (2007) estimated HSA eligible plan enrollment to be 4.5 million, with approximately 52% establishing and utilizing an HSA. Fronstin (2015) finds similar results with just over half of all HSA accounts receiving enrollee contributions in 2014. The GAO, (2007) suggests enrollees with HSA activity are higher earners. Average adjusted gross income for non-elderly adults who report HSA activity in 2005 was $139,000, while non-HSA participants tax filers’ average income was $57,000 (Dicken, 2008). Interestingly, HSA contributions by enrollees remained similar with an average of $2,100 in 2007 versus $2,096 in 2015 (Dicken, 2008; Fronstin, 2015). The lack of change may be related to the inflation indexed statutory account maximum funding caps set annually for differing coverage tiers. Employer contributions however have increased from an estimated $806 in 2007 to $1,021 in 2014 (Dicken, 2008; Fronstin, 2015). GAO (2008) finds account contributions increased with age and income, however Fronstin (2015) finds an even distribution across non-elderly adults who contribute to HSA accounts, albeit larger year end balances are positively associated with age. The association between age and year-end balance may be due to a longer period of contributing to an account in that accounts indicate an accruing balance on average over time verses an exhausting of funds annually.

There is no research that examines who chooses to fund an HSA for those enrolled in an eligible health plan. There is a small body of research that examines contributions to Flexible Savings Accounts (FSAs). FSAs are one of the earliest efforts intended to engage consumers in more efficient health care purchasing, and thus bear some features with HSAs. The Internal Revenue Service sanctioned Flexible Spending Accounts in 1978, which were the first medical savings accounts exempted from FICA, federal, state, and local income taxes (Bureau of Labor and Statistics, 2002; Hamilton & Marton, 2007). Similarly to HSAs, these accounts are optional, supplemental to, and independent of an enrollee’s health plan. They were created for employees to set aside pre-tax earnings to pay for out-of-pocket medical expenses. FSAs include annual contribution caps and use-it-or-lose-it provisions, which limited their appeal. Factors that contribute to FSA participation may offer insights due to the voluntary funding characteristics similar to HSA participation.

Hamilton & Martin (2007) find that there is a positive association with marriage, age, and female FSA participation. Income is also positively associated with FSA participation and level of account contributions. Additionally, non-whites are less likely to participate in an

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3 Recent regulatory changes now allow FSA participants to carry up to $500 over each year beginning in 2015 (Laufer, 2013).
FSA, contribute less, and are less likely to switch to higher premium plans with lower cost sharing, when/if introduced (Hamilton & Marton, 2007). Furthermore, FSA participants are more likely to choose plans with greater cost-sharing structures (Hamilton & Marton, 2007). Similarly, Cardon & Showalter (2001) also examine enrollee characteristics for FSA participation. They find an overall low participation rate, and a positive association between age, family size, income, and female primary insured (Cardon & Showalter, 2001).

Study Setting
Enrollee households in this study were provided a new choice set of three plans in 2006, down from nine Managed Care and one high deductible plan in 2005. The three plans that comprise the new choice set are a conventional Managed Care PPO, and two CDHPs; a Health Reimbursement Arrangement (HRA) coupled with a high deductible PPO plan, and an HSA eligible high deductible PPO plan. The Managed Care PPO option requires the highest enrollee premium contributions, but has no deductible to influence initial health care cost. Those who choose an HRA plan are automatically provided an account that is not optional, is funded by the employer at a level that does not completely cover the deductible phase, and requires the enrollees’ coordination of funds for medical costs. The HSA eligible plan option requires no premium contributions and enrollees are given the choice to fund or not fund an HSA. However, the employer provides no HSA funding.

Jordan (2013) and Jordan (2015) examined this same study population and find favorable selection is most pronounced for those who choose the HSA eligible plan. Findings of favorable selection are based on lower prior cost-sharing and a greater health status as measured by a Relative Risk Score per household (Jordan, 2013, 2015). Jordan (2013) also finds a positive association between the top 10% of earners and HSA eligible plan enrollment, while Jordan (2013) finds no significant association between earnings and HSA eligible plan choice. Thus, the study sample consists of only enrollees who chose the HSA eligible plan, which suggests enrollees who are high earners and healthier will comprise the sample. This study will examine if those who choose to fund the optional HSA have attributes that are different than those who choose not to fund an account and merely select the free catastrophic plan. Prior survey data suggests a greater than 50% funding rate, and for age and income to be positively associated with funding of an account (Fronstin, 2015; Government Accountability, 2008). Greater income of those more likely to choose the HSA eligible plan is similar to prior findings that those more likely to fund an FSA. Furthermore, FSA funding research suggests those with greater prior use of health care, greater household size, and female primary insureds are more likely to fund an FSA (Cardon & Showalter, 2001; Hamilton & Marton, 2007). These factors may inform who funds an HSA.

Methods
This is an ex-post facto non-experimental study guided by an adaptation of the theoretical model developed by Cardon & Showalter and Andersen’s Behavioral Model (Andersen, 1995; Cardon & Showalter, 2001). The Behavioral Model examines predisposing, enabling, and need factors association with access to health care. Andersen identifies the prominent role of insurance coverage, and the form of plan and medical savings account is an integral determinant to such access (Andersen, 1995). Predisposing factors include enrollee household size, marital status, ethnicity, exempt status, union status and region. Enabling factors include employee earnings and the dependent variable of HSA funding. Need factors include perceived health care need via prior-out-of-pocket spending, a Relative Risk Score (RRS) to measure health status, and prior FSA participation. Health status is a ratio measure of relative health risk at the contract level. The RRS is based on a weighted score calculated from demographic and Diagnostic Cost Grouping (DCG) captured from prior health care use. DCG is a proprietary diagnosis cost grouping software developed by Verisk Health Inc. Flexible Spending Account (FSA) participation is operationalized as a dichotomous variable. Factors included in the adapted Behavioral Model are similar to those examined by Cardon & Showalter (2001). They include predisposing characteristics of gender, age, marital status, and family size. Additional similarities include salary and FSA participation as enabling factors, and need factors of prior treatment and health care spending claims data. Marginal tax rates used by Cardon & Showalter are unavailable for this study, however employee earnings serve as a representative proxy.

Descriptive statistics for the study population are first examined, followed by a binomial logistic regression with a dependent variable of funding, or not funding, an HSA when the HSA eligible plan is chosen.

Data Sources
The study employer has employees in the East North Central, South Atlantic, East South Central, and West South Central United States. Data are retrieved from the employer’s human resources and claims information systems in de-identified form via a third party. The data includes enrollee and plan characteristics for 2005 and 2006. Employees chose faced a new health plan choice set in 2006, which included the HSA eligible high deductible health plan. Cases include all who were continuously enrolled from January 1, 2005 to December 31, 2009. The resulting sample for all who chose the HSA eligible HDHP is n = 528.

Descriptive Statistics
The study employer population is largely male (82%), married (79%), white (86%), non-exempt/hourly (60%), non-union (71%), and reside in the East North Central part of the United States (48%). Although the primary insured employee population is largely comprised of males, the average household has three enrollees which suggests a representative sample that includes females and children. Of the 9,617 employees insured in the program in the sample, 528 (5%) chose the HSA eligible plan. Those who selected the HSA eligible HDHP were representative relative to the larger insured population with a couple exceptions. HSA eligible HDHP enrollees are 81% male, 89% white, include more multi higher proportion of salaried exempt employees 65% (versus 40%), include a higher rate of non-union employees at 80% (versus 71%), and are more represented in the East North Central part of the United States 65% (versus 48%). The HSA eligible HDHP plan includes the fewest households enrolled as employee plus children or family coverage tiers with a mean of 30 enrollment months (median 24) versus a mean of 35 in the larger study employer insured population. This suggests that HSA eligible HDHP enrollees include fewer children than the larger study employer population. Fourteen (versus 18%) percent of the enrollees funded an FSA in 2005. The mean age for employees whose chose the HSA eligible HDHP is nearly 46 years old (versus 44) and a median of 47 (versus 45). HSA eligible HDHP enrollee mean employee earnings is $84,755 with a median of $70,643 versus $69,615 and $66,181 respectively in the larger employee study employer population; average cost sharing for 2005 were $1,224 with a median of $550, versus $1,470 with a median of $995 for the larger group. Finally, the HSA eligible HDHP enrollees are healthier than the larger ESI employer population with a mean relative risk score of 61 versus 78, and median of 24 verses 48 (a higher RRS represents worse lower health status). Twenty seven percent (or 141) of HSA eligible HDHP enrollees chose to fund the HSA, which is considerably fewer that findings by Fronstin, 2015. The study employer does not contribute funds to the HSA.

There are some notable differences between those who chose to fund a Health Savings Account versus those who did not (see Table 1). Those who chose to fund accounts earned more, were healthier, spent less on out-of-pocket health care costs the prior year, and were slightly younger. There is also a greater proportion of salaried/exempt employees who funded an account. Although not remarkable, there were also a slightly higher proportion of male primary subscribers, Hispanics, non-union, exempt, and single

Table 1
Descriptive Statistics and Frequencies for HDHP: Funded and Non-funded HSA

<table>
<thead>
<tr>
<th>Variable</th>
<th>Funded 27%</th>
<th>Not Funded 73%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages</td>
<td>Mean $110,087.43</td>
<td>Median $74,338.44</td>
</tr>
<tr>
<td>RRS</td>
<td>Mean 46.86</td>
<td>Median 18.67</td>
</tr>
<tr>
<td>Out of Pocket Spending</td>
<td>Mean $1,724.25</td>
<td>Median $967.45</td>
</tr>
<tr>
<td>Member Months</td>
<td>Mean 31.40</td>
<td>Median 25.00</td>
</tr>
<tr>
<td>Employee primary subscriber age:</td>
<td>Mean 44</td>
<td>Median 45</td>
</tr>
<tr>
<td>Employee primary subscriber gender:</td>
<td>Male 80%</td>
<td>Female 20%</td>
</tr>
<tr>
<td>HSA Contributions</td>
<td>Mean $2,389.80</td>
<td>Median $2,100.00</td>
</tr>
<tr>
<td>FSA Participation 2005:</td>
<td>Yes 9.2%</td>
<td>No 90.8</td>
</tr>
<tr>
<td>Hourly/Salaried:</td>
<td>non-exempt 34.8%</td>
<td>exempt 65.2</td>
</tr>
<tr>
<td>Union Status:</td>
<td>Union 16.3%</td>
<td>Non-Union 83.7</td>
</tr>
<tr>
<td>Marital status:</td>
<td>Single 19.9%</td>
<td>Married 73.8</td>
</tr>
<tr>
<td>Coverage Tier Funded:</td>
<td>Self 24.1%</td>
<td>+ Spouse 23.4</td>
</tr>
<tr>
<td></td>
<td>+ Children 5.7</td>
<td>+ Family 46.8</td>
</tr>
<tr>
<td>Ethnicity:</td>
<td>White 87.2%</td>
<td>African American 2.8</td>
</tr>
<tr>
<td></td>
<td>Asian 5.7</td>
<td>Other 4.2</td>
</tr>
<tr>
<td>Region 3 – East North Central</td>
<td>65.2%</td>
<td>Region 4 – West North Central 0.7</td>
</tr>
<tr>
<td>Region 5 – South Atlantic</td>
<td>14.2</td>
<td>Region 6 – East South Central 0.7</td>
</tr>
<tr>
<td>Region 7 – West South Central</td>
<td>18.4</td>
<td>Region 9 – Pacific 0.7</td>
</tr>
</tbody>
</table>

employees than those who did not fund an HSA. Slightly fewer subscribers who funded an HSA were African American and more chose family coverage.

Results

Bivariate relationships between the predictor variables and HSA contributions are listed in Table 2. Prior out-of-pocket health care costs are significant, but interestingly earnings, RRS, and prior FSA funding are not. Similarly with FSA funding, demographic variables of are significant, however
member months (representing the number of insureds in each household) is not.

Table 2

Bivariate Relationships

<table>
<thead>
<tr>
<th>Variable</th>
<th>HSA Contributions</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Earnings</td>
<td>.078</td>
<td>.073</td>
</tr>
<tr>
<td>Out-of-Pocket Costs</td>
<td>.167</td>
<td>.000</td>
</tr>
<tr>
<td>Prior FSA</td>
<td>.206</td>
<td>.999</td>
</tr>
<tr>
<td>Relative Risk Score</td>
<td>-.083</td>
<td>.056</td>
</tr>
<tr>
<td>Member Months</td>
<td>.052</td>
<td>.236</td>
</tr>
<tr>
<td>Salaried (non-hourly)</td>
<td>.322</td>
<td>.173</td>
</tr>
<tr>
<td>Non-Union</td>
<td>.272</td>
<td>.754</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>.354</td>
<td>.001</td>
</tr>
<tr>
<td>Marital Status</td>
<td>.379</td>
<td>.000</td>
</tr>
<tr>
<td>Region</td>
<td>.237</td>
<td>.100</td>
</tr>
</tbody>
</table>

Notes.
- a Pearson coefficient used to test bivariate relationship for continuous and dichotomous IVs.
- d Phi coefficient used to test bivariate relationship for two dichotomous IVs.
- Cramer’s V coefficient used to test bivariate relationship for dichotomous and nominal IVs.
- Correlation between the DV and IV is significant at the 0.05 level (2-tailed).
- Correlation between the DV and IV is significant at the 0.01 level (2-tailed).

The binomial logistic regression includes HSA participation as the dependent variable (DV). HSA participation is operationalized as the decision to fund an HSA (or not). The regression model is significant with a Chi-square of 64.957 at .000. However, the full model only increase predicted classification from 73.3% in the constant only model to 75% in the full model. The model’s predictive value is weak with a Cox & Snell R Square of .116 and Nagelkerke R Square of .173 (see Table 3).

Table 3

SPSS Output: Model Summary

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>547.838a</td>
<td>116</td>
<td>1.16</td>
</tr>
</tbody>
</table>

a. Estimation terminated at iteration number 6 because parameter estimate changed by .001.

Table 4 lists the regression coefficient results. The Wald statistic for prior cost sharing, prior FSA participation, and RRS is significant. However when examining the predictor coefficients, the change in odds for the DV are minimal for RRS (Exp(b) .993) and prior cost sharing (Exp(b) 1.000444). Prior participation in an FSA suggests if an enrollee previously had an FSA, the odds for funding an HSA are 2.281 less likely (Table 4). Table 4 also supports prior findings that the Wald statistic for marital status is significant.

Discussion

This study examines those who chose to enroll in a HSA eligible High Deductible Health Plan (HDHP). Enrollees in this plan chose it versus a high deductible PPO coupled with a Health Reimbursement Arrangement (HRA) or stand-alone Managed Care PPO with no deductible. Of the HSA eligible HDHP enrollees, the decision to fund the optional HSA serves as the DV. Findings suggest that prior cost sharing, Relative Risk Score (RRS) and prior FSA participation are significant factors. The effects of prior cost sharing are minimal and there is a slight positive association between projected poorer health and funding of an HSA. Those who previously participated in an FSA are less likely to fund an HSA, suggesting a possible aversion to working with a health care savings account vehicle or a perception that the value of efforts financing and planning for health care needs is not equal to or greater than the benefits.
Prior research finds those who choose an HSA eligible HDHP are more likely to earn more and are healthier (Jordan, 2013, 2015). This likely influences the factors that influence the decision to fund and HSA. Enrollee earnings are found to not be significant in this study. However enrollees in this plan generally have a higher level of earnings than others in the study employer population. Thus, enrollees in the HSA eligible HDHP may base their decision to fund an HSA more so on non-financial reasons such as health status and past participation in a medical savings account. The cohort of HSA eligible HDHP enrollees may not be generalizable to the larger study employer population. This may explain the limited predictive value of the this study guided by constructs aligned with Andersen’s Behavioral Model, Cardon & Showalter, 2001 and Hamilton & Marton, 2007. The value of theoretical structures in prior studies that examine similar choices, may be influenced by self-selection into the sample population may in this case. Additional limitations of this study include a non-experimental design and limitations related to convenience data. The adapted theoretical constructs used for examining health care use and choice may be less suited than an econometrics design for HSA funding.

Future research may be beneficial to assess the choice to fund an HSA if other health care use and financial variable can be employed. Understanding why an account is funded may highlight the need for preventive care, wellness programs, and chronic care management programs for employees who may or may not have a choice to enroll in a HDHP.

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http://www.sciencedirect.com/science/article/B6V8K-447N1RD-3/2/4f46bb9cbbb81a7a55a36603b5fb7760
Abstract

Six experimental studies demonstrate that differences in how consumers and patients reach a decision can nudge them to healthier behaviors. Relative to selecting preferred options, rejecting unwanted options can (1) reduce health risk behaviors, such as consuming unhealthy foods and beverages, and (2) help patients make more informed medical decisions. The findings offer novel opportunities to manage chronic diseases such as diabetes, obesity and cancer.

Introduction

Chronic diseases are ongoing, generally incurable illnesses or conditions such as heart disease, diabetes, obesity and cancer. In the US these persistent conditions are the leading causes of death and disability (Ward, Schiller & Goodman 2012) and they account for more than 75% of health care spending (CDC 2009). Two factors might help reduce the mortality and morbidity of chronic disease: (1) changing health risk behaviors, such as eating foods high in saturated fat or salt (CDC 2015) and (2) engaging patients more in their medical decisions (e.g. Stiggelbout, Pieterse and De Haes 2015). This research explores how decision strategy might nudge consumers to healthier behaviors, helping ultimately to reduce chronic disease. Decision strategy is the process used to make a choice: a rejection-based decision strategy occurs when the primary focus of the decision is on rejecting undesired product attributes or option(s). A selection-based decision strategy occurs when the primary focus of the decision is on selecting desired attributes or option(s). I propose that, relative to selecting preferred options, choosing by rejecting unwanted options can reduce the choice of unhealthy foods and drinks as well as help patients make more informed medical decisions.

Changing Health Risk Behavior through Decision Strategy

Poor nutrition is a critical factor in many chronic diseases. I propose that rejecting disliked options (versus selecting liked options) might reduce the choice of unhealthy foods and drinks. Selection and rejection are not complementary strategies and can have different and non-trivial effects (e.g. Shafir 1993). Selectors and rejecters attend to different attributes while making their choices such that rejecters give greater weight to negative attributes, while selectors prioritize the positive (Shafir 1993; Meloy and Russo 2005). Unhealthy foods often combine strong positive attributes with strong negative attributes. For example, a donut is high in calories but tastes amazing. The attributes of an apple, on the other hand, are relatively more neutral – fewer calories but not as yummy. Given such a choice then, (i.e. between an apple and a donut) I propose that consumers using a rejection-based decision strategy will attend more to the negative nutrition information (i.e. the donut calorie count) and selectors will prioritize the positive taste information. Relative to selectors, then, rejecters will be more likely to avoid the unhealthy donut while selectors will be more likely to opt for the donut. Five studies, with both manipulated and measured decision strategy and across a variety of choice domains provide empirical support for this proposition. Consumers face scores of food and drink choices like these every day. Switching just a few of these choices towards a healthier option could help reduce the mortality and morbidity of chronic disease.

Engaging Patients In Their Medical Choices Through Decision Strategy

Changing health risk behaviors, such as eating foods high in saturated fat, is one factor that might help reduce the. A second approach to help reduce the mortality and morbidity of chronic disease is to better engage patients in their medical decisions. For some medical decisions, such as a broken leg, there is one clearly superior path. For most decisions however, and especially ones related to chronic diseases, there are often multiple reasonable treatment choices (Barry and Edgman-Levitan 2012; Stiggelbout, Pieterse and De Haes 2015). Across a variety of chronic diseases, shared decision making (SDM) has been shown to improve treatment adherence and clinical outcomes (e.g. Wilson et al 2010). Shared decision making requires patients be fully aware of the risks and side effects of treatment options. When patients go into decisions fully informed about treatment risks, they are more likely to comply fully with the treatment, thus increasing the treatment efficacy. Too frequently,
However, patients focus only on positive outcome information and ignore negative information. Patient decision aids are currently the most popular way to encourage patients to play an equal role in deciding their disease treatment (e.g. Scholl et al, 2013). Research has clearly established the benefits of such decision aids in improving patient knowledge and confidence in their decisions (Scholl et al 2013). However, current decision aids are frequently too detailed, complicated and time consuming, for both the physician and the patient (Elwyn et al 2013). Despite their efficacy, then, they have not been adopted into mainstream clinical practice, prompting researchers to call for “approaches not previously used in this field” to be considered in helping patients make informed decisions (Elwyn et al 2013 p.7). In so far as the goal of patient decision aids is to encourage processing of negative aspects (e.g. risks and side effects) of various treatment options, I believe decision strategy might offer a simpler alternative. As discussed earlier, relative to selectors, rejecters focus more on negative information when making a decision. In the context of medical decision making, then, using a rejection based strategy to decide among treatment options could nudge patients to attend spontaneously to side effect and risk information which they might otherwise ignore. A pilot study provides some preliminary support for this proposition. Given a choice between two different delivery methods for a flu vaccine (the flu shot or the nasal spray), rejecters recalled more side effects than participants who chose by selection and also showed more accurate prompted recall of side effects. Focusing on the negative side effect information helped rejecters to identify which vaccine they did not want and improved later recall of that information.

Discussion

This research explores how simply changing the manner in which choices are reached can help nudge consumers towards decisions that might, long term, help reduce the mortality and morbidity of chronic disease. Choosing by rejecting disliked options can reduce the choice of unhealthy foods and drinks, a critical health risk behavior in the management of obesity (CDC, 2015) and may also help patients spontaneously attend to negative side effect and risk information. Encouraging the use of a rejection based decision strategy, then, could prove an effective public health tool.

References


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Food Deserts: A Challenge to Health in America.
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The term “food desert” has its origins in a 1995 report by the Nutrition Task Force Low Income Project Team of the United Kingdom Department of Health (Cummins 1999). It is defined as “areas of relative exclusion where people experience physical and economic barriers to accessing healthy foods,” (Reising and Hobbiss 2000). Like many areas in our world, food deserts represent a blight on the American landscape, and a failure in many dimensions of the American dream, including – economic, social, culture and education, and most particularly, infrastructure (sustainable transportation). It also represents the “unhealed history” of America (Campbell 2012). This paper – 1) examines the realities of food deserts in America, 2) examines the underlying causes of such deserts, 3) proposes a set of solutions to address challenges represented by food deserts and 4) presents a case study of such with a focus on a specific food desert in Richmond, Virginia, concluding with a call for research and action.

Introduction
Food desert - the term was first documented in a 1995 report by the Nutrition Task Force Low Income Project Team of the United Kingdom Department of Health. It is defined as “areas of relative exclusion where people experience physical and economic barriers to accessing healthy foods” (Cummins 1999, 2002). In the U.S. food deserts are identified as parts of the country with only limited access to fresh fruit, vegetables, and other healthful whole foods. Food desert are typically located in poverty ridden parts of cities, but can exist in rural areas as well. This is largely due to a lack of grocery stores, farmers’ markets, and healthy food providers.

Food deserts are not only a problem but a disgrace in a developed country such as the U.S. Food deserts are often short on well stocked grocery outlets, especially those that carry fresh fruits and vegetables, and are often replete with local fast-food options that provide mainly processed foods, sugar-laden treats, and fat heavy options that are known contributors to the nation’s obesity and cardio-respiratory disease epidemic. As seen in the map (Figure 1), food deserts in the U.S. are pervasive and represent a huge nutritional challenge (Nutrition Digest, 2011).

Transportation, in today’s world, is a crucial link that connects people to food sources. With access to proper transportation facilities, the living standards of a person significantly improves as distances no longer becomes the critical limiting factor in decisions related to commuting to work, shopping for food supplies, and access to healthcare. Unfortunately, for many low income households, the lack of transportation and accessibility to transportation systems limits their ability to satisfy basic needs such as shopping for food or commuting to work.

In addition to creating a negative impact on the lifestyle of the residents, food deserts adversely affect the economic growth of the community. An affluent and developed economy corresponds to citizens with higher purchasing power, more accessibility and increased connectivity with food outlets. Connectivity is related to overall economic development as evidenced by those nations who have embraced globalization (particularly in acceptance of world trade and global communication that facilitates such) tend to realize rising standards of living (Wood 2016). Thus, interlinking accessibility to food sources in an economically sustainable manner can reap outcomes favorable not only to local businesses, but to multiple communities (local, regional, national and international) as well.

While some research has been undertaken to examine factors related to healthy food sustainability, and accessibility to such, little research has been conducted to-date that examines the interaction among multiple dimensions and issue related to food deserts (Wood and Godfray 2013). As such and based on a community project conducted in Richmond, Virginia over a three-year period, this paper examines multiple linkages including historical, economics, social and cultural/community reality dimensions and those of education and sustainable transportation as they relate to food deserts (see Figure 2 – Food Deserts: Drivers and Solutions). The research highlights the urgent need to address challenges to establishing sustainable solutions that enable food access, as well as its potential for instituting economic improvements particularly in low-resource urban communities.

Figure 1. Food deserts in the United States (Department of Agriculture, CDC).
This paper begins with a brief review of the literature related to food desert in the United States, the effects of mobility on food access, and the sustainability challenges related there-in. This is followed by a case study that describes the project carried out in Richmond, Virginia over a period of the last three years. Results to-date of this case study are analyzed and preliminary recommendations are presented. Lastly, we conclude by discussing future directions of the project and potential for future research.

**Literature review**

According to the United States Department of Agriculture (USDA), “Food deserts are defined as urban neighborhoods and rural towns without ready access to fresh, healthy, and affordable food.” For a community to qualify as a food desert, USDA indicates that at least 500 people and/or at least 33 percent of the census tract population must reside more than one mile from a supermarket or a large grocery store. Recent literature on food deserts indicates that access-related concerns (e.g., difficulty affording transportation, scarcity of grocery stores within immediate vicinity), and lack of transportation limit access to food options for the low-income neighborhoods (Rose and Richards, 2004; Walker, Keane, and Burke, 2010). In addition to the socioeconomic, transportation and environmental factors, individual characteristics (e.g., being a single parent, inflexible work schedules, unsafe neighborhoods, etc.) are also correlated to barriers to accessing healthy food and preparing healthy meals (Walker, Keane, and Burke, 2010). Studies have also found a greater prevalence of health challenges in low-income neighborhoods that lack access to supermarkets and healthy food options (Cotterill and Franklin, 1995). For example, census tract data indicates that life expectancies are shorter by almost 20 years among those living in the Fairfield Court public housing community in the East End of Richmond, Virginia (a food desert) when compared to the the city’s more affluent neighborhoods ten miles away in the West End. Likewise, in Philadelphia, diet related health concerns include greater prevalence of diabetes, heart disease and cancer among racial/ethnic minorities and low-income communities that classify as food deserts (Cotterill and Franklin, 1995; Walker, Keane, and Burke, 2010). Although many other factors are at play that affect a community’s ability, or desire, to maintain better health and to pursue such, these studies underscore the connection between neighborhood conditions (income disparities in particular) and access-related concerns.

Studies have been undertaken related to sustainable modes of transportation and environmental poverty. Most of this research tends to focus on environmental sustenance, urbanization and economic development. Different researchers have defined sustainable transportation in different manners. Being environmentally friendly is one of the common interests of researchers examining sustainable transportation. More specifically, they have focused on various aspects related to “protecting the environment” by using lesser polluting forms of transportation for freight, tourism and local commuting (Delia, and Andreea, 2008; Oberhofer and Fürst, 2013), and the sustainable use of land while developing transit systems (Ka’bang, Mfinanga, and Hema 2014). The application of decision support systems in creating sustainable transportation for urban communities was examined by Gudmundsson, et al., (2012). This study highlighted technology as an environmental factor for creating sustainable transport models. Akinbami and Fadare (1997) looked at a broader definition of sustainable transportation that included financial and social factors in the context of sustainable urban development. Likewise, Bhattacharyay (2012) emphasized the importance of developing environmentally and financially sustainable transport systems to improve Asian economies through improved transport connectivity. A study conducted by Shiu (2013) found that counties with different levels of urbanization have different goals with respect to sustainable transport strategies, however, they all had a common goal of controlling gas emissions. In a similar study, Chow (2014) identified the success and failures of creating sustainable communities through a rail based transit-oriented model. In this study, focusing on Hong Kong, the goal was to maximize public transit ridership as a higher priority. This relates to reducing automobile usage in order to minimizing environmental degradation. However, Chow’s model suggests that maximizing the benefits of public ridership and usage rather than demoting reliance on automobiles can be more effective in achieving a clean environment. Only a few studies have analyzed the impact of sustainable transportation on the lowest income communities. A study
by Lau (2013) focused on the reasons for low accessibility to public transportation by low income workers in China and how it affects their employment. Gečienė and Burinskiénè (2012) analyzed the differences and similarities between urban and rural road transportation infrastructure with a focus on improving urban road transport and making it more financially and environmentally sustainable.

In summary, we find that in spite of studies done regarding sustainable transportation across various dimensions, the idea of integrating sustainability transportation solutions with food access, and its potential for instituting economic improvements in low-resource communities has not been fully investigated. Moreover, the restricted definition of sustainable transportation that solely focuses on environmental sustenance, urbanization and higher level economic development neglects the needs and preferences of racial/ethnic minorities and low-income communities. In devising effective and sustainable plans for improving availability of healthy and nutritious food among low-income communities, multiple factors including historical, social, economic, cultural and educational, and their relationship to transportation options to address food desert realities need to be understood and taken into consideration.

**Solutions: A Model for Dealing with the Challenges of Food Deserts**

Figure 2 depicts a model developed as a starting point to explore the drivers of food deserts – what caused and causes such blight on society to increase and decrease. The model is offered as one way to understand urban food deserts, as opposed to rural food deserts although the constructs in the model could apply to both areas to some degree. The model includes antecedents (those constructs the typically are in place when a food desert is a reality in a community), moderators (those constructs that if present in a community can ameliorate antecedents to food deserts) and outcomes (the cumulative influence of antecedents and moderators on food deserts being present in a community or not). Our brief discussion of this exploratory model begins with history.

In the U.S., the long and torturous journey of those who make up the vast majority of inhabitants of food deserts – African Americans – can perhaps best be captured by understanding slavery, Jim Crow laws and red lining. These historic realities form the underpinnings of economic and social segregation and food deserts in urban America today. Between 1525 and 1866, according to the Trans-Atlantic Slave Trade Database, 12.5 million Africans were shipped to the New World. 10.7 million of them survived the dreaded Middle Passage, disembarking in North America, the Caribbean and South America. Of these 10.7 million Africans, only 388,000 were shipped directly to North America. The overwhelming percentage of the African slaves were shipped to the Caribbean and South America. Brazil received 4.86 million Africans alone. Some scholars estimate that another 60,000 to 70,000 Africans in the United States after touching down in the Caribbean first, so that would bring the total to approximately 450,000 Africans who arrived in the United States over the course of the slave trade.

In 1619, the first Africans slaves arrived in present day Virginia (then an English colony) near Jamestown (the first English settlement in the new world, located up the James River not far from present day Richmond, Virginia). These slaves were brought by Dutch traders who had stolen them from Spanish ships in the Caribbean. From these slave and the slightly less than 400,000 that followed, came most of the 42 million members of the African-American community living in the U.S. today (Gates 2014). Denied their freedom, wages for their labor, and many other common dignities, including education, African slaves was seen as less than human, an inhabitant of the earth that needed specific oversight by those who were granted superior facilities, namely whites of European decent (Campbell 2012).

By the end of the 18th century, the American Revolution against their British masters was underway, and slavery was a part of the mix. However, while this revolution created the United States and freed the colonies from British rule, it did not free the slaves. That took another seven decades involving the war between the states (the American Civil War) and the Emancipation Proclamation, issued by President Lincoln in 1863, declaring "that all persons held as slaves" within the Confederate states "are, and henceforward shall be free." In 1865, the Civil War ended, and the Thirteenth Amendment to the U.S. Constitution abolished slavery throughout the United States (see http://www.infoplease.com/timelines/slavery.html). Again, however, segregation, discrimination and class structure, based around white rule and black subjugation in America, did not end. Jim Crow saw to this.

The origin of the phrase "Jim Crow" has often been attributed to "Jump Jim Crow", a song-and-dance caricature of blacks performed by white actor Thomas D. Rice in blackface, which first surfaced in 1832. As a result of Rice's fame, "Jim Crow" by 1838 had become a pejorative expression meaning "Negro." When southern legislatures passed laws of racial segregation directed against blacks at the end of the 19th century, these became known as Jim Crow laws (see Woodward and Mcfeely 2001). Jim Crow laws were enacted primarily by state and local governments in the south, after the "reconstruction era” between 1865 to 1877. Reconstruction, an attempt by the U.S. congress and the President to bring things back to “normal” economically in the south (while bringing acceptance of the newly freed blacks into all communities) following the Civil War, is considered a failure by most historians because the South became a poverty-stricken agricultural backwater (prayed upon by Northern Carpetbaggers), and Southern whites moved to re-establish their dominance over blacks though
violence, intimidations and discrimination – think Ku Klux Clan. Jim Crow laws legally enforced racial segregation in all public facilities. These laws institutionalized numerous economic, educational and social disadvantages to blacks, and these realities, while not law in the north, eventually became De facto, or in fact reality in northern states as well, over time. Thus the whole of the nation basically bought into a philosophy of “separate but equal,” resulting in conditions that were consistently inferior and underfunded for blacks in America, when compared to whites (see – Kousser (1974), Woodward and Mcfeely (2001)).

After World War II, African Americans increasingly challenged segregation. The civil rights movement, and landmark Supreme Court rulings such as that which mandated school segregation (Brown versus the Board of Education of Topeka – 1954), the historic Civil Rights Act of 1964 (outlawing discrimination in public accommodations), and Voting Rights Act of 1965 (ending legally sanctioned state barriers to voting for all federal, state and local elections), effectively ended Jim Crow. But the reality of segregation, discrimination and underfunding of basic services in predominately African American communities in the U.S. continues. Many observers explain this by saying history cannot be overcome in a time span of only several generations (there were twenty generations of slaves in the new world. There have only been nine generations of non-slaves in America).

If food deserts could be likened to a house, these historic realities - slavery and Jim Crow laws – would constitute the floor plan for development of such deserts in American. And the contemporary economic, social and cultural realities embedded in poor, primarily African American communities in urban America would represent the structure of the edifice itself.

The economic realities faced by the urban poor in the United States can perhaps be best understood by understanding the term “redlining” and the effects it has reaped. Redlining is the practice of denying services, either directly or through selectively raising prices, to residents of certain areas based on the racial or ethnic makeup of those areas (https://en.wikipedia.org/wiki/Redlining). It refers to the practice of marking a red line on a map to delineate the area where banks would not invest and later became the term used to describe discrimination against any people based race or sex, irrespective of geography (Sagawa and Segal 1999). During the heyday of redlining, the areas most frequently discriminated against were black inner city neighborhoods. For example, in Atlanta in the 1980s, banks would often lend to lower-income whites but not to middle or upper-income blacks (Dedman 1988).

While examples of redlining denying financial services such as banking are abundant (Walter 2003), so are insurance, health care and food outlet services such as supermarkets and/or healthy food retail alternatives in neighborhoods that have been redlined (Eisenhauser 2001).

In the area of study highlighted in the case presented below, the East End of Richmond, Virginia represents an urban poor community containing approximately 32,000 residents which contains only one grocery store. As a consequence of such food-option redlining, the term "liquorlining" has been used to describe the realities of the high densities of liquor stores in low income and/or minority communities relative to surrounding areas that have limited healthy food options. In such communities, the options presented often amounts to alcohol, cigarettes, processed foods (chips, sugary snacks, fried meats, etc.) and a high densities of liquor stores are also often associated with high levels of crime and public health issues. These realities, in turn, tend to drive away investments in supermarkets, clothing stores, restaurants and other retail outlets contributing to low levels of economic development (Maxwell and Immergluck, 1997).

Redlining has also been shown to severely retard the housing market, lower property values in redlined communities and encourage landlord abandonment, resulting in decreased population density. Abandoned structures in turn tend to serve as shelters for drug dealing and other illegal activity, which in turn leads to other social problems and reluctance of people to invest in these areas (Wilson 1996). Crime, unemployment (underemployment), limited mobility (typically few private automobiles and public transportation options), poor overall healthcare, community degradation in general infrastructure and dependence on government food programs (with limited healthy food outlets) and public housing, all combine to create an environment that truly illuminates what a food desert really is.

The community fabric of food deserts in America remains tattered and stressed. Overcrowding (in public housing “projects”), limited mobility, broken family structures (resulting in a preponderance of single parent households), a cycle of challenging institutional “pass-throughs” (where an individual’s life path may be represented by a series of underfunded and thus relatively bleak educational experiences from grade school, middle school and high school – leading to criminal activity, incarceration, followed by a return to the food desert that bred him or her), all combine to reinforce isolated pockets of societal segregation, degradation and despair. Indeed, food deserts represent a blight on the American landscape.

Figure 2 represents a model to explain some of the antecedents to food deserts and some of the potential moderators to the reality faced by millions of Americans today. The moderators of food desert realities as shown in Figure 2 represent what the case presented below is focused upon. Education – about lifestyle options, about food and about the “way out” of a food desert, along with sustainable transportation options (to get people to healthy foods and healthy food to people in food deserts), is where a Ford Motor Company funded project, undertaken by Virginia
Commonwealth University (VCU) in conjunction with the food desert on the East End of Richmond, Virginia has focused on, over the past 3 years (see case overview below). While this model is incomplete in capturing the full story of food deserts and their cure (clearly evolving attitudes about race in America, and continuing social movements to a rectify the degradation of African Americans in the U.S., such as the “black lives matter” movement are and will continue to contribute to a more just and fair society), it does represent a beginning to our understanding of the issues at hand and how they might be overcome. The following case study reflects one example of how some of these issues are being address.

Case Study – The Church Hill/East-End Food Desert in Richmond, Virginia

Between 2013 and 2015, Ford Motor Company granted a team of VCU students (led by the authors of this paper) at total of $50,000 to address transportation needs for low-income individuals in the food deserts in Richmond, Virginia. The project had three main objectives, and was set in low income communities where people live without personal transportation and rely on a public bus system, friends or family to gain access to job opportunities, health care and food sources. The first objective of the project was to determine the antecedents to food deserts and their causes. The second objective was to identify specific constraints to food sources and healthy eating, including the role of education, awareness and opportunities for economic growth (these two objectives drove the development of the model shown in Figure 2 and briefly described above). The third objective was to develop sustainable solutions that would enable access to healthy food and institute economic growth in the low income food desert segments of Richmond, Virginia.

To identify food deserts in the Richmond area, the VCU-Ford team first started with an in-depth analysis of demographic and geographic realities in the area, by utilizing the SimplyMap Geographic research database (SimplyMap aggregates information from U.S. census data - see - U.S. Census Bureau, 2012). Using income, unemployment, and modes of transportation as determinants of food deserts, 24 census tracts in three major areas of Richmond (the East End, Northside, and Southside) were identified as low income, low access “food deserts” areas to some degree. Again, using the census data from SimplyMap, the team determined $33,199/year as being “low income” (80%), $20,749/year as being “very low income” (50%), and $12,449/year as being “extremely low income” (30%). Table 1 summarizes the descriptive statistics of these areas and shows the East End as the most challenged area of the three examined.

The East End was therefore chosen as the focus of the Ford funded project. The team then utilized focus group discussions (primary research) with residents to identify factors that restrained access to food sources and healthy diet options, and created general barriers to economic wellbeing among those living in the East End. Feedback from participants in the focus groups confirmed that the lack of adequate transportation in this food desert area (e.g., limited public transportation, limited number of bus stops, lack of any public transport penetration into the East End food desert neighborhoods, unavailability of bus routes to areas where higher density of businesses/employment opportunities exist, having to walk upwards of 30 to 45 minutes to arrive at a bus stop and an equal distance to places of employment from their homes, and so on.) to desired destinations (grocery stores, pharmacies, other retail outlets, employment locations, health care facilities) was a major factor that isolated this area. Lack of transportation effectively boxed residents into their food desert neighborhoods, and deprived most from the socioeconomic opportunities that could be achieved given mobility options.

In response to this reality, in 2014 the VCU-Ford team piloted a “Shoppers Trolley” transportation option, in partnership with a private company in Richmond that offers old-fashion trolley rides in town (RVA Trolley, Inc.) The idea was to give some mobility to residents living in the East End food deserts to a shopping district that featured grocery stores, pharmacies, restaurants, and other retail and entertainment venues. This “pilot” transportation option, had the backing of the shopping district itself and ran on Sundays for four hours during the trial period. This transportation option was offered free of charge for the riders from the East End, in the hope that interest and demand would increase and then a fee schedule would be adapted to cover the cost of the transportation, including the trolley service itself, maintenance, insurance, etc. and make it “sustainable” in the future. Unfortunately, a variety of factors (East End family culture, child care realities, limited income for shopping, and limited storage on the trolley for bought goods) led the team to realize that other options to the food desert issue in this section of town could perhaps reap better results.

The VCU-Ford team utilized branding and public relations initiatives as part of an integrated communication strategy.
to promote and educate the Richmond community about the realities of food deserts, as well as the sustainable transportation’s relationship to food desert eradication. A video documentary was developed to help change the stigma associated with public transportation in the city, and was delivered for viewing via social media. Likewise, pictures, new articles, blog posts and other communication tools were utilized to start conversation among citizens in Richmond. The objective was to provide engaging content and a platform for conversations that would motivate citizens to take action in the form of letters of support, social advocacy, and general awareness of the importance of mobility to modern life and the quality of such (this was one of Ford’s major themes in providing grant support to VCU). The campaign initiatives garnered some success as it helped raise awareness of the VCU-Ford program among the residents of Richmond in general, and those living in the East End food deserts more specifically. It also helped to communicate the thoughts and proposed future team projects to the East End residents.

The VCU team learned that motivating the East End community to change their own lives may be more effective than providing direct means to improve mobility (sustainable transportation is still a focus on the VCU-Ford project, but it has been designated as a separate project with a different priority). Therefore, at the start of 2015, the team re-oriented its focus and began promoting local entrepreneurial activities as a potential solution to address poverty and the food desert realities of the East End. Specifically, a VCU Church Hill Cook-Off was designed to reach out to younger members of the East End community (high school and younger students), train them in cooking techniques, nutrition, and food safety. Using these skills, participating students will compete during 2016 in cooking healthy dishes that are based on traditional recipes from their families and culture. A panel of judges (chefs and owners from local restaurants and other skilled food experts) will select the winners of this competition, who will receive potentially life changing prizes aimed at creating an entrepreneurial spirit and a “can do” attitude in each of the winners. The VCU-Ford team will also mentor the participating students in cooking and food preparation careers and many will receive internships at local restaurants. Winning recipes and dishes will be offered in local restaurants and convenience stores and featured on a local television cooking show. The healthy food options created by the students will be marketed as pre-packaged baskets ready for purchase by family members, friends, and other residents of the East End and beyond to be prepared at home, complete with cooking instructions. This program is considered a prototype, designed to be easily replicated and transplanted to other underserved communities in the US and elsewhere.

To create awareness and excitement for the VCU Church Hill Cook-Off, the team created a kick start program along with an awareness campaign featuring healthy eating and healthy lifestyles. In the weeks leading up to the Cook-Off competition, the team developed a weekly cooking demonstration in the East End area, with cooking themes centered around ethnic dishes (Mexican, Moroccan, Indian, etc.). The cooking demonstrations were held at local recreation center in the East End food desert area. Flyers and samples of healthy foods were handed out to promote the event, and arrangements were made to transport community members (utilizing RVA Trolley) to these demonstrations. The awareness program provided the participants an opportunity to learn and partake in healthy cooking. The teams aim was to spur cultural pride and social development around healthy (and fun) food. The kick-start campaign not only attracted numerous individuals from the East End communities to attend the weekly cooking demonstrations, but also provided opportunity to collect additional survey-based data regarding residents’ current eating habit, cooking patterns, and knowledge of healthy food choices and food preparation options. The survey results indicated that there was a general lack of knowledge of ethnic or heritage-based foods, cooking styles, and a general absence of home-cooking practices (the community, in general, mostly preferred purchasing inexpensive and relatively unhealthy food such as fried chicken and pizza from local convenience stores).

The VCU-Ford Food Desert program is currently in its third year. New projects and new VCU students (along with a few from the past year) now make up a passionate team that deeply cares about making a difference in their world and in the East End food desert of Richmond, Virginia. This team is investigating new sustainable transportation ideas and creating a state-wide food desert computer application that can bring providers of health food and those in need of such together with real-time information. They are also studying urban garden and high-tech urban chicken coops for schools on the East End (both aim a creating sustainable entrepreneurial endeavor in the community). The VCU-Ford effort has created a wide and deep network of individuals and organizations that are working on similar initiatives, and it continues to receive wide support from numerous government agencies, including the Virginia Department of Transportation, Virginia Department of Education, Virginia Department of Agriculture and the Office of the Governor of Virginia and Richmond City Council members.). The initiative has garnered wide support including, other urban universities in the area (besides Virginia Commonwealth University, University of Richmond, a private educational institution is now involved), for-profit businesses (Ford Motor Company continues its support and Bon Secours Hospitals and many local entrepreneurs are on-board), local institutions (31st Street Baptist Church, St. Steven’s Episcopal Church and many public schools in the East End, and others), and last
but not least, many non-profit organizations (Shalom Farms, Robinson Theatre, and others). If it takes a village to make change in communities, our expanding team represents a large and growing village united and dedicated to dealing with the blight of food deserts in our region.

**Conclusion and Recommendations**

This exploratory paper offers a beginning reference point to both understand and deal with urban food deserts in America. Future research will further develop the model depicted in Figure 2 and expand upon additional constructs and variables that influence the growth and demise of food deserts. Empirical research would be undertaken to test the relationship depicted in the model and strategies developed to turn meaningful findings into impactful projects. While the VCU team most appreciates the support of Ford Motor Company, other funding sources will be explored and brought to the battle to eradicate food deserts in our communities. Sustainable solutions must be the focus of all such efforts.

Food deserts represent blight in America and a disgrace to the nobility that this country aspires to depict. Food deserts represent a problem that is historically based and contemporarily reinforced by economic, social and cultural/community realities in the society today. Food deserts are everyone’s problem and everyone has the potential to contribute to their demise. In the words of Martin Luther King, Jr. — “We must learn to live together as brothers or perish together as fools.

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Mindfulness and Smart Phone Addition: An Analysis of Opposing Forces for Change
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Kaeun Kim, Isenberg School of Management, University of Massachusetts Amherst
Shalini Bahl, Isenberg School of Management, University of Massachusetts Amherst

Introduction
Evidence is mounting that the Internet is addictive, with increasing numbers of individuals being treated for Internet Addiction Disorder. Estimates indicate that over 30% of the teens in China, Taiwan and Korea are Internet addicted. Indeed, market commentators have noted the Internet is making us crazy (Dokoupol 2012). Not only does the Internet keep us glued to our screens, but it also affects our cognition, and affects our ability to concentrate (Carr 2010). Neuroscience research has shown that dopamine is released in the brain when online and it produces a habitual feedback loop (Davidow 2012). The mobile smart phone only amplifies the problem, giving individuals access to the online world 24/7. Many individuals have reported to sleep with their smart phones (Perlow 2012). The results of the increased use of screen time via smart phones is that people suffer health consequences such as: stress, anxiety, phantom ring syndrome, FOMO, neck problems, hand problems, withdrawing from social settings, and others.

Mindfulness, defined as “the awareness that arises by paying attention, on purpose, in the present moment, and non-judgmentally” (Kabat-Zinn 1990) has been used to help change mindless habits. In addition to helping overcoming stress related afflictions such as mindless eating (e.g. Bahl et. al 2013), it has been suggested as an approach for counteracting the deleterious effects of smart phone addiction (Bertino 2015).

Much of the advice for using mindfulness has focused on 1) using the smart phone’s apps (see Table 1) for breaking addiction problems, 2) going on a digital detox, or 3) changing current behaviors. There are numerous mindful uses of smartphones to help to practice mindfulness, support healthy habits, change tech habits, stay on task, and practice gratitude (Berto 2015). Digital detox programs, both formal retreats (Gregoire 2015) and website guidelines (Huffington Post 2015) are becoming popular. Also, mindfulness has been offered as an approach for managing the use of the phone, by shutting off the phone during planned periods, turning off notifications, limiting the number of apps and so forth.

The third approach, changing one’s use patterns, is predicated on having the mindfulness trait. Yet, little research has examined whether the mindfulness trait itself, could offset the unhealthy smart phone addiction. Mindfulness, when practiced, can reshape the brain through neuroplasticity. This is analogous to what exercising the body is to exercising the brain. When considering the changes to the brain via neuroplasticity, both mindfulness and smart phone affect the brain, and the presence of a mindfulness trait could counter act the negative effects of smart phone use.

Despite the theoretical linkage of neuroplasticity between mindfulness and smartphone addiction, there has been little empirical work that examines this relationship between mindfulness and smartphone use. Our research incorporates both qualitative and quantitative studies to explore smart phone addition and its relationship with the mindfulness trait for younger and older consumers.

Research objectives
The first objective of our research is to understand more about how young people are caught in an internet addiction cycle and how this manifests in particular usage and health behaviors. Through conducting a series of long interviews, we aim to build a grounded theory of smartphone addiction. With a subsequent examination of all age groups, the second research objective is to learn to what extent the presence of a mindfulness trait offsets the compulsive smart phone addiction habit, and results in negative health consequences. The third is to investigate whether mindfulness traits are related to managing the use of the smart phone in healthy habits. With respect to this objective, we examine the relationship between elements smart phone usage and mindfulness with life satisfaction.

Method
This research presents two related studies. The first study is based on 35 qualitative interviews of college students. An unstructured long interview format was followed, and using standard qualitative research approaches, a grounded theory was developed. Based on the first study and literature review, an online survey was conducted using M-Turk, sampling online consumers from ages 18-70. A model of how mindfulness interacts with smartphone use is presented and tested.
**Results**

The results from the first two results (see figure 1 and figure 2) are being written up and will be completed for presented at the conference or displayed in a poster session.

<table>
<thead>
<tr>
<th>Mindful Use of Smart Phone</th>
<th>Apps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Mindfulness</td>
<td>Headspace, Calm, Smiling Mind, Stop Breath and Think, Insight Meditation Timer, The Mindfulness Bell.</td>
</tr>
<tr>
<td>Support Healthy Habits</td>
<td>Apps for: monitor calories and daily activity, fitness programs, quality of sleep.</td>
</tr>
<tr>
<td>Change tech habits</td>
<td>Checky, Quality Time, Moment, Rescue Time</td>
</tr>
<tr>
<td>Stay on Task</td>
<td>Freedom, Antisocial</td>
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<tr>
<td>Practice Gratitude</td>
<td>Happier</td>
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Source credibility effects on consumer perceptions of electronic word-of-mouth communications messages promoting legal (illegal) medical treatments.
Jeffrey R. Foreman, Penn State Harrisburg

The purpose of this research is to examine source credibility effects on consumer perceptions of electronic word-of-mouth communications messages promoting legal (illegal) medical treatments. It is proposed that message source credibility in terms of expert and referent power will interact with individual characteristics of consumer expertise, trust, and ethics to affect response to social media healthcare promotions. We start with an exploratory study using medical marijuana to present both legal and illegal treatments for cancer patients. We seek to determine if consumers’ baseline ethics measured with the Muncy–Vitell Consumer Ethics Scale will affect their attitude toward cancer treatments when portrayed as illegal (legal). Subsequently we will design the experiment to test for the relationships involving the effect of the independent variables mentioned above on established electronic word-of-mouth communications outcome variables.
Improving Healthcare Quality via Push and Pull Strategies for Patient Education

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Abstract

The purpose of this study is to explore the impact of both Push and Pull patient education strategies on healthcare quality. It is projected that Push strategies will improve existing patient’s perceived service quality while Pull strategies will improve new patient acquisition through perceptions of service quality.

With the evolution of digital marketing communications and related questions surrounding the quality of digital patient information sources, physicians are faced with the decision of how to best provide patient education materials consistent with high quality healthcare practice. Prior research has focused on the reliability and validity of digital sources, but there is a lack of research that focuses on enhancing the patient - physician relationship through the use of push and pull marketing communication strategies for patient education. The use of push and pull marketing strategies is consistent with the quality of care initiatives supported by the Affordable Care Act (ACA) – The Patient-centered Medical Home, The Accountable Care Organization, and Meaningful Use of Patient Data. From an organizational perspective, the approach used for patient education can impact the overall success and growth of the practice.

For the purposes of this study, contributions from the available literature include the current status of digital physician to patient communication, examples of push/pull marketing communication strategies, patient preferences for communications from health providers, and patient perceptions of quality care.

The findings of this research will be of value to health care providers that seek to improve quality of care through individualized patient education. Further, this research extends the application of push and pull marketing strategies to the distribution of patient education materials.

Introduction

Substantial evidence pinpoints the need to improve our healthcare system. Fragmentation of care, medical errors and patient dissatisfaction are among the major complaints. The Affordable Care Act (ACA) includes initiatives to address problems and improve quality of care: The Patient-centered Medical Home, the Accountable Care Organization and Meaningful Use are examples. Each of these approaches to care call for improved patient quality through various mechanisms designed to impact the so-called iron triangle (cost, quality, and access).

Integral to quality of care improvements is the further development of digital marketing communications, yet physician practice websites and patient portals vary in the degree to which they have implemented electronic medical record (EMR) or electronic health record (EHR) systems. As a part of the ACA, physicians must adopt EMR’s or risk reductions in reimbursement (particularly within government sponsored programs such as Medicare and Medicaid). Because the adoption and implementation of EMR’s is costly, incentive programs have been developed to help offset financial and implementation barriers. Such incentive programs seek to increase practice efficiencies, streamline processes, enhance quality improvement and reduce the paperwork burden. From the patient perspective, the EHR can provide easier access to their health information and improve coordination of care.

Additional incentives have been offered to providers to achieve meaningful use of patient data, including the provision of patient-specific education, based on individualized patient variables. To achieve the promise of this potential care enhancement, physicians can develop Patient-specific education resources, defined as “Resources identified through logic built into certified EHR technology which evaluates information about the patient and suggests education resources that would be of value to the patient” (EHR Incentive Program, 2014)

Early healthcare management research that has investigated the impact of digital patient information systems on healthcare facility success factors has focused on trust in secure collaborations (Steiner 2014); ease of technology adoption (Solomon 2011) and; change strategies for access and use of information (Kash et al, 2014). This study answers the call for more research on the effects of provider-driven digital communication on the patient-
doctor relationship (Epstein et al., 2005) and delineates how
digital patient education strategies will enhance quality of
care perceptions. Patient information systems are shaped by
media choices as well as methods and content of
communications. For this study, the communication
methods of interest are push and pull marketing strategies.
The choice of using either a push or pull strategy has
traditionally been viewed in conjunction with the
directional flow of product demand (Grewel and Levy
2015). In the context of healthcare services, the choice of
using either a push or pull communication strategy was
applied based on existing or potential service demand.
Similar to previous marketing literature, the goal of a push
marketing strategy is to motivate existing demand for one
physician group over competitor physician groups and to
improve patient loyalty or retain patients over time. A push
strategy can also provide continued evidence of quality of
care. The goal of a pull strategy is to create awareness and
ultimately generate new demand. Healthcare facilities use
pull marketing strategies to communicate information for
the purpose of gaining new patients. The pull strategy can
also be helpful in creating perceptions of quality of care.

A continual measure of patients’ perceived service quality
(value) is integral to maintaining and growing a healthcare
practice and is consistent with strategic market planning
and continual quality improvement in healthcare.

(Parasuraman, Zeithaml, and Berry 1986, 1988) have
shown that the level of marketing strategy effectiveness can
be measured accurately using the established SERV-QUAL
scale. This research will apply the SERV-QUAL scale to
determine levels of patient perceived service quality as a
result of the availability of a digital patient information
system. The application of SERV-QUAL and the use of
outcome factors such as responsiveness, assurance, and
empathy (Bolton and Myers 2003; Parasuraman, et al.,
1988) are uniquely applied to patient perceived quality.
This study is important as the relationship between high
levels of customer perceived service quality and improved
organizational performance have been well established and
include such measures as higher repurchase intentions
(Bolton and Myers 2003), increased customer loyalty
(Zeithaml, Berry, and Parasuraman, 1996), and improved
profit opportunity relative to competitors (Kearns and

Background
The following paragraphs provide a discussion of patient
information seeking, the current status of digital
patient/physician communication, perceptions of quality, as
well as push and pull marketing strategies.

Patient information-seeking

Previous research in patient information-seeking behavior
has indicated that even when a patient perceives a need for
information, information-seeking behavior does not
necessarily follow, thus providers of care must consider
multiple variables when determining how best to approach
patient education.

Variables that have been shown to influence patient
information-seeking behavior have been exhaustively researched and
include personal characteristics (Festinger, 1957),
emotional variables (Borgers et al., 1993), educational
variables (Ippolito et al., 1990; Radecki & Jaccard, 1995),
demographic variables (Feick et al., 1986; Connell &
Crawford, 1988), interpersonal factors (Borgers, 1993),
environmental factors (Cameron et al., 1994; Connell &
Crawford 1988; Shore & Venkatachalam, 1994), and
economic variables have also been noted as influential.
Source characteristics, such as credibility of the source
(Kotler, 1991) and the channel of communication have
been shown to impact information-seeking (Witte et al.,
1993).

The work of Miller (1995) further showed the complexity
of information seeking by patients with the description of
Monitors versus Blunders. Two common coping styles of
monitoring (attending to) and blunting (avoiding) were
described. The monitoring coping style involves patients
seeking out information on their disease, and more
knowledge attainment about their disease process, yet this
style has been shown to be more likely to adversely affect
their treatment and requires more emotional support
(perhaps to deal with the plethora of information that is
readily available digitally) Since monitors prefer to obtain
as much information about their disease as possible, the
internet is a perfect venue for this coping strategy. In
comparison, the blunting style of coping involves the
avoidance of threats associated with the disease process.
These types of patients want little to no information and
tend to lean on doctors for verbal communication of
information. Research shows that bluters have less anxiety
during treatment because they try to avoid stressful
information or completely avoid information all together.
Bluters would be less likely than monitors to search the
Internet for information about their disease, however small
amounts of information spaced over intervals of weeks and
months might be more acceptable and could help bluters
understand their disease and treatment, without feeling
threatened.

Patient preferences and online information-seeking

Consistent with the development and implementation of
both EHR’s and patient portals, contemporary research has
focused on patient use of the Internet for medical
information-seeking. Clearly patient preferences and online information-seeking behavior shape such usage patterns.

For the Health Information National Trends Survey, Hesse et al., (2001) surveyed 6,369 people age 18 and over to answer questions about health related use of the Internet, level of trust in the Internet, and preferences for sources. Sixty-three percent of the people surveyed went online to look for healthcare information for themselves. Even with the availability of sources on the Internet, the majority of respondents reportedly trusted their physicians more than any other source, of patients preferring their physicians as a source of information. About half also reported accessing online sources before seeing their doctor. Although many patients reportedly trust their physicians, many patients find it beneficial to research information online before actually seeing their provider. This tendency to search may be due to the lack of needed information available from their own provider of care (prior to the office visit).

Similarly, Diaz et al (2002) found that over 50 percent of primary care patients used the Internet to seek healthcare information and that patients found that the information online was as good or better than the information that they received from their doctor. In addition, patients who reported discussing their own findings with their doctor rated the information quality as higher than those patients that did not share and discuss with their doctor. These findings also suggest that providers are both not providing adequate information and also may not be encouraging patients to seek and discuss their own findings from the Internet. Physicians vary in their acceptance of patient search for information and may view the introduction of outside information as an “intrusion” to their usual process of care. In addition, it takes time to sort out and explain additional information.

The usefulness of online EMR’s was studied by Winkelman, Leonard & Rossos (2005) who explored the relationship between patient access to EMR and increased healthcare outcomes. Findings indicated that such access has little relationship to patient outcomes. An explanation of the finding was that the patient may not understand medical abbreviations or the complex medical jargon typically found in an EMR. The study found that technology specifically focused on self-care promotion by the physician (using a patient’s existing health and psychosocial support infrastructure) can positively influence health outcomes. So, the functional benefit of a patient portal is dependent on whether or not the portal has been designed to align the strategic objectives of provider with the needs of the intended users. The patient-user’s perspective on what constitutes usefulness may be radically different from that of the provider of care or the site developer. To build useful applications, direct patient and physician participation are integral to all steps of the design process.

Powell et al (2011), found that 70 % of patient Internet search for healthcare information was about their own illness while 22% searched on behalf of another person. Patients in the study reported going online to ease fear before going to see their doctor about symptoms. Findings of the research also showed that brand recognition was linked to trust of online forums. This finding specifically raises the question of whether the provider’s own brand identity (and perceptions of quality) might be enhanced if solid information sources were available to their own patients via their practice.

So-called high assurance medical systems that give patients access to their medical records via secure systems online is thought to be advantageous to patients, however Masys et al (2002) found that in spite of a perfectly performing secure system, patient usability was low because of the complex login system. This issue pinpoints the need to balance security with ease of use. Palen et al (2012) also explored patient access to clinical services, finding that digital physician communication to patients has increased in popularity, with a reported a range from 25 to 70 percent of all “visits” to physicians not requiring face-to-face interaction. Research conducted at Kaiser Permanente noted that patients with online access had fewer annual office visits, but that reduction was offset by an increased rate of telephone calls to the provider. This confirmed similar studies that have found that patient access to clinicians and medical records correlates to a reduction in office visits. The conclusion was that online consultations might substitute for healthcare visits. How this relates to quality of care or patient-physician relationships is a thread of research that is still evolving.

Patient perception of quality care

Physician practice characteristics and web capabilities vary widely, thus each practice scenario is impacted differently by the evolution toward digital marketing communications with patients and potential patients. Research continues to determine the direction and impact of these changes on the healthcare system broadly and from the perspective of the individual physician provider of care. Absent from research is the impact of digital healthcare communication on patient perception of quality care and the patient-physician relationship.

Brady & Cronin (2001) explored three subsets of service quality − interaction quality, physical environment quality, and outcome quality (as defined by four service industries). According to Brady & Cronin (2001) interaction quality is composed of the attitude, behavior, and expertise of the
service staff. Interaction quality was found to have the greatest impact on service quality perceptions. For this purpose this study focuses on the characteristics of interaction quality (responsiveness, assurance, and empathy) in the context of patient and potential patient perceptions of physician practices given push and pull digital marketing strategies.

**Responsiveness** is defined as the desire or willingness to provide prompt and accurate service (Bolton and Myers 2003; Ziethaml, Berry, and Parasuraman,1988). Repurchase intentions are higher for organizations who offer high response rates to customers (Bolton et al, 2003). We suggest that a physician practice would benefit from patients missing fewer appointments when they receive digital reminders over their smart phones or in emails when compared to only receiving an appointment card when leaving the reception desk.

Responsiveness includes a temporal component for responding to customers. Therefore, any digital communication must be timely. Delayed responses would only serve to reduce the level of service quality. This research addresses responsiveness by suggesting that upon diagnosis or departure from a healthcare provider relevant digital communication can be sent alleviating the patient’s need to browse the Internet for diagnosis or illness related articles.

**Assurance and empathy have been found to shape consumer perceptions of quality.** Assurance is defined by Parasuraman, Zeithaml, and Berry (1988) as knowledge delivered in a polite and courteous method to customers that conveys trust and confidence. Empathy is an individualized or customized concern for a customer (Bolton and Myers 2003). Assurance and empathy have been shown to reduce patient perceived risk of continuing to visit the healthcare provider. Some instances of assurance and empathy have resulted in engendered customer loyalty (Hazra and Srivastava, 2009).

**Push and pull marketing strategies**

The target of a push strategy is the direct customer or current patient. The distribution of customized digital healthcare information is possible because of the recorded medical history of existing patients. Physician office personnel can create push marketing of specific and customized information communications at the same time that the patient’s medical records are being updated. The target of the pull strategy is an indirect customer or potential patient. Previous research on push and pull marketing strategies have focused on the choice and effectiveness of each strategy. An additional research thread has been the investigation of the level of profitability (or other benefit) of resource allocation at various stages of the industry or product life cycle. In other words, at what stage is it more advantageous to use one strategy over the other (push versus pull strategy) (Shankar, 1997). This study contributes to the research on push and pull marketing strategies by shifting the area of interest away from the communication sender and focusing on the resulting perceptions of the communication receiver, the patient or potential patient. In addition, this study proposes that both strategies can be delivered digitally; it is the relationship stage (potential patient or existing patient) that influences the choice of using a push or pull strategy.

In the instance of push and pull strategies for patient education, this research proposes that both strategies are not only relevant, but needed within the current healthcare scenario to support quality of care.

In this study, the direct customer is the current patient of the physician’s practice which is driving the need for communication. The indirect customer is the individual that is a potential patient of a physician practice. The potential patient and receiver of pull strategy communication is similar to derived demand, in that, the benefits of the pull marketing communication will take longer and may go through intermediaries before directly benefiting the originator of the marketing distribution channel. Traditionally, a pull marketing strategy originates at the manufacturing level, circumvents distribution, and is focused on the wants and needs of the potential end user.

Push and pull marketing strategies are used to build strong brands, signal pricing, and/or invest in promotion for the purpose of influencing demand (Mitchell 2003). The differences in each marketing strategy includes the intended targeted audience and the allocation of resources towards the use of advertising (pull strategy) or a sales force (push strategy) (Shankar, 1997).

**Hypotheses associated with push/ pull marketing strategies**

H1: Existing patients receiving (high/low) amounts of push marketing communications (individualized/ customer specific/ customized) will perceive corresponding (high/low) levels of healthcare service quality of their physician’s practice.

H2: Potential patients receiving (high/low) pull communications (generalized) will perceived (high/low) levels of healthcare service quality of the communication sending physician’s practice.

As mentioned, the quest for improved quality of care and the competition for growth is ongoing, causing healthcare facilities to seek differentiating strategies designed to create
value for current and potential patients. In a service industry, one method of creating customer value is to impact the customer’s evaluation of the gap between the expected service and actual service experience. Research by Parasuraman, Zeithaml, and Berry (1988) list the characteristics of the service experience to include reliability, responsiveness, empathy, assurances, and tangibles. In this study we explore how dimensions of service quality—responsiveness, assurance, and empathy through digital communication increases perceived service quality which leads to increased customer loyalty.

**Hypothesis associated with customer loyalty**

H3: Patient perceived healthcare service quality positively influences patient loyalty to the physician’s practice.

**Research Methods**

This is an early work presentation proposal Data Collection will be conducted via online survey and will be collected from individuals who have had digital communications from specific physician practices. Amazon Mechanical Turk will be used to collect the information. Demographics such as age, income, education, Internet familiarity, marital status, frequency of physician visits and occupation will be included. The type of digital communications received from physicians will also be included. For instance, a differentiation will be made between clinical information, general practice information, and patient education. The variables included in this study will be measured using a seven-point Likert scale. Service quality will be measured using a 14-item scale adopted from Parasuraman et al. (1988), which includes dimensions such as responsiveness, assurance, and empathy. Customer loyalty will be measured using a 13-item scale adopted from Zeithaml et al. (1996). Likely the data results will be analyzed using multiple regression analysis and ANOVA.

**Discussion**

The use of push and pull marketing communication strategies for patient information distribution can enhance the customer relationship with a physician’s practice. Increased patient loyalty leading to improved continuity of care and enhanced outcomes of care are among the most significant benefits that might result from the Affordable Care Act mandating EMR and HER. The results of this study will enlighten providers about the use of these two strategies for individualized patient education, promote their practice and meet strategic goals.

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Can SMEs afford proactive CSR? Effectiveness of proactive environmental CSR in the food industry
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ABSTRACT
This study examines consumer reactions to the food industry’s proactive and passive environmental CSR by factoring company size. The findings show that overall, proactive CSR programs generate more favorable attitudes, greater supportive communication intent, and purchase intent among young adults. The positive impact of proactive environmental CSR on behavioral intentions (supportive communication, purchase) was significantly larger for SMEs.

INTRODUCTION
The food industry faces increasing pressure to operate in a more eco-friendly manner due to its significant environmental impact caused by waste disposal, service wares, and water/soil pollution (Kim, in press). Businesses need to respond to such social concerns wisely because perceived deficiencies in corporate social responsibility (CSR) can potentially damage corporate intangible and tangible assets. This is especially because environmental CSR is generally regarded as the most important CSR issue (Kassinis & Vefeas, 2006), and as such, the industry cannot afford the risks associated with a lack of environmental commitment. As a way of addressing these environmental concerns, the industry has adopted a number of responsible programs.

However, companies have begun to experience difficulties in deciding to what extent they need to demonstrate their environmental responsibility, which may require costly initiatives (Kim, in press). Most businesses are encouraged to go beyond legal compliance and take on a more active role as social entities (Torugsa, O’Donohue, & Hecker, 2013). As Martin (2002) notes however, going beyond the mandated baseline of social expectations (e.g., regulations, law) may carry the risk of eroding shareholder value. The financial payoff from CSR engagement is not guaranteed and may take significant time. However, prior studies have found a generally positive linkage between CSR practice and favorable consumer perceptions (Kim, 2014). Thus, determining the optimal balance between meeting the social demands of environmental CSR and pursuing corporate growth has become a major strategic task for businesses.

With the potential financial burdens and managerial challenges in engaging in proactive CSR, small and medium size enterprises (SMEs, defined as firms with less than 500 employees) with a relative lack of resources tend to take a passive CSR approach (i.e. complying with governmental regulations) and emphasize business performance over responsible operations (Williamson, Lynch-Wood & Ramsay, 2006). Without solid evidence of CSR-related payoffs, the passive approach may appear to be a safer and easier option; it still fulfills the basic societal requirements while contributing to the financial bottom line. Yet, this study argues that SMEs, compared to large companies, would experience more favorable CSR outcomes by engaging in environmental CSR in a proactive matter (i.e. going beyond governmental requirements).

Large companies are clearly of interest in both academia and the business field regarding their environmental management, whereas attention is seldom given to SMEs’ engagement in environmental responsibility. The relative silence on the topic of SMEs’ environmental CSR can be problematic in that the cumulative environmental impacts of SMEs are highly significant (Brammer, Hoejmose, & Marchant, 2012). SMEs account for more than 90 percent of businesses and account for nearly 60 percent of the private sector workforce (Firoozmand, Hazel, Jung, & Suominen, 2015). Their economic significance suggests that environmental CSR by SMEs deserves greater attention (Brammer et al., 2012). Thus, this study attempts to examine CSR-related outcomes (consumer attitudes, supportive communication intent, and purchase intent) in the context of SMEs, factoring the levels of environmental CSR.

HYPOTHESES
First, the study hypothesizes that proactive environmental CSR generates significantly more positive consumer responses, compared to passive CSR. Empirical studies in environmental CSR have shown that a company’s engagement in environmental CSR positively affects consumers’ perception of the company (Livesey & Kearins, 2002), supportive communication intent by engaging in positive communication (Kim, 2015), evaluation of products (Mohr & Webb, 2005), and preference to purchase products (Bortree, 2009). This study uses three indicators as CSR-related consumer responses due to their importance. An attitude is a strong precursor to the establishment of meaningful relationships between a business and consumers and to their favorable behavioral intentions (Eagle & Chiken, 1993). Positive supportive communication among
consumers is a valuable asset that enhances a two-way symmetrical, business-consumer relationship, and help business growth in revenue (Gremler et al., 2001). The finance-related intention requires further investigation due to the inconsistent findings of prior studies (Sen et al., 2006).

The second set of hypothesis proposes that the positive impact of proactive environmental CSR is larger for small and medium-sized companies (SMEs), compared to large companies in the food industry. The belief is that the close connection with consumers, employees, local communities, suppliers that SMEs have can provide significant benefits (Perrini, Russo, & Tencati, 2007). A simpler and more flexible decision making process can provide advantages (Sarbutts, 2003). Lastly, consumers will acknowledge that proactive environmental CSR requires strong determination for SMEs (Spence, 2007); Consumers are likely to appreciate SMEs’ genuine efforts and be motivated to reward environmentally responsible, smaller-local businesses.

METHODS

This study employed a randomized 2 (CSR level: proactive CSR vs. passive CSR) x 2 (size: large vs. small) full factorial design. For stimuli, a hypothetical restaurant was used to control pre-existing perceptions of real companies. One news article and four scenarios were created to manipulate CSR level and firm size. The news article contains information on regulation of disposable service ware usages, and is designed to inform respondents about government-required, basic environmental responsibilities. Thus, respondents read the same news article but read different scenarios for the given experiment condition. In the scenario, respondents were asked to imagine getting lunch. It briefly explains the hypothetical restaurant as a business with quality foods, services and reasonable prices. The size of the company was manipulated by describing it as either a small local restaurant or a large nationwide chain restaurant. The company with proactive CSR was described as offering durable tableware instead of disposable plastic ware and planning to hire additional staff members for dishwashing and table service, while the company with passive CSR was explained as providing durable wares upon customer request to comply with new regulations for disposable ware usage. Attitudes toward a company were measured with three items (MacKenzie & Lutz, 1989): bad/good, unpleasant/pleasant, and unfavorable/favorable (Cronbach’s α=.97). Supportive communication intent was evaluated with three items (Kim, in press): “I would be willing to discuss the company’s pro-environmental activities with others,” “I would be willing to search for more information on their eco-friendly practices,” and “I would be willing to pay more attention to the company’s environmentally responsible programs” (Cronbach’s α=.86). Purchase intent was measured with three items regarding the question of how likely they would be to purchase products (Mohr & Webb, 2005): very unlikely/very likely, impossible/very possible, and no chance/certain (Cronbach’s α=.96). Environmental concern was assessed as a control variable. Basic demographic information was collected.

A total of 630 college students participated in the online experiment. 234 (35.2%) were male and 428 (64.4%) were female. Young adults aged 18-25 years, including college students, are one of the major target publics for the food industry (Harris, Schwartz & Brownell, 2010). They make decisions for food consumption daily and eat in restaurants more frequently than any other age group. College students function as active agenda builders in various online platforms. Understanding college students’ responses to the food industry’s environmental CSR is critical to understanding the effects of proactive and passive CSR among SMEs. When asked their ethnicity, 431 (64.8%) reported as Caucasian, 83 (12.5%) reported as African American, and 71(10.7%) reported as Asian. The average age was approximately 21 years old (SD=1.52). Manipulations were successful and participants perceived stimuli as similarly believable.

RESULTS

H1-1,2,3 test the main effects of the level of CSR, and H2-1,2,3 test the ordinal interaction effects of CSR level and company size. No crossover interactions were found and so the main effect of CSR level is explained first. H1-1 examines the effects of CSR level on consumer attitudes. An analysis of covariance (ANCOVA) test was performed, controlling for the effects of environmental concern. Participants who were exposed to proactive CSR showed significantly better attitudes toward a company than those under a passive environmental CSR condition (M = 2.9 vs. 5.3, F (1, 638) = 548.39, p <.001, hp2=. 48), supporting H1-1. For H 1-2, an ANCOVA examined the influences of CSR level on supportive communication intent while controlling for the effects of environmental concern. Proactive CSR resulted in significantly stronger supportive communication intent, compared to passive environmental CSR (M=4.0 vs. 4.4, F (1, 1646) =22.41, p <.001, hp2=. 04). H1-2 was supported. H1-3 tests the effects of CSR level on purchase intent. Participants showed significantly stronger purchase intent when exposed to a proactive environmental CSR condition than those of passive CSR (M=4.0, vs. 4.4, F (1,646) =29.98, p <.001, hp2=.05). Thus, H1-3 was supported.

The second set of hypotheses predicted greater effects of CSR level under a SME condition, than under a large company condition. An ANCOVA test examined the interaction effects on attitudes toward a company (H2-1), controlling for the effects of environmental concern. No significant interaction effect was found. For H2-2, which tests the interaction effects on supportive communication
intent, an ANCOVA test was performed. A significant interaction effect was found \( F(1,646) = 5.14, p < .05, \) \( \text{hp}^2 = .01 \). Follow-up tests revealed that when a small business implements proactive environmental CSR, respondents show significantly greater supportive intent than from passive CSR \( (M=4.6 \text{ vs. } 4.0, F(1,313) = 26.59, p < .001, \) \( \text{hp}^2 = .08 \); when a large business implements proactive environmental CSR, respondents show a better supportive intent but the mean differences are not significant \( (M=4.12, \text{ vs. } 4.23, \text{n.s.}) \). F2-2 was supported. H2-3 tests the interaction effects on purchase intent. Another ANCOVA test was conducted, controlling for environmental concerns. Significant interaction effects were found \( F(1,646) = 5.43, p < .05, \) \( \text{hp}^2 = .01 \). Follow-up tests revealed that when a small business implements proactive environmental CSR, respondents showed significantly greater purchase intent than from passive CSR \( (M=4.6 \text{ vs. } 4.0, F(1,313) = 32.93, p < .001, \) \( \text{hp}^2 = .10 \); when a large business implements proactive environmental CSR, respondents showed significantly better supportive intent as well \( (M=4.2, \text{ vs. } 4.0, F(1,332) = 5.62, p < .05, \) \( \text{hp}^2 = .02 \). Regarding the positive impact of proactive CSR, when a small company implements proactive CSR, respondents show a significantly greater purchase intent than in the case of a large company \( (M=4.6 \text{ vs. } 4.2, F(1,320) = 10.98, p < .005, \) \( \text{hp}^2 = .03 \). Thus, H2-3 was supported.

DISCUSSION

This study examines consumer reactions to the food industry’s proactive and passive environmental CSR by factoring company size. The findings show that overall, proactive CSR programs generate more favorable attitudes, greater supportive communication intent, and purchase intent among young adults. The study also found that the positive impact of proactive environmental programs can go further for SMEs. Although proactive CSR did not make a difference in young adults’ attitudes toward a company, it enhances respondents’ behavioral intent (supportive communication, purchase) significantly more in the case of SMEs. SMEs often fear the bureaucracy, time and cost of proactive environmental CSR by comparing their structure and resources with large corporations (Castka, Balzarova, Bamber, & Sharp, 2004). Yet, the study findings provide empirical support for the notion that SMEs in the food industry can enjoy proactive CSR-related benefits more than large companies.

References


Abstract

**Purpose** The objective of this study was to examine the relationship between practice culture archetypes, team development, and burnout.

**Methods** Using data collected from providers and staff of a network of primary care clinics owned by an academic medical center, we report Spearman correlations between scores on the Organizational Culture Assessment Instrument (OCAI), the Team Development Measure (TDM), and Maslach’s Burnout Inventory (MBI).

**Results** A Family/Clan culture is correlated with higher team development and lower burnout while a Market/Rational culture is correlated with lower team development and higher burnout.

**Conclusions** Understanding the relationship between culture and team development could help identify strategies for supporting transformation to team-based care.

Introduction

Transformation to a patient-centered medical home (PCMH) requires a shift from provider-centric to team-based care. The implementation of care teams is hard work and may contribute to staff burnout, but if done effectively it may reduce team member burnout. Organizational culture can be key to the successful implementation of major practice improvement strategies such as team-based care. Although research suggests that team development may inhibit or facilitate staff burnout, little research has examined the relationship between practice culture types, team development, and burnout.

In today’s environment, in order to deal with competitive pressures, primary care practices are facing a number of changes aimed at increasing efficiency, such as structural realignment of individuals and practices and incorporation of new care delivery models. These changes often include the introduction of new members to care teams, new roles for both new and existing team members, and new work flows to manage care delivery effectively. The experience of providers and staff with all of these changes is likely to be influenced by the culture of an individual practice.

Primary care practices often are characterized by a family/clan culture. Small and medium sized practices frequently have a very tight-knit group of staff and providers whose goals are focused on meeting the needs of their patients while supporting each other. Despite the comfort of practices with such a family feel, practices that are more focused on their external environment may be better able to see opportunities to differentiate themselves and meet the needs of particular patient groups that competitors may not be meeting. In this changing environment, some practice cultures may be better positioned for survival.

We set out to explore several questions. Can a clinic’s culture be a factor in how successfully they navigate changes? Can the impact of seemingly constant changes be buffered by a practice’s culture? Can the new models of care, such as team-based care, have a positive impact on the experiences of change?

**Methods**

**Setting**

The University of Utah Community Clinics (UUCC) are a network of ten clinics located in and around Salt Lake City, UT owned by University of Utah Health Care. Over the past decade, UUCC have implemented a care delivery model called Care by Design™ (CBD). CBD includes many of the components of the PCMH model, including electronic medical records (EMRs) introduced in 2003, care teams introduced in 2006, and planned care introduced in 2008. By 2010 there was anecdotal evidence that providers
and staff were feeling the burdens of change. Thus, between 2010 and 2012 we surveyed staff and providers annually to assess the impact of our transformation. Of particular interest were the level of team development that had been achieved, the extent to which providers and staff were experiencing burnout, and any uniqueness in the organizational cultures across the clinics that might help us understand the experience of transformation by providers and staff. Individual level data were aggregated to the clinic level. Nine of the ten clinics had sufficient response rates to be included in these analyses.

**Measures**

*Organizational culture* is a term used to describe the beliefs and values held in common by members of an organization, and was assessed using the Organizational Culture Assessment Instrument (OCAI). The OCAI is based on the Competing Values Framework (CVF), which has been widely used in health services research. CVF describes 4 archetypal cultures characterized along two dimensions representing alternative or “competing” approaches that organizations may use to resolve issues in their everyday functioning: 1) the degree to which an organization emphasizes stability and control versus flexibility and discretion, and 2) the degree to which the organization is oriented toward its internal environment versus its external environment. The four culture archetypes include Family/Clan (flexible, with internal focus; emphasizes employee empowerment and involvement), Market/Rational (stable, with external focus; emphasizes a cost-benefit approach, and is highly value-driven), Entrepreneurial (flexible, with external focus; emphasizes creativity and innovation to address market pressures), and Hierarchical (stable, with internal focus; emphasizes policies, coordination, and efficiency). More in-depth descriptions of the CVF can be found elsewhere.

*Team development* was assessed using the Team Development Measure (TDM). This 31-item questionnaire measures team functioning from the perspective of individual team members. It focuses on the degree to which a team demonstrates components of high functioning teams and is used to assess the level of team development. In a recent factor analysis of the TDM items, Stock et al. identified four key components of team development within the TDM, including: 1) *cohesion*, which can be conceptualized as the social “glue” that holds the team together; 2) *communication*, which measures aspects of team decision-making, information sharing, and problem solving; 3) *roles and goals*, which assesses the clarity of individual and team roles and expectations, and the establishment of clear goals and goal assessment; 4) *team primacy*, which emphasizes the extent to which team members prioritize team-level goals above their individual goals and needs. These groupings were used in our analysis.

**Burnout** was assessed using the general form of the Maslach Burnout Inventory (MBI)⁷. This is a 22-item questionnaire designed to assess three components of the burnout syndrome: 1) *emotional exhaustion* measures feelings of being emotionally overextended and exhausted by one’s work; 2) *cynicism* measures active disengagement from work; 3) *professional efficacy* measures expectations of effectiveness at work.

**Correlation analysis**

We used clinic-level data characterizing the team development, burnout, and culture profiles of the clinics and Spearman correlation to evaluate relationships between them. Due to the small sample of clinics, we note significance at an alpha (α) of 0.10 (10%).

**Results**

Individual data from 9 clinics were available for analysis. Summary statistics on all of the measures for each of the clinics at baseline (year 2010) are presented in *Table 1*. For analysis, data from the three years were pooled, yielding 27 observations.

*Table 2* presents the Spearman correlation results between scores on culture archetypes and team development (overall TDM score, and four primary components) as well as the three components of burnout. Family/Clan culture correlated with higher overall team development (coefficient=0.32, *p*<0.10) and lower levels of exhaustion (coefficient=-0.42, *p*<0.05) and cynicism (coefficient=-0.35, *p*<0.10). Market/Rational culture correlated with lower overall team development (coefficient=-0.34, *p*<0.10), including communication (coefficient=-0.36, *p*<0.10), team primacy (coefficient=-0.44, *p*<0.05), and higher exhaustion (coefficient=0.24, *p*<0.10).

*Table 3* presents the Spearman correlation results between team development and burnout. Overall team development correlated negatively with exhaustion (coefficient=-0.35, *p*<0.10). Greater team cohesion correlated positively with professional efficacy (coefficient=0.42, *p*<0.05) and negatively with cynicism (coefficient=-0.39, *p*<0.05).

The pattern of relationships between culture, team development, and burnout were similar in supplementary analyses examining these relationships by year (not reported here).

**Discussion**

Although the small sample size of clinics limited the power of our analyses, our findings suggest that there are potentially important relationships between culture, team development and burnout. The consequences of burnout are potentially serious for individuals as well as the teams and organizations with which they work.⁵,⁹ In our data, a
Family/Clan culture was associated with higher team development and lower burnout, particularly exhaustion and cynicism. In contrast, a Market/Rational culture was associated with lower team development and increased burnout (exhaustion). As a key feature of patient-centered medical homes, team-based care is expected to positively impact the quality of care and patients’ experience with care. Our data suggest that a Family/Clan culture may contribute to the ability to effectively move to team-based care. However, as the competitive environment intensifies, a Market/Rational culture may be better attuned than a Family/Clan culture to the external environment. Our data suggest that practices with Market/Rational cultures should be especially cognizant of the potential for burnout among their providers and staff as they implement team-based care. The higher levels of team development observed in Family/Clan cultures suggests that one way to minimize burnout may be to enhance team functioning.

The integration of healthcare systems will bring together multiple organizations and will requiring effective assimilation of unique organizational cultures. Integration is stressful, and may result in increased burnout. Knowledge of the culture types being integrated may support the development of strategies suited to the particular organizations being joined and may minimize burnout during transition.

Transformation to team care can influence staff burnout both positively and negatively. Team development is hard work, but highly developed teams may protect against some of the negative impacts of this work. Physician support of team-based care is important to its effective implementation. Our data suggest that members of care teams experience less burnout, feel more professional efficacy and are less cynical when they perceive that their care teams are at higher levels of team development. Physicians may be more supportive of team care if they recognize the personal direct benefits of this approach. As practices move from provider-centric care to team-based care, providers can play a key role by leading this transformation and communicating the benefits of team care to both staff and patients.

References


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Table 3: Spearman Correlation Results: Burnout and Team Development (TDM)

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<td>Overall TDM score</td>
<td>-0.35†</td>
<td>0.10</td>
<td>-0.27</td>
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<td>-0.22</td>
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Notes: †p<0.10 *p<0.05
aData from 9 clinics are pooled over 3 years (n= 27)
bComponents are constructed using the TDM item grouping proposed by Stock, Mahoney, and Carney (2013).
Predicting Performance and Expectations for Rewards in the Nursing Profession Using Occupational Commitment and Task Intensity
Samhitha Curpad, Rhodes College
Dee Birnbaum, Rhodes College
Mark Somers, New Jersey Institute of Technology
Linda Finch, Rhodes College

Abstract
Task intensity and four dimensions of occupational commitment were used to predict two outcomes: performance in nursing school and the students’ expectations for rewards in their nursing careers. As expected, affective commitment was a predictor of both outcomes. Task intensity, unexpectedly, played no role in predicting either outcome. Surprisingly, normative commitment was negatively associated with nursing school performance. The accumulated costs and limited alternatives dimensions of occupational commitment predicted neither outcome. Implications of these results for recruiting and socializing nursing students were discussed.

Introduction
Nursing is a crucial role for a smoothly functioning health care system, yet the U.S. has experienced severe shortages in the supply of qualified Registered Nurses for decades. Following several decades of undersupply, a nursing commission was convened in 1970, to study the problem and to make recommendations (National Commission for the Study of Nursing and Nursing Education, 1970). Despite attempts to identify the problems underlying the shortage and the implementation of changes in nursing education and utilization (e.g. using unlicensed assistive personnel to relieve RNs of their nonprofessional tasks and reducing the length of some nursing education programs), the shortage persisted. In the 1980’s, for example, there was a 20 percent vacancy rate in hospital nursing positions (American Journal of Nursing, 1989). The outlook for the future is not positive. As the baby boomers age, they are expected to retire from their nursing positions and they and their cohorts are expected to increase the demand for nursing care in long-term care facilities (Orlovsky, 2006). Though enigmatic, the shortage continues and might be worsening. Following urgent calls for an increase in registered nurses to meet the current and projected demand, nursing degree-granting programs increased their enrollments by 2.6 percent in 2013, but the American Association of Colleges of Nursing (AACN) expects the demand to increase 19 percent by 2022 (AACN, 2014). The Patient Protection/Affordable Care Act of 2010 has increased demand by creating 30 million newly insured customers (Herrera & Blair, 2015). Currently, more than 20 percent of the U.S. population (about 64 million) is living in regions with severe shortages of health professionals (MacLean, Hassmiller, Shaffer, Rohrbaugh, Collier & Fairman, 2014) so that the nursing shortage remains a serious threat to our health care system.

There are many possible approaches to examining the problem of the lack of nursing personnel to meet the public needs. This study uses a vocational behavior perspective to understand the attachment students develop to their future profession as they pursue their Baccalaureate degrees in nursing. The vocational behavior approach is particularly appropriate because continued occupational membership and the quality of work performance have been focal outcomes in vocational behavior research. Clearly, these two behaviors are critically important in health care research, given the nursing shortage. This study employs a similar approach by using occupational attachment to predict students’ achievements and interests in their nursing careers.

In addition to the practical value of such a study, there are theoretical implications for focusing on nursing students’ commitment to their profession. As Frese (1982) indicates,
there has been a paucity of research into early career socialization, a particularly important period during which individuals begin to internalize the values and norms of their profession and visualize themselves performing a specific type of work. Occupational socialization is also of theoretical interest because work is a central force in society in the sense that a large proportion of the population must work to satisfy material needs, most individuals spend a large portion of their time at work and many people derive feelings of social value and competence through their work or through the remuneration work provides.

As research into the attachment of individuals to their work has evolved, two under-researched areas have been identified. First, attachment to work has been viewed primarily through an organizational lens—that is, until recently, most research has examined organizational commitment rather than occupational commitment. Second, most studies which have included occupational commitment have viewed the concept as unidimensional as opposed to multidimensional (Blau, 2003).

Given recent trends in the economy and structure of the workplace, researchers have concluded that workers have become more attached to their occupations than to the organizations that employ them. Workers have shifted their attention to their occupations as organizations have restructured and the occupational role has become the primary vehicle for continued employment (cf. Blau, 2003). Carson and Bedeian (1994) have suggested that corporate acquisitions, mergers and layoffs have created organizationally-based uncertainty whereas occupational membership is a part of the employment situation a worker can control.

The Study

This study focuses on the multidimensional formulation of occupational attachment as a key predictor of nursing students’ performance and the expected rewards of a nursing career. The study addresses some of the theoretical gaps in the vocational literature while incorporating recent perspectives on the nature of work attachment. As such, the study focuses on nursing students’ attachment to their professional roles as they prepare for employment. We have examined students’ occupational commitment in the sense of the degree to which different types of commitment contribute to or detract from occupational attainment. We have also included other control factors, which might promote or hinder occupational attainment, such as the number of young dependents and the students’ level of maturity. We have incorporated grade point average (GPA) at application to nursing school, which serves to control for earlier levels of academic attainment and the degree to which students accept the tasks of nursing as work they should perform (task intensity). Performance in nursing school and expectations for occupational rewards serve as the outcome variables.

Occupational commitment is thought to be a relatively complex construct. First, it is a general term that subsumes professional commitment as nonprofessional employees can be as attached and interested in their nonprofessional roles as professionals (cf. Lee, Carswell & Allen, 2000). Second, according to Blau (2003), who developed and validated a multidimensional measure for the concept, there are four dimensions of commitment, each with its own focus and definition. Affective commitment is a value-based, emotional attachment to the occupation from which an individual draws identity. Normative commitment is an attachment derived from a sense of moral obligation to perform the work of the occupation. Blau’s conceptualization departs from an earlier framework (Meyer, Allen & Smith, 1993) by splitting continuance commitment into two dimensions: accumulated costs and limited alternatives. These types of continuance commitment are more calculative in nature than the other two dimensions in that an individual will stay with an organization provided that s/he does not see a more desirable alternative considering the switching costs of pursuing another line of work.

Hypotheses

The general foci of our study are the different types of occupational commitment and task intensity. We regard the number of young dependents, the application GPA and maturity level as control variables which we expect will have an effect on performance in nursing school without considering attachment to the occupation and task intensity. We expect the number of young dependents to be negatively related to performance in a nursing program and to expectations for rewards. The simultaneous demands of childcare and schoolwork can create a work/family conflict and, to the extent that a student faces the responsibility for childcare, performance at school might suffer (cf. Grzywacz, Frone, Brewer, & Kovner (2006). If students are concerned about successfully completing a nursing program and/or fully engaging in an occupation after they have graduated given the demands of childcare, their expectations for occupational rewards might be curtailed. In contrast, we expect the level of maturity to be positively...
related to performance in a nursing program and to expectations for rewards. More mature students, with more life experience, should be better able to handle the demands of an academic program than younger students. Earlier experience should have helped them to develop more self-confidence and coping skills when faced with unfamiliar material and increased pressure for performance. With respect to expectations for rewards, more mature students have a more sophisticated calculus for making career decisions. They have had more opportunities to observe and consider more career options than less mature students have had and, therefore, have made a more informed occupational choice. This should also be reflected in their expectations for occupational rewards. The final control variable, application GPA, should be a major factor in academic performance in nursing school. Presumably, those students who have accrued academic achievements in their first year and a half of undergraduate school, have set a pattern for their later academic performance and those who have not, would be less able to handle the demands of nursing school. This control variable separates the effects of academic ability and the acquisition of skills needed to achieve academically from performance in a nursing program. The application GPA is a score comprised of grades from general studies courses that do not include nursing courses. We expect the application GPA to be positively related to the GPA achieved at graduation from nursing school, in part, because the application GPA is a small component of the GPA attained at graduation.

H 1: Task intensity is positively related to performance in a nursing program.
Nursing students who express a greater preference for performing the tasks associated with the nursing occupation should be more successful in a nursing program than those students who would prefer to perform fewer of these tasks less frequently.

H 2: Affective commitment is positively associated with performance in a nursing program.
Nursing students who are affectively committed are emotionally attached to the occupation. The work and the ideals associated with the work are congruent with the students’ values.

H 3: Normative commitment is positively associated with performance in a nursing program.
Nursing students who committed to an occupation for normative reasons feel a moral obligation to succeed in their nursing program.

H 4: Accumulative costs and limited alternatives commitment are negatively related to performance in a nursing program.
Nursing students who are committed to the nursing occupation because they have accumulated costs of being in the occupation and/or because they have no other alternatives will not have high performance in nursing school. They are in nursing school by default and while they might successfully complete their degrees, their attachment does not warrant more than a minimal investment.

H 5: Task intensity is positively related to expectations for rewards.
Nursing students who express a greater preference for performing the tasks associated with the nursing occupation should have greater expectations for rewards from their nursing careers than those students who would prefer to perform fewer tasks less frequently. The desire to undertake the work of the occupation is probably associated with the expectation that the work will lead to rewards or that the work itself is intrinsically rewarding.

H 6: Affective occupational commitment is positively related to expectations for rewards.
In the case of emotional attachment, the work of the occupation is congruent with the individual’s values and the individual derives a sense of identity and purpose from the work. Therefore, affective commitment will raise expectations for rewards.

H 7: Normative commitment is positively related to expectations for rewards.
To the extent individuals feel they are carrying out a moral obligation to work in the nursing field, they believe the occupation will deliver the rewards they deserve for fulfilling their obligations.

As far as accumulated costs and limited alternatives commitment is concerned, we have no basis for building hypotheses about whether either of these will affect expectations for rewards.

Method
Sample
Two hundred sixty-eight full-time nursing students at a four-year state university in the U.S. served as the sample. Students were admitted into the nursing Baccalaureate program after two years of general studies. The students applied for admission to the nursing program during the semester before they were to begin their nursing courses. The sample was 78 percent female and 56 percent white.
Potential respondents were asked to complete surveys during their nursing classes each semester over a two-year period and the data were pooled. The response rate was approximately 50 percent. To match behavioral data from university records with survey information, respondents were asked to identify themselves. Confidentiality was assured and maintained.

Measures

Occupational Commitment. Following Blau’s (2003) framework, four dimensions of occupational commitment (affective, normative, accumulated costs and limited alternatives) were assessed on a five-point scale. Reliability for the four dimensions in this sample was .89, .81, .85 and .89, respectively.

Expectations for Rewards. Expectations for the rewards associated with a nursing career were assessed on a four-point scale using a measure developed by Birnbaum and Somers (1991).

Performance in Nursing School. Nursing school performance was assessed with GPAs. Grade point average was collected from archival information supplied by the university. GPA was assessed at two different times during the students’ tenure at the university. GPAs were initially collected when they applied to nursing school. Most students applied during the second half of their sophomore year, so that their GPA reflected their attainment in their first year and a half at the university. A smaller number of students were older students who had degrees in fields other than nursing. The application GPAs were comprised of grades in courses other than nursing. GPAs were collected a second time when students left the nursing program. The overwhelming majority of students graduated with their Baccalaureates in nursing.

Number of Young Dependents. Number of young dependents was assessed with a survey question asking “Do you have children or other young dependents for whom you are responsible (e.g. grandchildren)” If yes, the respondents were asked to fill in the ages of their young dependents. The number of dependents was tallied to construct this variable.

Maturity Level. Maturity Level was assessed by eight age groupings. The first was 25 years or younger (coded as zero) and the other groups were formed using increments of five years, such as 26 to 30 years old as the second option (assigned a one). The eldest group was 56 to 60 years old which was assigned a seven.

Task Intensity. Task intensity was assessed using a scale developed and validated by Birnbaum and Somers (1991). The students were asked how often they would perform each task in a list of 44 tasks if nurses had complete discretion in determining ideal nursing practice. The response scale varied from one to five (almost never to almost always).

Statistical Analyses

Control variables (Application GPA, number of young dependents and maturity levels) and predictor variables (the four types of commitment and task intensity) were entered into a regression to predict performance in a nursing program. The same variables, except for application GPA, were entered into a regression to predict expectations for rewards of a nursing career.

Results

Descriptive statistics and the correlations among the study variables are presented in Tables 1 and 2.

**Insert Tables 1 and 2 about here**

With respect to predicting nursing school performance, Hypothesis 1 was not supported. The relationship between task intensity and performance in nursing school was not significant. Hypothesis 2 was supported. Affective commitment was positively and significantly related to nursing school performance ($\beta=.144, p<.05$). Hypothesis 3 was not supported. Although normative commitment was significantly related to nursing school performance, the relationship was negative—the opposite of what was hypothesized ($\beta=.285, p<.01$). Hypothesis 4 was also not supported. There was no relationship between accumulated costs commitment and nursing school performance nor was there any relationship between limited alternatives commitment and nursing performance. For this regression $R^2 = .354, F=14.523, p<.01$. One of the control variables, application GPA, was a predictor of performance in nursing school ($\beta=.517, p<.01$). The other control variables were not significantly related to nursing school performance.

Turning to expectations for rewards, hypothesis 5 was not supported. Task intensity was not significantly related to expectations for rewards. Hypothesis 6 was supported. Affective commitment was positively related to expectations for rewards ($\beta=.332, p<.01$). Hypothesis 7 was not supported as normative commitment was not significantly related to expectations for rewards. The other two types of commitment (accumulated costs and limited alternatives) were not related to expectations for rewards. The control variables were related to expectations for rewards as we had suggested. The number of young
dependent children was negatively and significantly related to expectation for rewards ($\beta = -0.171$, $p < 0.01$) and maturity level was positively and significantly related to expectations for rewards ($\beta = 0.148$, $p < 0.05$). $R^2$ for this equation was $0.220$ ($F=9.354$, $p < 0.01$). See Table 3.

Discussion

Interestingly, the only predictor that affected our two outcomes (performance in a nursing program and expectations for rewards) in the expected direction was affective commitment. Only one of our control variables (application GPA) significantly affected nursing school performance. This was not surprising given that the application GPA is the GPA attained after one and a half years at the university and, although we used the GPA of students in their last semester of nursing school to operationalize performance in nursing school, the GPA accrued after three semesters at the university is part of the GPA students have attained in their last semester of nursing school. Depending on how many credits the students undertake after they apply to nursing school and how many credits they take before separating from nursing school (either as graduates or transfers out of the school of nursing), the application GPA will have an effect on the overall GPA. Our other control variables were not significantly related to the GPA achieved at the end of nursing school. The use of an overall GPA as a measure of performance in nursing school without this control variable could have seriously contaminated our results. With respect to the control variables and their relationship to expectations for rewards, the results were in line with our predictions. It appears affective commitment is a key dimension of attachment that promotes high performance in a nursing program.

The most surprising result was the significant, negative relationship between normative commitment and performance in a nursing school. We can only offer somewhat speculative explanations for this result. One possibility has been suggested by Gellatly, Allen & Ruchak (2006). If individuals are normatively committed to an occupation to which they are not emotionally attached, that is, if affective commitment is not strong, but normative commitment is, the need to work in this occupation might be viewed as a debt that must be paid. If these individuals were also affectively attached, the work would be viewed as a combination of something positive for themselves and righteous service. If there is a combination of accrued costs, limited alternatives and normative commitment without much affective commitment, an individual might feel stuck in his/her occupation. Because we did not study commitment profiles to uncover the combination of types of commitment each individual felt, we cannot be sure this is the case for our sample.

A second possible explanation concerns the circumstances caused by the nursing shortage. A comprehensive study of the root causes of the shortage by the Robert Wood Johnson Foundation (2003) found the nursing shortage was fueling itself. Nurses were feeling overworked because the shortage was causing understaffing in health care institutions. As a result, more experienced nurses were retiring from the occupation earlier than expected and less experienced nurses were leaving to join other occupational groups. The nursing students in this school spent four semesters of school in clinical rotations at various health care institutions and had experienced the understaffing first-hand. Thus, students who felt morally committed to the occupation might have decided to limit their investment in the profession, feeling that going above and beyond an average level of contribution would not improve a desperate situation and would not allow them to survive in the profession over the long-term.

Another unexpected finding was that task intensity did not play a role in either performance in nursing school or in expectations for rewards in this study. Possibly, the reason is seen in the descriptive statistics for this measure. Although we included some tasks that nurses might view as outside their role (such as sorting and delivering patients’ mail) or oversee rather than perform, the mean for this measure was fairly high and the variance was low. Perhaps these tasks were viewed as patient-centered and/or they were tasks student nurses performed during their clinical experiences to help their patients and the other staff members on the unit. It might be valuable to examine the patterns within task intensity and compare the patterns among student nurses, newly employed nurses and more experienced nurses.

Conclusions

The study suggests nursing programs should focus on affective commitment. This means nursing schools should focus on recruiting prospective students who would really enjoy the work of nursing, whose values are congruent with the values of the profession and who strongly identify with the meaning of being a nurse. As nursing salaries and the demand for nurses have increased, the profession has most likely attracted people who see nursing simply as a vehicle for employment, but are not affectively committed to the
occupation. Others might undertake nursing as a moral duty, but without affective commitment, this moral duty might become a negative, as the results of this study indicate. This juncture of undertaking occupational training is the time individuals begin to envision themselves performing the occupational work. It is the period in which students are most receptive to suggestions from their mentors about what the meaning, value and purpose of the work is (cf. Frese, 1982). As such, nursing schools should focus on building an emotional attachment to the occupation while encouraging students to reflect on whether these values are congruent with their own. As students experience nursing work, they should be asked to visualize themselves in the profession over the long term and to think about whether this is the work they really want to perform. Although becoming a nurse might seem to be a rational decision and/or a noble profession, it is the emotional attachment that will probably produce the best outcomes.

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Graduate Health Informatics Education for Healthcare IT Professionals: A Survey
Kalyani Ankem, Northern Kentucky University
Joshua Turpin, Cincinnati Children’s Hospital

Since the HITECH Act in 2009, there has been a major upshift in the adoption of electronic health records (EHRs), followed by a substantial growth in graduate programs in health and biomedical informatics programs. The interdisciplinary nature of health and biomedical informatics presents both challenges and opportunities for universities. We conducted a survey of health and biomedical informatics graduate program websites to find a) the discipline in which the program is housed, b) similarities and differences in curriculum between programs, and c) requirements for graduation in the programs. The results show that health and biomedical informatics programs are housed in various departments: health sciences, informatics (including business), medicine, and professional/graduate studies. The electives represent the variation across programs; however, a common core does exist. Given the rapid advances in information technology, health and biomedical programs must continually assess their programs in light of new developments, including those in accreditation.

Introduction
Graduate education in health informatics has its beginnings in the 80s in National Library of Medicine (NLM) grants to educational institutions for the purpose of funding biomedical informatics education and research. The goal of these NLM training programs was to produce researchers and developers. The landscape has changed since this time (Hersh 2008). The American Medical Informatics Association (AMIA) was established in the 90s. Also, as we entered the 90s, healthcare experienced a need for healthcare IT professionals who went beyond data processing. These newer roles required knowledge in the operations of healthcare as well as analysis and design of systems, accompanied by an understanding of the needs of clinical communities (Dorsey and Bruck 2014). The first graduate education programs emerged to meet these requirements and soon realized that an applied informatics focus rather than a health information management (HIM) focus detailed by American Health Information Management Association (AHIMA) was appropriate in preparation for these new roles (Dorsey and Bruck 2014).

The diversity of the student body that pursues health and biomedical informatics programs has been a challenge in graduate programs. Students include those who are experienced in healthcare IT, clinicians without an IT background, and other students with varied IT and business experience. In the mid-2000s, AMIA responded by offering the 10x10 program as a continuing education model for the non-degree seeking student (Hersh et al. 2007). However, more changes were yet to come.

Developments in HIPAA law and legislation—the HITECH Act in 2009—brought a major increase in the adoption of healthcare IT. The workforce development section in the HITECH Act in 2009 led to funding for curriculum development by programs in community colleges and universities. Nine universities or consortia of universities were awarded funding by the Office of the National Coordinator (ONC) to train for six workforce roles in the certificate or master’s program (Hersh 2014).

This shift in the adoption of healthcare IT also emphasized a greater understanding of the IT needs of patients in a patient-centric healthcare organization. Health informatics progressed beyond EHR implementation. It was now about “optimizing existing systems to enable better patient care, increase engagement and satisfaction, provide a more satisfying user experience, and help organizations think of data from the EHR not just as canned reports, but as an organizational asset, that, with proper analysis can be used for healthcare quality improvement and increased efficiency” (Dorsey and Bruck 2014, 89-90).

The curriculum in health informatics is not expected to be identical in graduate programs. The programs are housed in different disciplines designed to produce graduates for different roles. More emphasis is on management concepts in an applied approach to educate healthcare IT managers. Each graduate program decides whether an applied or foundational informatics would serve its students best. Competencies are often discussed in associations (Otero et al. 2010). Demiris (2007) advocates, in a research-oriented program curriculum, the integration of an interdisciplinary problem domain that fosters collaboration with, and understanding of, IT and clinical and health administration disciplines.

In addition to university-based certifications and master’s programs, the professional associations offer
certifications. The Health Information and Management Systems Society (HIMSS) offers the following two certifications: the Certified Professional in Health Information & Management Systems (CPHIMS) and the Certified Associate in Health Information & Management Systems (CAHIMS). These HIMSS certifications are geared more toward IT and business competencies. AMIA, starting in 2013, offers the clinical informatics subspecialty with the goal of educating physicians in informatics. AMIA has since extended clinical informatics to non-physicians. Only three master’s programs are thus far accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM). Regardless of the disciplinary focus and the program objectives to produce graduates for specific roles, accreditation could be the next big development in health informatics graduate education. Accreditation assures to all stakeholders that the curriculum is reviewed by peers to prepare graduates for identified roles (Berner 2014).

Methodology

In our research, we want to explore the department makeup and curricular offerings of the still developing field of health informatics in universities. We surveyed university graduate program websites. To ensure a comprehensive list of graduate programs, we cross checked the programs we included against existing published lists of health and biomedical informatics programs.

Results

We surveyed 62 graduate programs (Table 1). Universities offering the master of health informatics account for 72.6 percent of the programs. The master’s in biomedical informatics accounts for 24.2 percent of the graduate programs. A smaller number, 3.2 percent of the graduate programs, offer the master of health and biomedical informatics (Table 1).

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<tr>
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Health informatics graduate programs are housed in various colleges (Table 2). Close to half, 41.9 percent, are offered through health related colleges such as nursing, allied health, and public health. Since information technology courses are incorporated in the curriculum, often these programs collaborate with computer science, business, information technology, or engineering departments. Colleges of medicine offer 27.4 percent of the master’s programs. Professional studies or the college of graduate studies offer 16.7 percent of programs. The remaining 14.5 programs are offered through the college of informatics. Often, the master’s programs are a joint effort of two or more departments such as business and nursing, public health and informatics, and medicine and engineering.

Table 3: Graduation requirements in master of health and biomedical informatics programs

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Table 4: Common core coursework in master of health and biomedical informatics programs

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<td>.92</td>
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<td>Privacy/Security/Ethics</td>
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To graduate with a master’s in health informatics or biomedical informatics, students have to take an average of 38.32 credit hours (Table 3). Students can graduate from some programs with 30 credit hours only. On the other hand, some programs require 64 credit hours to graduate. The time it takes for students to complete coursework and to graduate is one to two years. It should be noted that some professionals or a survey course in health or biomedical informatics. It is designed to be an introduction to the programs are on a semester schedule while others are on quarter schedule. On average, students take 67 percent required courses and 33 percent elective courses (Table 3).

We looked at the curriculum of these programs to see if common courses are offered (Table 4). We categorized courses using the labels listed in Table 4. An introductory course could be a management course for healthcare IT discipline in which the student is being educated for a role in health and biomedical informatics. Most colleges or 98
percent of the graduate programs offered an introduction to the discipline. Courses in the technical foundations of health and biomedical informatics, including those in medical vocabulary, are offered in 71 percent of the graduate programs. A large percentage, 92 percent of the graduate programs, offered one or more courses in statistical methods, analytics or decision support systems. An information systems course is offered by 85 percent of the graduate programs. Project management and/or information technology courses are offered by 81 percent of the graduate programs. Database management courses are incorporated in 74 percent of the graduate programs. Systems analysis and design courses are offered in 73 percent of the graduate programs, and privacy, security and/or ethics courses are offered in 71 percent of the graduate programs. Most programs require a capstone or a project. In some graduate programs, a thesis is required.

Discussion and Conclusions

While our results show that a common core does exist in health and biomedical informatics programs, there are variations across programs depending on where it is housed. A biomedical informatics program housed in the college of medicine could include medical imaging analytics in its core and, overall, aspire to be foundational rather than applied in both its core and electives.

Health and biomedical informatics programs must stay abreast of new developments in the field, including those in accreditation. They must assess their programs accordingly. Programs must clearly identify the roles for which they educate. They must evaluate whether a foundational or applied informatics education is appropriate for the chosen roles. The breadth and depth of curricular content follows. If the goal is to prepare healthcare IT professionals, the program needs to balance the management concepts in IT implementation and use with the technical aspects of IT. Rapid advances in technology and changing roles of healthcare IT managers and leaders require continual assessment.

Health and biomedical informatics is fundamentally interdisciplinary. While this presents challenges, in recent years, the field has only seen tremendous growth. Berner (2014) suggests soliciting expert opinions and conducting a task analysis of the requirements for the chosen roles as a feasible approach to competency development.

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Nursing’s Identity Crisis: A Study Describing Nurses’ Perceptions of Their Brand Image Compared with Perceptions Held by the American Public

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Background

Numerous articles have been written describing the disconnect between the perceived image of nursing and the unfavorable, inaccurate, stereotypical representations of nursing commonly fed by the media (Morris, 2007; Cabiniss, 2011; Kelly et al., 2011; Rezaie-Adaryani et al., 2012). A common theme in the literature describes the ongoing lack of a consistent brand identity for nursing. (Goodin, 2003; Zarea et al., 2009; Emeghebo, 2006; Cabiniss, 2011 and Rezaie-Adaryani et al., 2012). Media representations of nurses have typically included their role as subservient to physicians, angels of mercy, or sex objects (Cunningham, 1999; Mendez & Louis, 1991; Pierce, S., Grodal, K., Smith, L. S., Elia-Tybol, S., Miller, A. & Tallman, C., 2002; Ward, Styles and Bosco, 2003). Researchers have consistently called for the profession of nursing to pursue branding strategies that take charge of the nursing image (Pinkerton, 2002; Parish, 2004; Dominiak, 2004; Baldwin et al., 2010 and Cabiniss, 2011). With the exception of Godsey & Hayes (2015), no studies to date have been reported involving the use of valid instruments which identify, measure, and/or describe the current and most desired brand image for the profession of nursing.

Methods

This research study compared perceptions of the brand image of the nursing profession in a national sample of nursing faculty and alumni (n = 264) with those of the American public (n = 801). Participants in this study were administered surveys consisting of three scales developed by the authors to measure the brand image and brand position of the nursing profession (Godsey & Hayes, 2015). The “Nursing Brand Image Scale” (NBIS) consists of 42 words and phrases describing the nursing profession. It uniquely ranks, and then rates each of the descriptors for the nursing profession. Ten brand position statements were constructed from the most commonly selected descriptors identified by nurses on the NBIS (Godsey & Hayes, 2015). These brand position statements became the basis for two additional scales: Nursing’s Current Brand Position Scale (NCBPS) and Nursing’s Desired Brand Position Scale (NDBPS). Each of these scales comprised the same 10 basic brand position statements for the nursing profession, but contained different instructions. The NCBPS asked participants to rate their level of agreement with each statement as a current representation of nursing’s brand position. The NDBPS asked participants to rate their level of agreement with each statement as a possible representation of nursing’s most desired future brand position.

Results

Mean differences between how nurses perceive their profession were compared with perceptions of the American public. Nurses ranked their profession significantly higher than the public on the following descriptors: Advocates, Diverse Career Options, Holistic Approach, Collaborators/Facilitators, Teachers/Educators, Critical Thinkers, Communicators and Empathetic (p = 0.00). Public respondents ranked the nursing profession significantly higher than nurses on the following descriptors: Physician’s Assistant, White Cap/Uniform, Subservient, Task Oriented, and Nurturing/Mothering (p = 0.00). Low scoring descriptors ranked essentially the same by both groups included: Female, Researchers, Powerful Decision Makers, and Hard to Identify from Other Healthcare Workers. High scoring descriptors ranked similarly by both groups as descriptive of the nursing
profession included: Professional, Valued by Society/Healthcare, Talented and Influential.

One of the top branding statements most frequently selected by both nurses and the public as “applying to the nursing profession” involved the theme of caring (no significant difference in perceptions). Other brand position statements ranked high by both groups (but statistically higher by nurses) included patient centeredness (p = 0.00) and patient advocacy (p = 0.00). Interestingly, differences were noted when nurse participants were asked to select the “most desired brand position” for their profession. Nursing as a “caring profession” decreased significantly (p = 0.00) and dropped from the top five choices, while nurses as “leaders in education, research and practice” increased significantly (p = 0.00) to become one of the top five most preferred brand image statements. While ranking high as a desirable position among nurses, “leaders in education, research and practice” was among statements ranked lowest by the public (p = 0.00). When asked if nursing currently has a consistent brand image, 70% of nurses responded “no”, with the most common reason being “because nursing has not created one”. Interestingly, both groups believed “nurses themselves” are primarily responsible for managing their own professional brand image.

Conclusions

This study suggests that gaps exist on two levels regarding the brand image of the nursing profession. Incongruences were found between: 1) how nurses perceive their profession currently versus how they would like it to be perceived, and 2) how nurses perceive their profession versus how members of the general public perceive it. Public respondents ranked nurses significantly higher as Physician’s Assistants, Nurturing/Mothering, and Subservient. However, there was agreement between nurses and the public on some items. The descriptor “Caring” was one of the highest scoring items and “Powerful Decision Makers” was one of the lowest scoring items for both groups. However, when asked to select the most desired brand position, nurses replaced “Caring” with “Leaders in Education, Research and Practice”. This finding suggests that while nurses and the public do not presently view nurses as empowered decision makers, nurses would like their brand position to be one that broadly encompasses their role as influential leaders in the healthcare arena.

Implications for Nursing

Numbering more than 3.3 million, Registered Nurses make up the largest group of healthcare professionals in the nation. The authors contend that the large scale, strategic management of a profession’s brand identity is a primary responsibility of the major nursing professional associations at the national level, and not individual “nurses themselves”. This study provides further support that the nursing profession needs to manage its brand identity in a more deliberate and intentional manner. Ongoing research is recommended which further identifies and describes an accurate, consistent, positive brand position for a new generation of nursing leaders.
Improving Awareness of Energy Conservation for a Rocky Mountain City

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Abstract
University professors collaborated on an interdisciplinary project with students to improve awareness of a city-wide attempt to conserve energy. The project had a two-pronged strategy: To improve public awareness of city employee efforts to conserve energy; and to encourage the public to follow their lead and increase individual energy conservation practices. Primary research included a pre- and post-survey (n = 533) and focus groups (n = 40) to assess the effectiveness of the campaign. Utilizing the results of early research, students employed various marketing models and concepts to develop the appropriate targets and associated messages for an Integrated Marketing Communications (IMC) campaign. Final results revealed the campaign did increase public awareness to make small changes in their habits. However, it did not improve public awareness of the efforts being put forth by city employees to conserve energy.
Abstract
This study applied the Transtheoretical Model (TTM) to discover opportunities that support healthier eating behaviors among Latino farmworker families in south Florida. The investigation presents a case analysis of the steps the research team took to pinpoint directions for persuading Latino mothers to modify their family’s in-home eating behaviors, particularly during family meal times. A two-part multi-method study was conducted to identify strategic paths for promotions and messages that would support the target group’s progression through the stages of change. The application of the model not only illuminated the barriers that may stand in the way of attempts to move the target group’s behaviors toward healthy eating at home, but also encouraged the discovery of issues that may not have been realized at earlier stages of research.

The Trans-theoretical Model (TTM) of behavior change initially introduced by Prochaska and DiClemente (1982) proposes a model for intervention and communication engagement based on a target’s readiness for behavior change. Howarth, Nigg, Motl, Wong, and Disman (2010) note that “processes of change are strategies that individuals use in altering their experiences and environments to modify behavior” (p. 325). A hallmark of the theory is that change is a process-oriented effort that spans time, though not always in a linear way. It also offers an integrative perspective for understanding and providing interventions for intentional behavior change (Diclemente and Prochaska 1998). The original model includes five stages of change readiness -- pre-contemplation (lack of recognition or need for change), contemplation (recognition of or interest in change), preparation (change intention becomes defined, change motivation is heightened), action (initiative taken to integrate new habits into one's routine), and maintenance (new behavior is adopted into one's repertoire and active steps are taken to sustain habituation), each of which characterizes a weighting and commitment to the individual’s assessment of the costs and benefits (i.e., the decisional balance) associated with making change. Each stage of change is characterized by 3 principal concepts: self-efficacy in the ability to implement the new behavior; decisional balance, which refers to the pros and cons of making the behavior change; and processes of change facilitated through the cognitive and behavioral approaches applied to produce behavior change (Shriver, Hildebrand and Austin 2010).

Although the stages of change framework was originally proposed to understand smoking cessation (Pullen and Walker 2002), its application is demonstrated in cases that span a broad spectrum of fields, from medicine (Aggarwal, Liao, Allegrante, and Mosca 2010; Choi, Chung, and Park 2013) and public health (Gibbison and Johnson 2012; Mishali, Omer and Heymann 2011) to nutrition (Horwarth, et al 2010; Thomson and Ravia 2011). Researchers have used it to better understand of the nuances that distinguish an individual's decision balance at specific stages of the TTM process in the effort to tap into the model’s potential for identifying and refining intervention strategies that would support an individual's efforts toward change.
Moreover, TTM's utility in facilitating the development of customized strategies aimed at targets which represent unique segments of the population also is well documented within the contexts of race (Millard et al. 2011; Paschal, Lewis-Moss, Sly, and White 2010; Sbrocco, Osborn, Clark, Hsio, and Carter 2012), ethnicity (Ashida, Wilkinson, and Koehly 2012), and stage of life (Sealy and Farmer 2011; Pullen and Walker 2002), among others. The success of each exploration is a deeper reservoir of intervention strategies, communication campaign avenues, and programming opportunities that acknowledge the unique needs of the individual. However, the steps needed to translate scholarly research into actionable outcomes still proves challenging to change agents.

This study is informed by the rationale underlying the TTM framework to discover opportunities that support healthier eating behaviors among Latino farmworker families in south Florida. The investigation presents a case analysis of the steps the research team took to pinpoint directions for persuading Latino mothers to modify their family’s in-home eating behaviors, particularly during family meal times. The specific project objectives were to 1) encourage planning of healthy family meals at home, 2) encourage the purchase, preparation, and consumption of fruits and vegetables, 3) reinforce appropriate portion sizes, and 4) discourage cooking meals with solid fat, salt, and added sugar. Based on the objectives, five research questions were explored:

RQ1: What is the target group’s stage of readiness for change when considering adoption of healthful meal planning and preparation at home?

RQ2: What is Latino mothers’ knowledge about existing food and nutrition programs that influence the preferences of their school aged children?

RQ3: What beliefs about food consumption, nutrition, and healthy eating define their behavior?

RQ4: What are Latino mothers’ attitudes about health messages and programs aimed at families similar to theirs in the community?

RQ5: What information sources and resources do Latino mothers turn to for information?

The discussion begins with a brief context for examination and a description of the target group investigated so as to give the reader an appreciation for the situation dynamics. The key challenges that make the case unique are discussed, and the method used for data collection is presented. The investigation concludes with a discussion of the research findings and implications to social change agents for future planning among the group investigated.

Context for Exploration

Immokalee, Florida is a flourishing agricultural community of approximately 24,154 thousand people, according to the 2010 US Census. As Collier County’s largest non-coastal community, Immokalee supplies over 90% of all winter tomatoes produced in Florida and sold in the United States (Greenhouse 2014). Over 80% of the people residing in Immokalee are immigrants and over 75% of the population in Immokalee is Hispanic/Latino, compared with 26% in all of Collier County. Less than a third of the population has a high school degree or higher, and nearly 80% speak a language other than English at home. Median income in Immokalee is $19,865 with an average household size of four. Data by the American Community Survey (2012) indicate that 83.5% of the Immokalee population is comprised of immigrant communities from the countries of Mexico (58.5%), Puerto Rico (3.8%), Cuba (1.3%), Haiti, in addition to other Spanish-speaking countries. Forty-seven percent of Latino children in Immokalee, FL are either overweight or obese. This rate of obesity is attributed to eating behaviors that favor foods high in fat and sugar and less time outdoors being physically active. The local trend is consistent with national data trends that identify Latino youth born to U.S. immigrants to be twice as likely to be overweight than foreign-born youths who move to the states. Migration has been associated with obesity and an unhealthy diet for Hispanics and in addition, evidence exists to suggest that migration and the degree of acculturation are linked with a less healthy diet (Huffman, Vaccaro, Gundupalli,
were recruited through community advisory board references selected from Collier County. A convenience sample was recruited via references and availability from two community service programs for the focus group participation. Each focus group consisted of six participants, and each participant received a $25 gift card incentive at the end of the session.

A bilingual native Spanish speaker translated the instrument into Spanish; then two other bilingual Spanish-speaking research team reviewed the translated version for comprehension. The discussion guide included 10 questions that explored the aspirations, quality of life, and perspectives on health of Latino parents in Immokalee. Using techniques outlined by Morgan and Krueger (1998), questions targeted factors influencing decisions regarding nutrition and physical activity and investigated baseline beliefs, acculturation levels, and perceived susceptibilities, barriers, and benefits. The same questions were used across all three focus groups. A flexible conversation format allowed deeper examination of certain topics and further exploration of new issues introduced by respondents.

The facilitator used the focus group guide to present questions orally to the group in Spanish language. Responses took the form of casual conversation among focus group members. Discussions lasted approximately one hour per session and were audio-recorded.

After each focus group discussion, the facilitator guided the group through the survey and captured their responses electronically via TurningPoint ResponseCard keypads (“clickers”). Responses to focus group questions were transcribed from the audio recordings and summarized to identify themes that emerged during group discussions prompted by the interview protocol.

Transcripts were analyzed by a single coder (preliminary results) and then analyzed by a second coder to expand the interpretation of the findings.

**Qualitative Research Findings**

Responses to registration sign-up sheet items indicated focus group participants were largely Central American immigrants, predominantly from Mexico, between the ages of 18 and
The average length of time in Immokalee for all participants was 10.65 years. Two-thirds of household incomes were derived from agriculture, construction, and landscape maintenance. The themes that emerged from focus group discussions could be distilled into three emergent themes: 1) the value of education as a failsafe against the need to work in agriculture, 2) perceptions that there is not enough time for healthy routines, and 3) beliefs that doctors, clinics, and hospitals are the most trustworthy sources of health information.

When asked about the quality of life of participants’ families, their aspirations for their children, and the role of Immokalee on the quality of their lives, participants generally viewed their families’ lives as good based on their health, happiness, unity, tranquility, and freedom from hazards. Education was the aspiration participants most frequently cited for their children, particularly as a vehicle for social mobility and greater career options. *Estudien para que no tengan que trabajar en la agricultura*—Study so that you will not have to work in agriculture. 

Agricultural employment is viewed as grueling work that low-skilled or uneducated individuals must resort to and participants emphasized wanting more for their children than they themselves have. One participant summarized this well: “I have two children—I hope they become somebody, that they don’t remain like someone who didn’t make the effort, that they have the opportunity to move forward, that they don’t work like their father in the field, that they study, have a good living, good stability so that they don’t suffer in the future.” Nonetheless, participants in one focus group praised the consistent availability of agricultural employment opportunities in Immokalee.

When asked to describe the previous night’s meal, participants most frequently cited traditional foods including meat, beans, tortillas, and greens, all of which were largely prepared and ate at home. Lack of time and family preference for foods were dominant considerations motivating meal choice. Both determinants were perceived to constrain their ability to serve healthy meals. A barrier that contributed to the lack of time was the length of the workday. One participant explained that during the height of the agricultural season, 16-hour workdays are not uncommon for her and her husband:

“Already in two weeks I’ll begin working. We go in at 8 in the morning and leave at 12 or 1 in the morning. We return, bathe, sleep two or three hours, and I cook something quickly for my children and I leave again.”

Lack of awareness regarding healthful eating and the benefits of consuming fruits and vegetables did not seem to be an issue. Vitamins, minerals, fiber, and cholesterol reduction were all noted as benefits and many participants described healthy meals as including greens, with most citing low-fat cooking through broiling and baking as essential to their preparation. However, participants admitted dislike for food considered to be “healthy” was a barrier, and lack of time was reiterated as an obstacle to serving more fruits and vegetables and, hence, healthy meals.

When asked whether they were worried about obesity, participants expressed concern for either themselves or a relative who were or had been overweight or diabetic. Lack of awareness did not seem to be an issue. When asked what, in their opinion, they believed causes diabetes, over two-thirds of respondents cited obesity or overconsumption of some form (i.e. calories, sugar). One person said, “Because of poor nutrition, eating too much, eating too many sweets, flour, and items high in calories—that produces diabetes—and not have an active life.”

**Study 2: Quantitative Research**

Study 2 built on the findings from Study 1 with survey research that was intended to further ground the researchers’ understanding of the target group’s attitudes and behaviors about healthy eating. The second phase of research established a stronger link between the TTM theory and the interaction between respondent’s perceptions and their stage of change. Latina mothers.
who resided in the Immokalee area and who had primary school-aged children were recruited and interviewed for Study 2. Respondents were recruited from the pool graduates and enrollees of the local supplemental nutrition assistance program (SNAP), from identified clients served by local interagency consortium in the Immokalee area, and through a weekend family health event held on the weekend prior to the research study. Recruited individuals were told that the purpose of the survey was to ask mothers for their opinions about family food preferences and eating behaviors. There was no overlap with the sample from Study 1.

The survey instrument consisted of 56 question items categorized in four areas: 1) stage of readiness; 2) knowledge about existing food and nutrition programs that influence the preferences of their school aged children; 2) attitudes about health messages and programs aimed at mothers and families in their community, as well as their perceptions about the messages’ effectiveness; 3) beliefs about food consumption, nutrition, and healthy eating behavior; and 4) information sources and resources they use to learn more about healthy eating. Question items were measured on a five-point Likert scale from strongly agree to strongly disagree.

Two Spanish-speaking members from the research team facilitated the interview groups. Respondents were guided through the survey items in Spanish language, but could also address clarifying questions in English language. Responses were captured electronically in real time via TurningPoint ResponseCard keypads (“clickers”). A total of four one-hour sessions were completed. Respondents received a $25 gift card for their participation.

Quantitative Research Findings

The sample total was N = 19. The majority (n = 17) was aged 26 to 45 and the age range of interviewees was 18 (n=1) to 55 or older (n=1), with 95% (n =18) reporting to have lived in the Immokalee area for “6 years or more.” In response to the question that asked about country of origin (COO), 17 interviewees reported Mexico as their COO and two respondents reported their COO as Guatemala. Ninety-five percent (n= 18) indicated that they had participated in some educational program or community wellness/outreach program. Because of this exposure, they tended to be more engaged than average on issues related to health and wellness. They also expressed familiarity with and/or interest in programs that enriched their knowledge in this area.

Although the small sample size did not permit the application of sophisticated statistical analyses, the findings did reveal clues and potential directions related to the issues and concerns that characterize the target profile examined. Items were analyzed and opportunities were identified based on three criteria: 1) unexpected, but strong coalescence in attitudes among the sample and 2) notable divergence in attitudes among the sample. Coalescence occurred when sample responses amassed in a direction that suggested attitudes in favor or against an expressed belief. A majority of the responses to a single belief statement reinforced what might be expected. For the purpose of this study, expected coalescence was analyzed according to the following rules:

1. Favorable coalescence occurred when a minimum of 50% (n= 9) of the responses fall into “strongly agree/agree” and no more than 20% (n=3) responded with “strongly disagree/disagree.”

2. Unfavorable coalescence occurred when a minimum of 50% (n= 8 or 9) of the responses fall into “strongly disagree/disagree” and no more than 20% (n=3) responded with “strongly agree/agree.”

3. Divergence occurred either when a) more than one-third of the sample responds on the opposing pole of the majority opinion, whether SA/A or SD/D, or b) when attitudes are distributed in such a way that no clear conclusion can be discerned.

Two questions were asked to gauge where respondents were on the stages of change (SOC) on the health and nutrition continuum. In general, the sample could be considered more...
sophisticated in their attitudes toward health and nutrition, as well as more involved in monitoring their daily children’s food consumption and physical activity. The questions asked respondents about their efforts to 1) help their child(-ren) get one hour of physical activity every day and 2) feed their child(-ren) five servings of fruits and vegetables every day. The results found that 79% (n=16) of respondents reported being in either the action or maintenance stages in encouraging physical activity for their children, and 68% (n = 13) reported being in the maintenance stage when it came to feeding their children the appropriate servings of fruits and vegetables daily. On the feeding metric, respondents were shown a plate with fruit and vegetable food models in appropriate portion sizes that satisfy the recommended servings for children. It is worth noting that 26% of the respondents (n=6) answer in a way that suggested they are at the contemplation and/or preparation stages on this question item after the demonstration. Beyond the SOC items, the sample’s response to items that addressed their adoption of nutrition and health recommendations and their interest in improving their knowledge about how to make healthier food choices also suggest that they are past the early stage of change pre-contemplation and into the more advance stages of contemplation, action, and preparation. Generally, the sample of mothers represented confidence in her ability to make food and nutrition decisions for their family. Forty-one percent (n = 8) of the respondents believed “[her] family is better than average when it came to eating healthy meals at home” and 95% (Q36, n = 18) are committed to teaching their kids how to make healthy food choices for themselves. A majority (Q34 =74%, n =14) of moms believed that their children made healthier food choices because of what they [the mom’s] have told them. At the same time mom’s expressed concerns about their kids’ willingness or ability to follow through with such advice when they are at school (Q35. “I am concerned that my kids may not make health food choices…at school” = 74% SA/A). Although many (79%, n = 15) respondents reported reading school handouts about nutrition and healthy eating and are aware of their children’s school menu (Q10 = 58%, n=11), a concerning portion of respondents may not be as informed about what kids are eating when they are away from home (Q10= 42% NA/D or D). The results also identified a tension between the mother’s desire to plan and prepare healthy meals at home and the costs associated with implementing healthy meals on a daily basis. Mothers responded in agreement to statements that measured if they feel guilty that their kids did not get enough healthy foods (79%, n=15). This guilt extended to the types of foods kids were served, including occasional fast food meals (47%, n=9). Yet, regardless of the guilt associated with the eating choices some moms made for the well-being of their kids, the sample did not believe nutrition and healthy eating was more important for kids than adults (48% SD/D + 28% NA/D). This outcome could imply that these mothers believe healthy eating was as important for themselves and their partners. In contrast, it could suggest a lack of focus on the importance of healthy eating to healthy growth development in their children. Since respondents were not probed on this feedback, the outcome is a finding that may require further exploration in future research. The sample’s responses were divided in terms of the stress they feel about preparing healthy meals every day for their kids. Forty-two percent (n=7) disagreed on with the idea, in contrast to the 37% (n=7) that either agreed (SA+A) or were 21% (n = 4) non-committal (NA/D) responses. The outcome of this item seemed related to other items that examined healthy eating in terms of benefits (i.e., eating as a family, the role of meal preparer makes her happy, and pride in passing food traditions to children) and costs to the mom. Responses to other survey items that appear to coincide with the reasons some moms associate stress with healthy meal preparation include 1) the planning moms put into shopping for healthy foods (79% SA/A), 2) the perceived
time it takes to prepare healthy meals (37% SA/A), and 3) the perceived money it takes to prepare healthy meals (37% SA/A). Of the most compelling reasons moms revealed for meal preparation stress for kids is that the children may not like what the mom has cooked, thus putting mom in a situation to make a second meal that may have more appeal to their kids (Q16 = 42% SA/A) or buying fast food to ensure children are fed (Q17 = 21%, n=4).

Overall, the sample responded positively to the ease and utility of community resources in helping them find, get information about, and shop for healthy foods. In terms of where moms accessed information about healthy eating, the Internet led (Q48= 90%), followed by their health care professional (i.e., doctor or pediatrician = 84%), local organizations (74%), and media. Slightly more than half of the sample also admitted to paying more attention to what celebrities say on issues about eating and cooking nutritiously than local sources (Q54= 53% SA/A, n=10).

Research Summary
The findings suggest that the target audience of moms generally is confident in their roles as gatekeeper to healthy eating in the home. Their stage of change in terms of the salience of healthy eating and nutrition seems more advanced than average, which is to be expected given that all of those recruited had participated in some social service program that educated them on such issue. They not only understood the importance of healthy eating at home, but also are willing to take the actions necessary to gain access to information and resources that would facilitate their responsibilities in this role. Yet even as "educated" moms on healthy eating, they held misperceptions about the importance of nutrition and healthy food for children relative to adults and were perhaps not in tune with their children's food choices at school. The opportunity to tweak and refine the current foundation of knowledge provides a chance to shape and re-shape the discussion directed to moms in unique and engaging ways.

The emotions of stress and guilt attributed to negotiating the tension between mom's need to feed the children healthy foods and children's preferences for quick-serve, fast food was clearly identified as an obstacle to healthy eating in the home. This discovery of affective considerations and the need for clearly outlined solutions to this dilemma is a space that localized resources may not be adequately addressing. Lastly, the Internet and the family physician were found to be two highly referenced resources that moms turn to for information.

Conclusions
This case study examined the utility of TTM and the stages of change model as an organizing framework investigating opportunities to better understand the knowledge and attitudes driving Latino mothers in their role as gatekeeper to healthy eating for the rest of their family, particularly for their young children. The application of the model not only illuminated the barriers that may stand in the way of attempts to move the target group’s behaviors toward healthy eating at home, but also encouraged the discovery of issues that may not have been realized at earlier stages of research. In this case, issues associated with differences in culture, ethnicity, socio-economic constraints, and immigrant status seemed obvious avenues for inspection to determine if any one or combination of variables would dominate the shaping of communications that would support the progression from contemplation to maintenance. As it turned out, those variables were secondary to other issues associated with time, stress and guilt mothers felt in attempting to balance daily life demands with their role as healthy eating gatekeeper. This finding redefined the research team’s focus when recommending appropriate and actionable strategies to encourage the change needed. Based on the research, strategies can be more clearly operationalized, primarily through focused communication campaigns that meet the mother at her affective stage of readiness with the goal of moving her toward greater confidence in the ability to ensure her family eats healthfully at home without the stress and guilt she associates with the behavior.

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Political Representation and Human Health
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Abstract
Countries display tremendous variation in human health outcomes such as infant and child mortality. What accounts for this global variation? This paper argues that the extent of political representation can explain existing disparities between countries where a more representative system enhances human health for two reasons. First, a higher degree of representation connotes the prevalence of a more inclusive political system as it enables multiple swaths of society to convey their needs and preferences to the decision-makers. Thus, a more representative society ensures that interests of multiple groups within society are incorporated in the policy-making process and policies formulated in such a society are better able to encompass the interests of the masses. A less representative system, on the other hand, is not as inclusive in nature and may only represent the interests of select groups within society. Second, a more representative system also signals the presence of a more competitive system, which provides incentives for all representatives to perform better to remain in office. Lower levels of representation may lead to a less competitive system, where incumbents do not have strong challengers to replace them from office, resulting in poor performance of political representatives. The theory is tested on a global sample of countries from 1960 to 2013. The findings confirm the beneficial effects of a more representative society.

Introduction
The concept of representation can be traced to Thomas Hobbes who proposed the idea of a representative sovereign. However, Hobbes’ sovereign was unconstrained where once the people chose the sovereign as their representative, they could not take away the sovereign’s authority. The meaning of representation since has evolved over the years. While pre-democratic societies of Britain and France practiced limited representation, modern democracy has now come to adopt a more inclusive conception of representation. James Stuart Mill in 1820 referred to representation as “the grand discovery of modern times.” At the core of the idea of representation is the inherent desire of people to have a say in the decision-making process. The very basis of demand for democracy historically was partly motivated by the lack of representation. For instance, the prominent revolutions, such as in Britain in the 17th century, the American and French revolutions in the 18th century, and the more recent struggles for independence among African and Asian countries were primarily influenced by the desire of the masses to influence governance. Nobel-winning economist Sir Arthur Lewis (1965, 64-65) points out that democracy means, “all who are affected by a decision should have the chance to participate in making that decision either directly or through chosen representatives.” Indeed democratic citizens have the opportunity to influence governance and have a say in decision-making through direct democracy or representative democracy. The primary advantage of direct democracy is that it enables people to directly participate in the governance process such as in Athenian democracy. It is prevalent to a limited extent even today in several countries and some of these practices have been in place for a long time. For instance, several US states adopted mechanisms of direct democracy such as ballot initiatives and referendums between 1898 and 1918 (Cronin 1989). Some of the Canadian provinces instituted direct legislative reforms in the second half of the 20th century (Laycock 1990). Japan held its first referendum in a small town in 1996 (Pollack 1996). However, a drawback of direct

4 The literature presents different conceptions of representation. For instance, see Pitkin (1967) for differences between descriptive, symbolic, formal, and substantive representation. This paper, however, primarily

Representative democracy provides a viable alternative to offset the drawbacks associated with direct democracy. The French writer, De Tracy (1811, 19) notes, “Representative democracy…is democracy rendered practicable for a long time and over a great extent of territory.” Representative democracy enables people to influence governance through their chosen representatives and has the advantage of allowing people to select representatives who have the expertise, knowledge, and ability to propose policies that are in the larger interest of the masses (Brennan and Hamlin 1999). Political representation is one of the essential democratic attributes and is also prevalent among non-democratic regimes in varying degrees. Some non-democracies hold elections and permit limited representation while others do not. The global variation in political representation is of significance as it has important consequences for citizens worldwide.

This paper sheds light on the role of political representation and provides a theoretical explanation that links political representation to human well-being outcomes among democratic as well as non-democratic countries. I argue that a more representative system enhances human well-being for two reasons. A higher degree of representation connotes the prevalence of a more inclusive political system as it enables multiple swaths of society to convey their needs and preferences to the decision-makers. Thus, a more representative society ensures that interests of multiple groups within society are incorporated in the policy-making process and policies formulated in such a society are better able to encompass the interests of the masses. A less representative system, on the other hand, is not as inclusive in nature and may only represent the interests of select groups within society. Second, a more representative system also signals the presence of a more competitive system, which provides incentives for all representatives to perform better to remain in office. Lower levels of representation may lead to a less competitive system, where incumbents do not have strong challengers to replace them from office, resulting in poor performance of political representatives.

Political Parties as Representational Actors

Political parties perform several functions in a polity such as facilitating representation, structuring political competition, formulating public policies, serving as critics of government, recruitment and socialization of elites, and mobilizing voters, to name a few (Merriam 1923; Norris 2004). The variety of functions performed by parties is indicative of the important role that they have come to play today. Parties play an important representational role as they serve as important intermediaries between citizens and the government. They ensure that preferences and needs of citizens are relayed to those in office who are involved in the policy-making process. In the absence of parties, government officials will find it difficult to identify what the needs and preferences of the masses are and to formulate policies that are beneficial for their supporters. The nature of policies adopted by parties has ramifications for citizens. Parties are expected to take into account the preferences of their supporters when policy alternatives are being explored and decided upon. Since parties represent different interests within society, they are familiar with the needs of their supporters and have electoral incentives to deliver on their promises. Apart from their representational role, other functions performed by parties discussed below ensure that a representative society performs effectively. First, political parties provide structure to politics, by facilitating decision-making among representatives collectively as well as by simplifying the political world for voters. In the absence of parties, each individual representative would have an incentive to pursue his/her preferred policy outcome, thereby complicating the decision-making process and making it difficult for elected officials to make policies that are in the public interest (Brennan and Hamlin 1999). Moreover, there are practical limitations to direct democracy in a large sized polity because of the costs involved, both in terms of time and resources.


7 Indeed there are a few countries that are representative but do not have political parties, such as small Pacific islands of Kiribati, Marshall Islands, Micronesia, Nauru, Palau, and Tuvalu (Anckar and Anckar 2000). This paper, however, primarily focuses on the representational role played by political parties.
officials to reach any kind of consensus. Parties simplify the decision-making process by coordinating actions of their members. This ensures that elected officials are able to work with one another in formulating policies that benefit their supporters. Additionally, they also provide an informational shortcut (Downs 1957; Fiorina 1980) to voters. Voters may not have the time or inclination to learn about different policies and their consequences. But the presence of parties enables voters to identify themselves with parties, thereby enabling voters to adopt policy positions similar to that of their parties. Moreover, parties also play an educational role by informing the masses of pertinent issues that affect them. Citizens may not have an understanding of which policies are in the public interest and how different policies affect them at an individual level. Parties can educate the masses about the policy alternatives so that they can weigh in on issues of significance.

Second, parties, especially in the opposition, also serve as critics of elected officials in office. Citizens may find it difficult to observe if their representatives are performing in the general interest of the masses at all times. Since parties are primarily interested in coming to office, they have an incentive to closely watch the performance of their oppositions and keep citizens informed about how their elected representatives are performing in office. This enhances accountability of elected officials. Third, parties help in recruitment and socialization of those who desire to run for office. It is difficult for individuals to get elected to office on their own. Parties have access to resources and organizational strength to run campaigns effectively. Being associated with a party increases the likelihood of getting elected and acquiring a prominent position of authority. As Gallagher, Laver, and Mair (2006, 308) note “gaining access to political power requires being accepted by a party, and usually being a leading figure in it. Parties also socialize the political elite; most government ministers have spent a number of years as party members, working with other party members and learning to see the political world from the party’s perspective.” Given the electoral incentives, parties will recruit and socialize individuals who will be able to ensure the party’s success by pleasing their constituents.

Lastly, parties also mobilize the masses by encouraging them to participate in elections (Uhlman 1989; Morton 1991). Voting may be costly for citizens in terms of time spent in gathering information about who to vote for as well as the act of voting, among other costs (Downs 1957). Moreover, the probability that an individual voter can influence the outcome of elections is extremely small (Aldrich 1993), thus providing a disincentive for voters to actually vote during elections. Parties encourage voters to participate by emphasizing the significance of voting and often times provide assistance to voters to reduce their costs associated with voting such as providing information to voters about policy platforms of different parties. Thus, parties perform several functions that can enhance the performance of a representative society. Indeed while most of these arguments may seem to apply to democracies since majority of democracies have political parties, it is important to note that semi-democracies and non-democracies also exhibit varying levels of political representation by permitting political parties to participate in the governance process either to a limited degree or alternatively denying parties the opportunity to represent the populace in any way.

**Political Representation and Human Well-Being**

Given that parties play an important representational role, they can capture the variation in political representation globally. Countries where multiple parties are allowed to exist and compete in elections are associated with better human well-being outcomes for two primary reasons. First, they are more inclusive in nature, which enables multiple-issue dimensions within society to be heard in the policy-making process. Second, they signal the presence of more competitors within the political system, which provides an incentive for all political parties to perform better in order to ensure their political survival. Both these mechanisms enhance human well-being and each of these is elaborated upon below.

The first theoretical explanation focuses on the inclusiveness of a more representative society. The significance of an inclusive political system has been highlighted in Lijphart’s (1999, 2012) consensual model and Gerring, Thacker, and Moreno’s (2005) centripetal model of democratic politics. Lijphart distinguishes between consensual and majoritarian models where the former seeks to incorporate more than the majority in the decision-making process while the latter focuses primarily on the majority. He argues in favor of the consensual model as it is more inclusive in nature by giving voice to diverse interests within society.\(^8\) Similarly, Gerring,\(^8\) Lijphart’s (1999, 2012) consensual model comprises multiparty coalitions, balance of power between the
Thacker, and Moreno (2005) differentiate between centripetalism and decentralism and inclusiveness is emphasized in both models.⁹ Regardless of the differences between the two institutional alternatives, both studies emphasize an inclusive society in order to ensure that decision-makers take into account the interests of multiple groups within society.

Presence of multiple parties is one way of enhancing the inclusiveness of a political system. Such societies provide channels through which diverse societal interests can be represented by giving different groups a platform through which their voices can be heard in the policy-making process. Presence of multiple parties also entails an informational advantage as it is better to convey the necessary information to the key decision makers, ensuring that needs of diverse groups are taken into account during policy-making so that subsequent policies benefit as many people as possible. Policies formulated in such a system are a function of input from multiple parties, thereby enabling greater cooperation, negotiation, and compromise among the parties. This provides a safeguard against adoption of policies that may be detrimental to the interests of some and furthermore results in policies that do not overlook or neglect the interests of groups due to lack of information. Several practitioners of democratic politics have echoed the advantages of a well-represented society. For instance, John Adams stated that a representative legislature “should be an exact portrait, in miniature, of the people at large, as it should think, feel, reason and act like them.”¹⁰ Along the same vein, James Wilson mentioned that as “the portrait is excellent in proportion to its being a good likeness,” so “the legislature ought to be the most exact transcript of the whole society,” “the faithful echo of the voices of the people.”¹¹

The advantage of a well-represented society can be illustrated from the presence of a large welfare state in Sweden. Sweden has a multiparty system and has one of the lowest levels of infant mortality in the world with an infant mortality rate of 2.4 in 2013. The Social Democratic party can be credited with many of the welfare policies initiated in the country as they came to power in 1932 and remained in power for the next 44 years. Sweden has since witnessed alterations in power between the party and its leftist coalition allies and the center-right coalition. The prevalence of multiple parties has resulted in a welfare state that incorporates the needs of multiple segments of society. Sweden’s welfare state includes several social services and programs geared toward families and women as well the masses to ensure equality within the country (Olsen 2007). For instance, allowances are given to families with children, the country has initiated programs for mothers through subsidies, parental and paternity leaves are available that extend benefits to both parents, adequate childcare support is also provided by the government, and provision of universal sickness insurance as well as health care services that are either free or available to the people at affordable prices. These policies benefit the populace at large and are difficult to dismantle today given the vast support for the policies among the people.

A multiparty system in Sweden enabled the Social Democrats to initiate policies that helped several groups within the country and provided incentives for all parties to cooperate with one another in creating the welfare state. As Lundberg and Amark (2001, 176) state, “The Social Democratic Party played a major role in the shaping of the modern Swedish welfare state. At the same time, the Social Democrats were acting within a political system, which promoted negotiations with other political parties and interest organizations, compromises and even consensus

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⁹ Centripetalism is primarily associated with a unitary, parliamentary, and a list-PR electoral system, among other institutions. Decentralism is associated with a federal, presidential, and a single-member district or preferential voting system, among other institutional alternatives. Centripetal systems are similar to consensual systems in that both emphasize an inclusive political system. However, in contrast to consensual systems, centripetal systems emphasize centralized authority while consensual systems emphasize decentralized authority. More specifically, one key difference between the consensual and the centripetal model is that while the former emphasizes federal systems, centripetal models emphasize unitary systems. See Gerring, Thacker, and Moreno (2005) for a detailed overview of the centripetal model.


around the major social political reforms. There were many actors behind the creation of the welfare state.”
Yet another anecdotal evidence comes from the state of Kerala, in India, which also helps illustrate the benefits of a well-represented society. Human well-being in the state of Kerala is higher than the rest of the country (Veron 2001; Kenny 2005) with an infant mortality rate of 13 deaths per thousand live births in 2010, comparable to most developed countries in the world. One of the reasons for citizens’ well-being in Kerala can be attributed to the government that has provided broad-based services to the people (World Bank 2004). The state of Kerala is a multiparty state that has enabled multiple parties to influence policy-making. For instance, the inclusion of the Muslim League political party in governmental coalitions between 1960-79 led to a greater diversion of resources toward education since Muslims were lagging behind in education as compared to the other communities in the state (Chiriyankandath 1997). Not only did this benefit the Muslim community specifically but also led to a considerable increase in overall levels of literacy in the state. Better political representation in Kerala provided an opportunity for the Muslim League to influence policy-making by bringing attention to the welfare needs of their supporters and facilitated cooperation among political parties to address the needs of a minority community. Alternatively, a country where fewer or no political parties are allowed to exist for representational purposes are not as inclusive in nature as these countries can only represent the interests of certain groups within society. Moreover, existing representatives in such systems may not have the information necessary to incorporate the needs of diverse groups in the policy-making process. In a non-democratic system, limited levels or a complete lack of political representation will make it unlikely for governing officials to implement policies that take into account the needs, preferences, and interests of the majority. In a society with representative political parties, on the other hand, parties represent a variety of groups and are therefore able to advocate the interests of these diverse groups. Moreover, a country with relatively less representation may encounter greater principal-agent problems. In the principal-agent framework of delegation, voters serve as the principals while elected representatives serve as the agents where the agents are answerable to their principals in a democracy (Strö̈m, Müller, and Bergman 2003). In the context of the argument made in this paper, parties perform the role of agents. While the voters or principals are numerous, the agents or the political parties are far fewer in number in a representative system. Parties are expected to be responsive to the needs, demands, and interests of their principals in order to retain their position in office. This is a challenging task given that preferences of individual voters may vary drastically such that elected officials from parties may not be able to satisfy a diverse group of principals. The problem is amplified in a society with fewer parties as existing parties may not be acquainted with the diverse needs of the populace and will not be able to incorporate diverse preferences in policy-making. In a non-democracy, incentives to do so may be absent altogether where the interests of the masses are less likely to be heard by the rulers because the masses have little or no say in the governance of the state. Societies with more parties are able to reduce principal-agent problems to an extent, as political parties can represent the interest of diverse groups within society.

The second theoretical explanation focuses on the consequences of having additional competitors in a more representative society. The significance of a competitive environment has been stressed in Dahl’s (1971) polyarchy. Dahl emphasizes that citizens need to have the opportunity to formulate and signify their preferences and ensure that these preferences influence governance. To this end, he emphasizes two democratic attributes: contestation and inclusion where contestation relates to the extent of political competition among groups while inclusiveness refers to citizens’ participation in the democratic process. Higher levels of contestation and inclusion bring the society closer to a polyarchic polity where citizens are in a better position to influence decision-making. This paper draws on Dahl’s notion of contestation by arguing that presence of multiple groups permits competition among various political parties. This has a two-fold effect on the performance of individuals/parties seeking positions of authority assuming

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12 Infant mortality data the Kerala are available from the Sample Registration Systems published by the Census of India (various years). The average infant mortality among OECD countries in the developed world between 1960 to 2013 is 12 (WDI 2015).

13 See Dahl (1971) for specific institutional guarantees that provide these opportunities to the citizens.

14 While inclusiveness in Dahl’s model refers to extent of citizens’ participation, inclusiveness in this paper refers to the inclusiveness of the political system more generally.
that political survival in office is one of the primary motivations of political officials (Bueno de Mesquita et al. 2003). Presence of additional parties provide incentives for political officials to ensure that their supporters are satisfied with their representatives and it motivates them to make broader appeals to the populace by proposing policies that advance the general well-being of the masses.

Parties operating in a more representative system have to keep their constituents happy if they want to stay in office. Several scholars emphasize this notion of democratic accountability (Dahl 1971; Schmitter and Karl 1991) where voters can penalize poor performance during elections and thereby ensure responsive behavior by elected officials. Presence of competitors provides additional incentives for all parties to ensure that their supporters are satisfied. In a competitive environment where alternative parties are vying for support of the electorate and constantly trying to increase their support-base, all elected officials are motivated to work harder to keep their constituents happy. Non-performance or poor performance in office may easily result in supporters abstaining from voting or looking at other parties who could possibly perform as better representatives. Both these outcomes will be detrimental to the electoral success of poor performing parties. In a non-democracy with limited levels of representation where there are few if any political parties, this relative lack of competition presents few incentives for rulers to perform well in office by catering to the needs of the masses.

Additionally, presence of a competitive environment also motivates all parties to make broader appeals to the populace by proposing policies that advance the general well-being of masses. In order to bolster their position in office and to expand their support-base, parties are more likely to reach out to multiple segments of the population. While pursuing policies that primarily advance the welfare of their constituents may secure their position in power temporarily, the presence of additional competitors will always pose a threat lest other parties wean away their supporters. Particularistic policies may only benefit certain segments of the society and in an environment where there are multiple parties who seek office, proposing policies that only benefit select groups within society may endanger the long-term political prospects of parties who make narrow appeals to the voters. Parties thereby need to appeal to as many groups as possible not only to hold on to their position in office but to enlarge their support base as well. In a non-democratic system once again the absence of any real competition presents no motivations for rulers to pursue policies that enhance well-being of larger swaths of society.

The incentive to make broader appeals to the masses in a competitive environment can be illustrated with the 2014 Indian parliamentary elections. The Indian National Congress (INC) dominated India for almost four decades since independence in 1947. Gradually several other political parties emerged on the political landscape, national parties such as the BJP (Bhartiya Janata Party) and other regional parties that have had considerable success in different regions of the country and have allied with either the INC or the BJP at the center to form a coalition government. Today, India can be characterized as a multiparty system.

In the 2014 elections the BJP-led NDA coalition (National Democratic Alliance) overwhelmingly defeated the INC-led UPA coalition (United Progressive Alliance) that had been in power since 2004. Both coalitions have made an attempt to appeal to the masses by proposing inclusive policies. The UPA government initiated several welfare policies to help the poor such as the National Food Security Act, a direct cash transfer program, among others (Saikia 2014). However, inefficient administration of these programs and the government’s involvement in a number of corruption scandals led to its removal from office in 2014 (Chhibber and Verma 2014).

The BJP ran a campaign by emphasizing issues such as economic performance, infrastructural development, and better administration devoid of corruption that resonated well with the masses (Palshikar and Suri 2014; Sridharan 2014). Even though the BJP has been known for its Hindu nationalist ideology with its traditional support-base coming from urban areas, the middle-class, and the upper-caste, the party was able to make inroads and garner the support of Other Backward Classes (OBCs), scheduled castes and scheduled tribes by drawing attention to issues that appealed to the society as a whole (Chhibber and Verma 2014; Palshikar and Suri 2014; Sridharan 2014). These two latter groups traditionally have supported the INC especially in the north, west, and the central states but poor economic performance, corruption, and unemployment seemed to be important reasons for the rejection of the Congress-led UPA coalition government. Whether the BJP is able to deliver on its promises remains to be seen. However, this narrative on India reveals the incentives parties have to make broader appeals to the masses in a competitive environment.
Presence of multiple parties has often been associated with drawbacks as well. Lawrence Lowell (1896) expressed skepticism about too many parties in the cabinet creating instability. Such systems may provide too much voice to smaller or extremist parties in the legislature that adopt unaccommodating or uncompromising positions to get their preferred policy outcome. This sentiment is echoed by Beer (1998, 25) who states that a “representative government must not only represent, it must also govern.” Indeed it is plausible that too many political parties could hamper the decision-making process in the legislature where individual parties may take an intransigent stand, making it difficult and cumbersome to reach consensus about policies and obstruct prompt decision-making. Indeed at conflict are two competing objectives: better representation versus efficient and prompt decision-making.

I argue that the representational advantages outweigh the potential adverse consequences of too much representation because the electorate can replace poor-performing incumbents who fail to satisfy the needs of their supporters in a democracy. Democracies have transparency where a rigid posture that proves to be a hindrance to policy-making and hurts the general well-being of the masses will be brought to the attention of the voters. Presence of multiple parties in the legislature makes it more likely that parties watch each other and keep the electorate informed about an uncooperative stance adopted by other parties. Therefore, parties have to work with one another if they want to keep their constituents happy. In a non-democracy, on the other hand, the presence of a single party or the lack of any political party may facilitate prompt decision-making but it comes at the expense of ensuring that diverse interests are taken into account during policy-making and the lack of any real political competition also takes away any incentives for existing parties or leaders to perform well in office from fear of losing power.

Drawing on the veto-player theory (Tsebelis 1995, 1999, 2002), other reservations are associated with the presence of multiple actors or groups as well. Presence of multiple parties increases the number of veto players or actors whose consensus is required to change policies. This may increase policy stability and make it difficult to change the status-quo or existing policies. Indeed in such a system, it may take longer for parties to reach a decision. However, quick decision-making may not always equal good policies. In fact, policies that incorporate the well-being of masses may need contemplation and negotiation among parties to ensure that policies are inclusive, effective, and do not inadvertently adversely affect the interests of other groups within society. Overall, this discussion leads to the primary hypothesis: \( H_1 \): Countries with higher levels of political representation are associated with higher levels of human well-being.

**Case Narrative: Brazil**

A narrative on Brazil helps probe the theoretical reasoning presented in the paper. This study illustrates the significance of an inclusive and a competitive society in a multiparty environment that has enhanced societal well-being in the country. Brazil has experienced uninterrupted democratic rule since the late 1980’s when the country transitioned to democracy from a military rule and has been characterized with a multiparty system since the 1990 election. The two main competitors since this election have been the center-left PSDB (Party of Brazilian Social Democracy) and the leftist PT (Worker’s Party) along with several other political parties in the country. The PSDB controlled the Presidency under Fernando Henrique Cardoso as well as the legislature through a coalition of parties from 1994 until 2002 when the Worker’s Party (PT) captured the Presidency under Luiz Inacio Lula da Silva and the party has controlled the legislature ever since through a coalition of parties.

Even though PSDB was a center-left party, it moved toward the right in the 1990s forming a coalition with rightist parties such as the PLF (Liberal Front Party), the Liberal Party (PL), and the Brazilian Progressive Party (PPB) and initiated market reforms (Power 2001/2002). In spite of PSDB’s coalition with right of center parties, it initiated programs to benefit the masses such as raising the minimum wage and the Conditional Cash Transfer (CCT) programs (Hall 2006). However, choosing to align with rightist parties created a vacuum in the center-left, which was filled by the Worker’s party subsequently (Power 1998). The Worker’s Party had to appeal to people who had been voting for the conservative parties (small towns, rural areas and northeast, north, center-west, least educated, poorest, elderly, women).

Promising change by rejecting patronage politics and elitism, the Worker’s Party came to power in 2002 (Hunter and Power 2007) and initiated several programs that had mass appeal and benefitted multiple segments of society (Anderson 2011). Scholarship programs were initiated that increased enrollments in universities. One of its most prominent programs “Bolsa Familia” (family grant program) gave cash incentives to poor families for ensuring
that their children attend school and receive medical care and anybody could have access to these benefits, supporters and non-supporters of the party. Additionally, increasing the minimum wage and introducing programs such as crédito consignado, where bank loans for household purchases were given to those who had never held a bank account and repayments were deducted from wages or pensions. All these programs facilitated greater consumption, thereby expanding the domestic market and creating more jobs. The party helped the poorer segments of the population whose concerns had been inadequately addressed under the PSDB coalition. Thus, representational benefits of having multiple parties in Brazil ensured that even with the PSDB drift toward PLF (a rightist party), concerns of the masses were still taken into account by the Worker’s Party.

A multiparty system also provides incentives for parties to work closely with each other, thereby emphasizing negotiation, compromise, and coordination among political parties. The two major parties in Brazil, the PT and PSDB realized the significance of doing so as demonstrated by the trend set by Cardoso of PSDB aligning itself with the conservative PLF and the clientelistic PTB (Brazilian Labor Party). Similarly, the PT has been open to the idea of forming alliances with parties that are further away from it ideologically (Power 2010). This has made it relatively easier for parties to make progress in policy-making.

A multiparty system signals the presence of a competitive environment as well that ensures parties perform well in office to please their supporters and propose broader policies to maintain their position in office. Incentives to make broader appeals have been evident in both major parties, the PSDB and PT, as both supported the other in arenas of social policy that benefitted several groups within society (Power 2010). For instance, Cardoso and Lula were both supportive of wage hikes and the Conditional Cash Transfer (CCT) programs. Cardoso implemented a conditional cash program contingent on school attendance (Bolsa Escola) at the federal level in the 1990s after its success in some of the provinces. When Lula came to office in 2002, he merged Bolsa Escola with other CCTs to create Bolsa Familia (Hall 2006). In fact, in the 2006 Presidential elections, the PSDB candidate, Geraldo Alckmin, promised to further expand the Bolsa Familia program that was initiated by PT under Lula (Hunter and Power 2007). Incentives to make broader appeals in a competitive environment by parties in Brazil have benefitted the masses at large. As Power (2010, 229) notes, “Virtually no political actor in Brazil opposes the social policies of the Lula government, which built on and expanded initiatives of the Cardoso period, which themselves were heavily influenced by innovations by PT at the subnational level. The result is a social safety net that provides a guaranteed income to more than 12 million families, covering nearly a quarter of the national population.”

Overall, the study on Brazil demonstrates the benefits of a well-represented society by illustrating the consequences of an inclusive and a competitive system. Inclusiveness ensured that interests of multiple segments of society were taken into account during policy-making while competitiveness propelled parties to perform well in office and make broader appeals to the masses to bolster their position of authority. The relationship between political representation and human well-being is now subjected to an empirical analysis to identify general patterns in a global sample of countries.

**Empirical Analyses**

The primary dependent variable is human well-being, measured by infant and child mortality. Infant mortality refers to the number of deaths of infants (of one year or less) per 1000 live births. Child mortality refers to the number of deaths per 1000 inhabitants of children under-5 years of age. I use log values of both variables to normalize their distribution, given that both variables are skewed. The data for the dependent variables come from World Development Indicators (2015). Lower levels of infant and child mortality indicate higher levels of human well-being. The primary independent variable is political representation measured by the variable ‘parcomp’ or Political Competition from the PolityIV dataset (Marshall, Gurr, and Jaggers 2014). The variable ranges from 0 to 5 where higher values refer to higher degrees of political representation (0 refers to lack of competition, 1 refers to repression, 2 refers to suppression, 3 refers to factional, 4 refers to transitional, and 5 refers to competitiveness or multiparty competition). The advantage of using this variable to measure political representation is that it provides a measure of representation for democracies as well as non-democracies. Once again, it is important to note that even though democracies are more representative in nature than non-democracies, non-democratic regimes may also display varying levels of representation. Thus, this measure enables one to assess the effect of representation among a global sample of countries.
The analysis also controls for alternative determinants of human well-being. The level of economic development may influence human well-being. High levels of economic development provide greater private and public resources for food and health, thereby enhancing welfare outcomes. I measure economic development with logged per capita GDP. The level of population density may also influence human well-being where governments may find it difficult to distribute essential social services to populations that are sparsely scattered or have low population density (Ross 2006). I measure population density with logged population density. Percentage of urban population is yet another alternative determinant of human well-being where a higher percentage of urban population may have better access to essential social services as compared to rural populations. The data for all control variables are available from World Development Indicators (2015). Another prominent control is the level of democracy or regime-type, as discussed in the introduction. However, a regime variable is not included in the models because the primary independent variable, political representation, is one of the core attributes of political regimes and inclusion of both variables may lead to multicollinearity. The baseline models were estimated with both the variables in the same model and the primary findings remain unchanged.

I use time-series-cross-sectional analyses to assess the relationship between political representation and human well-being. All models are estimated with xtscc that adopt Driscoll and Kraay standard errors and address heteroskedasticity as well as autocorrelation (Driscoll and Kraay 1998; Hoechle 2007). This technique is also appropriate when the number of observations (N) is greater than time (T) or number of years. N > T is all the analyses carried out in each of the empirical papers, which makes this an appropriate technique. All baseline models have been estimated using within-country fixed effects to ward against any single year influencing the results. The independent variables have been lagged by one year to reduce the possibility of reverse causality.

Table 1.1 presents the primary findings. The political representation coefficient is negative and statistically significant, indicating that a higher level of political representation is associated with lower levels of infant and child mortality. This provides support to the primary hypothesis (H1). In substantive terms, changing the value of the political representation variable from its minimum to maximum value reduces infant and child mortality by approximately 23%. Political representation is indicative of a more inclusive and competitive society. Higher levels of political representation provide an opportunity for multiple groups within society to have a say in the policy-making process and encourages parties to work together and find policy solutions that enhance well-being of the populace at large. It also leads to a more competitive system where the presence of potential challengers encourages both incumbents as well as challengers to perform well in office. Overall, the evidence supports the benefits of a more representative society. The control variables perform as expected. Higher levels of GDP per capita, population density, and a larger urban population lead to lower levels of infant and child mortality.

**TABLE 1.1: POLITICAL REPRESENTATION AND HUMAN WELL-BEING**

<table>
<thead>
<tr>
<th></th>
<th>Infant Mortality</th>
<th>Child Mortality</th>
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<tr>
<td>Political Representation</td>
<td>-0.0519***</td>
<td>-0.0533***</td>
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<tr>
<td></td>
<td>(0.00539)</td>
<td>(0.00584)</td>
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<tr>
<td>GDP per capita</td>
<td>-0.391***</td>
<td>-0.38</td>
</tr>
<tr>
<td></td>
<td>(0.0178)</td>
<td>(0.0175)</td>
</tr>
<tr>
<td>Population Density</td>
<td>-0.308***</td>
<td>-0.39</td>
</tr>
<tr>
<td></td>
<td>(0.0595)</td>
<td>(0.0580)</td>
</tr>
<tr>
<td>Urban Population</td>
<td>-0.00562***</td>
<td>-0.00804***</td>
</tr>
<tr>
<td></td>
<td>(0.000697)</td>
<td>(0.00070)</td>
</tr>
<tr>
<td>Constant</td>
<td>7.966***</td>
<td>8.650***</td>
</tr>
<tr>
<td></td>
<td>(0.137)</td>
<td>(0.129)</td>
</tr>
</tbody>
</table>

| Observations          | 6,221            | 6,234           |
| Number of Countries   | 162              | 162             |
| Country Fixed Effects | Yes              | Yes             |
| R-squared             | 0.810            | 0.815           |

Note: Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

As a robustness test, the effect of political representation on human well-being is assessed by using alternative model specifications as well. As a first robustness tests, the baseline models are assessed by accounting for time dummies to ward against any single year influencing infant and child mortality. As a second robustness test, the baseline models are estimated without country or time dummies while controlling for additional control variables. I include regional dummies for Africa, Latin America, and Asia to control for distinct cultural, geographic, and
historical factors common to these regions. Prevailing literature also argues that states that are ethnically diverse are likely to provide fewer public goods due to lack of consensus among different ethnic groups about the kind of public goods to be provided (Alesina, Baqir, and Easterly 1999; Easterly and Levine 1997). Thus, one may expect ethnically diverse states to have lower levels of human well-being. Ethnic heterogeneity is measured as a probability, which ranges from 0 to 1 where higher values indicate greater ethnic diversity and the data come from Alesina et al. (2003). Appendix A, tables 1.2 and 1.3 present the findings and political representation continues to have a negative and statistically significant effect on infant and child mortality. Among the regional dummies, Africa and Latin America are associated with higher levels of infant and child mortality while Asian countries seem to perform better with lower levels of infant and child mortality. Thus, distinct regional patterns in health outcomes can be observed. Countries that are ethnically heterogeneous also perform poorly with higher levels of infant and child mortality. Overall, the results provide support to the benefits of a more representative society for the populace.

Conclusion
The structure of the political environment plays an important role in influencing human well-being. By demonstrating the significance of political representation globally, this paper engages the vast research on political regimes and welfare outcomes. While the bulk of existing literature focuses on whether democracies perform better than non-democracies, this paper presents a theoretical argument that explains why democracies may perform better than non-democracies and conducts an empirical test to assess the theoretical argument as well. Democracies generally are more representative in nature than non-democracies and the primary finding provides support to the benefits of a democratic system that can be traced to its representative attribute.

APPENDIX A

TABLE 1.2: POLITICAL REPRESENTATION AND HUMAN WELL-BEING
(with time dummies)

<table>
<thead>
<tr>
<th>Model 1</th>
<th>Infant Mortality</th>
<th>Child Mortality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Political Representation</td>
<td>-0.105***</td>
<td>-0.111***</td>
</tr>
<tr>
<td></td>
<td>(0.00759)</td>
<td>(0.00842)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>-0.486***</td>
<td>-0.518***</td>
</tr>
<tr>
<td></td>
<td>(0.0101)</td>
<td>(0.00971)</td>
</tr>
<tr>
<td>Population Density</td>
<td>-0.120***</td>
<td>-0.137***</td>
</tr>
<tr>
<td></td>
<td>(0.00383)</td>
<td>(0.00297)</td>
</tr>
<tr>
<td>Urban Population</td>
<td>-0.00311***</td>
<td>-0.00512***</td>
</tr>
<tr>
<td></td>
<td>(0.000430)</td>
<td>(0.000448)</td>
</tr>
<tr>
<td>Constant</td>
<td>7.939***</td>
<td>8.625***</td>
</tr>
<tr>
<td></td>
<td>(0.0467)</td>
<td>(0.0364)</td>
</tr>
<tr>
<td>Observations</td>
<td>6,221</td>
<td>6,234</td>
</tr>
<tr>
<td>Number of Countries</td>
<td>162</td>
<td>162</td>
</tr>
<tr>
<td>Time Dummies</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.854</td>
<td>0.855</td>
</tr>
</tbody>
</table>

Note: Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1
### TABLE 1.3: POLITICAL REPRESENTATION AND HUMAN WELL-BEING (with additional controls)

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Infant Mortality</td>
<td>Child Mortality</td>
</tr>
<tr>
<td>Political</td>
<td>-0.115***</td>
<td>-0.115***</td>
</tr>
<tr>
<td>Representation</td>
<td>(0.00867)</td>
<td>(0.00922)</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>-0.439***</td>
<td>-0.468***</td>
</tr>
<tr>
<td></td>
<td>(0.0118)</td>
<td>(0.0116)</td>
</tr>
<tr>
<td>Population</td>
<td>-0.0932***</td>
<td>-0.104***</td>
</tr>
<tr>
<td>Density</td>
<td>(0.00542)</td>
<td>(0.00518)</td>
</tr>
<tr>
<td>Urban Population</td>
<td>-0.00439***</td>
<td>-0.00616***</td>
</tr>
<tr>
<td></td>
<td>(0.000606)</td>
<td>(0.000634)</td>
</tr>
<tr>
<td>Africa</td>
<td>0.107***</td>
<td>0.155***</td>
</tr>
<tr>
<td></td>
<td>(0.0177)</td>
<td>(0.0226)</td>
</tr>
<tr>
<td>Latin America</td>
<td>0.197***</td>
<td>0.128***</td>
</tr>
<tr>
<td></td>
<td>(0.0122)</td>
<td>(0.0139)</td>
</tr>
<tr>
<td>Asia</td>
<td>-0.115***</td>
<td>-0.147***</td>
</tr>
<tr>
<td></td>
<td>(0.0266)</td>
<td>(0.0278)</td>
</tr>
<tr>
<td>Ethnic</td>
<td>0.433***</td>
<td>0.573***</td>
</tr>
<tr>
<td>Heterogeneity</td>
<td>(0.0262)</td>
<td>(0.0248)</td>
</tr>
<tr>
<td>Constant</td>
<td>7.414***</td>
<td>7.994**</td>
</tr>
<tr>
<td></td>
<td>(0.0521)</td>
<td>(0.0495)</td>
</tr>
<tr>
<td>Observations</td>
<td>5,703</td>
<td>5,716</td>
</tr>
<tr>
<td>Number of</td>
<td>157</td>
<td>157</td>
</tr>
<tr>
<td>Countries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-squared</td>
<td>0.863</td>
<td>0.866</td>
</tr>
</tbody>
</table>

Note: Standard errors in parentheses: *** p<0.01, ** p<0.05, * p<0.1

**References:**


The Effects of Reductive Physicalism Within the Field of Mental Healthcare

Joy C. Honea, Montana State University - Billings
Ana Diaz, Montana State University - Billings

Abstract:

Over the past three decades, psychological distress has increasingly come to be explained in neurobiological terms by both mental health professionals and the general public. Disorders like major depression are now most commonly understood to be symptoms of some, as of yet unidentified, biochemical or neurological disturbance in the brain and thus treatment often focuses on pharmacological rather than psychotherapeutic options. This etiological claim rests on the same assumptions as does reductive physicalism within philosophy. Understanding this paradigm, as it appears in philosophy, can potentially play an important role in informing the debate over how best to understand and ease mental suffering. In particular, by critiquing reductive physicalism and identifying the importance of nuanced understandings of complex phenomena, philosophers can aid mental health practitioners and policy makers in developing more robust, holistic approaches to mental healthcare.
The Framing of Dialysis in ABC News Transcripts from 2005 to 2015: A content and textual analysis
Melissa Boehm, Montana State University - Billings

Abstract:

This content analysis and textual analysis will document the framing of dialysis in ABC News transcripts from 2005 to 2015. Dialysis is the life-saving treatment given to patients who have experienced kidney failure due to several different illnesses. According to the National Kidney Foundation, the most common illnesses that lead to kidney failure (also known as end stage renal disease) are diabetes and high blood pressure. Learning more about how mass media frames this treatment might provide insight into better ways doctors can communicate with patients facing the need for dialysis.

The purpose of this mixed-method study is to document one mass media network’s framing of dialysis. I will read each of the 96 transcripts and record: which causes of kidney disease are mentioned, whether hemodialysis and/or peritoneal dialysis are mentioned and the associated costs for each, the location for dialysis (in a health care facility or at home), which drugs are mentioned (to aid in dialysis), and whether kidney transplant as a treatment is mentioned. I will also document who (doctor, patient, nurse, etc.) is quoted in the transcripts.
Framing Communications of Medical Reimbursements and the Low Income Pool
Brittany Grubbs, University of Florida

Abstract
This study seeks to understand how the media provided the local public with information regarding the potential shutdown of a local hospital. News stories were analyzed to understand how the media informed the public, as this may have altered public understanding and responses. Three categories of materials were gathered: online videos from Jacksonville news stations, digital news articles from Jacksonville news stations, and newspaper articles from the Florida Times Union. Three main themes were found: (i) political responsibility, (ii) public health, and (iii) residual economic effects. Framing analysis revealed that the news stories did not steadily connect the background of hospital funding with the implications of the closure. Instead, the news media shared public health benefits the hospital was currently bringing to the community, and economic impacts of the closure.

Introduction
The Centers for Medicare and Medicaid Services (CMS) is a federal organization established in 1965 by former President Lyndon B. Johnson (Centers for Medicare & Medicaid Services, 2015). The organization is responsible for providing low and fixed-income Americans with affordable health care. Forty years later, former President George W. Bush established the Low-Income Pool (LIP), and tasked CMS with overseeing the funding (Ellingboe & Baron, 2015). The LIP, as part of the Section 1115 Waiver, was designed to assist states in reimbursing hospitals for costs incurred from serving uninsured or underinsured patients. The first cycle of the LIP for the state of Florida was from 2006-2011. As seen in Figure 1, The Affordable Care Act became effective in 2010, which served to provide Medicaid to patients otherwise covered by the LIP. In 2011, the agreement was extended for three years through June 30, 2014. On July 31, 2014, CMS informed the Florida Agency for Health Care Administration that the LIP would be extended temporarily through June 30, 2015 (Senior, Justin, 2014). According to the letter from CMS, “CMS and Florida agree that this one-year extension of the LIP will provide stability for providers as Florida transitions to statewide Medicaid managed care, while allowing the state to move toward a significantly reformed Medicaid payment system”. While the annual LIP coverage was set at $1 billion since its inception in 2006, the state received $2.1 billion for the 2014-2015 fiscal year to assist in the transition from LIP to Medicaid. Though the temporary renewal letter from CMS was received by the Florida Agency for Health Care Administration on July 31, 2014, hospitals in Florida were notified of the LIP expiration in February of 2015.

One of those hospitals affected by the closure was UF Health Jacksonville. UF Health Jacksonville is a part of the University of Florida premiere health system, composed of hospitals, research facilities, physician practices, and numerous programs across North and Central Florida. UF Health is known for training residents, featuring highly specialized physicians, and spending more than $300 million on medical research (Medicine, 2011). UF Health Jacksonville is the only hospital located in Jacksonville, Florida with a level-one trauma center (Brown, 2015). Although the hospital has reached many medical milestones, UF Health Jacksonville has had chronic financial troubles. The hospital is located in a lower socioeconomic area and as a non-profit facility is required to provide care to patients without insurance or the ability to pay for medical bills. The hospital relies on both philanthropy and the funds provided by the local and federal governments. Without this money the hospital would be forced to close its doors (Parenteau, 2015).
For UF Health Jacksonville, these financial cuts amounted to $95 million dollars, roughly 20% of its annual budget. Because the hospital is located in a lower socioeconomic area, only 10 percent of the patients seen at UF Health have commercial health insurance (Wexler, 2015). A news conference was held on March 20, 2015, where hospital leaders stated the facility would shut down if not given the additional $95 million. CEO Russel Armistead told news reporters, "We have roughly 50 days of cash. No reserves, the lowest Moody's credit rating — we don't have anywhere to go to get extra money" (Bosin, 2015, p. 1).

Instead of expanding Medicaid, Governor Scott filed suit against the United States Department of Health and Human Services on April 28, 2015 for trying to force the state to accept the expansion instead of providing LIP funding (Bondi, 2015). Scott cited the 2012 US Supreme Court decision that bans the government from coercing states into expanding Medicaid. “It is appalling that President Obama would cut off federal health care dollars to Florida in an effort to force our state further into Obamacare” Governor Scott said in a statement. (Caputo & Pradhan, 2015)

The Florida Legislature was unable to agree on a solution to Medicaid reimbursement by the end of April 2015, the end of the state’s annual legislative session. Governor Scott, the Florida House of Representatives, and the Florida Senate were called in for a special session beginning June 1. After an intense battle between politicians, CMS agreed on June 23, 2015 to pay $1 billion for the 2015-2016 fiscal year and $600 million for the 2016-2017 fiscal year (Senior, 2015). The state is responsible for any remaining balance.

During this time, Governor Scott and the Florida Legislature are responsible for deciding on a solution and on the possibility of expanding Medicaid. Governor Scott formed a committee to help with deciding where the 2015-2016 funds should be allocated, and more than half the hospitals in Florida were given a notification of impending audit.

**Literature Review**

While reviewing the healthcare crisis in the state of Florida, it was imperative to understand the reasoning behind the threat of the hospital closure, and who plays a part in determining the future. The mass media not only informed the public of the impending closure, but took on the role of educator, publishing statistics of jobs potentially lost, numbers of patients impacted, and other relevant economic factors. How the media framed the issue could impact the public’s understanding and reaction. Particularly important for this study was who should be held responsible, and who should implement a solution.

Conducting a qualitative framing analysis of news articles and can help explain how issues are communicated to the public. By definition, framing is used by individuals or groups of people seeking to affect the perspective of the audience by emphasizing certain parts of an issue or subject while de-emphasizing other parts (Templeton, 2011). There are many uses and definitions of framing which bring light to a situation, including symbolism, organization, and structure. In order to understand what was taking place during the hospital closure, it was important for members of the community to understand why there was conflict, and how it came about. Erving Goffman argues that framing in modern society can be expressed in two primary terms: natural and social. An article that features natural framing is more likely to be unaltered, unanimated, and unbiased. In contrast, an article featuring social framing is likely to give background information to support the reasoning of the argument or persuasive theory (Goffman, 1974). Framing is often used in conjunction with political problems (Reese,

<table>
<thead>
<tr>
<th>Source</th>
<th>Online Videos</th>
<th>Digital Articles</th>
<th>Newspaper Articles</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>WJXT website <a href="http://www.news4jax.com">www.news4jax.com</a></td>
<td>11</td>
<td>7</td>
<td>N/A</td>
<td>18</td>
</tr>
<tr>
<td>WTLV-TV website <a href="http://www.firstcoastnews.com">www.firstcoastnews.com</a></td>
<td>0</td>
<td>4</td>
<td>N/A</td>
<td>4</td>
</tr>
<tr>
<td>WFOX-TV and WJAX-TV website <a href="http://www.ACTIONnewSjax.com">www.ACTIONnewSjax.com</a></td>
<td>11</td>
<td>7</td>
<td>N/A</td>
<td>18</td>
</tr>
<tr>
<td><em>The Florida Times Union</em> <em>Obtained via LexisNexis academic database</em></td>
<td>N/A</td>
<td>N/A</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>22</strong></td>
<td><strong>18</strong></td>
<td><strong>20</strong></td>
<td><strong>60</strong></td>
</tr>
</tbody>
</table>

**Table 1: News Story Outline**
It is useful for the media to highlight one side of an individual or issue over another. With the LIP, the media had the option of framing the political conflict in Tallahassee, or how the issue could affect the local economy. Framing an issue as a local concern can help the audience to understand how the issue impacts them directly.

Research Questions
RQ1: Who did the media frame as responsible for the closure?
RQ2: How did the media frame implications of the closure?

Method
There are four main television news stations in Jacksonville (See table 1 below). Two of these stations, WFOX-TV and WJAX-TV, share a website. News stories from the three websites, as well as articles from the Florida Times Union were analyzed. The three categories of source materials were online videos, digital articles, and newspaper articles. Both the videos and digital articles analyzed came from the databases of the news websites. The same keywords ‘UF Health’ were typed into each website search engine. The results were sorted chronologically, and those published between March 20 and June 20, 2015 were analyzed for relevance. News stories that met the search criteria were sorted according to the content, whether a video or digital article. The Florida Times Union is Jacksonville’s major newspaper. Articles related to the LIP and UF Health closure were found via the Lexus Nexus Academic database. Similar to the other categories of source materials, UF Health was typed into the search engine and results were sorted chronologically. Pertinent matches from March 20 to June 20, 2015 were set aside for analysis. In order to understand the history behind the closure and what started the decline in funding, letters from politicians were also analyzed. All federal letters regarding the LIP are public record, and are held on the website www.medicaid.gov. Documents are organized via topic, and type of waiver.

Once the Section 1115 waiver is selected, users have the ability to view the letters from each state in chronological order. For the state of Florida, letters archived were from the Florida Agency for Healthcare Administration, the Centers for Medicare and Medicaid Services (CMS), Governor Scott, President Obama, and the United States Congress.

Governor Scott’s decisions and the lack of LIP funding impacted the entire state. However, in comparison to other hospitals in Florida, UF Health Jacksonville was one of the neediest. It relied on approximately $95 million in LIP funding, compared to Halifax Health with $19.6 million, and Munroe Regional Hospital with $5.9 million.

RQ1: Who did the media frame as responsible for the closure?
Governor Scott and the Florida Legislature knew this issue was imminent since July 31, 2014, however they waited until February 2015 to start tackling the issue. Out of the 60 news stories analyzed, only 8 (13%) included facts on the background leading up to the crisis. Seventeen news stories (28%) framed Governor Scott in a negative light. Twenty-one news stories (35%) framed the House or Senate in a negative light. Many news stories framed the government conflict as more of a simple disagreement. One article released by the Florida Times Union stated that “Disagreements have caused a budget impasse between the House and Senate, which initially planned to approve a balanced budget by May 1. Lawmakers will either extend the session or hold a special session later this year on the budget” (Mitchell, 2015). The article did not mention the background of the issue.

RQ2: How did the media frame implications of the closure?
As the sixth largest employer in Jacksonville, the economy would most certainly feel the effects of the hospital closure. Fifty-four out of 60 (90%) news stories framed the potential closure as an economic issue. UF Health employs more than 5000 people in the area. Twenty-one news stories (30%) included information on hospital employment. Fifty-three (88%) news stories included financial statistics about the hospital or LIP budget. Administrators of UF Health have stated that the organization only made roughly $2 million in profits last year, and that having a $95 million pay cut would put the organization into bankruptcy. Another opportunity that would have been lost with the UF Health closure is the residency training programs and educational research. Nine materials (15%) used these programs in framing the hospital closure as an economic issue. One article stated, “You should care because as a teaching hospital, it has 350 UF faculty physicians, training more than 350 medical residents in 46 specialties. Some of these residents will decide they like it here. Some will put down roots. And considering that a recent study said Florida is headed for a
shortage of physicians by 2025, we need these residents and more” (Woods, 2015).

Having such prestigious medical programs allows for significant research and training. John Delaney, University of North Florida president and chairman of the JAX Chamber, said quality doctors at UF Health would transfer to hospitals in other cities. He was quoted in one article stating “Someone is going to die” (Patton, 2015).

More than 600,000 patients entered UF Health last year via ambulance. More than 4,000 patients were treated in the city’s only level-one trauma center. Nearly 90,000 people came through the Emergency Room, and almost 3,000 children were born. Forty-four materials (73%) framed the potential hospital closure as a public health issue. It was important for the media to communicate the impact that UF Health had on public health. Dozens of physicians and nurses gathered during a press conference pleading for government leaders to keep the doors open. The media also used real UF Health patients to help gain attention. Those who could not afford to pay were the most emotional, and many expressed how the closure could impact their healthcare and quality of life. Thirty-six out of 60 (60%) materials used words or phrases such as poverty, charity, indigent, poor, and low class, as roughly 10% of the patients served at UF Health have commercial health insurance.

Discussion

The purpose of this study was to understand how the media framed the possible closure of UF Health Jacksonville. As seen in table 2 below, 3 main themes were found in the materials analyzed. If UF Health were to close, this would have a severe impact on the economy, as there is not enough room for these patients in other facilities around Jacksonville. Additionally, this could also have easily caused healthcare workers and other physicians to look elsewhere for stable employment. Losing the specialty and residency programs would lower the chance of physicians staying in Florida for additional research, or setting up a private practice after graduation.

Eight other states receive money from the Low-Income Pool; however, four states are impacted most heavily. As seen in table 3 to the right, Florida and Texas serve more than 1.6 million people combined. These two states have the strongest need for LIP money. Both Texas Governor Greg Abbott and Kansas Governor Sam Brownback

<table>
<thead>
<tr>
<th>Dates</th>
<th>Texas</th>
<th>Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of Annual Coverage</td>
<td>$4 billion</td>
<td>$1 billion (until 2014)</td>
</tr>
<tr>
<td>1st Renewal Dates of LIP Coverage</td>
<td>2011 - 2016</td>
<td>2011 - 2014</td>
</tr>
<tr>
<td>2nd Renewal Dates of LIP Coverage</td>
<td>N/A</td>
<td>2014 – 2015 (Expiration was set for June 30, 2015)</td>
</tr>
<tr>
<td>3rd Renewal Dates of LIP Coverage</td>
<td>N/A</td>
<td>After review and negotiations, the following amendments were made: 2015 – 2016 2016 – 2017 $1 billion cut off $600 million cut off</td>
</tr>
</tbody>
</table>

Table 2: Framing Examples
backed Governor Scott in the April 2015 lawsuit against the Department of Health and Human Services (Bondi, 15). An expiration date on LIP money is expected for each state. CMS is responsible for determining the allotment and renewal for each state. As seen in table 4 below, Florida has already been through the intended expiration date. For the Table 4: Renewal Dates

References

Table 3: LIP States

<table>
<thead>
<tr>
<th>State receiving LIP Money</th>
<th># of LIP residents</th>
<th>Amount of LIP money given to states annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>948,000</td>
<td>$4 billion</td>
</tr>
<tr>
<td>Florida</td>
<td>669,000</td>
<td>$1 billion</td>
</tr>
<tr>
<td>Tennessee</td>
<td>142,000</td>
<td>$500 million</td>
</tr>
<tr>
<td>Kansas</td>
<td>60,000</td>
<td>$45 million</td>
</tr>
</tbody>
</table>

state of Texas, LIP money is set to expire in September of 2016 (Galewitz, 2015). Articles have already been published about the upcoming Texas expiration date. Until a decision on renewal is made by CMS, media coverage is likely to continue. In addition, healthcare reform is subject to change with each Presidential election. With the 2016 Presidential election coming up, regulations could change drastically, leaving room for future research and debate.


Pantazi, A. (2015). I don't have anything to negotiate. We'll close.; While politicians debate and tussle, Russel Armistead, CEO of UF Health says he'll keep fighting for the money to stay open. Florida Times Union, 1.


Advertising Tobacco Products Across Time: Comparing Pre-1970 Cigarette to Current Online E-cigarette Advertisements

Teminijesu M.J. Ige, University of Cincinnati
Bradley R.A. Wilson, University of Cincinnati
Nancy A. Jennings, University of Cincinnati

Abstract

The purpose of this study was to analyze the content of online e-cigarette advertisements in order to understand how e-cigarettes are currently being portrayed in the media. Comparisons between current e-cigarette advertisements with regular cigarette media advertisements before the ban on such advertisements in 1970 were also made. Before the ban, regular cigarette advertisements featured in the media contained themes that were designed to lure prospective smokers, especially young people. These themes included the use of young attractive models (mostly female) in a variety of appealing situations such as leisure, adventure, friendship or romance. Well-known celebrities were often featured and advertisements. Sexual themes were common. Endorsements by professionals and organizations (especially those related to health) were also presented. In addition, claims of the health, social, financial and other benefits of smoking in general or smoking a particular brand, were prevalent.

In total, 250 internet picture advertisements were analyzed on 40 e-cigarette websites. The analyzed websites were selected through an internet search using Google as the main search engine. An overall analysis of each website’s homepage was done, then screen-shots of each of the advertisements were taken and analyzed, and the date and time of the screen-shots were recorded. Only picture advertisements on the homepage of the websites were analyzed in order to provide a fair basis for comparison between websites. Of the 40 websites, only (47.5%) featured age-verification pop-ups compared to 100% for current regular cigarette websites. Even where there were age-verification pop-ups for e-cigarette websites, they lacked any credibility as anyone including minors could get into the website by simply clicking “I am over 18 years old”. In comparison, current regular cigarette websites feature a thorough age-verification procedure that requires authentic and confirmable information such as legal name, current address and social security number. There were 99 human models in total for all the picture advertisements. Of these, 94 (94.9%) appeared to be young adults (20-39 years old). Also, (62.6%) of the models were female, and most of the models were featured in backgrounds and lifestyle situations such as friendship (41.4%), recreation/leisure (22.2%), romance/eroticism/sex appeal (18.2%), adventure/risk (3.0%) or workplace (2.0%) that appeal to young people. Also, 62.6% of the models were actively smoking/vaping. Most were depicted vaping in unclear locations (35.7%), in public (7.1%) and other places (4.0%) such as in a car or at the beach. Also, all the websites featured different flavors ranging from 3 to at least 30 different types. These findings are consistent with pre-1970 regular cigarette advertisements that employed flavors to attract consumers, especially young people. Also found were a variety of health claims, including “less risk of diseases associated with regular cigarettes” (17.5%), “no second-hand smoke” (30.0%), and “no nicotine staining of teeth” (12.5%). There were also claims of “freedom to smoke” in public places where smoking is banned (12.5%), and close to non-smokers (2.5%). Many of the websites also contained attractive features such as special offers or promotions (95.0%), a point reward system (45.0%), fashion accessories (jewelry, bags, clothes etc.) (12.5%), and event sponsorship (5.0%). Forty percent of the websites were endorsed by different organizations while 10% were endorsed by celebrities. Although not available pre 1970 there was also a strong social media presence on all the websites, with each of them having a connection to one or more social media sites such as Facebook (92.5%), YouTube (57.5%), Twitter (95.0%), Instagram (27.5%),
Pinterest (37.5%), Google+ (45.0%), and LinkedIn (5.0%). These findings suggest that the current media strategies being used to advertise e-cigarettes are similar to those used before the ban on media advertisements of regular cigarettes in 1970. Therefore this study provides information that may be useful to improve health policies toward e-cigarettes in order to protect the public’s health.

References available on request.
Is Direct Pharmaceutical Advertising Right for U.S.?
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Abstract
Direct to consumer prescription drug advertising is used in the U.S. by pharmaceutical manufacturers to increase demand for new medications. Over the last two decades there has been much research on the mechanics of promoting prescriptions to the public and the effectiveness of the direct technique. FDA regulations currently support the potential for more ads. The practice works well for manufacturers and is effective in stimulating demand but is it right for consumers and the U.S.? The objective of this presentation is to review and discuss the state of and appropriateness of direct prescription drug advertising from a public health perspective.

Review
Direct to consumer prescription drug advertisements have been a staple for pharmaceutical companies since the FDA issued less restrictive requirements for broadcast media in 1999 related to “adequate provision” of information. The United States and New Zealand are the only two countries worldwide who permit direct advertising of prescription medications.

Consumer response to direct prescription ads is impressive from a marketing perspective. Approximately 32 percent of consumers report talking with their doctor about a medication they have seen advertised. Of these consumers, 44% obtained a prescription for the drug they requested and 82% received some medication as a result of the interaction. (USA Today, Kaiser Family Foundation/Harvard School of Public Health Survey, 2011)

The FDA regulates advertising for prescription drugs. Federal law does not allow the FDA to require that drug companies submit ads for approval before the ads are used. Drug companies must only submit their ads to the FDA when they first appear in public.

Prescription drug advertising to consumers can encourage patients and doctors to prefer medications when non-drug options might work or work as well. Direct ads often promote more expensive options, not the best or safest. A 2014 review (Faerbera and Kreling, 2014) of 168 drug ads found that 57 percent of claims were potentially misleading and 10 percent were outright false. Drug ads might make it seem like newer is always better. But new drugs are often no safer or more effective than older ones (e.g., antipsychotic agents). Older drugs tend to cost much less because they’re usually available in the form of generics.

Conclusion
Prescription drug advertising can raise awareness of health conditions and available treatments but may lead to an overreliance on medications and higher drug costs in the U.S.

References
USA Today / Kaiser Family Foundation / Harvard School of Public Health. The Public on Prescription Drugs and Pharmaceutical Companies. Available at Kaiserfamilyfoundation.files.wordpress.com