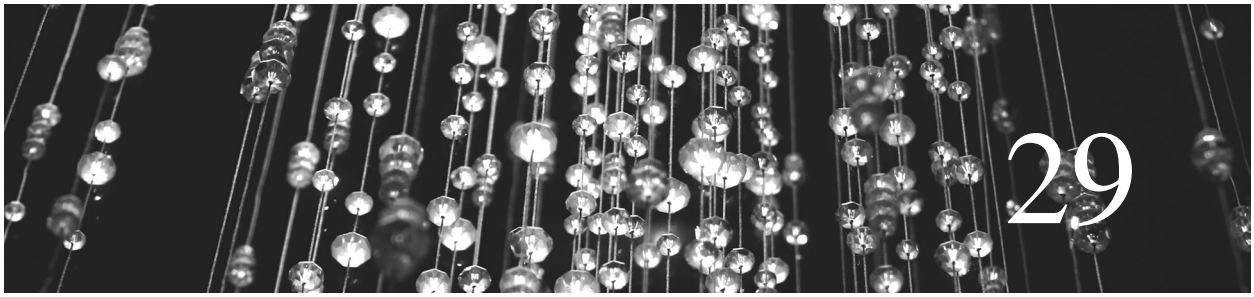

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Coaching in Healthcare

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INTRODUCTION

The timely arrival of coaching in healthcare brings germinal seeds of hope to a landscape in dire need. The global healthcare industry is under siege by many forces: overuse of expensive medical procedures, dated volume-based reimbursement systems, and outdated, siloed models of care. Add the global epidemic of preventable chronic disease associated with unhealthy behaviors and you find healthcare systems facing massively disruptive change, and global economies enduring significant financial strain (Bloom et al., 2011; Marrero et al., 2012; Meeto, 2008). In this context, there is both enthusiasm and confusion regarding coaching.

There is enthusiasm for coaching because it aligns with the need to upgrade leadership competencies and provider well-being, reduce healthcare costs, redesign financial and care delivery models, and reverse negative behavior-driven public health trends. In particular, the epidemic of chronic illness has brought attention and research funding to enable much-needed, rigorous studies of coaching as an innovative and patient-centric process that may bring about sustainable behavior change in patients (Wolever, et al., 2013). However, the promise of coaching in healthcare has also brought confusion. For example, the burgeoning research on patient coaching includes confounds that lead many providers, patients and the public to misunderstand coaching as synonymous with educating and advising.

This chapter offers a map of the status and potential of coaching in the healthcare industry in an attempt to address both the enthusiasm and the confusion. We draw from coaching in other contexts to note potential solutions to healthcare challenges, overview the rapidly developing evidence base for patient coaching, and discuss distinctions of coaching in the healthcare context. We address the three primary applications of coaching in healthcare: 1) leadership coaching to address the unique challenges faced by

the healthcare sector; 2) healthcare provider coaching for both well-being and performance; and 3) patient coaching to improve health and outcomes. Of these three applications, patient coaching is the most heavily researched in the academic literature; hence more attention is focused on patient coaching, including a discussion of coaching dimensions in healthcare that are not found in other domains.

THE STATE OF THE HEALTHCARE INDUSTRY

Also referred to as the medical industry, the healthcare industry denotes 'the aggregation and integration of sectors within the economic system that provide goods and services to treat patients with curative, preventive, rehabilitative, and palliative care. It includes the generation and commercialization of goods and services lending themselves to maintaining and re-establishing health' (Healthcare industry, 2015). Providers of healthcare include both institutions (e.g., hospitals or clinics) and people (e.g., physicians, nurses, allied health professionals) that provide these goods and services.

The healthcare industry is undergoing fundamental, structural shifts. While costly innovations for acute medical situations grow unabated (Skinner, 2013), the US and global healthcare industry is amidst a perfect storm of formidable challenges: structural fragmentation, unaffordable costs, deterioration in the well-being of the front line provider workforce, and suboptimal health outcomes for those with chronic disease. Additional healthcare challenges include vast new government regulations and initiatives (e.g., America's Affordable Care Act, Accountable Care Organizations, and patient-centered medical homes) as well as horizontal and vertical industry consolidation (Mattioli et al., 2015). These challenges are driving much-needed disruption through new models of organization, care delivery, payments, and insurance. Industry disruption and uncertainty promise to be immense, complex, and overwhelming.

Fortunately, coaching in healthcare may offer some mechanisms to support the reinvention of this critical industry by bolstering healthcare leaders, providers and patients.

> Coaching presupposes sufficient inner resources and the necessary expertise to tackle life challenges, and provides the guidance to harness these internal mechanisms … [to] amplify a client's internal locus of control, defined as the belief that one's actions have as much or more impact on life outcomes than external forces or individuals. In addition, coaching increases self-efficacy and self-determination. (Gazelle et al., 2015, page 509)

In essence, coaches in healthcare ask, 'how can people – healthcare leaders, providers, and the patients – be well-equipped to navigate the rough waters while also upgrading their own performance, health and well-being to master the huge demands?' In contrast to the siloed reality of healthcare, coaching takes a 'whole person' perspective in considering the full context of a person's life, including the external environment as well as social, political, and economic constraints and resources. Of critical importance will be the continued search for ways in which coaching can have systemic, not just personal, impact.

This chapter explores the status and emerging research of coaching in healthcare from four perspectives: 1) how coaching can help healthcare leaders develop healthy cultures that more handily meet current demands; 2) how coaching can help providers improve their well-being, resilience, and performance to be healthier themselves as well as better providers; 3) an overview of the expanding research on health coaching to help patients mobilize their own resources for improved health, along with the inherent conflicts in standardizing that process; and 4) a brief description of differences between coaching within healthcare and other contexts. Of the

first three areas, patient coaching within healthcare has accumulated the most data and will be explored in more detail.

In short, coaching can support the widely disseminated Triple Aim (Berwick et al., 2008) that is guiding healthcare industry reinvention: applying integrated approaches to simultaneously improve population health, improve patient care, and reduce per capita costs. Because it is also clear that 'the care of the patient requires the care of the provider' (Bodenheimer & Sinksy, 2014, p. 573), provider well-being and that of healthcare leadership must also be included. This chapter discusses how coaching can offer one source of support to the healthcare industry to iteratively reinvent itself through coaching interventions targeting leadership, providers, and patients while simultaneously expanding the evidence base for coaching.

LEADERSHIP COACHING

The healthcare sector is ripe for leadership coaching to enable resilience and innovation during a time of massive disruption, while also cultivating healthier cultures. To improve population health in an entire system requires a wide spectrum of interventions from occupational health, to restructuring the environments, to outreach and education for those at-risk, to excellent access to primary care with referrals as needed, all the way to catastrophic care, disability management and complex care management (Nash et al., 2015). While the development of population health is beyond the scope of this chapter, there may be benefits to coaching the leaders in healthcare as a step to bringing about a healthier culture. However, the penetration of executive or leadership coaching in healthcare lags behind that observed in other industries.

This lag is partly due to a dearth in research supporting healthcare leadership training and practices, partly due to the industry's demand for rigorous studies and peer-reviewed evidence (historically lacking in the coaching industry), and partly due to the specialized knowledge required of the rapidly shifting operations of the complex healthcare sector, a knowledge that is not widespread among executive coaches. Nonetheless, the skillsets of executive coaches with this specialized knowledge are needed to support healthcare leaders in a tumultuous time.

Unfortunately, healthcare innovation is not supported by the culture of healthcare: 'While businesses in other sectors have become adept at bringing in ideas from outside their walls, healthcare has lagged behind' (Wagner, 2013). As healthcare leaders are forced to reinvent their organizations, the model for healthcare is being flipped upside down — from decades of focusing on acute care episodes and encouraging utilization to a future where successful organizations are able to reduce utilization, manage population health, and activate patients in the consumption (and delivery) of their own care. The only organizations that will prosper in this environment of disruptive and massive change are those that build a resilient and adaptive culture in which staff members:

- Welcome and seek change, rather than resist it;
- Experiment and innovate, rather than maintain the status quo; and
- Make hard decisions without relying on approval from senior leaders (Wagner, 2013).

As one of the largest sectors of developed economies, healthcare prides itself on being driven by rigorously collected data and peer-reviewed evidence. Surprisingly, however, there is paltry peer-reviewed literature on the study of healthcare leadership, leadership training, and executive coaching for healthcare leaders. Especially notable is the absence of a thorough discussion of leadership competencies needed in healthcare to deal with today's realities. Research is needed to elucidate the leadership competencies needed to support personal and workforce health, well-being and performance in these turbulent times.

Over the past decade, few peer-reviewed papers have evaluated the potential value of coaching for healthcare leaders (Henochowicz & Hetherington, 2006; Thompson et al., 2012). One randomized controlled trial (RCT) of executive coaching in an Australian public health agency demonstrated improved goal attainment, resilience and well-being in its leaders (Grant et al., 2009). Similarly, a case study in Malta showed that a coaching program for nurse ward leaders was effective in improving their leadership skills and performance (Law & Aquilinia, 2013). In sum, there is promising data, but it is quite limited. Perhaps the minimal empirical findings explain why a survey of 583 healthcare CEOs perceived only a moderate value for coaching, with many CEOs remaining neutral or reporting little worth in coaching (Walston, 2014).

Despite the dearth of evidence and apparently low value held by CEOs for coaching, enormous disruption in the industry is causing leaders to look for innovative solutions. Executive coaching is being recognized as one potential resource for healthcare leadership. 'Vanguard institutions have pioneered programs to identify, develop, and equip physician leaders; However, such programs are not widespread' (Shanafelt et al., 2015, p. 437). Within healthcare, leadership programs are often specialized for one group, reflecting some of the system siloes in healthcare – physicians, nurses, and administrators. Nonetheless, the separate silos are recognizing the importance of integrating executive coaching into their leadership curricula.

Physician-focused programs that integrate executive coaching include the American Association of Physician Executives, the American Association for Physician Leadership and the United Kingdoms's National Health Service Leadership Academy (NHS Leadership Academy, 2015). Similarly, leadership programs for nurses that integrate executive coaching include the Duke-Johnson & Johnson Nurse Leadership program, and the National League of Nursing's Executive Leadership in Nursing Education and Practice. In addition to deploying executive coaches to support healthcare leadership, peer coaching is also being explored; for example, the University of Massachusetts Medical School is teaching peer coaching skills to physicians (Ziedonis, 2015).

At this point, an estimated 92% of surveyed hospital-based or healthcare system physician leadership programs 'always' or 'sometimes' offer an executive coach (US National Center for Healthcare Leadership, 2014). This growth has led to the emergence of a US coach training school that specializes in training coaches who work with healthcare leaders and physicians (Physician Coaching Institute, 2015). There are also many university and hospital healthcare and physician leadership programs (e.g., Cleveland Clinic, Duke Integrative Medicine, and Harvard-affiliated programs), but more studies of the impact of coaching healthcare leaders are warranted. Such studies are needed along with clear descriptions of validated competency models that are suited to industries experiencing immense disruption. Since 'the leadership competency models in widespread use today were developed prior to the passage of the Affordable Care Act; evolving into a new era … will likely require new competencies of our leaders' (Garman & Lemak, 2011, p. 4).

Leadership competencies have been identified in industrial organizational fields, but limited work has been done in this arena in healthcare (Stoller, 2013), a rapidly changing sector where both administrative and physician leaders must increase innovation and improve managerial competencies (Walston, 2014). Some assert that leadership competencies in healthcare would ideally include coaching skills and self-management skills that foster optimal performance and well-being of the workforce:

> 'Integrating the principles and practices of professional coaching across the continuum and within the entire academic medicine community could gradually, but inexorably, shift the culture to be dynamic and relational: one in which talented individuals can and do apply their peak performance

> to all aspects of their work' (Thorn & Raj, 2012, p. 1482).

While new healthcare leadership competency models are evolving, executive coaches can support this evolution by helping to obtain data to clarify the competencies, and advocating for the integration of coaching into leadership models. Effectiveness and cost-effectiveness studies of specific healthcare leadership competencies are needed to analyze and validate the potential contribution of both leadership coaching and related programs (Stoller, 2013).

Since negative leadership qualities of physician supervisors significantly reduce both the well-being and job satisfaction of their physician staff (Shanafelt et al., 2015), it is important to develop leaders who can foster well-being and co-create a healthy and productive culture. In fact, such a culture is vital not just to support the marathon reinvention phase ahead, but as a key contributor to the health of the front-line providers and subsequently, of the patient population.

PROVIDER WORKFORCE COACHING

Extensive research indicates that physician well-being and professional satisfaction have a profound effect on the quality of their patient care as well as patient satisfaction and adherence. Unfortunately, the latest news is not good on the state of physician well-being (Shanafelt et al., 2012); in fact,

> 'the doctor–patient relationship … is in tatters … Being a caring doctor has become practically cost-prohibitive. Insurance companies don't pay enough for spending time with patients. But they do for CT scans and stress tests – whether they're warranted or not' (Meadows, 2014).

The emergence of electronic health records and other administrative work also compromise physician–patient relationships: 'The principal driver of physician satisfaction is the ability to provide quality care. Physician dissatisfaction, therefore, is an early warning sign of a healthcare system creating barriers to high-quality practice' (Bodenheimer & Sinsky, 2014, p. 574).

A growing burden of government regulation further compromises physician satisfaction and well-being along with the financial viability of physician practices (Friedberg et al., 2013). The restructuring and rapid corporatization of physician practices (CareCloud & QuantiaMD, 2014) adds dual sources of stress – the physician's skills gap in teamwork and leadership plus a decline in autonomy for physicians who collectively have high needs for independence and self-determination. In one survey, positive morale was reported by only 6% of physicians (Physicians' Foundation, 2008). Burnout has worsened from 2011 to 2014, with more than half of US physicians now reporting professional burnout (Shanafelt et al., 2015). In fact, 68% of family medicine physicians and 73% of general internists reported that they would not choose the same specialty if they started their careers over (Physicians' Foundation, 2008).

Burnout and dissatisfaction also affect nurses and other members of the healthcare workforce. Roughly one-third of hospital and nursing home nurses report burnout; in other settings, 22% of nurses report burnout (Bodenheimer & Sinsky, 2014). Similarly, 60% of healthcare employees in general reported job burnout and 34% were planning to look for another job (CareerBuilder, 2013). Not surprisingly, job satisfaction is strongly related to job burnout (Alacacioglu et al., 2009; McGowan, 2001; McHugh et al., 2011), as is lower patient satisfaction (McHugh et al., 2011; Vahey et al., 2004). Hence, financial investment in healthcare employee wellness and coaching has never been more important.

Coaching offers one path toward enhanced physician and nurse well-being. (Gazelle et al., 2015). As with leadership coaching in healthcare though, provider coaching in healthcare has limited empirical work to support its effectiveness. This is another area where coaching may offer support, yet is in great need of well-designed research studies that track both provider well-being and the

impact of coaching on their medical work. One nicely designed coaching pilot did just this. A cohort of 25 physicians who received coaching demonstrated improved resilience and also better work boundaries and priorities, augmented mindfulness and self-awareness, as well as increased self-compassion and self-care (Schneider et al., 2014).

Qualitative analyses further revealed indirect improvement in patient care, reportedly as a function of increased physician energy and resilience, and because the physicians modeled their coach's presence and focus during patient visits (Schneider et al., 2014). Such findings support the efforts of groups like the Massachusetts Medical Society's Physician Health Services program, which provides a network of specialized physician coaches to address physician well-being and performance. In addition, multiple health coach training programs are targeting healthcare workers and including self-care as a major component of their training. Such programs include the nurse coach training program sponsored by the International Nurse Coach Association (2015), and health coach training programs at the University of Arizona, the University of Delaware, and the Vanderbilt Health Coaching Certificate Program.

PATIENT COACHING

The Need for Patient Coaching

Leadership competencies and workforce well-being are two of the cornerstones of a healthier healthcare system. A third is comprised of patient activation and sustainable behavior change, both for population health and for patients with chronic conditions. This domain is the most advanced of the three cornerstones with respect to describing the coaches and their necessary training and education. It is also the most developed cornerstone in terms of the rapidly accumulating evidence that can inform all fields of coaching. Coaching interventions are being explored and implemented across the spectrum of healthcare delivery including pediatrics, primary care, cardiac and other forms of rehabilitation, chronic disease treatment and prevention, complex care coordination, and hospice, as well as corporate/organizational health promotion and consumer wellness.

The rising burden of lifestyle-related chronic diseases, including type 2 diabetes, heart disease, stroke, and obesity, is a massive and growing challenge for healthcare systems. In the US, half of all adults have a chronic disease (Center for Disease Control and Prevention, Chronic Disease Overview, 2015). Furthermore, up to 86% of healthcare expenditures in the US are devoted to treating these lifestyle-driven chronic diseases (Center for Disease Control and Prevention, Chronic Disease Overview, 2015; Yach et al., 2004). 'Our current healthcare spending is unsustainable and could eventually bankrupt the country absent dramatic changes in our current healthcare programs and system' (Bouchard, 2012).

Fewer than 10% of US adults consistently engage in the top lifestyle behaviors (Berrigan et al., 2003) including consumption of fruits and vegetables and healthy dietary fat, regular exercise, moderate (if any) drinking, and not smoking. By two measures, only 20% of US adults are thriving mentally (Keyes, 2002; Kobau et al., 2010), revealing inadequate resources to sustainably adopt healthy lifestyles in our obesogenic environments. Clinicians, allied health professionals, and researchers struggle with how to best help patients become more engaged in sustaining healthy lifestyles to delay onset of, or reduce morbidity and mortality caused by, chronic diseases.

The clinical and economic case for interventions that target health-promoting behaviors as safe and effective primary and secondary interventions has led to a number of US federal directives. These include the Patient Protection and Affordable Care

Act (2010) and the formation of the Patient-Centered Outcomes Research Institute (2015). Population health aims also emphasize greater patient-centricity and patient engagement as seminal to enabling healthy lifestyles that are sustainable (Simmons et al., 2014). In the domain of public health, efforts such as coaching that improve individual well-being are being recognized as strong predictors of lower near-term healthcare utilization and costs (Harrison et al., 2012). In the domain of chronic illness, greater patient-centricity and patient engagement in care is finally seen as necessary to improve health outcomes (Bodenheimer et al., 2002; Simmons et al., 2014).

Both patients and providers need to have adequate knowledge of healthy lifestyles and clear methodologies to support behavioral change in order to improve health outcomes. These recognized needs have led to new specialties in medicine, including lifestyle medicine (e.g., www.lifestylemedicine.org and www.instituteoflifestylemedicine.org) and integrative medicine (www.imconsortium.org and https://nccih.nih.gov). Not surprisingly, both specialties have noted a clear place for health and wellness coaching as central to their implementation (Frates & Moore, 2013; Wolever et al., 2010). Yet much larger implementation efforts for health and wellness coaching are needed since most health professionals are not trained nor paid to support patient engagement and health behavior change as a means of treating and preventing chronic disease.

The Emergence of Patient Coaching

Professional health and wellness coaches, along with allied health professionals trained to use basic coaching skills, offer promise to help fill this gap. Health and wellness coaches are those that provide coaching services to patients, employees, or consumers, typically in an effort to prevent or treat chronic illness by supporting sustainable change in health behaviors as well as adherence to complex medical regimens. Our explorer's map requires a legend to understand the coach titles deployed in the clinical, corporate, and consumer sectors. The use of distinct titles (health coach, wellness coach or health & wellness coach) has emerged from debates concerning the depth and breadth of background knowledge required for coaches in healthcare, corporate and consumer wellness. In fact, it has been vigorously argued and remains largely unresolved depending on which sector addresses the question. For example, at the original 2010 Summit of the National Consortium for Credentialing Health and Wellness Coaches (NCCHWC), clinicians, educators, and other clinical, public health, corporate and consumer sector stakeholders held a lively discussion about the potential for drafting national standards for education, training and a possible certification (Jordan et al., 2015).

While many medical doctors and licensed healthcare professionals (e.g., medical doctors, registered nurses, psychologists, social workers, dieticians) recognized the need for a behavioral expert or coach to help patients adopt healthful habits, several also suggested that two levels of coaching competency should be recognized – one for licensed healthcare professionals due to their advanced clinical knowledge, and a lower tier for non-clinical coaches who work with 'healthy individuals' on exercise, nutrition, and weight. For example, they suggested that an exercise goal for a healthy person may be best supported by a wellness coach while exercise goals for those with heart disease require health coaches with greater knowledge. This reasoning is to be expected of an industry that emphasizes expert knowledge within the licensed biomedical professions. To stem the rising tide of the chronic disease epidemic or conquer unhealthful behaviors, it is assumed that one must have expert knowledge and clinical judgment. The deeply embedded stakes held by some licensed healthcare practitioners

regarding the superiority of their education and training may continue to hold sway over where and how health and wellness coaches penetrate the long-established medical hierarchy.

Not only are coaching title descriptions at issue in healthcare, but so too is the very definition of 'coaching.' The definition is confounded because the scope of practice of most, if not all, health professionals includes educating and advising patients. When coaching is defined as educating and advising, most healthcare professionals do 'coach' patients. In the world of healthcare, for example, a medical assistant calling patients to remind them to take their medications has been considered 'coaching.' Whether or not this approach is helpful, in the world of professional coaching, this would not even approximate 'coaching.' Hence, changing the way the term 'coaching' is defined in healthcare is a massive undertaking. Nonetheless, inroads are being made in several healthcare professions to add a defined 'coach approach' to their clinical practice. Leaders at a 2009 Institute of Medicine Summit on Integrative Health called for a new profession of health and wellness coaches to assist the medical and public health professions in addressing this need for lifestyle turnaround.

Recognition of a 'nurse coach role' within nursing's scope of practice by the American Nurses Association was a significant step for nurses to embrace an evidence-based strategy for supporting lifestyle change and enhancing the health and well-being of patients (Dossey et al., 2014). Nurses, psychologists, clinical social workers, pharmacists, dieticians and other licensed health professionals who ascribe to a relationship-centered, holistic approach pursue coaching skills at the US Veterans Administration and the Osher Center for Integrative Medicine at Vanderbilt. Similarly, medical doctors who practice similar models add coaching skills at Duke Integrative Medicine and the University of Arizona. Chiropractors adopt coaching skills, based on training from the National Wellness Institute. Acupuncture students in traditional Chinese medicine programs at California Institute of Integral Studies are introduced to coaching knowledge and skills practice. The growing acceptance among the ranks of the licensed healthcare professions to adopt coaching methodology and skills aligns with current initiatives outlined in the Patient Protection and Affordable Care Act (2010). Health-enhancing behaviors must be addressed, and coaching appears to be an excellent way to do it.

Many argue that 'a coach is a coach is a coach' and the content of the coaching is less relevant. This argument suggests that coaches are process experts rather than content experts and can apply the process in any context. Moreover, when trying to help patients and other stakeholders in the healthcare system adopt a new perspective that is distinct from the conventional, expert-driven paradigm, coaches who are not trained in that very paradigm can be more open and objective on the limitations of existing paradigms. In healthcare, however, coaches who are *not* licensed healthcare practitioners raise the issue of the content and amount of specific knowledge bases needed to effectively coach medical patients. To understand this, it is helpful to review the collaborative input gathered by the NCCHWC.

To begin with, after six years of debate (2010–2015), the NCCHWC advisors and board members concluded that a single foundational level of certification was urgently needed for a broad transformation of health promotion, and dropped the two-tier notion (a higher certification for licensed healthcare professionals, a lower level for non-clinical coaches). A single national certification will encompass a basic, foundation level of knowledge and skills that assures competencies within the health and wellness coaching process, based upon a validated survey of job task analysis findings (Wolever et al., 2016). In other words, medical practitioners will not dictate how health coaches function; the emerging profession itself will chart that

territory. In partnership with the NCCHWC, the National Board of Medical Examiners (NBME) will implement the first national exam in 2017. Hence, despite a great deal of ongoing debate and the strong possibility that a tiered system will be implemented at some future time, the terms 'health coach' 'wellness coach' and 'health and wellness coach' are currently used synonymously by the NCCHWC, the NBME, and in this chapter.

In North America, over the past 15 years more than 53 academic and private sector programs have emerged to educate and train approximately 20,000 health professionals to either coach professionally or to deploy coaching skills in their current scope of practice [personal communication, NCCHWC Executive Committee of the Board, 8/23/16]. Health and wellness coaches have diverse backgrounds including nurses, exercise professionals, dietitians, physical and occupational therapists, psychologists, social workers, other mental health professionals, and physicians (Wolever et al., 2013). A similar diversity exists in the settings in which health and wellness coaches work, including outpatient clinics, healthcare systems, health plans, employee wellness programs, government programs, health clubs, and private practice (Wolever et al., 2016). Coaching models include one-on-one coaching, group coaching (e.g., Armstrong et al., 2013), and a growing exploration of peer coaching (e.g., Botelho, 2015; Goldman et al., 2013; Rogers et al., 2014).

Coaching delivery includes in-person, phone, videoconference, and secure email and text. Coaching interventions are often supported by technology such as web coaching platforms (Appel et al., 2011) and mobile apps (Spring et al., 2010). Multiple books and papers support the training and education of health and wellness coaches, drawing from sources such as motivational interviewing, self-determination theory, the transtheoretical model, positive psychology, cognitive behavioral tools, social cognitive theory, emotional intelligence, mindfulness, empathy, and neuroscience (e.g., Dossey et al., 2014; Jordan, 2013; Moore et al., 2015). The Institute of Coaching (2015) at McLean Hospital, a Harvard Medical School affiliate, has supported the field since 2008 through education in the translation of science into coaching practice and coaching research grants.

The Evidence Base for Patient Coaching

While the peer-reviewed literature on health and wellness coaching is still in its infancy, both the theoretical and outcomes research is burgeoning, although constrained by heterogeneity in coach definitions, background, training, and study protocols. In terms of study protocols, not only do different studies define coaching in distinct ways, but each investigation differs in the choice of research participants (i.e. type of patient), the inclusion criteria for these participants, the selection of outcomes, the frequency and duration of the coaching (aka 'dose'), the timeline to measurement of the outcomes, and whether or not the coaching is combined with other interventions. In sum, the literature is challenging to digest because of this variability. So, what can be said at this point?

In 2009, the first review of coaching for improved health outcomes included articles from 14 literature databases and identified 72 studies (Newnham-Kanas et al., 2009). This useful overview highlighted concerns with lack of rigor. For example, only 34 studies were RCTs, 20 studies were educational interventions rather than professional coaching, and 12 studies did not define the 'coaching' intervention used. The overview makes clear that the operationalization of health and wellness coaching described in the medical literature is without a consistent standard. However, confusion about the definition of 'coaching' for patients is beginning to clear.

By the end of 2012, 284 peer-reviewed articles on health and wellness coaching were observed in the medical literature, with 76% being empirical (Wolever et al., 2013). A

rigorous PRISMA-guided systematic review sought to shed light on the definitional confusion, and demonstrated that a consensus around the parameters for a definition of patient coaching in healthcare was beginning to show across the literature. The review specifically noted the following intervention components as key to the practice of health and wellness coaching: 1) the coaching process is fully or at least partially patient-centered (observed in 86% of the articles); 2) coaching centers around patient-determined goals (71%); 3) the coach elicits self-discovery and active learning processes rather than more passive patient roles where patients are solely 'advised' or 'educated' (63%); 4) the coaching process utilizes methods to encourage accountability for behaviors (86%); and 5) provides some type of education to patients along with using coaching processes (91%). Importantly, 78% of the articles indicated that coaching interventions occur in the context of a consistent, ongoing relationship with a human coach who has received specific training in behavior change, communication and motivational skills. This emerging consensus is a positive indication of improving consistency in the operationalization of health and wellness coaching.

Nonetheless, the state of this literature is far from the standards typically acceptable in medicine. For example, the systematic review included all relevant peer-reviewed articles on health and wellness coaching, but descriptions of the pertinent domains necessary to code the intervention were not adequate in 11% to 78% of the articles, depending on the research question (Wolever et al., 2013). As an example, 75% of the peer-reviewed articles did not specify the average length of coaching sessions, 52% did not specify the number of sessions provided and 64% did not specify the duration of the coaching process. It is impossible to understand the impact of coaching interventions without these intervention details. In other words, findings from this systematic review also concur with multiple calls in the literature for a clear definition of health and wellness coaching, supported by uniform standards for training and scope of practice (Ammentorp et al. 2013; Kivelä et al., 2014; Olsen & Nesbitt, 2010; Wolever & Eisenberg, 2011). In order to make more sense of the literature, and in particular, to ferret out equivocal results, greater transparency is needed in studies that claim to evaluate 'coaching.'

Despite definitional confusion about coaching as an intervention in healthcare, potential benefits of health and wellness coaching can be culled from five reviews that systematically and clearly define the inclusion criteria for the coaching studies they included. The total number of studies covered in these reviews is small (ranging from 5 to 25) and the need for further description of the interventions is apparent. For example, in one review, nine of the 15 assessed studies still did not define health coaching (Hill et al., 2015). Nonetheless, the reviews strongly suggest the effectiveness of health and wellness coaching in improving motivational processes, psychosocial outcomes, behavioral outcomes and to a lesser degree, immediate biological indices of chronic illness (Ammentorp et al., 2013; Hill et al, 2015; Kivelä et al., 2014; Lindner et al., 2003; Olsen & Nesbitt, 2010).

Sample of Studies of Patient Coaching

Impact of patient coaching on motivation, patient engagement, self-efficacy, and other psychosocial outcomes

While there are negative findings as well, the preponderance of studies that clearly describe their coaching interventions document that coaching increases patient engagement and the health-related self-efficacy necessary to enhance patient outcomes. These include prospective, observational trials (Galantino et al., 2009), quasi-experimental trials

(Linden et al., 2010) and RCTs2011). Even a large scale review of 275 studies that included those without clear coaching definitions concluded that 75% of the RCTs found that health coaching can support individuals' motivation to change health behaviors and their self-confidence to do so (National Health Service Evidence Centre, 2014). In terms of other psychosocial outcomes, RCTs of health coaching with patients with type 2 diabetes have shown improved depressive symptoms (Sacco et al., 2009), lowered perceived stress, and improved perception of health status (Sacco et al., 2009; Wolever et al., 2010). Similarly, RCTs of health coaching with cancer patients have shown greater vitality and improved mental health (Thomas et al., 2012).

Impact of patient coaching on adoption of health behaviors

When systematic reviews cast the net more widely to include studies that do not define health coaching clearly, the evidence is more muddled, but still suggests positive results in the domain of lifestyle behaviors. For example, 59% of 32 RCTs reviewed reported that health coaching can support people to adopt healthy behaviors and lifestyle choices such as lowered use of alcohol and tobacco, eating more fruits and vegetables, and exercising more regularly (National Health Service Evidence Centre, 2014). The nuances of the literature, however, point to the need of more consistent and rigorous definitions in the methodology. As an example, a well-designed and conducted RCT tested the use of coaching by physical therapists to help rheumatoid arthritis patients achieve standardized exercise goals. At the end of both the one-year coaching intervention, and a second year follow-up, the coaching intervention, in comparison to usual care, failed to demonstrate an improvement in physical activity at recommended levels (Sjöquist et al., 2011). Since multiple trials in other patient groups have demonstrated improvements in physical activity, it is unclear why this trial did not capture such.

Possible explanations include the background and coach training of the interventionists, how the outcomes were measured, and the very definition of 'coaches' and the 'coaching intervention.' More specifically, the intervention was described as physical therapists who 'informed [patients] about the benefits of physical activity' and discussed 'their thoughts about their body function and possibilities for physical activity' (Brodin et al., 2008). Description of the intervention states that goals for physical activity 'were formulated and documented according to a structured manual based on the principles of graded activity training' but the relative roles of self-determination in goal setting and active learning in problem solving are unclear (Brodin et al., 2008). The point is that the coaching intervention trials that have emerged in healthcare assess a wide range of disparate outcomes and reflect a variety of interventions delivered by a highly heterogeneous group of professionals and paraprofessionals, to quite variable patient groups.

At this point, most reviews suggest that the behavioral change evidence from coaching interventions provides at least a strong signal that merits further exploration. When considering only those trials with well-defined health coaching interventions, RCTs typically demonstrate improvement in lifestyle behavior. While conflicting reports with strong methodologies exist (e.g., Sjöquist et al., 2011), the majority of the more rigorous trials show improvement in physical activity (Hersey et al., 2012; Rimmer et al., 2009), dietary intake (Sacco et al., 2009), medication adherence (Wolever et al., 2010) and specific self-care procedures such as foot care for patients with diabetes (Sacco et al., 2009).

As an example of the impact observed when adding a health coach, consider that typical workplace tobacco cessations programs and smoke-free policies have generally resulted in meager reductions in smoking prevalence of 3.8% (Fichtenberg & Glantz, 2002). One telephone-based tobacco cessation program,

which included health coaches as part of an employee wellness program, however, achieved a quit rate of 32% compared to 18% among nonparticipants (Terry, 2011). Another health coaching program delivered by a hospital to local employers noted that the quit rate at one year for 161 participants was 63% (Sforzo et al., 2014).

Impact of patient coaching on biological risk factors

In terms of a positive impact on biological outcomes, the evidence is more mixed. Only 2 of the 6 published reviews, 37% of the 60 RCTs and 84% of the non-RCT studies found largely positive results on biological outcomes (National Health Service Evidence Centre, 2014). The potential role of definitional confusion can be clearly seen in the biological results as well. In general, the strongest findings with the most highly defined coaching interventions that are provided by professionals well-trained in coaching, have been in cardiovascular and metabolic health. Coaching, whether provided alone or as part of a larger program, has been shown to improve biomarkers including total cholesterol, body mass index, fasting blood sugar, hemoglobin A1C, and risk of subsequent coronary events (Allen et al., 2011; Appel et al., 2011; Edelman et al., 2006; Kumanyika et al., 2012; Leahey & Wing, 2013; Rimmer et al., 2009; Sacco et al., 2004; Vale et al., 2003; Whittemore et al., 2004; Wolever et al., 2010).

Impact of patient coaching on cost and utilization

Finally, there is insufficient evidence to draw conclusions about the impact of health coaching on utilization or costs (National Health Service Evidence Centre, 2014). Several studies revealed promising findings, but this work is in its infancy. In an early study, 229 participants in a Duke employee health program received health coaching as part of a larger intervention that also involved case management and physician incentives. In year 1 (2003–2004), high-risk participants with heart disease, diabetes and history of expensive claims received nine 60-minute group coaching sessions and demonstrated a decline in inpatient admissions by 25.4%. Simultaneously, admissions increased 6.4% for similar participants who did not participate in the coaching program (Hignite, 2008). While one could argue that positive human contact of any kind could elicit a therapeutic effect for health issues, quality health coaching employs specific processes and also covers self-care and self-management that can impact the making of wise, cost-effective choices in terms of urgent care. Hence, it is reasonable to assume that health coaching is more likely to lower inappropriate emergency room usage and medical utilization than would a strictly supportive alliance that had no additional coaching elements.

In a more recent and much larger cost-effectiveness trial, 174,120 subjects were studied who had high healthcare costs and selected chronic and 'preference-sensitive' conditions such as those in need of hip-replacement or back surgery. Total medical costs and utilization metrics were compared for the subsequent 12 months between those participants randomized to health coaching versus a support condition. Average per member, per month (pmpm) medical and pharmacy costs were 3.6% lower in the coaching group, averaging $7.96 pmpm. The majority of the cost savings were generated by a 10.1% reduction in annual hospital admissions and some savings from decreased use of emergency rooms. Given that the cost to run the health coaching program was less than $2.00 pmpm, an estimated return on investment was documented of almost 4:1 (Wennberg et al., 2010).

ISSUES IN HEALTH AND WELLNESS COACHING

As the rigor of the research improves and definitional issues are addressed, this rapidly

growing body of work on health and wellness coaching is likely to support other areas of coaching research. In addition to providing both efficacy and effectiveness data, the most powerful mechanisms of action in coaching will become more clearly delineated through empirical work. Moreover, as mechanisms are clarified, the use of particular skills can be assessed both when used by professional health and wellness coaches, and when used by other healthcare professionals in combination with their different roles. The healthcare context provides a particularly rich environment in which to study the use of coaching skills by non-coach professionals.

Compared to other coaching fields, however, there are also four main differences in health and wellness coaching which must be considered. One early health coaching review noted that health coaching interventions generally covered at least one of three domains: behavior change strategies, psychosocial support, or disease-related education (Lindner et al., 2003). Interestingly, the last of these domains represents a clear departure from other fields of coaching and reflects the historical context of medicine wherein providers educate patients. A related area of difference between health coaching and other coaching arenas include the knowledge base needed by coaches in the health and wellness arena, particularly when coaching medical patients. The third area of difference centers on the fact that patients as clients are likely to be more vulnerable than other coaching clients. Finally, the payment models for coaching in healthcare are quite distinct.

Content Education in Health and Wellness Coaching

Provision of content education is a significant point of debate in health and wellness coaching. Coaches are often asked by their employers to provide content education – information from expert credible sources, with the intention of helping patients to better understand a specific health condition or related factors (e.g., disease or condition information, typically tracked clinical markers) or well-established consensus guidelines for health behaviors. In fact, expert information is what patients expect from their healthcare providers. Here is the first place where where health coaching departs from health education in patient care. There is evidence that imparting knowledge is not the most useful approach to inspire sustainable change. Education is necessary but far from sufficient to self-manage chronic illness (Caldwell et al., 2013; Huffman, 2009; Lindner et al., 2003; Newnham-Kanas et al., 2009; Whittaker et al., 2012; Whittemore et al., 2004). Moreover, providing information prescriptively or with an expert attitude is counterproductive to involving patients in their own care (Joseph-Williams et al., 2014).

Keys to a helpful approach to education include optimal timing so that patients are open to take it in, offering the right dose of information to avoid overwhelm, and ensuring that clients get the knowledge immediately relevant for their next steps. Various evidence-based interventions that have an optimal approach to health education include relationship-centered methods that support autonomy (Williams et al., 2006) such as shared decision making (e.g., Durand et al., 2015), maintenance care interventions (e.g., Friedmann, 2006), and motivational interviewing (e.g., Rollnick et al., 2007). Theoretical models that go beyond health education and support coaching are often cited in health coaching research, including the application of Social Cognitive Theory (Bandura, 1997) to help build a patient's motivation, self-efficacy, and engagement. A well-researched change model, the Transtheoretical Model, assists health coaches to help their patients or clients appreciate the stages that they will cycle through as they contemplate, prepare, act and sustain change, and then match strategies to stages of readiness to change (Norcross et al., 2011).

For the most part, effective health coaches avoid teaching, advising, or telling clients what to do (Jordan, et al., 2015; Wolever et al., 2016). The most effective means of applying their health/disease lifestyle knowledge is to facilitate learning and discovery on the client's part through the cycle of health coaching itself by:

- establishing the alliance with trust, rapport and empathy;
- holding the client's agenda foremost;
- evoking client values and strengths;
- evoking the client's broader vision to support desired health outcomes;
- supporting the patient in seeking clarity and self-assessing readiness;
- identifying the patient-determined goals;
- supporting movement into action;
- tracking progress in ways the patient has identified to increase their own accountability;
- helping the client to articulate learning and insights; and
- continuing to plan for sustained changes (Jordan, 2013; Smith et al., 2013).

Application of a coach's health/disease knowledge may be required at any of these stages. The difficult balancing act for a health coach is to hold the health/disease knowledge, without acting like a content expert or interrupting the flow and dynamic process of clients gaining insight for themselves.

Here is the second place where health coaching departs from health education in patient care. In health and wellness coaching, the provision of information should be titrated to the needs of the coaching client. Specifically, coaches help clients determine the type and amount of information needed 'just in time,' find reliable information sources, and select an optimal learning mode (e.g., lecture vs. reading vs. video, or expert consultation). The coach should follow an evidence-based practice for supporting clients in gaining new knowledge and skills. Stober, Wildflower and Drake (2006), for example, suggest that the three primary ingredients make up the concept of an evidence-based practice. They include: 1) the preferences or interests held by the client; 2) the most credible and current information; and 3) the practitioner's expertise (p.8). This tension in how to best provide education is well articulated in narrative medicine; Haidet and Paterniti (2003) note that the provider's

> perspective may exclude crucial patient-oriented data necessary to achieve therapeutic effectiveness. The patient's perspective may miss critical biomedical facts needed for accurate diagnosis. [Providers] need a method of fostering efficient sharing of critical biomedical and patient-specific information necessary for both [the] biomedical management of disease and [the] therapeutic healing of illness. (as cited in Drake, 2015, pp.133–134)

Another hotly debated topic in health and wellness coaching is the appropriate and necessary knowledge base for a health and wellness coach. Most would agree that a coach must have sufficient health/disease knowledge to know when to interrupt a counterproductive or potentially dangerous action on the client's part. If a patient or client expresses an interest in pursuing a seemingly unsafe exercise routine after a heart attack, or wants to begin a nutritionally-deficient diet fad, then a health coach needs to switch roles, dropping the coach role and adopting a health educator stance while encouraging the patient to review their goals with a licensed healthcare provider. In those moments, the backdrop of quietly held health/disease knowledge moves to the forefront. Most health coach training curricula recommend that the coach asks permission to switch roles (e.g., Caldwell et al., 2013) explains the reasons, and reminds the client of a prior agreement that clarified that the coaching alliance would most likely contain a portion of health education along with the health coaching. After disabusing the patient of erroneous or potentially harmful information, the coach then returns to coaching methodology as soon as possible (e.g., Jordan, 2013; Moore et al., 2015).

Uniform Standards for a Knowledge Base for Coaches in Healthcare

The formation of the non-profit NCCHWC in 2010 is moving the field of health coaching forward in the United States (Jordan et al., 2015; Wolever et al., 2016). The NCCHWC sponsored a professionally-led job task analysis (JTA) to define the role of health and wellness coaches, clarify scope of practice, and determine training and education standards that would produce competent health and wellness coaches. The national standards further allow for a collaborative research agenda including broad compilation of evidence on the effectiveness of coaching in healthcare across diverse settings, as well as more specific findings on best practices within coaching that lead to optimal outcomes. The NCCHWC has launched national training and education standards to accredit programs, and individual certification for health and wellness coaches will become effective in 2017 with the joint support of the NCCHWC and the NBME.

With respect to the education of coaches in the domains of health sciences and lifestyle medicine, NCCHWC has set an initial standard of at least 15 hours of education in evidence-based healthy lifestyle information to acquire foundational knowledge of the factors that promote health and well-being. Health and wellness coaches should have knowledge of basic, evidence-based healthy lifestyle recommendations by credible sources, including the Centers for Disease Control and Prevention (CDC, Healthy Living, 2015), the National Institutes of Health, the American College of Sports Medicine (2015), and the American College of Lifestyle Medicine (2015). The required health knowledge will continue to evolve; for example, some health professionals also believe that health coaches should have foundational knowledge of the common chronic conditions that affect the majority of the US population: obesity, hypertension, diabetes, cardiovascular disease, other inflammatory diseases (e.g., degenerative brain disease and degenerative joint diseases), cancer, and chronic pain.

Patient Vulnerability

Unique to coaching in healthcare is the fact that many clients in need of health and wellness coaching are simultaneously struggling with medical conditions that threaten their self-definition, if not their lives. In addition, financial and familial pressures may add to this vulnerability. Patients may feel exposed discussing the types of behaviors and lifestyle that led to poor states of health. Health coaching clients may thus be more vulnerable than those coached in the executive or life coaching arena (Wolever et al., 2011). When patients face troubling chronic health conditions, limitations or illness, often co-morbid with mental health conditions, their vulnerabilities surface, presenting health coaches with an added challenge of being present and supportive, as patients face their fears. Vulnerability is often a reciprocated exchange. When patients deal with physical and mental health problems, health coaches may, in turn, face their own fears of insecurity (role and financial), disability, and mortality. Hence, vulnerability inherent in working with the physical body and the full gamut of mental and physical health issues may push buttons in health coaches – leading them to be more protective of their clients, or more judgmental. Either can lead to transference, over-identification and coach burnout.

Case reports on credentialed nurse coaches find that addressing holistic self-care for the coach herself is a critical keystone to ongoing professional development and prevention of burnout (Dossey et al., 2014). The nurse coach board certification was created in 2013 for registered nurses and advanced practice nurses who wish to add patient coaching skills to their practices (International Nurse Coach Association, 2015). Holistic self-care

is particularly important, given the interpersonal and intrapsychic issues that arise in the coach when working with chronically ill patients. Furthermore, the interpersonal dynamic presented when coaching those who are ill, injured or traumatized requires clear skills in emotional self-regulation, and a well-developed awareness of the coach's own internal processes (Livingstone & Gaffney, 2013).

Payment Models

The final distinction between coaching in healthcare and coaching in other contexts is related to payment models. While in executive and life coaching, individuals or their corporations typically pay for coaching services, the use of health and wellness coaching will not flourish without capitalizing on multiple modes of payment. Indeed, 'who should pay for health coaching?' is more than a philosophical question. If coaching leads to improved health, which lowers the burden of chronic illness for healthcare institutions, federal and state budgets, and indeed society, then all parties ideally would support the use of health and wellness coaching. Self-insured companies and health insurance companies are already recognizing the promise of health and wellness coaching. Use of 'health coaching' is written into the US Accountable Care Act regulations (2010), although it is not defined and third-party reimbursement is primarily occurring through pilots and demonstration projects.

As the healthcare system moves from fee-for-service models, or volume models, into value-based models and accountable care organizations (ACOs), there is greater likelihood that coaching will be deemed cost effective and more widely disseminated in coming years in both clinical and community settings. While the promise of greater dissemination may increase access to coaching, the result of coaching being dictated by ACOs may put undue pressure on the need for immediate positive biological outcomes. If coaches are pressured to produce a priori-defined outcomes rather than self-determined goals, there is risk of undermining the learning process itself that is seminal to coaching.

One payment-related concern is third party requirements for reimbursement and the myriad questions they raise. If a third party (private insurance, government or employer) covers the cost of health and wellness coaching, what authority do they maintain in designing patient-determined goals? Where are coaching interventions best delivered – in clinical offices, corporations, or through communities and consumer channels? What coach training and expert background are needed for reimbursement? Should coaching clients be required to contribute a co-pay? Should payers be able to approve or deny target areas for coaching? To a payer, coaching to lower blood glucose seems quite different from coaching to lower distress, particularly if the distress is driven by personal or professional relationships and other life and work issues. Yet, improving the latter may be the germinal mechanism to lowering blood glucose.

Until the evidence base clearly demonstrates that patient-defined goals (versus externally-defined targets) produce stronger and more sustainable change, we may be left with policy driven by confounds rather than a clear evidence-base. On the positive side, however, the push to clarify the effectiveness of health and wellness coaching (as well as specific mechanisms of change) will propel the research agenda forward in a way that may also inform other fields of coaching.

Health Coaching Competencies Contribute to Healthcare Culture

Last we want to briefly touch on how coaching skills can be taught to non-coach health providers as a strategy to improve patient outcomes. For example, when physicians were trained in motivational interviewing

techniques (collaboration, empathy, open inquiry, reflections), their patients lost an average of 1.6 kilograms three months later after a single patient visit. The patients whose physicians were not using motivational interviewing techniques maintained or even gained weight (Pollack et al., 2010). In a few moments, healthcare providers can make a difference by using a collaborative rather than a prescriptive dynamic. Similarly, physicians who employ another key competence of coaches – empathy - appear to produce better outcomes in their patients. Compared to patients whose physicians had low empathy scores, patients whose physicians had high empathy scores were significantly more likely to have good control of blood sugar and cholesterol levels (Hojat et al., 2011).

Finally, the training of providers in two other coach competencies may also be helpful: self-awareness and non-judgmental presence. An ongoing criticism in healthcare is that the 'unconscious bias by healthcare professionals' contributes to racial health disparities and deficits in the quality of care, and this deplorable situation continues to persist long after the 2003 report of the Institute of Medicine (Williams & Wyatt, 2015, p. 555). Training providers to recognize their own biases and to adopt a deeply non-judgmental presence may be helpful to all of healthcare.

CONCLUSION

The dissemination of coaches and coaching principles across the healthcare spectrum – to leaders, the provider workforce, and the entire population in clinical, corporate, community and consumer settings – is positioned to make a vital contribution to the reinvention of healthcare systems globally. Collectively we need healthcare systems that are led by highly competent leaders who foster organizational cultures that promote innovation and well-being of the healthcare workforce. All of that is in service of slowing the tide of chronic diseases and fostering optimal health for all. A key to progress is the development of a more coordinated and strategic research agenda on coaching in its many forms across the healthcare ecosystem.

REFERENCES

Alacacioglu, A., Yavuzsen, T., Dirioz, M., Oztop, I., & Yilmaz, U. (2009). Burnout in nurses and physicians working at an oncology department. *Psycho-oncology*, *18*(5), 543–548.

Allen, J. K., Dennison-Himmelfarb, C. R., Szanton, S. L., Bone, L., Hill, M. N., Levine, D. M., … Anderson, K. (2011). Community outreach and cardiovascular health (COACH) trial: A randomized, controlled trial of nurse practitioner/community health worker cardiovascular disease risk reduction in urban community health centers. *Circ Cardiovasc Qual Outcomes*, *4*(6), 595–602. doi: 10.1161/CIRCOUTCOMES.111.961573

Ammentorp, J., Uhrenfeldt, L., Angel, F., Ehrensvard, M., Carlsen, E. B., & Kofoed, P. (2013). Can life coaching improve outcomes? – A systematic review of intervention studies. *BMC Health Services Research*, 13, 428.

American College of Lifestyle Medicine (2015). Retrieved 11/30/15 from http://www.lifestylemedicine.org/

American College of Sports Medicine (2015). Retrieved 11/30/15 from http://www.acsm.org/

Appel, L. J., Clark, J. M., Yeh, H. C., Wang, N. Y., Coughlin, J. W., Daumit, G., … Brancati, F. L. (2011). Comparative effectiveness of weight-loss interventions in clinical practice. *New England Journal of Medicine*, *365*(21), 1959–1968.

Armstrong, C., Wolever, R. Q., Manning, L., Elam, R., Moore, M., Frates, E. P., … Lawson, K. (2013). Group health coaching: strengths, challenges and next steps. *Global Advances in Health and Medicine*, *2*(3), 95–102. doi:10.7453/gahmj.2013.019.

Bandura, A. (1997). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, *84*(2), 191–215.

Berrigan, D., Dodd, K., Troiano, R. P., Krebs-Smith, S., & Barbash, R. B. (2003).

Patterns of health behavior in U.S. adults. *Preventive Medicine*, *36*(5), 615–623.

Berwick, D. M., Nolan, T. W., & Whittington, J. (2008). The Triple Aim: Care, health, and cost. *Health Affairs*, *27*(3), 759–769.

Bloom, D. E., Cafiero, E. T., Jané-Llopis, E., Abrahams-Gessel, S., Bloom, L. R., Fathima, S., … & Weinstein, C. (2011). *The Global Economic Burden of Noncommunicable Diseases*. Geneva: World Economic Forum. Retrieved 11/24/15 from http://www3.weforum.org/docs/WEF_Harvard_HE_GlobalEconomicBurdenNonCommunicableDiseases_2011.pdf

Bodenheimer, T., Lorig, K., Holman, H., & Grumbach, K. (2002). Patient self-management of chronic disease in primary care. *Journal of the American Medical Association*, *288*, 2469–2475.

Bodenheimer, T. & Sinsky, C. (2014). From triple to quadruple aim: Care of the patient requires care of the provider. *Annals of Family Medicine*, *12*(6), 573–576.

Bouchard, S. (2012, June 13). *Gambling with the future of healthcare.* Healthcare Finance News. [Interview with David Walker, former U.S. Comptroller General.] Retrieved 11/27/15 from http://www.healthcarefinancenews.com/news/gambling-future-healthcare

Botelho, R. (2015). Health coaching buddies. Retrieved from www.healthcoachingbuddies.com

Brodin, N., Eurenius, E., Jensen, I., Nisell, R., & Opava, C. H. (2008). Coaching patients with early rheumatoid arthritis to healthy physical activity: A multicenter, randomized, controlled study. *Arthritis and Rheumatism*, *59*(3), 325–331. doi:10.1002/art.23327

Caldwell, K. L., Grey, J., & Wolever, R. Q. (2013). The process of patient empowerment in integrative health coaching: how does it happen? *Global Advances in Health and Medicine*, *2*(3), 48–57. doi:10.7453/gahmj.2013.026.

CareCloud & QuantiaMD. (2014). *The second annual practice profitability index. Tracking operational and financial health of US physician practices.* Retrieved 11/27/15 from http://on.carecloud.com/ppi-report-2014.html?lead_source=web&lead_source_detail=carecloud.com&ls_description=ppi-report-2014-resource-page

CareerBuilder. (2013). *More than one third of employed health care workers plan to look for a new job this year, CareerBuilder health care study reveals.* CareerBuilder. [Press Release.] Retrieved 11/27/15 from http://www.careerbuilder.com/share/aboutus/pressreleasesdetail.aspx?sd=4/30/2013&id=pr754&ed=12/31/2013

Center for Disease Control and Prevention. (2015). *Chronic Disease Overview*. Retrieved 11/27/15 from http://www.cdc.gov/chronicdisease/overview/index.htm

Center for Disease Control and Prevention. (2015). *Healthy Living*. Retrieved 8/14/15 from http://www.cdc.gov/healthyliving

Dossey, B. M., Luck, S., & Schaub, B. G. (2014). *Nurse coaching: Integrative approaches for health and wellbeing*. North Miami, FL: International Nurse Coach Association.

Drake, D. B. (2015). *Narrative coaching: Bringing our new stories to life.* Petaluma, CA: CNC Press.

Durand, M. A., Moulton, B., Cockle, E., Mann, M., & Elwyn, G. (2015). Can shared decision-making reduce medical malpractice litigation? A systematic review. *BMC Health Services Research, 15*, 167. doi:10.1186/s12913–015-0823–2

Edelman, D., Oddone, E. Z., Liebowitz, R. S., Yancy, W. S., Olsen, M. K., Jeffreys, A. S., … Gaudet, T. (2006). A multidimensional integrative medicine intervention to improve cardiovascular risk. *Journal of General Internal Medicine*, *21*(7), 728–734. doi:10.1111/j.1525–1497.2006.00495.x

Fichtenberg, C. M., & Glantz, S. A. (2002). Effect of smoke-free workplaces on smoking behavior: Systematic review. *British Medical Journal*, *325*, 188–194.

Frates, B., & Moore, M. (2013). Health and wellness coaching: Skills for lasting change. In J. Rippe (Ed), *Lifestyle medicine* (2nd ed., pp. 343–62). New York: CRC Press.

Friedberg, M. W., Chen, P. G., Van Busum, K. R., Aunon, F., Pham, C., Caloyeras, J., … & Tutty, M. (2013). *Factors affecting physician professional satisfaction and their implications for patient care, health systems, and health policy.* [Research Report.] Santa Monica, CA: RAND Corporation. Retrieved 11/27/15 from http://www.rand.org/pubs/research_reports/RR439.html

Friedmann, P., Rose, J., Hayaki, J., Ramsey, S., Charuvastra, A., Dube, C., … Stein, M.D. (2006). Training primary care clinicians in maintenance care for moderated alcohol use. *Journal of General Internal Medicine*, *21*, 1269–1275.

Galantino, M. L., Schmid, P., Milos, A., Leonard, S., Botis, S., Dagan, C., … Mao, J. (2009). Longitudinal benefits of wellness coaching interventions for cancer survivors. *International Journal of Interdisciplinary Social Sciences*, *4*(10), 41–58.

Garman, A.N. & Lemak, C.H. (2011). Developing healthcare leaders: What we have learned, and what is next. *National Center for Healthcare Leadership*. [White Paper]. Chicago, IL. Retrieved 11/27/15 from http://www.nchl.org/Documents/Ctrl_Hyperlink/doccopy6816_uid2202015927061.pdf

Gazelle, G., Liebschutz, J., & Riess, H. (2015). Physician burnout: Coaching a way out. *Journal of General Internal Medicine*, *30*(4), 508–513.

Goldman, M. L., Ghorob, A., Eyre, S. L., & Bodenheimer, T. (2013). How do peer coaches improve diabetes care for low-income patients? A qualitative analysis. *The Diabetes Educator*, *39*(6), 800–810. doi:10.1177/0145721713505779

Grant, A. M., Curtayne, L., & Burton, G. (2009). Executive coaching enhances goal attainment, resilience and workplace well-being: A randomised controlled study. *The Journal of Positive Psychology*, *4*(5), 396–407.

Haidet, P., & Paterniti, D.A. (2003). Building a history rather than taking one a perspective on information sharing during the medical interview. *Archives of Internal Medicine,* 163(10),1134–1140.

Harrison, P. L., Pope, J. E., Coberley, C. R., & Rula, E. Y. (2012). Evaluation of the relationship is between individual well-being and future health care utilization and cost. *Population Health Management*, *15*, 325–330.

Healthcare industry (2015). Retrieved 12/28/15 from https://en.wikipedia.org/wiki/Healthcare_industry

Henochowicz, S., & Hetherington, D. (2006). Leadership coaching in health care. *Leadership & Organization Development Journal*, *27*(3), 183–189.

Hersey, J. C., Khavjou, O., Strange, L. B., Atkinson, R. L., Blair, S. N., Campbell, S, …, Britt, M. (2012). The efficacy and cost-effectiveness of a community weight management intervention: A randomized controlled trial of the health weight management demonstration. *Preventive Medicine*, *54*(1), 42–49. doi:http://dx.doi.org.proxy.lib.duke.edu/10.1016/j.ypmed.2011.09.018

Hignite, K. (2008). STRATEGY: Segmenting risk. *NACUBO HR Horizons*, *3*(*2*), June 2010.

Hill, B., Richardson, B., & Skouteris, H. (2015). Do we know how to design effective health coaching interventions: A systematic review of the state of the literature. *American Journal of Health Promotion*, *29*(5), e158-e168. doi:http://dx.doi.org/10.4278/ajhp.130510-LIT-238

Hojat, M., Louis, D. Z., Markham, F. W., Wender, R., Rabinowitz, C., & Gonnella, J. S. (2011). Physicians' empathy and clinical outcomes for diabetic patients. *Academic Medicine*, *86*(3), 359–364.

Huffman, M. H. (2009). Health coaching: a fresh, new approach to improve quality outcomes and compliance for patients with chronic conditions. *Home Healthcare Nurse*, *27*(8), 490–496.

Institute of Coaching (2015). Retrieved 11/30/15 from http://www.instituteofcoaching.org/

International Nurse Coach Association (2015). Retrieved 11/24/15 from http://inursecoach.com/certificate-program/

Izumi, S., Ando, K., Ono, M., Suzukamo, Y., Michimata, A., & Fukuhara, S. (2007). Effect of coaching on psychological adjustment in patients with spinocerebellar degeneration: A pilot study. *Clinical Rehabilitation*, *21*(11), 987–996.

Jordan, M. (2013). *How to be a Health Coach: An Integrative Wellness Approach*. San Rafael, CA: Global Medicine Enterprises, Inc.

Jordan, M., Wolever, R. Q., Lawson, K. L. & Moore, M. (2015). National training and education standards for health and wellness coaching: The path to national certification. *Global Advances in Health and Medicine*, *4*(3), 46–56. doi: 10.7453/gahmj.2015.039

Joseph-Williams, N., Elwyn, G., & Edwards, A. (2014). Knowledge is not power for patients: A systematic review and thematic synthesis

of patient-reported barriers and facilitators to shared decision making. *Patient Education and Counseling*, *94*(3), 291–309. doi:http://dx.doi.org.proxy.lib.duke.edu/10.1016/j.pec.2013.10.031

Keyes, C. (2002). The mental health continuum: From languishing to flourishing in life. *Journal of Health and Social Behavior*, *43*(2), 207–222.

Kivelä, K., Elo, S., Kyngäs, H., & Kääriäinen, M. (2014). The effects of health coaching on adult patients with chronic diseases: A systematic review. *Patient Education and Counseling*, *97*(2), 147–157.

Kobau, R., Sniezek, J., Zack, M. M., Lucas, R. E., & Burns, A. (2010). Well-being assessment: An evaluation of well-being scales for public health and population estimates of well-being among US adults. *Applied Psychology: Health and Well-Being*, *2*(3), 272–297.

Kumanyika, S. K., Fassbender, J. E., Sarwer, D. B., Phipps, E., Allison, K. C., Localio, R., … Wadden, T. A. (2012). One-year results of the think health! study of weight management in primary care practices. *Obesity*, *20*(6), 1249–1257. doi:10.1038/oby.2011.329

Law, H., & Aquilina, R. (2013). Developing a healthcare leadership coaching model using action research and systems approaches – a case study: Implementing an executive coaching programme to support nurse managers in achieving organisational objectives in Malta. *International Coaching Psychology Review*, *8*(1), 54–71.

Leahey, T. M., & Wing, R. R. (2013). A randomized controlled pilot study testing three types of health coaches for obesity treatment: Professional, peer, and mentor. *Obesity*, *21*(5), 928–934. doi:http://dx.doi.org/10.1038/oby.2012.179

Linden, A., Butterworth, S. W., & Prochaska, J.O. (2010). Motivational interviewing-based health coaching as a chronic care intervention. *Journal of Evaluation in Clinical Practice*, *16*(1), 166–174.

Lindner, H., Menzies, D., Kelly, J., Taylor, S., & Shearer, M. (2003). Coaching for behaviour change in chronic disease: A review of the literature and the implications for coaching as a self-management intervention. *Australian Journal of Primary Health*, *9*(2/3), 177–185.

Livingstone, J. & Gaffney, J. (2013). IFS and health coaching: A new model of behavior change and medical decision making. In M. Sweezy & E.L. Siskind (Eds.), *Internal family systems therapy: New dimensions* (pp. 143–158). NewYork: Routledge.

Marrero, S. L., Bloom, D. E., & Adashi, E. Y. (2012). Noncommunicable diseases: A global health crisis in a new world order. *Journal of the American Medical Association*, *307*(19), 2037–2038.

Mattioli, D., Siconolfi, M., & Cimilluca, D. (2015, October 27). Walgreens, Rite Aid unite to create drugstore giant: Merger deal with $9.4 billion price tag comes as companies across health-care industry seek to bulk up. *The Wall Street Journal*. Retrieved 11/25/2015 from http://www.wsj.com/articles/walgreens-boots-alliance-nears-deal-to-buy-rite-aid-1445964090

McGowan, B. (2001). Self-reported stress and its effects on nurses. *Nursing Standard (Royal College of Nursing)*, *15*(42), 33–38. doi: 10.7748/ns2001.07.15.42.33.c3050.

McHugh, M. D., Kutney-Lee, A., Cimiotti, J. P., Sloane, D. M., & Aiken, L. H. (2011). Nurses' widespread job dissatisfaction, burnout, and frustration with health benefits signal problems for patient care. *Health Affairs*, *30*(2), 202–210.

Meadows, S. (2014, August 19). A physician with a troubled conscience puts himself on the couch: In 'Doctored,' Sandeep Jauhar examines a broken system. *The New York Times.* [Book Review of DOCTORED: The Disillusionment of an American Physician.]. Retrieved 11/22/15 from http://www.nytimes.com/2014/08/20/books/in-doctored-sandeep-jauhar-examines-a-broken-system.html

Meeto D. (2008). Chronic diseases: The silent global epidemic. *British Journal of Nursing*, *17*(21), 1320–5.

Moore, M., Jackson, E., & Tschannen-Moran. (2015) *Coaching Psychology Manual* (2nd ed). Baltimore, MD: Wolters Kluwer.

Nash, D. B., Fabius, R. J., Skoufalos, A., & Clarke, J. L. (2015). *Population health: Creating a culture of wellnesss* (2nd ed). Burlington, MA: Jones & Bartlett.

National Center for Healthcare Leadership (2014). Physicians leadership development

programs: Best practices in healthcare organizations. Retrieved 11/27/15 from http://www.nchl.org/Documents/Ctrl_Hyperlink/NCHL_Physician_Leadership_Development_White_Paper_Final_05.14_uid9142015803251.pdf

National Consortium for Credentialing Health and Wellness Coaches (2015). Retrieved 11/27/15 from http://www.ncchwc.org/

National Health Service Evidence Centre (2014). *Does health coaching work? Summary of key themes from a rapid review of empirical evidence*. East of England: The Evidence Center for Health Education East of England (HEEoE). Retrieved 2/2/16 from https://eoeleadership.hee.nhs.uk/sites/default/files/Does%20health%20coaching%20work%20-%20a%20review%20of%20empirical%20evidence_0.pdf

National Health Service Leadership Academy. (2015). *Coaching register*. Retrieved 11/27/15 from http://www.leadershipacademy.nhs.uk/resources/coaching-register/

Newnham-Kanas, C., Gorczynski, P., Morrow, D., & Irwin, J. D. (2009). Annotated bibliography of life coaching and health research. *International Journal of Evidence Based Coaching and Mentoring*, *7*(1), 39–103.

Norcross, J. C., Krebs, P. M., & Prochaska, J. O. (2011). Stages of Change. In J.C. Norcross, (Ed.), *Psychotherapy relationships that work: Evidence-based responsiveness*. Oxford, UK: Oxford University Press.

Olsen, J. M., & Nesbitt, B. J. (2010). Health coaching to improve healthy lifestyle behaviors: An integrative review. *American Journal of Health Promotion*, *25*(1), e1–e12.

Patient-Centered Outcomes Research Institute (2015). Retrieved 11/30/15 from http://www.pcori.org/

The Patient Protection and Affordable Care Act (PPACA). (2010). 124 Stat. 119 through 124 Stat. 1025 (906 pages).

Physician Coaching Institute. (2015). Retrieved 11/23/15 from http://physiciancoachinginstitute.com

The Physicians' Foundation. (2008). *The physicians' perspective: Medical practice in 2008*. Retrieved 11/27/15 from http://www.physiciansfoundation.org/uploads/default/PF_Medical_PracticeSurvey_Report_2008.pdf

Pollack, K. I., Alexander, S. C., Coffman, C. J., Tulsky, J. A., Lyna, P., Dolor, R. J., …Ostbye, T. (2010). Physician communication techniques and weight loss in adults: Project CHAT. *American Journal of Preventive Medicine*, *39*(4), 321–328.

Rimmer, J. H., Rauworth, A., Wang, E., Heckerling, P. S., & Gerber, B. S. (2009). A randomized controlled trial to increase physical activity and reduce obesity in a predominantly African American group of women with mobility disabilities and severe obesity. *Preventive Medicine*, *48*(5), 473–479.

Rogers, E. A., Hessler, D. M., Bodenheimer, T. S., Ghorob, A., Vittinghoff, E., & Thom, D. H. (2014). Diabetes peer coaching: Do 'Better patients' make better coaches? *The Diabetes Educator*, *40*(1), 107–115. doi:10.1177/0145721713513178

Rollnick, S., Miller, W.R., & Butler, C.C. (2007). *Motivational interviewing in healthcare: Helping patient change behavior*. New York: Guilford Press.

Sacco, W. P., Morrison, A. D., & Malone, J. I. (2004). A brief, regular, proactive telephone 'coaching' intervention for diabetes rationale, description, and preliminary results. *Journal of Diabetes and its Complications*, *18*(2), 113–118.

Sacco, W., Malone, J., Morrison, A., Friedman, A., & Wells, K. (2009). Effect of a brief, regular telephone intervention by paraprofessionals for type 2 diabetes. *Journal of Behavioral Medicine*, *32*(4), 349–359. doi:10.1007/s10865–009-9209–4

Schneider, S., Kingsolver, K., & Rosdahl, J. (2014). Physician coaching to enhance well-being: A qualitative analysis of a pilot intervention. *Explore: The Journal of Science and Healing*, *10*(6), 372–379.

Sforzo, G. A., Kaye, M., Ayers, G. D., Talbert, B., & Hill, M. (2014). Effective tobacco cessation via health coaching: An institutional case report. *Global Advances in Health and Medicine*, *3*(5), 37–44.

Shanafelt, T. D., Boone, S., Tan, L., Dyrbye, L. N., Sotile, W., Satele, D., … Oreskovich, M.R. (2012). Burnout and satisfaction with work-life balance among US physicians relative to the general US population. *Archives of Internal Medicine*, *172*(18), 1377–1385.

Shanafelt, T. D., Gorringe, G., Menaker, R., Storz, K. A., Reeves, D., Buskirk, S. J., … Swensen, S.J. (2015). Impact of organizational leadership on physician burnout and satisfaction. *Mayo Clinic Proceedings*, *90*(4), 432–440.

Simmons, L. A., Wolever, R. Q., Bechard, E. M., & Snyderman, R. (2014). Patient engagement as a risk factor in personalized health care: A systematic review of the literature on chronic disease. *Genome Medicine*, *6*(2), 16. doi:10.1186/gm533 [doi]

Sjöquist, E. S., Brodin, N., Lampa, J., Jensen, I., & Opava, C. H. (2011). Physical activity coaching of patients with rheumatoid arthritis in everyday practice: A long-term follow-up. *Musculoskeletal Care*, *9*(2), 75–85.

Skinner, J. (2013). The costly paradox of healthcare technology. *MIT Technology Review*, *116*(6), 69.

Smith, L. L., Lake, N. H., Simmons, L. A., Perlman, A. I., Wroth, S. & Wolever, R. Q. (2013). Integrative health coach training: A model for shifting the paradigm toward patient-centricity and meeting new national prevention goals. *Global Advances in Health and Medicine*, *2*(3), 66–74. doi:10.7453/gahmj.2013.034

Spring, B., Schneider, K., McFadden, H. G., Vaughn, J., Kozak, A., Smith, M., … Hedeker, D. (2010). Make better choices (MBC): Study design of a randomized controlled trial testing optimal technology-supported change in multiple diet and physical activity risk behaviors. *BMC Public Health*, *10*(1), 586. doi:10.1186/1471–2458-10–586

Stober, D.R., Wildflower, L., & Drake, D. (2006). Evidence-based practice: A potential approach for effective coaching. *International Journal of Evidence Based Coaching and Mentoring*, *4*(1), 1–8.

Stoller, K. J. (2013). Commentary: Recommendations and remaining questions for health care leadership training programs. *Academic Medicine*, *88*(1), 12–15. doi: 10.1097/ACM.0b013e318276bff1

Terry, P.E., J. B., Xi, M. & Harvey, L. (2011). The ACTIVATE Study: Results from a group-randomized controlled trial comparing a traditional worksite health promotion program with an activated consumer program. *American Journal of Health Promotion*, *26*(2), e64-e73. doi: http://dx.doi.org/10.4278/ajhp.091029-QUAN-348ADDTERRY

Thomas, M. L., Elliott, J. E., & Rao, S. M. (2012). A randomized, clinical trial of education or motivational-interviewing-based coaching compared to usual care to improve cancer pain management. *Oncology Nursing Forum*, *39*(1), 39–49.

Thompson, M. R., Wolf, M. D., & Sabatine, M. J. (2012). Mentoring and coaching: A model guiding professional nurses to executive success. *JONA: The Journal of Nursing Administration*, *42*(11), 536–541.

Thorn, M. P., & Raj, M. J. (2012). A culture of coaching: Achieving peak performance of individuals and teams in academic health centers. *Academic Medicine*, *87*(11), 1482–1483.

Vahey, C. D., Aiken, H. L., Sloane, M. D., Clarke, P. S., & Vargas, P. D. (2004). Nurse burnout and patient satisfaction. *Medical Care*, *42*(2: suppl), II-57–II-66.

Vale, M. J., Jelinek, M. V., Best, J. D., Dart, A. M., Grigg, L. E., Hare, D. L., … McNeil, J. J. (2003). Health Coaching patients On Achieving Cardiovascular Health (COACH): a multicenter randomized trial in patients with coronary heart disease. *Archives of Internal Medicine*, *163*(22), 2775–2783.

Wagner, M. (2013). Bringing outside innovations into health care. *Harvard Business Review. October 28, 2013*. Retrieved on 11/25/2015 from https://hbr.org/2013/10/bringing-outside-innovations-into-healthcare/

Walston, S. L. (2014). Chief executive officers' perceived value of coaching: Individual and organisational influences. *Coaching: An International Journal of Theory, Research and Practice*, *7*(2), 115–131.

Wennberg, D. E., Marr, A., Lang, L., O'Malley, S., & Bennett, G. (2010). A randomized trial of a telephone care-management strategy. *New England Journal of Medicine*, *363*(13), 1245–1255.

Whittaker, K. S., Krantz, D. S., Rutledge, T., Johnson, B. D., Wawrzyniak, A. J., Bittner, V., … Merz, C. N. (2012). Combining psychosocial data to improve prediction of cardiovascular disease risk factors and events: The national heart, lung, and blood institute–sponsored women's ischemia syndrome evaluation study.

Psychosomatic Medicine, *74*(3), 263–270. doi:10.1097/PSY.0b013e31824a58ff [doi]

Whittemore, R., Melkus, G.D., Sullivan, A., & Grey, M. (2004). A nurse-coaching intervention for women with type 2 diabetes. *Diabetes Educator*, *30*(5), 795–804.

Williams, D. R., & Wyatt, R. (2015). Racial bias in healthcare and health: Challenges and opportunities. *Journal of the American Medical Association*, *314*(6), 555–556. doi:10.1001/jama.2015.9260.

Williams, E. C., Kivlahan, D. R., Saitz, R., Merrill, J. O., Achtmeyer, C. E., McCormick, K.A., & Bradley, K. A. (2006). Readiness to change in primary care patients who screened positive for alcohol misuse. *Annals of Family Medicine*, *4*, 213–220. doi:10.1370/afm.542

Wolever, R. Q., Caldwell, K. L., Wakefield, J. P., Little, K. J., Gresko, J., Shaw, A., … Gaudet, T. (2011). Integrative health coaching: An organizational case study. *EXPLORE: The Journal of Science and Healing*, *7*(1), 30–36. doi:10.1016/j.explore.2010.10.003.

Wolever, R. Q., Dreusicke, M., Fikkan, J., Hawkins, T. V., Yeung, S., Wakefield, J., … Skinner, E. (2010). Integrative health coaching for patients with type 2 diabetes: A randomized clinical trial. *The Diabetes Educator*, *36*(4), 629–639. doi:10.1177/0145721710371523

Wolever, R. Q. & Eisenberg, D. M. (2011, Oct 10). What is Health Coaching anyway? Standards needed to enable rigorous research. Invited Commentary, *Archives of Internal Medicine*, *171*(*22*), 2017–8. doi:10.1001/archinternmed.2011.508.

Wolever, R.Q., Jordan, M., Lawson, K.L., & Moore, M. (2016). Advancing a new evidence-based professional in health care: Job task analysis for health and wellness coaches. *BMC Health Services Research., 16*, *205.* doi:10.1186/s12913-016-1465-8

Wolever, R. Q., Simmons, L.A., Sforzo, G. A., Dill, D., Kaye, M., Bechard, E. M., … Yang, N. A. (2013). A systematic review of the literature on health and wellness coaching thru 2012: Defining a key behavioral intervention in health care. *Global Advances in Health and Medicine*, *2*(4), 38–57. DOI:10.7453/gahmj.2013.042

Yach, D., Hawkes, C., Gould, C.L., & Hofman, K. J. (2004). The global burden of chronic diseases. *Journal of the American Medical Association*, *291*(21), 2616–2622.

Ziedonis, D. (2015, September 10). *Transforming mentorship through coaching*. Paper presented at Psychiatry Grand Rounds for University of Massachusetts Medical School, Worcester, MA. Retrieved on 11/27/15 from http://www.umassmed.edu/globalassets/psychiatry/grand-rounds/grand-rounds-092005–102015.pdf