

Health Coaching: Research Summary
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Introduction

Lifestyle behaviors are the main contributor to preventable chronic disease, including obesity, cardiovascular disease, and diabetes.^{1,2} However, few patients successfully make and sustain behavioral changes over time, because most providers do not have the skills and time to help patients build competency in health maintenance activities.³ To address this problem, over the last 10 years health coaching has emerged as a strategy to help patients implement behavioral and lifestyle actions that both enhance health and mitigate the negative effects of chronic disease.⁴

Broadly defined, health coaching is a method of working with patients that utilizes thoughtful inquiry, accountability, goal clarification, goal setting, identification of obstacles, use of support systems, and connection to intrinsic motivation, vision, and values to improve health through positive behavior change. Health coaching can be used with individuals without chronic disease to promote optimal health, as well as with patients who have one or more chronic diseases to improve symptom management, slow disease progression, mitigate complications, and support functioning and independence. Multiple behavioral change models have been used in designing coaching approaches (e.g., transtheoretical model, self-perception theory, motivational interviewing, self-determination theory) and the field has been developed through various avenues, including psychology, nursing, and life coaching. As such, the term “health coaching” is currently used to refer to a wide range of approaches.

Research on Health Coaching

Although there is a growing body of research designed to document the effects of health coaching, the existing evidence base is limited, in large part because many studies fail to clearly define the roles of coaches. In a recent and extensive review of 14 literature databases, only 72 pieces reported both a form of coaching and a health-related outcome, and only 34 of these were randomized controlled trials (RCTs).⁴ Of those 34 RCTs, 12 did not define the coaching methodology, and 20 described approaches more similar to education than to professional coaching. The lack of RCTs makes it difficult to determine how much of the observed changes in health outcomes and behaviors are the result of the coaching interventions in the reported studies. Additionally, without methodological details about the coaching model/approach, it is difficult to evaluate and compare coaching interventions across studies or understand which coaching approaches are most beneficial.

Despite the infancy of the research, several studies have demonstrated that coaching does improve health outcomes. The strongest findings have been in cardiovascular health, where coaching has been shown to improve total cholesterol, body mass index, stress, exercise, diet, and smoking cessation.⁵⁻⁸ Studies of cancer patients have demonstrated decreased pain severity and increased pain control.⁹ Studies of coaching for patients with diabetes and related kidney disease have shown increases in health promoting behaviors like physical activity and diet, as well as decreases in fasting blood glucose, hemoglobin A1C, hospital admission rates, and amputations.^{10,11} A coaching intervention also improved outcomes in obese patients (BMIs ≥ 30), including decreased waist circumferences and increased functional health status.¹²

Integrative Health Coaching at Duke Integrative Medicine (Duke IM)

Integrative health coaching (IHC) is a personalized, holistic approach that manifests core concepts of patient-centered care, including respect, information sharing, participation, and collaboration.¹³ IHC provides support and guidance to help patients create and enact a

personalized health plan that addresses multiple domains of health as encapsulated by the Wheel of Health. Patients utilize information they have from their health care providers in combination with their vision for optimal health and awareness obtained from their self-assessment of the various domains of the Wheel of Health to drive the coaching process. A key facet of IHC is working with patients to relate their health goals to their values and sense of purpose, so that new behaviors may be sustained.¹⁴⁻¹⁷ Specifically, coaches help patients to: (1) elicit internal motivation and connect health goals to life purpose;¹⁸⁻²⁰ (2) build the capacity to change by increasing autonomy, positivity, resilience, self-efficacy, and social and environmental support.²⁰ Coaches also impart knowledge and model skills,^{21,22} emphasize patient accountability by accessing abilities for mastery and growth,¹⁹ and reinforce the interdependence of positive mental and physical health.²⁰ Borrowing from other strengths-based approaches,²⁰ coaches also help patients to see how their own positive behavior in combination with enlisting the support of their community and health care resources can bring about their health goals and vision.

Previous Research on IHC at Duke IM

Duke IM has conducted five trials utilizing IHC, and results suggest this approach is associated with positive behavior change and improved health outcomes in cardiovascular disease (CVD), diabetes, stroke, and weight loss maintenance. In 2003-2004, Duke IM provided integrative health coaching to 229 participants in Duke Prospective Health, a Duke employee health program. In year 1, high-risk participants in the intensive program received nine 60-minute group coaching sessions offered in-person or telephonically (participants' preference) that focused on self-discovery and the specific health concerns of the individuals. In year 2, the group sessions were reduced to two 60-minute sessions, or participants could receive two individual sessions. Results showed that the high-risk participant group in year 1 had a decline in inpatient admissions by 25.4% while admissions increased 6.4% for those who did not participate in the DPH coaching program. In year 2 when the program offered only two coaching sessions; inpatient admissions declined by 14.3%, while the rate for non-participants fell by 7.7%.²³

In a secondary cardiovascular prevention trial,²⁴ 154 primary care outpatients, age 45 or over, with at least one known CVD risk factor were randomized to usual care (UC) or an intervention with IHC. A health risk assessment was done on each patient, and a health care provider met with the patient twice across the 10 month intervention to review their medical risks and make recommendations. Focusing on the interests of the patient, health coaches and other health professionals educated and motivated participants to shift multiple behaviors to lower prospective CVD risk. Over the 10-month intervention, CVD risk (measured by the Framingham Risk score) improved significantly faster and more substantially than the risk level in UC. Intervention patients also increased days per week of exercise compared to UC, and overweight patients had greater weight loss in the intervention arm compared to UC.

A study of Duke IM's 3-day immersion model,²⁵ which included 8 months of IHC post-immersion, demonstrated this model is effective in reducing prospective risk of stroke, CVD and diabetes through small improvements in multiple risk parameters (e.g., anger, anxiety, depression, social support, exercise behavior, resting pulse, Body Mass Index, waist circumference, and cholesterol). Additionally, use of stress management tools in the intervention related to improvements in biological markers of metabolism (insulin resistance), inflammation, and physiologic stress response (daily cortisol production).

In a study of patients with type 2 diabetes,³ Duke IM tested the impact of IHC on psychosocial factors, behavior change and glycemic control in 56 patients randomized to either 6 months of IHC or UC. The IHC group received telephonic coaching for fourteen 30-minute

sessions. An adapted Wheel of Health model was used for self-assessment. Compared to UC, the IHC group improved medication adherence, patient activation, exercise frequency, perceived social support and ability to find benefits in their health challenges. For participants with baseline HbA1c ≥ 7.0 (n = 31), glycemic control was also improved in those who received the intervention compared to those in UC. In a subsequent study, those participants originally randomized to UC were given the IHC intervention. The same outcomes were replicated, and improvements were also observed for mood, perceived stress, and health-related quality of life.

Using an RCT, Duke IM examined the effects of mindfulness-based experiential education with 6 months of telephonic IHC compared to an attention, education support control on weight loss maintenance in 95 participants who had lost an average of 10% of their body weight prior to entry. While participants in both conditions maintained their weight loss 16 months past enrollment,^{26,27} those in the mindfulness plus coaching group further lowered their weight. In addition, intuitive eating and inflammatory biomarkers in the IHC group alone were affected, with participants having decreased IL-6 levels until the end of the coaching period. IL-6 levels as well as intuitive eating scores returned to baseline when the coaching concluded, suggesting the need for future research on understanding the effects of coaching on physiologic response.

Ongoing Research in IHC at Duke IM

CVD Prevention: We have two studies utilizing IHC for CVD prevention. One ongoing-NIH-funded study is a RCT to test the efficacy of a 6-month mindfulness-based personalized health planning approach in combination with IHC to reduce psychosocial risk factors (depressive symptoms, hostility, and anger) and glucose intolerance known to predict 20-year incidence of coronary heart disease. Participants are currently being recruited for randomization to one of two conditions. Both are holistic in nature, include 22 90-minute groups over a six month period, and concomitant biweekly telephonic support. Both groups will receive identical information about nutrition, physical activity, the importance of stress management, and heart-disease related topics. The intervention group, however, will be presented the information in the context of learning mindfulness skills to facilitate change and will receive support through telephonic IHC. The active control will not learn mindfulness, and will receive educational telephonic support, but no coaching. The data will be collected over the upcoming three years.

In a second study, funded by the Duke Center for Personalized Medicine, we are collecting data using a pilot RCT to test the feasibility and logistics of incorporating genetic risk information (using SNP 9p21 testing) into three conditions: (1) standard coronary heart disease risk counseling; (2) IHC; or (3) both risk counseling IHC in primary care. We will explore resulting changes in health behaviors or metabolic outcomes in adult primary care patients at risk for CHD, and specifically use the pilot data for the resubmission of an R01 to NIH.

Obesity Prevention: Funded by the Duke Center for Personalized Medicine, we are conducting a pilot RCT of personalized health planning with IHC (PHP-IHC) for women at risk for overweight/obesity based on excess pregnancy weight gain. Women who have exceeded pregnancy weight gain recommendations for their prepregnancy weight class by at least 10% will be recruited in the hospital after delivery and randomized to: (1) PHP-IHC: completion and physician review of HRA with patient, individualized plan of care based on HRA results, and support in plan implementation through IHC; (2) HRA-only: completion and physician review of HRA with patient, and provision of standardized written recommendations; and (3) control/usual care: The primary outcome is retention of pregnancy weight at 6 months postpartum. This study will have the potential to examine the independent effects of IHC. This study is currently under review at the Duke institutional review board and slated to begin recruitment in June.

Management of Intractable Tinnitus: Our newest NIH-trial is an R21 that we are conducting in collaboration with the Department of Surgery in which we will test an integrative approach theorized to help manage non-auditory aspects of tinnitus. We aim to test the hypothesis that an integrative medicine (IM) approach in combination with educational and sound based therapy (E/SBT) will lessen the negative impact of tinnitus more than E/SBT alone (control treatment), in a sample of patients with intractable tinnitus. The intervention includes health psychology assessment, mindfulness meditation, acupuncture and IHC.

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