

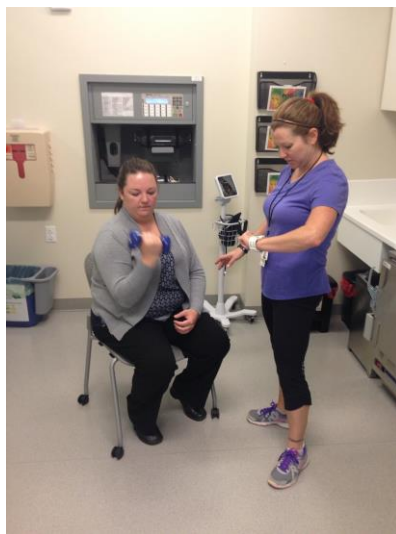
Stories from the Field

Solutions to integrating physical activity into health care

As of today, science and medicine have yet to establish a secure, HIPPA-compliant, and clinically acceptable manner to conveniently and systematically transmit physical activity data to physicians so it is available in the electronic health record (EHR). Similarly, a method for healthcare providers to refer patients to exercise professionals and a process for an exercise professional, who receives a patient referral, to communicate back to the providers regarding their patients in have yet to be established. However, this is changing at Eskenazi Health, where we have established a team and are currently testing a program that could address this problem.



Eskenazi Health is one of the five largest federally qualified healthcare systems in the United States primarily serving uninsured and underinsured populations. The group working on establishing this process consists of an EIM credentialed fitness professional (Cori McCorkle, M.S.), a physical activity researcher, and four clinician researchers. NiCole Keith, Ph.D., FACSM studies the impact of health promotion activities on delaying decreased fitness and functional decline. Daniel Bateman, MD is a psychiatrist with an interest in the use of technology to help older adults improve quality of life. Christopher Callahan, MD is a geriatrician who focuses on social, clinical, and health system interventions to improve the care of older adults with depression, dementia and multimorbidity. Babar Khan, MD evaluates the long term health outcomes of critically ill patients who were previously admitted to the intensive care unit. Debra Litzleman, MD develops interprofessional education and practice, innovative health care systems, and methods to address patient centered health care. Each physician in our group sees value in identifying solutions to integrating physical activity into their patients' care.



Our team believed that if a solution could be identified in this population with multiple health and socioeconomic problems, it could be applied anywhere. While each physician organizes his or her clinic in a slightly different manner, the referral process generally involves the physician or another medical staff team member having a one-minute discussion about importance of physical activity with the patient. The fitness professional sits with the rest of the medical staff (nurse, medical assistant, social worker, and others) until the patient is ready to be seen by her. When the patient is ready, the fitness professional introduces herself and conducts a brief assessment of upper and lower body strength and cardiovascular fitness. This takes approximately 5 minutes. Next, the fitness professional hands the patient a wearable device and downloads the associated app on the patient's smartphone. Lastly the fitness professional shows the patient how she will communicate with the patient about physical activity through the app and through text

messages. This concludes the fitness professional's clinic interaction with the patient.

For the next six weeks the fitness professional only interacts with the patient through text messaging and through the app. She helps patients with goal setting related to their fitness test outcomes and monitors their steps through the wearable device and the app. She sends them encouraging messages and in some cases, with permission, has them compete with her and with other patients for step champion of the day. She also leads by example. While most patients are unable to see one another's progress, all can see how many steps the fitness professional is getting.

The initial goal of this program was to determine the feasibility of health care providers referring patients to a fitness professional during a primary care visit and the success of having patients engage in physical activity with a fitness professional through the app. Baseline comments from patients and caregivers are indicated in figure 1. Goal comments are described in figure 2. We asked patients what they liked about the program. Their follow-up comments are shown in figure 3. We present end comments that include statements from the patients, fitness professional, medical staff and providers in figure 4.



We learned that referrals can occur in both primary care and specialty clinics. Integrating the fitness professional into the clinic was well received by providers and clinic staff and did not interfere with the flow of patient care. Patients were willing to participate in a six-week program and providers were excited about the feedback they received regarding their patients. The next step will be to determine the feasibility of linking data from the fitness professional's assessment and the wearable devices to an EHR. The goal is to have the app communicate directly with the EHR in order for physicians and other providers to see their patients' steps and fitness outcomes. Successful integration of the program into Eskenazi's EHR system will demonstrate the feasibility of a method to systematically integrate the physical activity vital sign into the EHR, while also creating a feedback loop through the app, allowing fitness professionals to more readily communicate to patients' providers their physical activity participation in a secure, HIPPA-compliant, and clinically acceptable manner.

Establishing these processes are the necessary to address several research questions. For example, it is unknown whether a provider's recommendation of using a wearable device and referral to a supportive fitness professional will increase patient physical activity participation. The frequency and duration of the patient and fitness professional interaction needed to increase physical activity and maintain or improve health outcomes is also unknown. Future research will address these questions. Using technology and human behavior to positively influence physical activity participation is a relatively new and complex science that is currently unfolding. Integrating these processes in both the healthcare and health promotion industries may offer a solution to address recommendations made by the World Health Assembly, the IOM, the American Medical Association, and the American College of Sports Medicine to improve population health through supportive environments for physical activity participation.



To learn more about the work at Eskenazi, contact NiCole Keith ([\[email protected\]](#)).

Figure 1. Baseline Comments

"This seems complicated, I'm not sure I can be more active, I'm always on the go."
"My mom could really use this, they have been trying to get her up and moving."
"She stays inside all day and doesn't move, she is starting to look so frail."
"I drive a forklift truck and have a family, I'm not sure I can work in any more activity."
"I really need someone to motivate me to get moving, I'm not a quitter."

Figure 2. Goal Comments

"I want to be able to stand and talk to people at church on Sunday."
"I want to decrease my depression."
"I want to start walking, 2 time a day for 30 minutes."
"I want to gain strength and feel strong again."
"I want so lose weight and be able to attend my Rock Steady workouts 2x a week."
"I want to lose weight make smarter choices, sleep and workout on a regular basis, while including my family."
"I want to get my knees stronger."
"I want to go back to work."
"I want to rebuild strength after my car accident."

Figure 3. Follow-up Comments

"Having someone to motivate you"
"The personal attention and concern for my overall health"
"Text messages from trainer, visits at baseline and follow-up"
"Exercised more and felt better"
"Happy about the [wearable] Device and personal trainer"
"Felt more alive, more friendly with people, can walk as legs are stronger"
"It helped me to see when my activity level was too low"

Figure 4.

“My mom looks more alive and she is moving around much better now.” [caregiver]
“[Patient] is going back to school, she is so happy now and is taking much better care of herself that from the start of the program.” [trainer]
“I didn't think this group would be able to handle the technology, but they and their families were there to provide me with the support I needed to help their loved ones.” [trainer]
“This group sometimes just needs to know that someone other than a doctor is there for them.” [physician]
“You have a chance to build a much different relationship with them because you are asking them what they want to do instead of telling them what to do, which is sometimes received better.” [social worker to trainer]
“They are actually competing to get the most points.” [son of two parents who participated in the program]