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**‘VIRTUAL COACH’ INCREASES ACTIVITY LEVELS IN FIGHT AGAINST
OBESITY EPIDEMIC ACCORDING TO NEW STUDY FROM THE
PARTNERS CENTER FOR CONNECTED HEALTH**

BOSTON, JANUARY 31, 2011 – The use of a ‘Virtual Coach’ or computer agent increases activity levels in overweight or obese individuals, according to a new study published in the current issue of the *Journal of Medical Internet Research*. Conducted by the Center for Connected Health, a division of Partners HealthCare, and Massachusetts General Hospital, data showed a significant percentage change in step count for participants with access to Internet-based coaching, versus those without access to the Virtual Coach. The Virtual Coach technology was developed by Timothy Bickmore, PhD, Associate Professor, College of Computer and Information Science, Northeastern University, a co-author of the study.

“New technologies are showing great promise as effective, accessible and inexpensive solutions to a number of chronic health conditions and Internet-based interventions are demonstrating reductions in weight using a combination of self-monitoring, education and motivational messaging,” said Joseph C. Kvedar, MD, Founder and Director, Center for Connected Health, and study co-author. “We believe these results may be further enhanced with the addition of automated coaching, to promote accountability and adherence.”

The study included 70 overweight or obese patients, with a mean age of 42 years. The majority of patients were female (84%) and college educated (97%). Participants were asked to wear a wireless pedometer and given access to a website to view step counts. The intervention group (n=35) also met with a Virtual Coach, an automated, animated computer agent, via their home computers. The Virtual Coach helped participants to set goals and provided personalized feedback based on their step counts.

Intervention participants were instructed to meet with the coach three times a week throughout the study. These interactions lasted approximately five to ten minutes per session. The intervention group showed a significant improvement throughout the 12 week study, when comparing percent changes in step counts, over participants who only received a pedometer and access to a data website.

The step count throughout the study was significantly different in intervention versus control arms ($p = 0.02$). The average step count in the control group fell significantly from 7,174 to 6,149 ($p=0.011$) over the study period. In contrast, the intervention participants’ mean step count (6,943 to 7,024) did not change significantly ($p=0.85$).

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“Virtual Coaching has many applications beyond promoting activity and is increasingly recognized as an important component in the management of chronic conditions, such as diabetes and heart disease, and in the promotion of healthy behaviors, such as adherence to medication,” added Kvedar. “Given the growing burden of chronic disease and the shortage of providers, this technology may prove useful adjuncts to conventional office based care, to help patients develop better self-management skills.”

All participants reported having benefited from taking part in the study and self-reported changes included exercising more frequently and improved diet and eating habits. 58.1% of participants in the intervention group agreed that the Virtual Coach motivated them to be more active, and 87.1% reported feeling guilty if they skipped an appointment with the Virtual Coach.

“With a growing population of aging baby boomers and an ongoing shortage of healthcare professionals, a Virtual Coach can help bridge the gap to help remind and motivate people to stick to a care plan or wellness regimen,” added Bickmore. “The Virtual Coach and other relational agents have an important role in health and wellness, as proven by studies like this.”

The Virtual Coach is a computer-animated advisor and simulated face-to-face conversation, including verbal and non-verbal communication, including goal setting, positive reinforcement, problem solving, education and social interaction. Dialogue was tailored based on the participant’s progress, current status against their goals and interaction with the Virtual Coach (i.e., asking the Virtual Coach a question or asked for help).

About the Center for Connected Health

The Center for Connected Health, a division of Partners HealthCare, is creating effective, new solutions and innovative interventions to deliver quality patient care outside of the traditional medical setting. Our programs use a combination of remote-monitoring technology, sensors, and online communications and intelligence to improve patient adherence, engagement and clinical outcomes. The Center also offers expert online second opinions, virtual visits, and engages in innovative research to uncover new models for better care. The Center’s Consulting Services assist companies, providers and other organizations to learn more about entering the connected health space and to prepare products and services for integration into the healthcare delivery system. Visit www.connected-health.org.

Boston-based Partners HealthCare is an integrated health system founded in 1994 by Brigham and Women’s Hospital and Massachusetts General Hospital. In addition to its two academic medical centers, the Partners system also includes community and specialty hospitals, community health centers, a physician network, home health and long-term care services, and other health-related entities. Partners is one of the nation’s leading biomedical research organizations and a principal teaching affiliate of Harvard Medical School. Partners is a non-profit organization. Visit www.partners.org.

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