# Use of Electronic Health Records for Addressing Overweight and Obesity in Primary Care

**Principal Investigator:** Baer, Heather, Sc.D.
**Organization:** Brigham and Women's Hospital
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**Summary:** Obesity is widely recognized as a critical public health concern that is associated with increased risk of diabetes, cardiovascular disease, cancer, and preventable death. Electronic health records (EHRs) have the potential to improve management and treatment of obesity by primary care clinicians. However, very few EHR-based tools have been developed or evaluated for this purpose.

The objectives of this research study are to develop and evaluate EHR-based tools for identification, diagnosis, and treatment of overweight and obese patients. This includes reminders, clinical decision support (CDS), and information for clinicians and patients. A cluster-randomized controlled trial is testing these tools in 12 diverse ambulatory practices in the Boston, MA area to assess their effectiveness on the identification, evaluation, and treatment of overweight and obese individuals in the primary care setting.

**Specific Aims:**

- Develop EHR-based tools to help primary care clinicians identify, evaluate, and treat patients who are overweight or obese. **(Achieved)**
- Conduct a cluster-randomized controlled trial to assess the effectiveness of EHR-based tools for the identification, evaluation, and treatment of overweight and obesity in primary care. **(Ongoing)**

In addition to the specific research aims, as part of this Mentored Research Scientist Research Career Development Award, Dr. Baer is working toward the following long-term career goals: 1) to develop a multidisciplinary research program dedicated to developing and evaluating strategies to address obesity and other modifiable risk factors in the clinical setting; and 2) to teach and mentor individuals who wish to pursue careers in clinical epidemiology or health services research.

**2012 Activities:** The cluster-randomized controlled trial began in December 2011. The research team incorporated new obesity CDS elements into the EHR including reminders about measuring height and weight, an alert to add overweight or obesity to the problem list, patient-specific management recommendations for primary care providers, a feature to calculate a weight loss goal, an automatic email referral function, and links to handouts and resources for patients. Dr. Baer visited all participating practices that were randomized to the intervention arm to introduce them to the new EHR elements and provided a quick reference sheet explaining the changes. The new elements were activated for 11 of the 23 participating clinical teams from 12 primary care practices.

In 2011, before the new elements were activated, the research team completed an initial assessment of provider attitudes and practices about weight management. Another survey of providers will be conducted

in 2013. In 2012, the team began a nested sub-study to look at patient attitudes about weight management, as well as their weight-related behaviors and clinical outcomes. Criteria for this sub-study included patients who had a recent primary care visit at one of the participating practices and had a body mass index (BMI) of 30 or above or a BMI between 27 and 30 with another risk factor such as hypertension, diabetes, or high cholesterol. Patients in the sub-study return 6 months after their initial primary care visit to have their height, weight, and blood pressure measured and to complete another survey about their weight management attitudes and practices.

Surveys were sent to a random sample of approximately 2,400 eligible patients, asking if they would like to participate in the sub-study. Of the 619 patients who completed the survey, about 300 were scheduled for the 6-month visit. These visits are ongoing.

Primary outcome data will analyze data from the EHR and secondary data will be from the sub-group analysis of patient attitudes and outcomes. The EHR data will indicate whether there are changes in documentation of BMI, diagnosis and management of overweight and obesity, and actual weight among patients in the intervention group compared to the usual-care group. The sub-study analysis will document whether there are changes in attitudes, motivation, and weight-related behaviors among overweight and obese patients as an interim step to changes in weight and blood pressure.

Dr. Baer completed an analysis focusing on documentation and diagnosis of overweight and obesity in the EHR between 2004 and 2008, which will be published in an upcoming issue of *JAMA Internal Medicine*. In addition, she conducted a systematic review on the use of EHRs for addressing overweight and obesity that is currently under review.

**Preliminary Impact and Findings:** The provider survey completed in 2011 was sent to 152 clinicians and completed by 85, for a response rate of 56 percent. Among respondents, 51 percent said that they always or often assess overweight and obese patients' motivation to lose weight, and 49 percent said that they always or often help motivate patients to set a weight loss goal. Only 28 percent said that it was easy to access information about local resources to help patients lose weight. The vast majority (89 percent) said that they would like more help creating appropriate weight loss plans for their patients.

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**Target Population:** Adults, Obesity, Chronic Care*

**Strategic Goal:** Develop and disseminate health IT evidence and evidence-based tools to improve health care decisionmaking through the use of integrated data and knowledge management.

**Business Goal:** Knowledge Creation.

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**This target population is one of AHRQ's priority populations.*