

## Automating Assessment of Obesity Care Quality

---

<b>Principal Investigator:</b>	Hazlehurst, Brian L., M.A., Ph.D.
<b>Organization:</b>	Kaiser Foundation Research Institute
<b>Mechanism:</b>	PAR: HS08-270: Utilizing Health IT to Improve Health Care Quality Grant (R18)
<b>Grant Number:</b>	R18 HS 018157
<b>Project Period:</b>	September 2009 – March 2013
<b>AHRQ Funding Amount:</b>	\$1,194,761

---

**Summary:** Obesity and its public health effects are an increasing burden on the health care system. This project proposed to develop, implement, and evaluate a routine automated method to assess outpatient obesity care quality using measures from comprehensive electronic medical record (EMR) data based upon the National Heart, Lung, and Blood Institute (NHLBI) obesity care guidelines.

The study team is investigating associations between obesity care delivery steps and clinical outcomes known or suspected to be accelerated by obesity. Measures to evaluate the association include reasons for visit; orders; referrals; diagnosis codes; vital signs; text clinical notes pertaining to weight (e.g. body mass index) and weight-loss counseling; and other obesity intervention efforts. The project team is using percent-change in body weight as the primary outcome measure.

Retrospective EMR data from Kaiser Permanente Northwest (KPNW), a midsized health maintenance organization, and Oregon Community Health Information Network (OCHIN), a consortium of federally qualified health centers, is being used to evaluate the association between obesity guideline adherence and clinical outcomes. Information from both structured and free-text fields will be used. Free-text fields are being automatically coded using natural-language processing computer software. Data produced under the automated method of quality measurement is being compared to medical record reviews performed by abstractors in order to assess the validity of the automated system.

The automated system is being applied to patient populations of KPNW and OCHIN, which total more than 350,000 adults to determine: 1) the proportion of overweight or obese patients who are receiving advice, counseling, weight-loss program referral, prescription medication, and other care recommended by the guidelines; 2) correlates of overweight and obesity diagnosis and treatment guideline adherence including patient characteristics, comorbidity status, provider characteristics, and health system characteristics; and 3) changes in health status as a function of guideline adherence for obese patients.

### Specific Aims:

- Develop obesity care quality measures based on updated NHLBI guidelines to evaluate obesity care performance in primary care. **(Achieved)**
- Use comprehensive EMR data to develop and validate an automated (generalizable and scalable) method for applying the measures identified in the first aim. **(Ongoing)**
- Apply the method developed in the second aim to assess ambulatory obesity care quality in two distinct health plans representing diverse patient populations and care practices. **(Ongoing)**

- Evaluate the association between measures of obesity guideline adherence to recommended obesity care processes and clinical outcomes and provider characteristics. **(Ongoing)**

**2012 Activities:** During 2012, the study team staged all data necessary for applying the measurement process. They established eligibility criteria that: 1) requires patients' continuous enrollment; and 2) excludes patients with pregnancies, any indication of non-benign cancer history, palliative or hospice care, or eating disorders. Patients from these sub-populations were excluded because they have unique body weight issues. The team has drawn the primary care encounter data for the resultant population for the observation period beginning January 1, 2007 at KPNW, yielding approximately 125,000 eligible patients; and at OCHIN, yielding approximately 30,000 eligible patients. The study staff completed the KPNW and OCHIN chart reviews and the validation study. Final activities focused on the data analysis and manuscript writing.

As last self-reported in the AHRQ Research Reporting System, project progress and activities are on track in some respects but not others and project budget funds are somewhat underspent, due to decreased staffing on the project. Dr. Hazlehurst is using a 1 year no-cost extension to complete data collection and analysis and manuscript writing.

**Preliminary Impact and Findings:** This project has no findings to date.

---

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

**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

---

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