Society of General Internal Medicine

View Abstract

CONTROL ID: 3183039

TITLE: Cost-effectiveness of an electronic health record-based intervention to prevent weight regain

AUTHORS (FIRST NAME, LAST NAME): Cindy L. Bryce[2], Heather Tomko[2], Kathleen Mary Mctigue[2], Jonathan Arnold[7], Gary Fischer[3], Bethany Barone Gibbs[6], Rachel Hess[4], Kimberly Huber[5], Laurey Simkin-Silverman[2], Dana Tudorascu[2], Molly Conroy[1]

INSTITUTIONS (ALL): 1. General Internal Medicine, University of Utah, Salt Lake , UT, United States.
2. University of Pittsburgh, Pittsburgh, PA, United States.
3. Medicine, University of Pittsburgh, Pittsburgh, PA, United States.
4. Population Sciences, University of Utah, Salt Lake City, UT, United States.
5. Department of Education, University of Pittsburgh, Pittsburgh, PA, United States.
6. Health and Physical Activity, University of Pittsburgh, Pittsburgh, PA, United States.
7. Internal Medicine, University of Pittsburgh Medical Center, Pittsburgh, PA, United States.

SGIM MEMBERSHIP STATUS (SCI. ABSTRACTS):

Cindy Bryce : Non-Member

Heather Tomko : Non-Member

Kathleen Mary Mctigue : Full Member

Jonathan Arnold : Associate Member □ Resident

Gary Fischer : Full Member

Bethany Barone Gibbs : Non-Member

Rachel Hess : Full Member

Kimberly Huber : Full Member

Laurey Simkin-Silverman : Non-Member

Dana Tudorascu : Non-Member

Molly Conroy : Full Member

CURRENT PRIMARY CATEGORY (REQUIRED): Organization of Care/Chronic Disease Management - A

CURRENT SECONDARY CATEGORY: * No secondary category- A2

ABSTRACT BODY:

Background: Maintaining intentional, healthy weight loss poses a major behavioral health challenge, yet it is key to preventing and managing weight-related diseases such as diabetes and heart disease. Few studies have compared alternative approaches for avoiding weight regain after intentional loss and evaluated their cost effectiveness.

Methods: Maintaining Activity and Nutrition through Technology-Assisted Innovation in Primary Care (MAINTAIN-pc) was a randomized controlled trial of primary care patients (n=196) who had intentionally lost at least 5% of their body weight. It compared the impact of an EHR-based self-monitoring system, either alone (tracking-only) or with personalized coaching, on weight regain. Participants recorded weight, plus diet/exercise information (calories, fat grams, steps, other physical activity) over time. Using 24-month data for costs (coaching time, participant monitoring frequency) and outcomes (weight change, quality of life using SF-36 data), we developed a Markov model to assess the cost-effectiveness of coaching relative to tracking-only for avoiding weight regain. Other parameters (hourly wages) relied on publicly available data.

Results: Frequent monitoring was associated with better weight outcomes, and the coached participants monitored more consistently than tracking-only participants. Both groups reported good quality of life regardless of weight, resulting in only small gains in quality-adjusted life-years (QALYs) with coaching. When used in the analyses, we initially defined the effectiveness measure as *percent weight regain* and calculated a base case incremental cost-effectiveness ratio (ICER) for coaching relative to tracking-only that was less than $500 per percent weight regain avoided (societal perspective). For the reference case using QALYs, the ICERs were $23,740 and $4,940 per QALY gained from societal and health care system perspectives, respectively.

Results were robust in sensitivity analyses—the main driver of costs is not personnel time, but rather participant time devoted to consistent monitoring. This was varied widely in probabilistic sensitivity analyses, and coaching was found to be cost-effective in 58% of model iterations (societal perspective) and 64% of model iterations (health care system perspective), based on an acceptability threshold of $100,000 per QALY gained.

Conclusions: Maintenance of intentional, healthy weight loss is essential for realizing long-term health benefits. Although only minimal differences in quality of life between the two groups were reported, more weight regain was seen in the tracking-only group. Modeling the projected outcomes for longer time horizons would help inform overall health benefits and economic costs resulting from maintenance of intentional weight loss. Deployment of technologies that reduce the time needed to monitor health behaviors could also be useful for improving the cost-effectiveness of the coaching intervention.

(No Table Selected)
TABLE TITLE: (No Tables)
TABLE FOOTER: (No Tables)
(No Image Selected)
Poster Walk & Talk Opt-Out: (none)
Non-Commercial Funding Source - SciAbstracts: AHRQ Funding
Abstract Scheduling Restrictions: (none)