

service is interpreted as endorsement of a prevention service in the absence of a full understanding of its risks and benefits.

**Keywords:** Health Literacy; Cancer Screening and Prevention; Health Communication

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PS3-43:

### Using the Electronic Health Record to Evaluate the Collateral Impact of Bariatric Surgery

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**Background/Aims:** Bariatric surgery is the only effective long-term treatment for morbid obesity. The bariatric program includes commitment to lifestyle changes that may have a collateral effect on co-inhabitants. Studies of the collateral impact are limited by small sample sizes and results have been conflicting, with studies showing both weight loss and weight gain in family members of surgery patients. This is the largest study to investigate the impact of bariatric surgery on the BMI of adults living in the same household. **Methods:** Adult co-inhabitants of Roux-en-Y gastric bypass patients were identified by matching addresses from an electronic health record. The sample was limited to co-inhabitants with BMI measures within the year prior and within a year after their household member's surgery. Paired t-tests and repeated measures regression was used to determine if change in BMI from pre- to post-surgery was associated with the co-inhabitants' age, gender, and BMI. **Results:** Of 443 co-inhabitants (from 388 bariatric patients), 61% (n = 269) were male, and 21% (n = 91), 50% (n = 223), and 29% (n = 129) were aged <40, 40-59, and ≥60 years, respectively. Pre-surgery BMI was normal, overweight, moderately obese, and extreme obese (>40kg/m<sup>2</sup>) in 12% (n = 54), 26% (n = 116), 46% (n = 205), and 15% (n = 68), respectively. The overall change in the co-inhabitants' BMI was not significant (pre-surgery mean = 32.9, post-surgery mean = 32.8, paired t-test p-value = 0.072). Change in BMI from pre- to post-surgery was not associated with gender (P = 0.231) or pre-surgery BMI (P = 0.129). Older age was associated with significant decrease in BMI. Co-inhabitants aged ≥60 had a significant decrease in BMI (pre-surgery mean = 32.3 kg/m<sup>2</sup>, post-surgery mean = 31.9, P = 0.0002). **Conclusions:** Older co-inhabitants (aged ≥60) of bariatric surgery patients had a significant reduction in BMI, while younger age, gender, and initial BMI were not associated with BMI change. The lifestyle changes required of bariatric surgery patients might have more of an impact on older co-inhabitants who are less likely to be influenced by competing lifestyle behaviors in the workplace than their younger counterparts. With more than 60 percent of co-inhabitants obese prior to surgery, it is critical to identify strategies for broadening the positive impact of bariatric surgery to co-inhabitants in all age groups.

**Keywords:** Bariatric Surgery; Obesity

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PS3-44:

### Can Health Insurance Improve Employee Health Outcome and Reduce Cost? An Evaluation of Geisinger's Value-Based Insurance Design

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**Background/Aims:** Employers have recently seen rapid increases in their cost of providing health insurance benefits for their employees, partly because the traditional health insurance benefit design does not reflect the value of healthcare consumed. Value-based insurance design (VBID) seeks to address this problem by incorporating value as well as cost in each beneficiary's healthcare decisions. Since 2007, Geisinger Health System (GHS) has implemented its own version of VBID called MyHealth Rewards for its employee population. Key components of the program included zero-copay prescription drugs for patients with certain chronic conditions and a health management program designed to enhance employee self-management. In this study, we examine whether MyHealth Rewards has led to improvements in employee health outcomes in terms of reduced incidence of stroke and MI and also whether it has lowered the cost of care. **Methods:** A cohort of GHP members who remained as Geisinger employees throughout the study period

was identified (N = 4,895). Because MyHealth Rewards program was offered only to Geisinger employees starting in 2007, this cohort was compared against a comparison group consisting of GHP members who remained as non-GHS employees during the same period (N = 12,077). Propensity score matching was used to stratify the sample based on a set of baseline characteristics. Cox proportional hazard model was used to estimate time to first incidence of stroke or myocardial infarction (MI) since 2007. The total medical cost excluding prescription drugs was analyzed using a two-part model consisting of a generalized linear model and a logistic regression model. Covariates included employee age, gender, disease management and chronic condition status, and medical home status. **Results:** The Geisinger employee cohort experienced stroke or MI later than the non-Geisinger employee group (hazard ratios of 0.73 and 0.56, respectively; P <0.01). There was also reduction in cost of care by about 10% to 13% associated with the Geisinger employee cohort relative to the non-GHS employee group during the second and third years of the program. However, the cost reduction disappeared in subsequent years. **Conclusions:** VBID has the potential to be an effective tool in achieving the dual goal of improving health outcomes while lowering cost.

**Keywords:** Value Based Insurance Design; Health Outcomes; Cost of Care  
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PS3-46:

### Do Rural and Urban Populations Define "Health" Differently?: Findings from a Review of the Literature

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**Background/Aims:** An earlier analysis of rural and urban focus group discussions of end-of-life care preferences documented that rural and urban participants often discussed "good health" and "meaningful survival" differently. In that study, rural participants tended to equate "health" with being able to function, particularly on one's own behalf, and to dismiss the idea of meaningful survival when unable to do so. Urban participants were more likely to describe health and survival as goals independent of function. **Methods:** We conducted a review of the literature to assess the current understanding of rural definitions of health. PubMed and CINAHL and other databases (PsycINFO, AnthroSource, Sociological Abstracts, etc.) were searched for years 1970 to 2011 using terms including health definition, health belief, health attitude, health values, and health behavior for relevant articles pertaining to rural US, Canada and Australia. The initial search and subsequent follow up of cited material identified 101 articles, which were reviewed by the authors for content, methodology and rigor. **Results:** Thirty-nine of the articles included commentary or findings relevant to a rural definition of health. Rural residents had been found to characterize good health as being able to "take care of what has to be done" and to avoid dependency. In particular, rural residents assessed their health on the basis of their ability to work and to reciprocate in social relationships, and associated health with independence. While these findings were consistent across much of the literature reviewed, few studies compared rural and urban definitions of health directly. That is, a distinctive rural definition of health is suggested in the literature, but there has been little empirical documentation of differences between rural and urban health concepts. **Conclusions:** Rural-urban differences in the definition of health may be important in promoting healthy behavior, and in the delivery of health education, preventive services, and primary care. Future research must overcome methodological and conceptual challenges, including the heterogeneity of rural communities, inconsistent definitions of what is "rural," the need to adjust for rural-urban differences in socio-economic status, and especially the need for valid rural/non-rural comparisons.

**Keywords:** Prevention and Wellness; Health Education; Health Behaviors  
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