

differences in age (GH older), household income (KPCO higher) distributions, and education (54% KPCO vs. 44% 4 year college graduate). Six percent of both groups self-rated health as fair or poor. Additional results will be provided. **Conclusions:** This evaluation will provide novel health and productivity data associated with value-based designs.

Keywords: Health insurance, Health economics, Worksite health promotion
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C-A5-02:

Is Tailored Screening for Colorectal Cancer based on Gender and Race Cost-Effective?

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Background/Aims: There is increasing discussion regarding screening strategies for colorectal cancer (CRC). Recent evidence suggests guidelines should be individualized by age and race to minimize disease burden and screening costs. The United States Preventive Services Task Force (USPSTF) strongly recommends that clinicians screen men and women 50 years of age or older for colorectal cancer (A recommendation). The USPSTF evidence review found good, direct evidence of the effectiveness of fecal occult blood testing (FOBT); fair, direct evidence for the effectiveness of flexible sigmoidoscopy; and indirect evidence for combined FOBT & flexible sigmoidoscopy, colonoscopy alone, and double contrast barium enema. **Methods:** A 9-state discrete-time Markov micro simulation of the natural progression of colorectal cancer estimated CRC incidence and treatment costs for a US birth cohort. Specific emphasis was given to known differences in incidence and progression among men, women, blacks, and whites. We compared the natural history “base case” of no screening to three alternative strategies: 1) Screening at age 50 with variable screening technologies, 2) 10-year colonoscopy starting at age 50, 3) 10-year colonoscopy with starting age individualized to gender and race. **Results:** The base case scenario had an overall burden of 5,712 cases and 2,027 deaths per 100,000 with the highest burden being among black males (6,118 cases and 2,430 deaths). The current USPSTF recommendation would save 5,082 QALYs/100,000 for a CE ratio of \$22,358 with the largest impact being among black males (7000 QALYs/100,000; CE ratio of \$20,236). Starting at age 50, 10-year colonoscopies would save 6,132 QALYs/100,000 (CE ratio of \$40,912). A tailored strategy which would begin screening black males at age 40, black females at age 45, white males at age 50 and white females at age 55 would save 7,509 QALYs/100,000 (CE ratio of \$15,567). **Conclusions:** Individualized guidelines for CRC screening could contribute to decreasing disparities in disease burden between blacks and whites in a cost effective manner. The acceptability of such guidelines should be explored.

Keywords: Colorectal cancer, Screening strategies, Cost-effectiveness
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PS1-25:

The Impact of HPV Vaccination Upon Optimal Cervical Cancer Screening Strategies

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Background/Aims: The availability of human papillomavirus (HPV) testing and vaccination raises questions regarding the cost-effectiveness of current cervical cancer screening recommendations. The United States Preventive Services Task Force (USPSTF) strongly recommends screening for cervical cancer in women who have been sexually active and have a cervix (A Recommendation). The USPSTF found good evidence from that screening with cervical cytology (Pap smears) reduces incidence of and mortality from cervical cancer. The USPSTF has made no recommendations regarding the use of a human papillomavirus (HPV) vaccine while the Advisory Committee on Immunization Practices (ACIP) recommends routine vaccination of all females aged 11-12. Direct evidence regarding the impact of the HPV vaccine and the optimal strategy for cervical screening is limited. **Methods:**

A 19-state Markov microsimulation was developed to model a US birth cohort from ages 13-85 through the natural progression of cervical cancer. The model analyzed several screening strategies in a vaccinated and an unvaccinated population. Results were expressed as quality-adjusted life years (QALYs), lifetime screening and treatment costs, and incremental cost-effectiveness of different screening and vaccination strategies. The specific strategies considered were: tri-annual screening (current USPSTF recommendation), HPV vaccination only, and vaccination with differing screening increments of 1, 2, 3, 4 and 5 years. The model was further extended to consider potential disparities among ethnic groups. **Results:** Without vaccination, the current USPSTF recommendation of tri-annual screening provides 1,304 more QALYs/10,000 for a cost effectiveness of \$12,375/QALY. A vaccination only strategy would yield an extra 690 QALYs/10,000 for a cost effectiveness of \$14,887/QALY. Coupled with vaccination, screening every 4 years (\$13,362/QALY) is more cost-effective than annual (\$33,616), bi-annual (\$22,062), tri-annual (\$17,994), and five-year (\$15,273) strategies. **Conclusions:** These results indicate that for those who obtain HPV vaccination, recent recommendations for less frequent cervical cancer screening could be re-enforced.

Keywords: Human papillomavirus (HPV) vaccine, Cervical cancer, Screening strategies
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PS1-30:

Cost-Effectiveness Analysis of Screening for Kras and Braf Genetic Mutations in Metastatic Colorectal Cancer

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Background/Aims: In the case of metastatic colorectal cancer (mCRC) there is sufficient evidence to show that significantly more effective and expensive anti-Epidermal Growth Factor Receptor (anti-EGFR) monoclonal antibodies like Cetuximab and Panitumumab are effective only if the patient does not have Kras and Braf genetic mutations. Using genetic screening, it is possible to detect these mutations, and avoid unnecessary treatment costs in patients where the use of anti-EGFR antibodies would be ineffective. Current work is based on a decision analysis model which includes anti-EGFR antibodies, anti-VEGF antibodies and chemotherapies as possible lines of treatment. The objective is to complete a cost-effectiveness analysis of screening for Kras and Braf genetic mutations in order to evaluate current and future guidelines on mutation testing. **Methods:** A Monte Carlo Markov model for mCRC is built using eight basic states: surveillance, death, palliative, colon resection, anti-EGFR therapy, anti-VEGF therapy, Oxaliplatin-based therapy and Irinotecan-based therapy. We setup the model with patients having Kras and Braf genetic mutations and synchronous or asynchronous tumors, which can be resectable with variation in progression and response to lines of treatments with a probability equal to the prevalence rates. The model tracks patients on a weekly basis. **Results:** We generated a comprehensive decision analysis model that simulates disease progression, treatment and screening of patients with mCRC. We will present the cost-effectiveness analysis of screening for Kras and Braf in various real world settings based upon results that will be available in March. **Conclusions:** Our decision analysis model's structure and functionality provides an intuitive understanding of the use of screening in the context of mCRC. It provides an objective tool for assessing guidelines regarding the use of genetic screening for mutations in mCRC tumors.

Keywords: Colorectal cancer, Genetic screening, Cost-effectiveness analysis
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PS1-06:

Implications of Diabetes on Dental Costs in an Insured Population

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Background: With mounting economic burdens of diabetes and its complications, its implications on dental cost are not well studied. Diabetes has been established as an important risk factor for periodontal disease and subsequent tooth loss, but surprisingly few longitudinal studies have examined the relationship between diabetes and dental care costs. Objective To evaluate associations between diabetes and costs of dental care from a 5-year prospective observation of the insured with and without diagnosed diabetes. **Methods/Research Design:** This was a cohort analysis using linked data from Washington Dental Service and Group Health Cooperative on enrollees continuously and dually insured from 2002-2006. Adults with and without diabetes were matched on baseline characteristics using propensity scores and then compared on 5 years of follow-up dental costs. **Results:** Of the 49,023 linked enrollees that met the study inclusion criteria, 4,038 (8.24%) enrollees met criteria for diabetes. Post matching results show that adults with diabetes had 3% lower attendance to a dentist compared to the matched controls ($P < 0.001$). Among those with a dental visit, diabetes patients were costlier than the control group in non-surgical periodontal procedures, extractions and removable prosthetics ($P < 0.001$ for all) and were less expensive in diagnostic, preventive and restorative (fillings and crowns) procedures ($P < 0.001$ for all). There was no significant difference in total dental care cost between the two groups. **Conclusions:** Despite the lack of difference in total cost for dental care, the distribution of costs across procedure-classes was significantly different for patients with diabetes with higher emphasis on tooth replacing procedures than tooth-retaining procedures. In an administrative services-only arrangement with indemnity and PPO plans, the improved utilization of preventive dental care could accrue cost savings to patients and employers through reduction in downstream costs related to intensive procedures and in indirect costs related to lost productivity and time.

Keywords: Diabetes, Dental costs

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Interventions and Clinical Trials

PS1-10:

The Effectiveness of Screening and Brief Intervention on Reducing DWI Citations

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Objective: The purpose of this study was to use retrospective data to assess the long-term effectiveness of screening and brief intervention (SBI) for at-risk alcohol users and its impact on traffic safety by looking at DWI citations. A second objective was to study ethnicity differences in response to SBI. **Method:** During the time period from 1998 to 1999 LCF Research, together with the Lovelace Health System, participated in the Cutting Back study of screening and brief intervention for at-risk drinkers. A total of 426 subjects exhibiting at-risk drinking behaviors from the New Mexico cohort included 211 subjects who received a brief intervention and 215 in the control group who received usual care were used for the study. This study examined DWI citations for all 426 subjects during the five years following the Cutting Back study. **Results:** The brief interventions were shown to have had a significant impact on reducing DWI citations for at-risk drinkers with the benefit lasting for the 5 years duration of the study. The screening and brief intervention was found to be most effective in reducing DWI citations for Hispanic at-risk drinkers. **Conclusion:** Evidence is presented to support that screening to identify at-risk drinkers followed by a brief intervention has a statistically significant lasting impact on improving traffic safety.

Keywords: SBI, DWI, Intervention

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PS1-37:

Preliminary Findings of a Shared Decision-Making Exploratory Study: Improving Rates of Appropriate Aspirin Use

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Background/Aims: Prophylactic aspirin use is recommended for reducing the risk of stroke in women and myocardial infarction in men. The United States Preventive Services Task Force (USPSTF) recommends a shared decision-making approach between patients and providers to consider the benefits and harms of daily aspirin use. We conducted an exploratory study using a three-arm randomized controlled approach to compare usual care to two tools that could facilitate shared decision-making. **Methods:** Subjects at risk for cardiovascular disease (CVD) were randomized at three clinic sites at Geisinger. Intervention patients received either: 1) a printed "pre-visit summary" (PVS) that described their specific Framingham CVD risk, benefits of aspirin use, and harms of GI bleed (PVS-only arm); or 2) PVS plus an interactive, graphical clinical decision support (CDS) tool embedded in the electronic health record for providers to use during the clinical encounter (PVS+CDS arm). Control patients were given neither tool, but were followed to monitor secular trends. Patients were surveyed within four weeks of their visit and asked about conversations about aspirin with the clinician and appropriate use. All analyses were intention-to-treat. **Results:** Conversations about appropriate aspirin use between patient and provider occurred for 52% of PVS+CDS subjects, 39% of PVS-only subjects, and 19% of control subjects. Aspirin was initiated by 31% of PVS+CDS subjects, 24% of PVS-only subjects, and 17% of control subjects. "Daily" aspirin use (defined as at least 3-4 times a week) was reported by 27% of PVS+CDS subjects, 17% of PVS-only subjects, and 8% of control subjects. All differences between the three study arms are statistically significant ($P < 0.05$). Additional analyses are underway. Less than 10% of providers in the PVS+CDS arm activated the shared decision-making tool. We will conduct interviews with providers to better understand the low activation rates. **Conclusions:** In an exploratory study, we demonstrated clinically meaningful and significant improvements in discussions of appropriate aspirin use between patients and their providers, which correlated with aspirin initiation and regular use, in a population of adults at risk for cardiovascular disease. Shared decision making via health information technology can activate patients and providers resulting in increased use of appropriate preventive care.

Keywords: Shared decision-making, Aspirin

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PS1-03:

Expanding the Functional Scope of Institutional Review Board Review of Multi-Site Research in the HMO Research Network: from Data-Only Studies, to Non-Clinical Interventions, to Clinical Trials

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Background/Aims: The member institutions of the HMORN have long been concerned about their ability to conduct multi-site research in a timely and efficient manner. Frequently in the past, investigators in multi-site studies have felt constrained by the requirement of submitting proposed research to multiple IRBs. In June 2008, the HMORN Governing Board approved a Standard Operating Procedure (SOP) that streamlined this submission process for data-only studies (Version 1), and in September 2010, the SOP was revised (Version 2) to permit the inclusion of all HMORN multi-site research except clinical trials. IRB Administrators and Directors from around the HMORN met in December 2010 to discuss strategies for harmonizing clinical trials review as well as establishing a Network-wide IRB Authorization Agreement for the conduct of HMORN multi-site research. **Methods:** Investigators from around the HMORN have been queried regarding their knowledge of and experiences with Version 1 of the SOP, with an aim being to improve both the visibility and efficiency of the process. Version 2 incorporates their suggestions. The results of the December 2010 meeting of