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Behavioral Interventions

C-A3-01:

The Effect of an Automated Reminder Call Intervention on Completion of Fecal Occult Blood Testing (FOBT)

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Background: Colorectal cancer (CRC) is the third most common cancer in the United States and is associated with significant morbidity and mortality. Although CRC has a good prognosis if diagnosed early, screening rates remain low. Innovative, low cost intervention, such as the use of automated reminder calls, may increase CRC screening rates. The objective of this prospective study was to determine the effect of an automated telephone reminder message on completion of a fecal occult blood test (FOBT), an evidence-based screening method for populations with average risk for CRC. **Methods:** A prospective randomized clinical trial of 5,993 patients (intervention group = 2,993, usual care group = 3,000), between ages 51–80, due for CRC screening with average risk for CRC. The patient population received care in a not for profit HMO in the Pacific Northwest. The intervention group received a 1-minute automated telephone call, which provided a general description and health benefits of FOBT. Patients could request that an FOBT kit be mailed to their home on the call. Up to three calls were attempted for non respondents over a five month period. Multiple logistic regressions was used to examine the independent effect of automated reminder calls on completion of an FOBT test, after adjusting for age, gender and prior CRC screening. **Results:** Compared to usual care, those in the intervention group were significantly more likely to complete an FOBT (OR = 1.60, 95% CI = 1.39–1.84), five months post randomization. Two characteristics were also associated with completion of FOBT: 1) older age [age 61–70 (OR = 1.33, 95% CI = 1.14–1.56), age 71–80 (OR = 1.85, 95% CI = 1.52–2.25) vs. age 51–60, and 2) any prior CRC screening (OR = 3.13, 95% CI = 2.71–3.62) vs. no prior screening. **Conclusions:** Automated telephone calls increased completion of screening FOBT compared to usual care. Broad implementation may cost effectively increase community CRC screening rates. Further research is needed to better understand how the stage at CRC diagnosis and CRC related mortality are impacted and to evaluate cost effectiveness.

C-A3-02:

How Do the Best Physicians Get Diabetes Patients to Glycemic Goals?

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Objective: To examine the glucose control related practice patterns of primary care physicians (PCP) and ascertain if those who provide better quality diabetes care have lower rates of clinical inertia. **Methods:** Study

subjects included 80 PCPs at a large medial group in Minnesota, who were ranked on quality of diabetes care using a composite diabetes quality of care measure. Data on use of glucose lowering pharmacotherapy was combined with laboratory data indicating the level of glycated hemoglobin (A1c) at the time of each office visit to examine differences in patterns of glucose related treatment as a function of the physicians' quality of care. GLM statistical models were used to assess the relationship. **Results:** Optimal PCPs, defined as the top quartile of PCPs, had lower rates of clinical inertia than their less well performing peers. Optimal PCPs initiated ($P=0.08$) and titrated ($P=0.02$) glucose lowering therapy at lower A1c levels than their peers. Optimal practice PCPs exhibited a feed forward treatment strategy, while their less well performing peers exhibited a feedback treatment strategy. **Conclusions:** There was significant variation in rates of clinical inertia and in trigger levels of A1c at which different PCPs initiated or intensified glucose lowering therapy in their adult patients with diabetes. Optimal docs had lower rates of clinical inertia. Interventions to reduce clinical inertia have great potential to improve diabetes care.

C-A3-03:

Media Messages About Cancer: What Do People Understand?

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Background: The importance of print health literacy is widely recognized, but oral literacy has been largely ignored. Because much health information is conveyed via spoken word, an inaccurate or incomplete comprehension of spoken health messages may have important consequences. This study explored the extent to which listeners understood critical concepts in spoken messages about cancer prevention and screening. **Methods:** Forty-four adults from three health plans took part in a 1-hour interview. Participants viewed six brief media clips from TV or the Web about cancer prevention and screening. Each clip contained multiple messages. Participants paraphrased the clips' main points and key concepts. We coded the accuracy of participants' responses with respect to the message content. **Results:** Of 44 participants, aged 41 to 70, 52% were female; 48% were non-white; and 5% had a high school education or less. Messages were generally understood by most participants but some participants misunderstood critical cancer prevention concepts. Nine of 44 could not define the term "at risk." Others provided approximately accurate synonyms, such as "susceptible to," or "inclined to," or gave examples of risk factors (e.g. fair skin for skin cancer) that indicated a partial understanding of the concept. In response to a news report about a comprehensive cancer study synthesizing the results of 7,000 clinical trials, 10% of the participants viewed the study size as small, or mistook the number of trials for number of patients. Some participants had trouble distinguishing "screening" and "prevention," apparently believing that screening is inherently preventive. **Conclusions:** Most participants in this sample of moderately to well-educated adults understood the main points contained in spoken messages about cancer screening and prevention. However, important concepts such as "at risk" (applicable to conditions besides cancer), were sometimes misunderstood. Similarly, some participants had difficulty understanding the strength of research evidence and the value of multiple studies. Comprehension depends on foundational knowledge,

which even educated lay people may be missing. Speakers, whether news anchors or providers—cannot assume that listeners understand critical health concepts even if the words themselves seem simple.

C-A3-04:

The Role of Family Disease History and Perceived Risk of Disease in Change of Fruit and Vegetable Intake Over 12 Months

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Background: A sufficient daily consumption of fruits and vegetables (F&V) could help prevent chronic diseases. Since implementing the 5 A Day program, research has shown that awareness has increased, but average F&V intake among American adults remains under the minimum recommendation. This analysis examines factors related to increasing F&V intake among participants in the MENU study, a randomized trial with two intervention arms and one control arm. **Methods:** In 2005, 2,513 confirmed HMO members, aged 21–65, from five geographically-diverse health plans completed an online enrollment survey, reporting F&V intake and personal and family health history. Mean change in combined F&V servings per day was assessed at 12 months post baseline, using a validated self-report F&V food frequency questionnaire. Analysis of covariance adjusting for the baseline F&V intake, regardless of study arm, was performed for each factor considered. **Results:** Of the 2,513, 80% were followed up at 12 months. Those with a family history of hypertension or diabetes increased their F&V consumption, $P=.03$ and $P=.04$ compared to those with no family history of these conditions, regardless of race. There were no observed differences in consumption increase by reported family history of cancer, heart disease or obesity. Participants with a high perceived risk of developing diabetes increased their intake by more than 0.6 servings than those with no perceived diabetes risk, $P=.05$, regardless of race. There were no statistical differences for consumption increase by risk of hypertension, heart disease or obesity. We tested for interactions between race and family history (FH) and perceived risk (PR) individually for each condition. Only FH of obesity was significant, $P=.09$ showing that whites with FH were more likely to increase F&V intake while blacks were not. The only significant interaction for PR was PR of cancer, $P=.07$. Interestingly, while the overall change was not significant for either race, whites with high PR increased F&V and blacks with a low PR increased F&V. **Conclusion:** FH of hypertension and diabetes, as well as perceived higher risk for developing diabetes, were characteristics that contributed to increasing F&V consumption, regardless of race. FH of obesity and PR of cancer contributed to differences in F&V intake change between blacks and whites. Interventions addressing perceived risk of disease or family history of disease may be valuable in encouraging dietary lifestyle.

PS2-03:

Primary Care Physician Awareness and Referral to Smoking Cessation Resources

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Objective: To examine awareness and referral to smoking cessation resources in a national sample of primary care physicians (PCP), and to identify patient, practice, and physician characteristics associated with awareness and referral. **Methods:** Data were from the National Survey of Primary Care Physicians' Recommendations and Practice for Breast, Cervical, Colorectal, and Lung Cancer Screening. The National Survey of Primary Care Physicians' Recommendations and Practice for Breast, Cervical, Colorectal, and Lung Cancer Screening provides national estimates of PCPs knowledge, attitudes, recommendations, and practices relevant to screening for breast, cervical, colorectal, and lung cancer. The survey was fielded between September 2006 and May 2007. Physicians were selected from the sampling frame employing a stratified systematic sample design. The total sample was divided into equal sized samples for the administration of two different questionnaires. Our

analyses were restricted to data from the colorectal and lung cancer questionnaire. Descriptive, bi-variate, and multivariate analyses were conducted to explore awareness and referral to smoking cessation resources.

Results: Only 23% of primary care physicians reported awareness of and referral to the National Cancer Institute 1-800-QUIT-NOW line, 6% were aware of and made referral to National Cancer Institute 1-877-44U-QUIT line, and 14% were aware of and made referral to www.smokefree.gov. Awareness and referral to other services were higher (60%). PCPs frequently reported use of state and local smoking cessation resources. Multivariate analysis predicting awareness of at least one smoking cessation resource revealed greater awareness in practice locations with 50% or fewer African American patients (OR=12.15) compared to locations with 76–100% African American patients. Awareness was higher among physicians who self identified as non-Hispanic black (OR=2.66) or non-Hispanic other (OR=1.52) compared to non-Hispanic Whites. Practice location was significantly associated with referral at the bi-variate level; however, this association did not remain significant in the multivariate model. **Implications for Practice or Policy:** Physicians are a primary target audience for efforts to raise awareness of and promote national smoking cessation resources. Exploring physician preferences and barriers to referring patients to smoking cessation resources could inform such efforts.

PS2-06:

The Use of Wipe Boards in Patient Rooms to Improve Discharge Communication

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Communication about the discharge process is often lacking. Families and nurses are often unaware when a discharge is expected or what goals need to be met prior to discharge. We aimed to improve the discharge process in hopes of improving patient and staff satisfaction and patient throughput. Through our established quality group, we identified areas to focus on for improvement of the discharge process. From these, we selected discharge goals and an anticipated date of discharge as two areas to intervene. We began by surveying families and nurses as to their understanding of what goals a child needs to meet prior to discharge and when discharge was anticipated. The survey found many families and nurses did not know this basic information. In order to improve these, we decided to place wipe boards in all the patient rooms to be completed during daily rounds documenting discharge goals and an anticipated day of discharge. Nurses and families were challenged to be present during rounds and encouraged to contribute and ask questions and the staff was educated. We then began performing several tests to refine the process and evaluate its impact. A schedule was made where one service per week would begin using the boards with adjustments made as needed. At baseline, 67% of families and 19% of nurses knew the goals a patient needed to reach prior to discharge. With use of the wipe boards for the families, this initially remained at 67% on our first trial and improved to 72% during the second. For the nurses it improved to 33% with our first trial and 64% with the second. At baseline, 56% of families and 11% of nurses knew an anticipated time of discharge. After initiation of the wipe boards for the families, this improved to 67% after the first trial and 75% during the second. For the nurses it improved to 33% during the first trial and 62% during the second. The use of the wipe boards placed in the patients' rooms resulted in an increased percentage of nurses and families who were aware of discharge goals and an anticipated date of discharge. Our hope is that as we expand this to other services, we will see continued improvement in the discharge process. We then plan to address other areas of the discharge process including care management, patient education, and paperwork at discharge. This should result in increased satisfaction and better throughput.